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Compassion Fatigue: A Study of Empathy, Burnout, and Religiosity in Undergraduate Student Populations

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Dear Daniel,

It is with great pride that we hereby notify you that you have been chosen to receive the College of Theology, Arts, & Sciences Thesis with Distinction Award for your thesis titled *Compassion Fatigue: A Study of Empathy, Burnout, and Religiosity*. Your exceptional research and writing and lucid defense demonstrated a level of accomplishment that set you apart from the other thesis students.

We are the faculty committee tasked by the Dean to judge various theses that have been nominated by faculty advisors.

We wish you God's richest blessings as you pursue your professional future.

Sincerely,

[redacted]
Kris Kuhn, Ph.D.

[redacted]
Carrie Walker, Ph.D.

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Mihail Iordanov, Ph.D.

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Compassion Fatigue: A Study of Empathy, Burnout, and Religiosity in Undergraduate Student Populations

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by

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Abstract

Burnout is a significant challenge faced by students, and may have implications for the professional lives of those students following graduation. In an effort to identify factors that enhance vulnerability to burnout, and possible mediating factors, this study examined the relationship between empathy and burnout and the relationship between religiosity and burnout. Participants were undergraduate students aged 18-23 years, recruited from two universities in the Portland, Oregon area: Concordia University, a private, religious school, and Reed College, a private, secular school. Participants completed a demographic questionnaire, the Interpersonal Reactivity Index, the Maslasch Burnout Inventory – Student Survey, and the Centrality of Religiosity Scale – interreligious, seven-question version. Data were also examined to determine whether burnout increased with academic year, and whether there were any significant differences between the two universities. No significant relationship was found between empathy and burnout. Cynicism, a component of burnout was found to correlate negatively with religiosity. No significant relationship was discovered between academic year and burnout. Several differences, most notably in religiosity and burnout, were found between Concordia University and Reed College. These results indicate that although burnout is most common in highly involved populations, the capacity for empathic response does not necessarily predict burnout. Additionally, although several factors of religiosity have been correlated with reducing susceptibility to burnout, religiosity itself does not indicate that groups will be less susceptible to burnout.

Keywords: empathy; burnout; religiosity; Interpersonal Reactivity Index; Maslach Burnout Inventory – Student Survey; Centrality of Religiosity Scale

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Compassion Fatigue: A Study of Empathy, Burnout, and Religiosity in Undergraduate Student Populations

Historically, much psychological inquiry has been undertaken on the subject of empathy, or, as Brems (1989) described it, "the ability to have an intellectual or imaginative apprehension of another's correlates" (p. 329). This definition suggests that the way humans perceive the world involves lived experience over time, without which there would be none of Brems' correlates. Empathy though, as noted, does not have to do with one's own perception of the world, but with understanding how another person interprets his or her own lived experience. It is this perspective taking that allows human services professionals, as Rogers (1957) wrote, to, "...sense the client's private world as if it were your own, but without ever losing the 'as if' quality" (p. 99). Although Rogers' described the relationship between therapists and their clients, the understanding and perspective taking he described are more widely applicable to interpersonal relationships in general. Still a third definition, which may prove more relatable for the population at large, comes from Eisenberg, Shea, Carlo, and Knight (1991) who defined empathy as, "an emotional response that stems from another's emotional state or condition and is congruent with the other's emotional state or condition" (p. 65).

Understanding such a complex concept as empathy can be done most effectively by considering its parts. Davis (1980) described the historic conceptualization of empathy as being divided into either an emotional, affective capacity, as in the definition offered by Eisenberg et al. (1991), or an intellectual, cognitive capacity similar to the definitions offered by Brems (1989) and Rogers (1957) above. He went on to reject this either-or approach in favor of a holistic, four-dimensional construct comprised of both affective

and intellectual factors, specifically perspective taking, fantasy, empathic concern, and personal distress. The objective of Davis' model was not to blur the line between emotional and intellectual empathy to create a single numerical value representing a person's total empathic capacity, an idea which Davis also opposed, but instead to emphasize the influence of multiple dimensions of a given personality on the overall capacity commonly described as empathy (Davis, 1980). To effectively measure these factors, Davis developed the Interpersonal Reactivity Index (IRI), a twenty-eight item questionnaire measuring the four dimensions of empathy he had described. The IRI is discussed in greater detail in the literature review.

Empathic concern is a capacity enjoyed to varying degrees by most humans. Rifkin (2009) has gone so far as to suggest that empathic concern is the basis for complex civilization. He articulated a theory of evolutionary empathy in which communication and transportation technology allowed our species to interact initially only with local families and tribes, meaning that by virtue of limited opportunity early humans could understand the aforementioned correlates only of those people in their immediate vicinity. Rifkin (2009) has claimed that over time better communication and exchange of ideas expanded the empathic connection to include members of the same religion, members of the same nation-state, and, increasingly, members of the global community. Siegel (2011) reached similar conclusions about empathy in civilization, and has advanced a theory of the human mind — connected to but distinct from the brain — as an evolutionary adaptation successful in its current state largely because of its aptitude for reciprocal social interaction.

Empathy, the ability to relate compassionately to others, has been correlated with higher levels of democratic participation and non-violence, both prosocial characteristics (Aridag & Yuksel, 2010). Eisenberg (2010) has drawn links between empathy and emotional regulation. Numerous religions and philosophies, including Kohlberg and Gilligan in their stages of moral development and Fowler in his stages of faith development, have placed a universal consideration for the needs of others, as the highest obtainable developmental ambition for humans (Kohlberg, 1963; Gilligan, 1982; Fowler, 2000). Liptak (2005) identified emotional intelligence, a trait that is implicitly and fundamentally related to empathy, as one of the most important factors in the professional success of students entering the workforce. Additional benefits of empathic interpersonal relationships are discussed in the literature review.

Other researchers have identified potential hazards to personal well-being associated with empathy. Skowron, Stanley, and Shapiro (2009) found that individuals who are unable to effectively develop a differentiated sense of self experience significantly greater interpersonal distress than those who have established a strong personal identity. A 2013 study of Spanish university students found that, "…those students who tend to become over-involved in the problems of others (empathic stress) present high levels of psychological distress" (Carnicer & Calderón, p. 139). The implicit finding of this body of research is that, under the correct circumstances, there are tangible negative results of high levels of empathy in addition to the benefits discussed above.

Perhaps the most significant risk associated with empathy is burnout. Burnout, as described by Maslach and Jackson (1981), is a syndrome consisting of emotional exhaustion and depersonalization and a low sense of personal accomplishment. In

addition to the negative outcomes associated with high levels of unregulated emotional concern previously identified, burnout — specifically emotional exhaustion — has been correlated with lower job-satisfaction and higher rates of voluntary turnover among social workers (Wright & Cropanzano, 1998). Gleichgerrcht and Decety (2013) found similar patterns in physicians. A similar phenomenon was described in an academic context by Deary, Watson, and Hogston (2003) who correlated burnout with higher rates of attrition in undergraduate populations.

Maslach and Jackson's (1981) work led to the development of the Maslach Burnout Inventory (MBI), a questionnaire designed to measure emotional exhaustion, depersonalization, and personal accomplishment. In later iterations of the MBI, the depersonalization portion was replaced by a scale measuring cynicism, and the personal accomplishment portion was adapted to measure the separate but related concept of professional efficacy (Schaufeli, Leiter, Maslach, & Jackson, 1996). The MBI, which had been intended for use with human services professionals such as doctors and social workers, was subsequently adapted for use with student populations as the Maslach Burnout Inventory-Student Survey (MBI-SS; Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002).

Although there has been some historic investigation of the relationship between empathy and burnout, because the MBI and similar scales were designed for use with professional populations, little research has been conducted on the relationship between empathy and burnout in student populations. In an effort to better understand this relationship, the purpose of the current study is to examine undergraduate students at a

private secular university, and a private religious university to determine what correlations exist between different factors of emotional burnout and empathy.

Irrespective of any relationship between empathy and burnout, it is clear, both from the literature and anecdotally, that student populations experience burnout and the associated disengagement in a fashion similar to working professionals (Schaufeli et al., 2002). At least one team of researchers has found religiosity to be a mediating factor in the development of burnout in a sample of academic administrators (Somech & Miasy-Maljak, 2002). One purpose of the current study is to examine the relationship between religiosity and burnout in the target populations to determine whether religiosity offers a similar mediating benefit for them. Huber and Huber's (2012) Centrality of Religiosity Scale (CRS), which measures five aspects of religiosity, will be used to determine the centrality of religiosity to a given participant's personality.

Literature Review

Empathy

Without naming it, Smith (1759) provided one of the earliest descriptions of empathy:

> Of this kind [of emotion] is pity or compassion, the emotion which we feel for the misery of others, when we either see it, or are made to conceive it in a very lively manner. That we often derive sorrow from the sorrow of others, is a matter of fact too obvious to require any instances to prove it... The greatest ruffian... is not altogether without it. (para. 1)

Although Smith dismissed the further examination of empathy, there is an extensive modern body of research on the topic. The psychological examination of

empathy extends back at least as far as the second half of the 19th century. Pfeifer and Dapretto (2009) described Lipps' work on a theoretical concept termed *einfühlung*, originally a word used in aesthetics to describe an immediate understanding of the composition of a musical score, but adapted by Lipps to describe the process of feeling the emotional state of another person. Building on Lipps' work, Titchener (1909), finding no suitable English translation of einfühlung, invented the word empathy, with a meaning similar to Brems' (1989) operational definition cited above.

Kohut (1959) conceptualized empathy as the central means for exploring the psychological state of others, describing it as *vicarious introspection* (1959). This vicarious introspection not only served to enhance the sense of shared human experience, but was in fact predicated on the assumption that such sharing was already taking place, albeit in an unexamined capacity (Kohut, 1959).

Baxter (1995) offered an examination of three historical theoretical ideal models of empathic connection developed respectively by Fliess (1942), Greenson (1960), and Jordan (1991). Because they were conceptualized by clinicians for use with their clients, all three models were developed to frame the relationship in the context of mental health treatment. That context notwithstanding, these models provide evidence for the evolution of the concept of empathy over time, and may be used to help better understand nonclinical human interaction.

Fliess (1942), who called empathy *trial identification* because of its necessarily transient nature in a clinical environment, expressed concern about an emotional connection between an analyst and client because such a connection might negate the objectivity required by the analyst to properly assist the client. Instead, Fliess (1942)

suggested a model in which the analyst intellectually engaged with the client by allowing the client to project internal conflicts onto the analyst, identifying with the client, using the knowledge gained from that identification to examine the client's conflicts, then, finally, projecting the conflicts back onto the client in an effort to allow the client to achieve resolution. The lasting importance of this model is Fliess' insistence on what might be called *emotional sterility*. This division of empathy into intellectual and emotional factors persists into modern empathy constructs.

In contrast with Fliess, Greenson (1960) argued for an emotional empathic connection as being essential to a relationship with a client. Greenson (1960) did, however, draw a distinction between empathy, which he characterized as, "preconscious and temporary" and identification, which he described as, "unconscious and permanent" (p. 419). In Greenson's model, the analyst was encouraged to create a *working model* of the client's worldview by gathering information about the client's experiences and understanding. Analysts could then insert themselves into these working models, bringing with them their own emotional and intellectual understanding in an effort to connect with the client (Greenson, 1960). As with Fliess (1942) and Rogers (1957), Greenson warned against over-empathizing in the form of complete identification; what might be called a loss of objectivity (1960).

Jordan (1991) also emphasized the importance of maintaining self-other boundaries, but descried this mechanism as a division of intellectual and emotional capacities. Jordan (1991) believed that effective empathic connection depended on simultaneous emotional connectedness and intellectual detachment between a therapist and client. This model for interpersonal relation is the closest proposed by any of the

three clinicians discussed here. In acknowledging the influence of systems theorists including Klein and Miller, Jordan wrote, “too often... relational issues have been phrased in regressive terms such as merged, symbiotic, or undifferentiated, suggesting that intense interpersonal connection involves a movement into more primitive functioning” (Jordan, 1991, p. 68).

Fliess (1942), Greenson (1960), and Jordan (1991), recognized the necessity of forming a connection with their clients while simultaneously warning against becoming too involved in the inner worlds of those clients. It is this over-involvement that is currently being studied.

Neurological empathy. As discussed in the introduction, empathy is among the most fundamental characteristics of humankind, and indeed at least one neurological mechanism responsible for empathy predated the evolution of modern humans. While the neurology of empathy is outside the scope of this study, it is believed that a brief discussion of that neurology will help readers to contextualize the role of empathy in human development.

In the brains of humans, other primates, and some additional species, there exist cells called mirror neurons. In the case of motor mirror neurons, activation occurs both when an animal performs an action and when it perceives another animal performing that action. A similar activation has been documented when an action is performed on an animal, and when an animal perceives that action being performed on another (Pfeifer & Dapretto, 2009). Spaulding (2012) offered the example of a monkey whose mirror neurons corresponding with the act of grasping were activated in response to watching a researcher pick up a piece of food. The author went on to describe the work of several

researchers (e.g., Csibra, 2007; Iacoboni, et al., 2005; Rizzolatti & Sinigaglia, 2010) who found evidence of *logically-related* mirror neurons, stating, "these neurons have all the features of broadly congruent mirror neurons and one interesting additional feature: they fire for the end-state of an action sequence even when the end-state is unobserved" (Spaulding, 2012, p. 237). On this basis, it has been found that when a monkey witnessed a researcher picking up a nut, the logically-related motor mirror neurons in that ape's brain connected to chewing fired in anticipation of the researcher eating the nut regardless of whether the ape actually witnessed the eating (Spaulding, 2012). This type of anticipatory logical reasoning regarding another creature is the basis for perspective taking behavior; itself the root of empathy. This system has also been implicated in other aspects of interpersonal development including the evolution of language and observational learning (Berta, 2010; Van Gog, Paas, Marcus, Ayres, & Sweller, 2009).

Several researchers have cautioned that the mirror neuron system is not by itself sufficient explanation for the development of these interpersonal capacities. Kilner and Lemon (2013) published a thorough review of the available research on mirror neurons in which they noted that at that time the preponderance of neuroimaging studies that were focused on mirror neurons had been performed in monkey populations, and that the evidence of similar functioning in humans, while exciting, was not yet conclusive. They also described the danger of oversimplifying the concept of mirror neurons in the public imagination as the single underlying system through which interpersonal understanding occurs. As Ramachandran (2012) noted in an interview with Marsh, "...[If mirror neurons] were responsible for all that transmission of skills and culture, monkeys should be very good at those things" (para. 5). Even so, based on the limited evidence available,

it seems likely that these neurons play an important role in the development of interpersonal understanding and communication. In time, they may prove conclusively to be a key factor in the evolutionary and individual emergence of empathy described by Rifkin (2009) and Siegel (2011).

Benefits of empathy. Regardless of the specific process by which it developed, the capacity for empathy has been repeatedly identified as a beneficial adaptation. For example, in their 2009 study, Rumble, Van Lange, and Parks examined the role of empathy in reciprocal social interactions. The authors described an inevitable accumulation of non-cooperative actions as a result of prolonged reciprocal social interaction both because of intentional and unintentional selfish choices (Rumble et al., 2009). They indicated that the enmity generated within a group was likely to be exacerbated by what they termed *negative noise,* which is to say a type of misunderstanding in which one party believes, or multiple parties believe, some other member(s) of the group to have acted in a way that caused less-than-intended cooperation resulting in a detrimental outcome for the group (Rumble et al., 2009, p. 857). In the case of direct reciprocation, this negative noise could create a destructive spiral of behavior in which parties sought to retaliate by undermining each other in future interactions (Rumble et al., 2009). By examining a group of 180 participants during a series of experiments designed to test social cohesion, the authors were able both to provide supporting evidence for the negative noise spiral described above, and to show that those participants who were primed to experience heightened feelings of empathy were less susceptible to the effects of such a spiral than their peers who had been primed for a lowered expression of empathy. The researchers concluded that the empathically fueled

feelings of forgiveness and generosity displayed by the first group of participants were sufficient to neutralize the detrimental effects of the negative noise (Rumble et al., 2009). These findings are similar to those of Batson and Ahmad (2001) who were able to demonstrate a 40% reduction in retaliatory behavior when their participants were primed to feel empathy for a person who had acted against them in a prisoner's dilemma.

Empathy is described in both of these studies as being elicited by researchers as part of a contrived experimental situation, but Batson's earlier work describes an empathic reaction to the suffering of another being triggered in individuals not just by experimental conditions, but also by spontaneous reflection on prior experience and a sense of attachment to the person who is currently experiencing the suffering (Batson & Shaw, 1991; Batson, Early, & Salvarani, 1997).

Empathic understanding has been shown to reduce racial bias (Finlay & Stephan, 2000). Additional benefits that have been associated with empathy include a reduction of aggressive impulses (Eisenberg, Eggum, & Di Giunta, 2010), and an increased likelihood of engaging in situation-specific organizational citizenship behaviors (Joireman, Daniels, George-Falvy, & Kamdar, 2006).

With such manifest benefits, there is clear motivation for educators to attempt to instill an empathic capacity in their students. Indeed, Nussbaum (1997) has identified the development of a student's *narrative imagination* as one of the three central goals of a liberal arts curriculum. Hatcher and Nadeau (1994) conducted a broad review of previous efforts to teach empathy and found evidence indicating that such efforts are more likely to be successful as students age from their early high school years into later college,

noting however that this trend corresponded with an increased developmental capacity for empathy.

A multidimensional index. As noted, Davis (1980) developed his Interpersonal Reactivity Index (IRI) in an effort to measure both cognitive and affective factors of empathy. Rather than relying on the forced-response questions used in previous scales, the IRI was designed to include a Likert scale, allowing respondents to more-closely report their individual empathic experience. Developed through an iterative process, the IRI initially included fifty items, some adapted from already existing empathy scales. After three rounds of evaluation, Davis was able to reduce the IRI to twenty-eight questions measuring four distinct factors of empathy (Davis, 1980).

The first factor, fantasy, measured the tendency to relate to characters in a work of literature or film. The second factor, perspective taking, measured the tendency to understand the perspective of another person. Both of these scales were associated with intellectual empathy (Davis, 1980, p. 6). The third factor, empathic concern, measured the tendency to experience concern for others in distress. The final factor, personal distress, measured the tendency to experience discomfort or anxiety while witnessing others in distress. These two final scales were associated with emotional empathy (Davis, 1980, p. 6).

Davis (1980) theorized that personal distress would decrease with age as a natural sense of individuated identity developed. This was confirmed by Hatcher and Nadeau (1994). It should be noted that, while the IRI has been used frequently in the years since its publication, it has been criticized as overbroad, accused of measuring sympathy and compassion, rather than strictly measuring personal response to witnessing another

person in need (Batson, Fultz, & Schoenrade, 1987). Based on Davis' intention to measure a broad construct of empathy, these criticisms are not unreasonable, but neither are they entirely well-placed. Batson et al. utilized a much narrower definition of empathy than did Davis.

Risks of unregulated empathy. Thus far the focus has been on the beneficial nature of empathy. This is appropriate given that, with the presence emotional regulation and a well-differentiated sense of self, there are many benefits associated with empathic response. However, for individuals who fail to achieve those preconditions, there are risks associated exposure to the distress of another person or group of people. These hazards may include psychological distress and susceptibility to emotional manipulation (Skowron, Stanley, & Shapiro, 2009; Stern & Divecha, 2015). Perhaps, the greatest risk associated with this type of unregulated empathy is burnout.

Burnout

Like empathy, burnout can be best understood as a complex concept. Maslach and Jackson's (1981) three-factor measurement was developed based on the work of those authors and another, Freudenberger (1974), whose work was foundational to the burnout construct used in this study. As noted, burnout is experienced as chronic disengagement from a given task. Freudenberger (1974) described burnt-out staff members at a mental health clinic as being, "...inoperative to all intents and purposes" (p. 160). Maslach and Jackson (1981) wrote, "burnout can lead to a deterioration in the quality of care or service provided by the staff" (p. 100). Freudenberger (1974) asserted that burnout was most common among, "dedicated and committed" staff members, those who were, "...seeking to respond to the recognized needs of people" (p. 161). The drive toward this "...burnout

trap" was in part a, "...pressure from within to work and help" (Freudenberger, 1974, p. 161). In summary, Freudenberger described burnout as occurring in those professionals who were most engaged with their work, people who were intrinsically motivated by a desire to help others.

While burnout was initially examined as a phenomenon unique to human services professions, researchers expanded their studies to include participants in other fields. During development of the Maslach Burnout Inventory - General Survey (MBI-GS), Schaufeli et al. (1996) adapted the MBI to be more applicable to non-human services populations. The most prominent distinctions between the MBI and the MBI-GS were the replacement of the depersonalization scale with a scale measuring cynicism, and the removal of the personal achievement scale with a scale intended to measure personal efficacy. Cynicism was found to be a more appropriate factor of burnout in the new target populations because professionals not regularly working with clients might not have anyone to depersonalize. Similarly, the shift to personal efficacy was intended to make the scale more widely applicable by, "...encompassing social and nonsocial aspects of occupational accomplishment" (Schaufeli et al., 2002). By utilizing the MBI-GS, researchers have identified instances of burnout in populations as diverse as foresters, office workers, and restaurant employees (Toppinen-Tanner, Kalimo, & Mutanen, 2002; Chiu & Tsai, 2006).

Causes of burnout. While many studies, including this one, have been designed with a theoretical construct of burnout in which the factors are concurrent rather than necessarily causal, researchers have frequently attempted to determine internal causation

among those factors in an attempt to arrest the development of burnout in its earliest stages (e.g., Taris, Le Blanc, Schaufeli, & Schreurs, 2005).

Toppinen-Tanner et al. (2002) provided support for what they termed the *exhaustion - cynicism - (lack of) professional efficacy model*. In white-collar workers, this model was used to describe the way in which participants became exhausted due to factors including time pressures and conflicts with coworkers. This exhaustion led to cynicism that was in turn exacerbated by a perceived lack of appreciation on the part of the person experiencing burnout. These pressures, in addition to an increasing sense of role ambiguity within their organizations, culminated in participants feeling a low sense of professional efficacy. The findings were similar for blue-collar workers, with the distinction being that a perceived lack of appreciation was found to influence exhaustion earlier in the development of burnout in blue-collar workers than in white-collar workers (Toppinen-Tanner et al., 2002). This model is related to that proposed by Leiter and Maslach (1988) for the factors of the original MBI, although those researchers noted that the existence of internal causation among the factors was not part of Maslach and Jackson's original construct.

In contrast, Golembiewski and Munzenrider (1988) proposed a *phase model* reminiscent of Maslach and Jackson's (1981) early attempts at developing the MBI. Unlike Maslach and Jackson's early efforts, the phase model was designed to describe causal relationships among the burnout factors. In the phase model, a low degree, or phase, of depersonalization might be viewed as beneficial to clinicians, but also represented the earliest sign of burnout. Starting with this low-level depersonalization, an individual might simultaneously experience multiple and varying phases of each factor,

culminating in a persistently high phase of emotional exhaustion (Golembiewski & Munzenrider, 1988).

A third model was proposed by Lee and Ashforth (1990), who found that emotional exhaustion was positively related to depersonalization and low personal accomplishment, but did not find a link between depersonalization and personal accomplishment. These researchers proposed that emotional exhaustion contributed to the other two factors (Lee & Ashforth, 1993).

It has subsequently been suggested that each of these research teams provided insufficient evidence for their models, at times relying on statistically insignificant data, and suffering from weaknesses in their designs (Taris et al., 2005). While the critiques presented in that study undermine the causal models, that there are competing theories at all suggests that any causation that may occur among the factors of burnout is not yet definitively understood.

Although the interaction of burnout factors has not been fully mapped, some environmental and personal factors are consistently identified as contributing to burnout. In a list paradigmatic of those found in burnout literature, Maslach and Leiter (2008) identified several environmental and interpersonal factors that contribute to burnout including workload, control, reward, community, fairness, and values. For example, a workplace with a high volume of centrally-controlled work, where employees were insufficiently rewarded, and did not feel themselves to be part of the community would be expected to produce a large number of burnt-out workers. For researchers who conceptualize burnout largely as a result of disparate expectations on the part of an

individual and the organization with which they are affiliated, these environmental factors should be understood in relation to the study of organizational behavior.

It should be noted that even in an organization like the one described above, not all workers would be expected to burn out at the same rate or to the same degree. Personal factors account for this disparity, and may predict susceptibility to burnout. Han, Lee, and Lee (2012) identified several personal attributes of those people who are most susceptible to burnout, notably *emotional contagion*. Emotional contagion is defined as, "...susceptibility to synchronize with others' emotional states and expressions" (Han et al., 2012, p. 441). This heightened, semi-voluntary, empathic response can cause increased emotional disturbance, and eventually emotional exhaustion. Han et al. also attempted to establish a causal link between *trait anxiety*, "...a general predisposition to fear and worry" and emotional contagion by citing studies positively correlating trait anxiety and increased activation of the autonomic nervous system, which theoretically would render an individual more susceptible to emotional contagion (2012, p. 442). However, Barrett and Armony (2006) have presented evidence that the causal relationship suggested by Han et al. does not exist, "Importantly, when anticipatory anxiety is increased, trait anxiety appears to play a role in how participants perform, but not how they feel" (p. 217).

Student burnout. As noted previously, burnout, a state of reactive disengagement, has been frequently observed in those who had been the most engaged of their peers prior to the onset of burnout (Freudenberger, 1974; Maslach, 1976; Han et al., 2012). Dane (2002) further explored the relationship between professional engagement and burnout, attributing the greater burnout susceptibility in the most engaged staff

members to *vicarious traumatization*; emotional trauma resulting from working closely and empathizing with traumatized clients. There are clear parallels between the vicarious traumatization described by Dane and emotional contagion in that they are both emotional responses resulting from exposure to the suffering of another person. For those experiencing vicarious traumatization or emotional contagion, Rogers' (1957) *as if* has been lost. Wagaman, Geiger, Shockley, and Segal (2015) have reported findings indicating higher rates of burnout in social workers who fail to intellectually separate themselves from their clients.

Crucially, Dane (2002) indicated that this vicarious traumatization could occur not only in a clinical setting, but also in an academic environment when students were made aware of traumatic events as part of a social work curriculum. Dane (2002) described the symptoms of this traumatization as including, "...decreased sense of energy… cynicism… and hopelessness" (p. 8). These symptoms correspond with the three-factor burnout construct (viz., emotional exhaustion, cynicism, and low professional efficacy). Other researchers have found evidence of burnout in students studying music education, physical therapy, and elementary education respectively (Bernhard, 2005; Balogun, Hoberlein-Miller, Schneider, & Katz, 1996; Gold & Michael, 1985).

The researchers conducting those studies relied primarily on the previously discussed MBI-GS, which Schaufeli et al. (2002) identified as problematic based on the imperfect translation from professional to academic environments. In an effort to correct this discrepancy, Schaufeli et al. (2002) developed the MBI-SS, an instrument with language pertaining to an academic setting. Since the publication of the MBI-SS,

additional attention has been given to burnout in student populations, including students of business, construction, and other disciplines similarly removed from daily interaction with human services (Law, 2010; Lingard, Yip, Rowlinson, & Kvan, 2006). Maslach, Schaufeli, and Leiter (2001) have identified age and work experience as being predictors of burnout, suggesting that college students, young people just beginning their careers, are especially vulnerable to the effects of burnout.

The ways in which burnout can affect professional performance have been described above. These detrimental effects have been found to be similarly evident in student populations (Jacobs & Dodd, 2003). May, Bauer, and Fincham (2015) have linked burnout in students to absenteeism, poor academic performance, and dropping out. This behavior, similar to the poor professional performance and high turnover described by Wright and Crompanzano (1998), may be even more detrimental for students than professionals because of the cost and difficulty of resuming discontinued study. There is also a danger that students experiencing burnout who do eventually graduate into the workforce will be less effective employees, both because of a poorer quality of education as compared to their peers due to instances of absenteeism and persistent, learned cynicism (Law, 2010; Lingard et al., 2007).

As with professional populations, there are environmental factors independent of vicarious traumatization or emotional contagion that have been found to influence burnout. Similar concerns to those faced by professionals regarding the relationship of the individual to their organizations exist in student populations, in addition to challenges unique to the academic environment such as the stress associated with finding employment after graduation (Otey, 2014).

Countering Burnout

Burnout has been identified as a threat to the performance and well-being both of students and working professionals. The challenge then faced by researchers is how best to counter burnout. Maslach (2003) has identified environmental factors as being the most significant causes of burnout, suggesting that efforts to combat burnout are most effectively undertaken as top-down, structural revisions. This does not mean that individuals are powerless to take preventative measures against burnout.

Empathy as protection against burnout. The dangers of unregulated emotional connection have been previously identified. In response to this, some researchers have suggested teaching emotional regulation as a type of self-care. Wagaman et al. (2015) described how *self-other awareness*, a concept linked to cognitive empathy, could be emphasized in the training of social workers to prevent secondary traumatic stress and by extension burnout. Dane (2002) also emphasized the necessity of preparing students cognitively for the rigors of working with clients who had experienced trauma. Additionally, the results of a study of nursing students indicated that those who utilized emotionally-oriented coping mechanisms experienced emotional exhaustion at higher rate than their peers (Deary et al., 2003). Wagaman et al. (2015) found affective response clients to be positively correlated with a sense of compassion satisfaction, a trait which they had previously identified as the opposite of compassion fatigue.

These findings are an indication that regulation of emotional response is a vital skill in countering burnout. It has been suggested that the opposite is also true, "unregulated affective response has the potential to create distress in an individual"

(Wagaman et al., 2015, p. 206). The key then is in learned regulation of empathic response.

Religion as protection against burnout. Some religious teachings have been shown to help their believers counter burnout through a self-care process similar to the one just described. Ying (2008) contrasted the separation in Abrahamic faiths between self and other with the more unified model of self-love and other-love found in Buddhism. The author suggested that the experience of Buddhist believers in considering the self philosophically as a distinct part of a larger whole could help to reinforce the types of boundary-setting practices described above (Ying, 2008). This is not to say that Abrahamic believers are unable to utilize aspects of their faith to maintain a sense of personal identity. For example, Giordano, Prosek, and Lankford (2014) found that a sense of personal religious purpose predicted empathic concern among their participants, a majority of whom self-identified as Christian, Jewish, or Muslim. The authors theorized that these participants were able to use a sense of personal religious purpose to, "...explore the inner world of others more freely as they remained securely anchored in their own sense of self and purpose" (Giordano et al., 2014, p. 62.).

Ying (2008) also found that the ability of students to rely on a wider social support network of the type provided by a religious community helped to reduce emotional exhaustion, and by extension the development of burnout, irrespective of specific belief systems. Consistent with Ying, Kovács and Kézdy (2008) reported negative correlation between burnout and religious activities such as church attendance.

Religiosity

It can then be said that some elements of religion can be employed to help individuals prevent themselves from burning out. As with empathy and burnout, religiosity is an abstract concept that has in the past proved difficult to define. One of the most widely applicable definitions was provided by Huber and Huber (2012) who, in developing their Centrality of Religiosity Scale (CRS) conceptualized religiosity as consisting of five dimensions: intellectual, ideological, public practice, private practice, and religious experience. The authors provided explanations of each of these dimensions.

The intellectual dimension concerns an ability to knowledgeably consider the nature of an individual's religious tradition. On indicator of this ability is how frequently someone thinks about religious issues, based on the theory that those who spend more time thinking about religious issues will tend to have a greater understanding of them. By its nature, this dimension is free of denominational bias (Huber & Huber, 2012). The ideological dimension concerns the, "existence and essence of transcendent reality and the relation between the transcendence and [humanity]" (Huber & Huber, 2012, p. 714). This dimension is assessed with questions about the likelihood of the existence of a divine presence (Huber & Huber, 2012). The public practice dimension concerns participation in religious communities. Questions used to assess this dimension, slightly altered where necessary to accommodate non-Christian traditions, inquire about the frequency of religious service attendance (Huber & Huber, 2012). Private practice refers to individual acts of religious devotion such as prayer or meditation. Allowance is made in the questions assessing this section for the sometimes disparate nature of those practices, but the questions in this section generally regard the frequency of these acts

(Huber & Huber, 2012). Finally, religious experience includes questions about personal contact with ultimacy or divinity. Questions in this section are used to assess the perceived frequency of divine intervention and related, interreligious concepts (Huber & Huber, 2012).

While both the IRI and MBS-SS were intended to produce individual factor scores, the CRS is designed based on probabilistic reasoning, meaning that the probability of religiosity as a central feature of an individual's personality correlates positively with the scores on the five dimensions, and that the probability of a certain score in any given dimension corresponds with the scores in the other dimensions (Huber & Huber, 2012, p. 715).

In the context of the current study, religiosity is a logical possible solution for countering the effects of burnout. Religions generally offer their practitioners community, identity, and a sense of purpose, three tools identified by Maslach (1982) as being effective in preventing burnout.

Some important questions were not answered in the literature discussed above. First, how do empathy and burnout correlate in this population if at all? I hypothesized that the emotional factors of empathy (i.e., empathic concern and personal distress) would correlate with increased emotional exhaustion and cynicism, as well as with decreased professional efficacy. I further hypothesized that the cognitive factors of empathy (i.e., perspective taking and fantasy) would correlate with lower levels of emotional exhaustion and cynicism, and increased professional efficacy. Second, what is the relationship between religiosity and burnout? I hypothesized that the more central religiosity is to a participant's personality, the less likely that participant would be to

experience burnout. Phrased another way, it was expected that religiosity would correlate negatively with emotional exhaustion and cynicism and would correlate positively with an increased sense of professional efficacy. Third, are there significant differences in burnout based on academic year? It was hypothesized that burnout would be detected across these populations, and that the severity would be negatively correlated to academic year, (e.g., freshmen would express lower cynicism scores than sophomores). Finally, I hypothesized that there would be significant differences discovered between the populations of Concordia University and Reed College in the variables measured.

Method

Participants

The participants in this study were 83 undergraduate students, aged 18 to 23 years at Concordia University (n=50) and Reed College (n=33). The population was split between female (n=39) and male (n=44) participants. The participants were recruited from all four academic years, Freshman (n=21), Sophomore (n=29), Junior (n=18), and Senior (n=15). The racial demographics were as follows: White (n=61), Asian (n=8), Black/African American (n=7), two or more races (n=6), American Indian/Alaskan Native (n=1). Seven participants reported their ethnicity as Hispanic/Latino.

Convenience sampling was used to recruit participants.

Materials and Procedure

Participants were presented with a short demographic questionnaire (Appendix A), Davis' Interpersonal Reactivity Index (IRI; 1980; Appendix B), the Maslach Burnout Inventory - Student Survey (MBI-SS; Schaufeli et al., 2002; Appendix C), and Huber &

Huber's Centrality of Religiosity Scale – interreligious seven-question version (CRSi-7; 2012; Appendix D).

The IRI has been used in research as the standard measure of multidimensional empathy since its publication. The index is not intended to be used to determine a single overall score representative of empathy, but instead consists of 28 questions divided evenly into four subscales – perspective taking, fantasy, empathic concern, and personal distress – that measure factors of both affective and cognitive empathy (Davis, 1980). Participants are asked to respond to questions using an alphabetical Likert scale with five possible responses anchored by the options, "does not describe me well" and "describes me very well" (Davis, 1980, p. 8).

Davis (1983) assessed the validity of the subscales by examining the relationships of the subscales to each other, the relationship between the subscales and other previously validated measures of empathy, and between the subscales and other psychometric measures theoretically related to the different factors of empathy he had attempted to measure. Through these analyses Davis (1983) confirmed that the factors of empathy he had attempted to measure could be identified as separate constructs related not only to each other in consistent, predictable ways, but also demonstrating concurrent validity with other related measures. Chrysikou and Thompson (2015) performed confirmatory factor analyses to determine the validity of combining subscales to measure cognitive and affective empathy rather than assessing each subscale individually. Based on their findings, the researchers rejected the common practice of combining, for example, the perspective taking and fantasy subscales to create a single cognitive empathy score, but supported the use of the four individual subscales to measure distinct factors (Chrysikou

& Thompson, 2015). It should be noted that the results reported below are based on individual analyses of each subscale.

The subscales have been found to have acceptable internal consistency for male and female participants with Cronbach's α values between 0.70 and 0.78 (Davis, 1980). Similarly, with a period of 60 to 75 days between the first and second administrations of the IRI, the test-retest reliability coefficients of the subscales were found to be almost entirely between 0.69 and 0.79 for males and 0.70 and 0.81 for females (Davis, 1980). The exception to this finding was the perspective taking subscale that was found to have reliability coefficients of 0.61 for males and 0.62 for females (Davis, 1980). This questionable reliability notwithstanding, Davis' original article has been frequently cited, and his IRI has been used continuously for three-and-a-half decades.

The MBI-SS was first published in 2002 as an adaptation of the 1981 Maslach Burnout Inventory. This scale has been utilized to measure burnout in students using Maslach's three-factor construct, in which burnout is described as a syndrome characterized by emotional exhaustion, cynicism, and reduced professional (academic) efficacy (Schaufeli et al., 2002). The instrument consists of three subscales with a total of sixteen questions, to which participants are asked to respond using a numeric Likert scale. Responses are anchored by the options, "never" and, "always" (Schaufeli et al., 2002, p. 468). The instrument has been found to have acceptable goodness of fit when considering both the Comparative Fit Index, and the Tucker-Lewis Index. The MBI-SS was found to have goodness of fit exceeding the 0.90 threshold for acceptability for both of the just-named indices across all populations studied (Schaufeli et al., 2002). Additionally, the three subscales of the MBI-SS were found to have α values of between

0.67 and 0.80 in the populations studied; values approaching or exceeding the acceptability threshold of .70 for internal consistency (Schaufeli et al., 2002).

The CRSi-7 consists of seven questions, and was designed to measure, "…centrality, importance or salience of religious meanings in personality" (Huber & Huber, 2012, p. 710). It was developed through an iterative, collaborative process to be relevant to Muslim, Buddhist, and Hindu participants as well as the Christian and Jewish populations with which it was originally used (Huber & Huber, 2012). The authors of the CRSi-7 conceptualized religiosity as consisting of Public Practice, Private Practice, Religious Experience, Ideology, and Intellectual Dimensions with questions intended to address each of these dimensions (Huber & Huber, 2012). Results of the CRS have been shown to correlate significantly and positively with self-reports of religiosity, and with the results of other instruments intended to measure religiosity (Huber & Huber, 2012). The CRSi-7 was found to have an α value of 0.84 (Huber & Huber, 2012). This strong α is indicative of success in tapping a single construct, which is evidence that the survey is reliable.

I recruited participants at tables set up in public spaces at the two universities. I provided participants with, and asked them to sign, a notification of informed consent. The notification stated that the study was designed to examine the correlation between empathy and burnout, as well as the relationship between religiosity and burnout. The notification also included the author's contact information in case they should want to obtain the results of the study or attend its subsequent defense, as well as the contact information of the Concordia University Institutional Review Board. I requested that participants complete the four surveys at the time they are recruited. I surveyed each

participant only once, and conducted no follow-up testing. Those who agreed to participate, whether their data were eventually included in the study or not, were offered a small piece of candy in exchange for their participation. Several people attempted to participate, but were not allowed to because they were outside the target age range for the study. Of the 83 participants who were enrolled, five did not complete one or more of the questionnaires. The data from the questionnaires that these five participants did complete were used in the analyses described below. I did not include data from incomplete questionnaires. The other 78 participants completed all sections of all questionnaires.

I compiled and statistically analyzed the results of the surveys to determine what correlation, if any, existed between the different factors of empathy and burnout. Similar analyses were performed to determine whether there was any correlation between the centrality of religiosity in participants' personalities and their susceptibility to burnout. Additionally, I compared the scores of the MBI subscale responses across academic years to determine whether the different factors of burnout increased consistently with academic year. Finally, I examined the data to identify any existence of observed variation between the populations of the two universities.

Results

Hypothesis 1

I hypothesized that factors of intellectual empathy would correlate with lower levels of burnout, and that factors of emotional empathy would correlate with higher levels of burnout. During analysis, I detected no statistically significant correlation between any of the factors of empathy and those of burnout. This resulted in a failure to reject the null hypothesis.

To control for the influence of religion on the relationship between empathy and burnout, I conducted a partial correlation. Although I again detected no significant relationship between empathy and burnout, controlling for religiosity altered the results dramatically and inconsistently. For example, empathic concern correlated more strongly with professional efficacy and less strongly with cynicism when controlling for religiosity than when not. The influence of religiosity was too inconsistent to identify a pattern, but there was clearly some influence.

Based on an analysis of data related to the fourth hypothesis that revealed significant differences in almost all measured factors between Concordia University and Reed College, I analyzed the data from each of the schools separately to measure the relationship between empathy and burnout within the two populations. Again, I discovered no significant relationships between any factors of empathy and any factors of burnout in the population of Concordia University. In analysis of the population of Reed College, I found that fantasy, a factor of intellectual empathy, correlated significantly and negatively with professional efficacy $r(31)=-0.34$, $p=0.05$, and positively with emotional exhaustion $r(31)=0.37$, $p=0.04$. This is the opposite of the hypothesized outcome, and thus supports the null hypothesis.

Hypothesis 2

When evaluating the relationship between religiosity and burnout, I detected no statistically significant correlations between religiosity and emotional exhaustion or professional efficacy. I did find a significant negative correlation between religiosity and cynicism, $r(78)=-0.25$, $p=0.03$. This finding indicated that the more religious a person

was, the less cynical they were, and vice versa. These findings resulted in a partial rejection of the null hypothesis.

Additional analyses revealed no significant relationship between religiosity and burnout when comparing within-populations results for the two schools.

Hypothesis 3

A one-way analysis of variance (ANOVA) was conducted to determine the differences in the factors of burnout between participants in different academic years. Based upon the results, there were no significant differences in the factors of burnout in different academic years. In this way I failed to reject the null hypothesis.

Additional analyses revealed no significant differences in the factors of burnout across academic year when comparing within-groups results.

Hypothesis 4

I performed an independent samples *t*-test to identify differences in religiosity, factors of empathy, and factors of burnout between the populations of Reed College and Concordia University. I identified significant differences in means in religiosity, fantasy, and all three factors of burnout as detailed in Table 1 and Table 2 below. No significant differences were detected in perspective taking, empathic concern, or personal distress between the two populations. This resulted in a partial rejection of the null hypothesis. The tables below illustrate my findings in detail.

Table 1

Mean Scores by University

		N	Mean
Religiosity	Concordia	48	3.83
	Reed	32	2.73
Fantasy	Concordia	50	2.28
	Reed	33	2.65
Emotional Exhaustion	Concordia	50	2.80
	Reed	33	3.30
Cynicism	Concordia	50	1.42
	Reed	33	2.02
Professional Efficacy	Concordia	49	4.57
	Reed	33	4.17

Table 2

Differences between Populations of Concordia University and Reed College

	t	df	Sig. (2-tailed)	Mean Difference
Religiosity	4.436	78	.000	1.10
Fantasy	-2.049	81	.044	-0.37
Emotional Exhaustion	-2.019	81	.047	-0.49
Cynicism	-2.358	81	.021	-0.60
Professional Efficacy	2.327	80	.022	0.40

I calculated the mean differences in Table 2 by subtracting the mean scores of Reed College students from those of Concordia University students. A negative value for

mean difference identifies a test in which Reed College students scored higher on average for a given factor, while a positive score identifies a factor for which Concordia University students had a higher average score.

Discussion

The findings of this study indicate that there is no significant relationship between empathy and burnout across the entire participant population. The findings concerning the relationship between the fantasy subscale of the IRI and two factors of burnout in the Reed College participants being directly contrary to those hypothesized is a contradiction of traditional wisdom on the subject, particularly that of Maslach (1985) who identified emotional empathy as a risk factor for burnout and intellectual empathy as a potential mediating factor. When taken as a body, the evidence presented by Wagaman et al. (2015), Han et al. (2012), Deary et al. (2003) and others cited above, seems to indicate either that the results of this study are outliers, or that the parallels drawn between those studies and the current one in the literature review are invalid.

In the analysis of the entire study population, it seems most likely that the measurement of empathy as a static quality is a flawed conceptualization in relation to burnout. The studies cited include the activation of empathic response as the results of some stimulus also linked to burnout, for example the use of emotionally-oriented coping in response to the stress of nursing school described by Deary et al. (2003). The current study was designed to measure empathy as a static quality, whereas in the experimental studies cited above (i.e. Batson & Ahmad, 2001; Rumble et al., 2009) empathy was measured as a response to the manipulation of a priming variable. Based on the results of the current study, it seems that it is most appropriate to measure empathy not as a static

quality, but explicitly as a type of response. Put another way, the results of this study can be used to support the idea that empathy is a type of response, not a quality of personality.

The results of the analysis of empathy and burnout among students of Reed College are likely an outlier. They are not consistent with the findings in any other literature examined for this study, and may be a result of the small sample size from which they were derived.

The finding that religiosity and cynicism were negatively correlated is not itself sufficient to suggest that religiosity is effective in countering the effects of burnout, though the finding is consistent with the suggestion made by Giordano et al. (2014) that religion provides as secure sense of identity from which interpersonal understanding can develop. It should also be considered that the role of religion may be different for the two groups of students in this study. At Concordia University, a religious institution, having a religious identity, particularly a Christian identity, makes a given student a part of the dominant culture. At Reed College, a secular institution, the opposite may be true. It may be that religious students at Concordia University, and non-religious students at Reed College, are relating more easily to their peers, and thus developing more robust social support networks. If that is so, an important but unanswered question is how the centrality of religiosity in a culture relates to the centrality of religiosity in its members. I did not sufficiently explore the differential role of religious affiliation in the two schools during this study to make any firm determination as to the influence of the broader cultural attitudes toward religion on the experience of individual students.

Based on the results of this study, it is not possible to determine whether religious people are less likely to be cynical, or if cynical people are less likely to be religious. Either finding would appear self-evident regardless of causality. The finding that religiosity does not correlate negatively with emotional exhaustion may be read as a refutation of Ying (2008) who suggested that religion acts as a buffer against emotional exhaustion. Because I identified no significant relationship between religiosity and either emotional exhaustion or professional efficacy, the findings of this study indicate that religiosity, as measured by the CRSi-7 does not have a mediating effect on the factors of burnout.

The failure to identify burnout conclusively as cumulative across academic years may be explained by the diversity of experiences from year to year. The daily lived experience of a student in their junior year may be significantly distinct from what they experienced in their sophomore year that their experience of burnout is effectively reset. This is consistent with Maslach and Leiter's (2008) suggestion that novelty be incorporated into work processes to prevent burnout. It is also possible that students, as they advance successfully from year to year, are rewarded consistently with a sense of accomplishment that, although it has not been demonstrated in the current study to be persistent or cumulative, serves to help negate cynicism and emotional exhaustion.

The significant differences between Concordia University and Reed College may be attributable to environmental factors. Concordia, a religious institution, might be expected to attract a more religious population. This assertion is supported by the results of the current study. The higher average level of experienced burnout among Reed College students could be explained by a confounding variable not identified in the

current study. Varying levels of academic rigor in the two schools may be one reason for this disparity, but succeeding in a more challenging environment would plausibly generate enhanced feelings of professional efficacy, something not supported by the results of the current study. Without further exploration of differences in environment and curriculum between the two populations, it is not possible to definitively explain the differences between the populations.

Overall, the findings of the current study indicated that there is no relationship between empathy as a static personality trait and burnout, that religiosity does not mediate burnout, that burnout does not increase with academic year, and that there are differences in the populations sampled at Reed College and Concordia University. As noted above, particularly with regard to the relationship between burnout and academic year, a larger sample size would be necessary to confirm or refute these results with more certainty.

Limitations

The total population of the study (N=83) was insufficient to be generalized to the populations of these universities. Additionally, because the participants were recruited through convenience sampling and were self-selecting, certain limitations are inherent. Although the demographics of the study populations were close to being representative of the larger universities, they are not necessarily representative of these populations, or of general populations. Because the participants were self-selecting, they may have been more empathic or less burnt-out than their peers who elected not to participate.

Because I did not collect the specific religious affiliation of each participant, it is not possible to know whether members of different religious groups reported different

results. Because of the way that religiosity is measured on the CRSi-7, centrality of religiosity as a construct should not vary with religion, but as noted previously it is likely that different people of different religions in different contexts would have reported different results.

Additionally, because several of the participants at Concordia University knew the researcher collecting their surveys, it is possible that their responses were skewed due to social desirability, particularly on the MBI-SS which includes labeled sections for each of its factors. Participants may have indicated lower levels of cynicism and exhaustion that they would have otherwise, even given that their responses were anonymous.

The limited amount of time available for data collection precluded the recruitment of equal sample sizes. The original plan for this study included a third, public university that was ultimately excluded because of its policies that require student researchers from other universities to pay to rent space for data collection. The original recruitment target for each university was approximately 33 participants, and had the third university been included, the sample sizes would have been more even if somewhat less representative of their total populations.

As noted above, there are questions about construct validity of the first hypothesis with regard to the nature of empathy as a static quality. In retrospect, all of the studies cited measured a primed empathic response, and so it may not be correct to measure empathy in the way attempted in this study.

Future Research

The third university mentioned previously was a public, secular university, and would have been used as an additional point of reference in an attempt to generate a

sample more representative of the general population. Future studies of populations like those in the current study may benefit from the inclusion of additional population diversity.

The measurement of religiosity used in the current study examined religiosity as a part of personality, but it may be worthwhile to examine the effects of specific factors of religiosity (i.e., public practice or private belief) including those not measured by the CRSi-7 on the different factors of burnout. It may also be useful to consider the role of religion as a motivating force, and the disparate relationships between religions and cultures.

Finally, students at both universities expressed seemingly low levels of cynicism and high levels of professional efficacy. The selection bias previously mentioned could be responsible for this, but it is not possible to know without further study. If it is determined that Concordia University and Reed College are producing graduates without burning them out, it may be worth examining the practices of the two schools to identify factors contributing to the successful burnout outcomes. The results of such a study could be useful in providing guidance to universities where burnout is a problem. Additional research on the existence and elimination of academic burnout will be beneficial not just to students, but to the wider populations into which those students graduate.

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Appendix A

Demographic Questionnaire

1. Please mark the academic year - age pairing which best applies to you. If there is not a category which applies to you, please notify the researcher.

- Freshman (18-19 years old)
- Sophomore (19-20 years old)
- Junior (20-21 years old)
- Senior (21-23 years old)

2. What is your ethnicity?

- Hispanic or Latino
- Not Hispanic or Latino

3. What is your race?

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White

4. What is your gender?

- Female
- Male
- Other

5. What is your field of study?

Major: _____

Minor(s):_____

Appendix B

INTERPERSONAL REACTIVITY INDEX

(Davis, 1980)

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter on the answer sheet next to the item number. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

ANSWER SCALE:

[Does Not Describe Me Well] A B C D E [Describes Me Very Well]

__ 1. I daydream and fantasize, with some regularity, about things that might happen to me.
__ 2. I often have tender, concerned feelings for people less fortunate than me.
__ 3. I sometimes find it difficult to see things from the "other guy's" point of view.
__ 4. Sometimes I don't feel very sorry for other people when they are having problems.
__ 5. I really get involved with the feelings of the characters in a novel.
__ 6. In emergency situations, I feel apprehensive and ill-at-ease.
__ 7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.
__ 8. I try to look at everybody's side of a disagreement before I make a decision.
__ 9. When I see someone being taken advantage of, I feel kind of protective towards them.
__ 10. I sometimes feel helpless when I am in the middle of a very emotional situation.
__ 11. I sometimes try to understand my friends better by imagining how things look from their perspective.
__ 12. Becoming extremely involved in a good book or movie is somewhat rare for me.
__ 13. When I see someone get hurt, I tend to remain calm.
__ 14. Other people's misfortunes do not usually disturb me a great deal.
__ 15. If I'm sure I'm right about something, I don't waste much time listening to other people's opinions.
__ 16. After seeing a play or movie, I have felt as though I were one of the characters.
__ 17. Being in a tense emotional situation scares me.
__ 18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.
__ 19. I am usually pretty effective in dealing with emergencies.
__ 20. I am often quite touched by things that I see happen.
__ 21. I believe that there are two sides to every question and try to look at them both.
__ 22. I would describe myself as a pretty soft-hearted person.
__ 23. When I watch a good movie, I can very easily put myself in the place of a leading character.
__ 24. I tend to lose control during emergencies.
__ 25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

__ 26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.
__ 27. When I see someone who badly needs help in an emergency, I go to pieces.
__ 28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

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Appendix C

MASLACH BURNOUT INVENTORY–STUDENT SURVEY
(Schaufeli et al., 2002)

The following statements inquire about your current state of mind. For each item, indicate how well it describes you by choosing the appropriate number on the scale at the top of the page: 0, 1, 2, 3, 4, 5, or 6. When you have decided on your answer, fill in the letter on the answer sheet next to the item number. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can.
Thank you.

ANSWER SCALE:

[Never] 0 1 2 3 4 5 6 [Always]

Exhaustion

__ 1. I feel emotionally drained by my studies.
__ 2. I feel used up at the end of a day at university.
__ 3. I feel tired when I get up in the morning and I have to face another day at the university.
__ 4. Studying or attending a class is really a strain for me.
__ 5. I feel burned out from my studies.

Cynicism

__ 1. I have become less interested in my studies since my enrollment at the university.
__ 2. I have become less enthusiastic about my studies.
__ 3. I have become more cynical about the potential usefulness of my studies.
__ 4. I doubt the significance of my studies.

Professional Efficacy

__ 1. I can effectively solve the problems that arise in my studies.
__ 2. I believe that I make an effective contribution to the classes that I attend.
__ 3. In my opinion, I am a good student.
__ 4. I feel stimulated when I achieve my study goals.
__ 5. I have learned many interesting things during the course of my studies.
__ 6. During class I feel confident that I am effective in getting things done.

Schaufeli, W., Martinez, I., Pinto, A., Salanova, M., & Bakker, A. (2002). Burnout and engagement in university students: A cross-national study. Journal of Cross-Cultural Psychology, 33(5), 464-481. doi:10.1177/002202210203300500

Appendix D

Centrality of Religiosity Scale – interreligious version with 7 items (CRSi-7) (Huber & Huber, 2012)

The following questions inquire about your religious beliefs and practices. For each item, indicate the most appropriate answer for you by circling the appropriate answer to the right of the question. Some questions have specific instructions for people who identify as Muslim, Buddhist, or Hindu. If your religious identity is listed next to a question, please respond only to that version of the question. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

Items	Answer categories and their numeric codes for scaling							
1. How often do you think about religious issues?	Very often 5	Often 4	Occasionally 3	Rarely 2	Never 1	-	-	-
2. To what extent do you believe that God or something divine exists? For Hindus and Buddhists:	Very much so 5	Quite a bit 4	Moderately 3	Not very much 2	Not at all 1	-	-	-

To what extent do you believe that God, deities or something divine exists?								
3. How often do you take part in religious services? For Muslims: **How often do you take part in religious services (namaz)?**	More than once a week 5	Once a week 5 Once a week 5	One or three times a month 4 One or three times a month 4	A few times a year 3 A few times a year 3	Less often 2 Less often 2	Never 1 Never 1	-	-
4a. How often do you pray? For Muslims: **How often do you say personal prayers (du'a)?**	Several times a day 5	Once a day 5	More than once a week 4	Once a week 3	One or three times a month 3	A few times a year 2	Less often 2	Never 1
4b. How often do you meditate?	Several times a day 5	Once a day 5	More than once a week 4	Once a week 3	One or three times a month 3	A few times a year 2	Less often 2	Never 1

5a. How often do you experience situations in which you have the feeling that God or something divine intervenes in your life? For Hindus and Buddhists: **How often do you experience situations in which you have the feeling that God, deities or something divine intervenes in your life?** For Muslims: **How often do you experience situations in which you have the feeling that God or something divine allows for an intervention in your life?**	Very often 5	Often 4	Occasionally 3	Rarely 2	Never 1		-	-

5b. How often do you experience situations in which you have the feeling that you are in one with all?	Very often 5	Often 4	Occasionally 3	Rarely 2	Never 1	-	-	-

Huber, S., & Huber, O.W. (2012). The Centrality of Religiosity Scale. *Religions, 3*, 710-724. doi:10.3390/rel3030710