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Do Faculty In-Class Incivility Behaviors Predict Type of Out-Of-Class Interactions between Faculty and Students?

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DO FACULTY IN-CLASS INCIVILITY BEHAVIORS PREDICT TYPE OF OUT-OF-CLASS INTERACTIONS BETWEEN FACULTY AND STUDENTS?

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To my husband, without whose support I could not have done this
To my son, for whom I did this
To my mother, who first taught me to read
To my father, who has always coached my writing

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Directed by: Kristin B. Wilson, Kimberlee Everson, and Marguerite DeSander

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The present study explored relationships between two larger streams of research—faculty-student interactions and destructive leadership embodied in faculty incivility towards students. While interactions with faculty outside of class offer tremendous benefits for students' intellectual and socio-emotional development, avoidance is one of the demonstrated outcomes of destructive leadership on followers and of faculty incivility on students. The theoretical basis for this study was the premise that faculty incivility displayed in class, as perceived by students, could predict the frequency and type of interactions in which students engage with professors outside of the classroom. To test this conjecture, a sample of 785 students at WKU was surveyed. A total of 137 students indicated they had perceived incivility on the part of faculty during class. Overall, the students interacted with professors in an out-of-class setting infrequently, averaging three interactions per semester. Interactions were also reportedly of a short duration averaging approximately 12 minutes. There were no statistically significant differences in frequency by type of interaction. Among those students who indicated they had witnessed or experienced incivility on the part of a professor, the incivility behavior was not a significant predictor of the type of interaction in which students engaged with professors.

CHAPTER I: INTRODUCTION

Being mistreated by someone in a position of authority certainly leaves a stinging impression on those unlucky enough to have lived the experienced. Tepper, Duffy, Hoobler, and Ensley (2004) have described abusive supervision as a "low-base-rate phenomenon" (p. 456). Despite the rarity of these behaviors, their effects can be devastating. Employees who experienced abusive supervision at work reported higher stress levels, burnout, increased anxiety, as well as feelings of dissatisfaction towards their jobs, the organization, and life in general; higher attrition rates at work also occur (Tepper, 2000). Some of the telltale signs of destructive leadership are high employee turnover, absenteeism, and employee dissatisfaction with the job (Tepper, 2000).

Although discomforting to ideate, these behaviors also occur in education both on the part of administrators towards faculty and on the part of faculty towards peers. In fact, the behaviors are quite prevalent. Keashly and Neuman (2008) reported an incidence rate of 32% for bullying at a single university. Similar rates of prevalence have been reported at other universities around the world (Keashly & Neuman, 2010). The outcomes in the field of education are similar to those observed in organizations—faculty turnover, job dissatisfaction, decreased productivity, as well as negative interactions with students (Gardner, 2012; Keashly & Neuman, 2010; Lester, 2009).

Yet against that backdrop of these negative behaviors and their outcomes is the notion that faculty-student interactions outside of class are important for student development. Benefits to students from interacting with their professors outside of class include improvements in their academic performance as well as their cognitive,

emotional, and psychological development (Campbell & Campbell, 1997; Endo & Harpel, 1982; Komarraju, Musulkin, & Bhattacharya, 2010). While other factors are also crucial to student development, the importance of faculty-student interactions on student development and performance drives the stream of literature aimed at identifying determinant factors behind the decision to interact with professors outside of the classroom.

Statement of the Problem

To date, research in the field of *destructive leadership* has been focused predominantly on leadership in the corporate world. Only a few studies have considered destructive leadership in higher education. Yet the impact of destructive leadership is visible in academia as faculty turnover (Gardner, 2012; Lester, 2009) and as psychological and emotional distress (Hyde, 2011; Lewis, 2004). While Armstrong (2012) suggested that in-fighting among faculty and administrators within a department can also indirectly impact students, the notion that professors in their role as leaders of the classroom can act destructively towards students is understudied. A professor's destructive behaviors can elicit some of the same responses to destructive leadership that have been observed in the corporate world including the emotional distress, absenteeism, or avoidance by way of course or program withdrawal (Caza & Cortina, 2007; Clark, 2008a). The studies that exist in this realm, have framed the behaviors as acts of incivility (Alt & Itzkovich, 2015; Alt & Itzkovich, 2016; Clark, 2008a; Clark, 2008b; Itzkovich & Dolev, 2016; Knepp, 2012; Knepp, 2016; Lasiter, Marchiondo, & Marchiondo, 2012; Marchiondo, Marchiondo, & Lasiter, 2010).

The notion that destructive faculty leadership in the classroom would have a deleterious impact on student outcomes is not difficult to accept. Considering just one aspect, avoidance, makes quite clear the potential negative impact of destructive leadership in the classroom if students end up dropping courses or leaving programs (as observed in Clark, 2008a). One could also hypothesize that destructive behaviors on the part of faculty could impact students' interactions with faculty. Where destructive leadership has been associated with emotional trauma and avoidance behaviors, it stands to reason that the possibility exists that interactions between students and faculty outside of class could be affected.

Purpose

Establishing an understanding of the factors that drive faculty-student interactions is particularly important in higher education at this time (Cotten & Wilson, 2006; Cox & Orehovec, 2007). A proposed start for this vein of investigation would be to focus on developing precise descriptors of actions that encourage interactions (Cox & Orehovec, 2007; Jaasma & Koper, 2002; Nadler & Nadler, 2001), particularly those of a more meaningful nature that address a broad range of more personal issues (Endo & Harpel, 1982). Given the importance of faculty-student interactions for students' emotional and psychological development (Campbell & Campbell, 1997; Endo & Harpel, 1982; Komarraju et al., 2010), as well as the existing gap in the literature concerning factors that drive interactions, determining the implications of destructive faculty behaviors such as incivility on out-of-class interactions is crucial.

The present study sought to determine the usefulness of in-class faculty incivility behaviors, as perceived by students, in predicting the types of out-of-class interactions

that occur between faculty and students. The study was based on the notion that exhibited in-class behaviors would act to either encourage or discourage out-of-class interactions between students and their professors with students engaging in particular types of interactions in preference to other types. While researchers have a general idea of certain factors that predict interactions between students and faculty, for example, faculty communication style (Myers, Martin, & Knapp, 2005; Nadler & Nadler, 2001), a determination of precise behaviors that can be adopted or conversely avoided is yet to be elucidated (Cox & Orehovec, 2007).

A secondary goal of the study was to discern an estimation of the frequency with which undergraduate students enrolled at a single regional institution in the Southeastern region of the United States interact with faculty outside of the classroom, in what ways, and for how long. This estimation will fill one of the voids in the literature. Although the current research on the frequency of interactions indicated that faculty-student interactions rarely occur or that the majority of students have little to no interaction with faculty (Chang, 2005; Cotten & Wilson, 2006), few studies reviewed have indicated a precise numerical estimate.

Finally, the study also attempted to parse out differences in frequency that may exist for different types of interactions. Research that categorizes the different types of interactions captures subtle yet important differences which can potentially provide more information about not only the meaningful interactions themselves that impact student development but also the informal interactions that could potentially lead to meaningful engagement and thereby indirectly affect students.

To accomplish these goals, the central research question framing the study was *To what extent does student perception of faculty incivility displayed inside the classroom predict the type of interaction in which students engage with faculty outside of class?*

Methodological Approach

The study employed a non-experimental quantitative design. Data collection occurred by way of a survey circulated among undergraduate students at Western Kentucky University, a medium-sized public regional institution. Using a comparison of means as well as structural equation modeling techniques, the relationship between perceived faculty incivility and type of out-of-class interaction was evaluated. Given the exploratory nature of the study, a quantitative approach was warranted as this enabled the identification of a relationship between faculty incivility and faculty-student out-of-class interactions.

To that end, the research questions addressed were the following:

1. How frequently do students interact with faculty outside of class?
2. On average, for how long do students interact with faculty outside of class?
3. Are there significant differences in frequency of faculty-student interactions by type of interaction?
4. To what extent do incivility behaviors demonstrated by faculty in the classroom, as perceived by students, predict the type of interactions students have with faculty outside of class?

Scholarly and Practical Significance of the Study

To date, studies on faculty incivility toward students have been conducted predominantly in the field of nursing education (Clark 2008a; Clark 2008b; Lasiter et al.,

2012; Marchiondo et al., 2010). Given the prevalence and negative impact of faculty incivility that has been observed in other disciplines (Caza & Cortina, 2007), there is a need for researchers to expand beyond the field of nursing.

To accomplish this, framing faculty incivility within the context of destructive leadership, as has been done in the current study, expanded the potential for examining all pertinent aspects of the issue. It also brought several tools not only for understanding the problem but also for developing ways to resolve it. Existing suggestions put forth for resolving problems of incivility, could be expanded beyond the changes in attitude and demeanor to increase civility that have been suggested by Armstrong (2012). Drawing on the literature related to destructive leadership could potentially equip policymakers with a wider range of possible ways for implementing effective change. This type of change could address more concrete systemic issues such as mechanisms for accountability that impact both the conducive environment and the permissive or conspiring follower (Padilla, Hogan, & Kaiser, 2007).

By positioning faculty incivility as an expression of destructive leadership, other aspects of the mechanism of its impact on student performance could be discerned. This study sought to draw attention to the potentially less drastic avoidance behavior of limiting or eliminating personal contact by way of out-of-class interaction. While research on faculty-student interactions has determined that communication style predicts out-of-class interactions (Jaasma & Koper, 2002; Nadler & Nadler, 2001), a clear set of behaviors that promote faculty-student interactions remains to be identified (Cox & Orehovec, 2007). The current study attempted to bring the field closer to identifying this

by deciphering the contrary—those behaviors that perhaps would deter students from interacting with faculty.

Delimitations and Limitations of the Study

Delimitations

This study did not attempt to determine any causal relationships between incivility and faculty-student interactions. To determine causality, an experimental or quasi-experimental approach would have to be applied. The purpose of the study was to determine whether perception of incivility is a significant predictor of type of interaction. Knowing this can aid practitioners in developing a guide for practice that provides descriptors of behaviors in which faculty should engage but also behaviors that should be avoided.

Another boundary of the study was that it solely considered those interactions that occur in a face-to-face setting. Given the expansion of online education coupled with the increased usage of various methods of communication for students to reach out to faculty (Gross, 2015), it would be pertinent to consider interactions that occur in the virtual realm. In fact, researchers have recommended considering factors that drive the selection of a given mode of communication with faculty as being essential to advancing the understanding of faculty-student interactions (Cox & Orehovec, 2007; Jaasma & Koper, 2002; Nadler & Nadler, 2001). Despite this need, the current study was narrowly focused on face-to-face interactions.

Although the development of relationships between faculty and students is also crucial to student success (Fuentes, Alvarado, Berdan, & DeAngelo, 2014), an examination of relationships was beyond the scope of the current study. The focus was

simply on interactions, which have also been indicated as important factors in student success (Campbell & Campbell, 1997; Chapman & Pascarella, 1983; Pascarella & Terenzini, 1978; Endo & Harpel, 1982; Komarraju et al., 2010).

Limitations

The current study only accounted for some student-level variables such as gender and ethnicity, which have been shown to be related to student interactions with faculty (Endo & Harpel, 1982; Fuentes et al., 2014). Gender and ethnicity have also been shown to be related to subordinates' perception of destructive leadership (Thoroughgood, Hunter, & Sawyer, 2011) and by conjecture could also be related to students' perception of faculty incivility. Additional variables that have been observed as related to students' perception of incivility were not captured. These variables included students' sense of academic entitlement (Knepp, 2016) and perceived justice (Alt & Itzkovich, 2015). This exclusion was a limitation to the study in that, by failing to control for these variables, their potential influence on or contribution to any observed relationship between faculty incivility and faculty-student interactions cannot be accounted for in the model. Given the exploratory nature of the study, as well as the desire to develop a parsimonious model, it was beyond the scope of this study to include these additional variables.

Another limitation to the study was the use of existing scales that did not hold up to the confirmatory factor analysis performed. Prior testing of the scales used could have been performed to confirm their suitability for the study as well as to determine any modifications needed.

The portion of the sample that was used for the structural equation modeling was also quite small. This was a limitation to the study as the possibility exists that the

smaller samples did not offer adequate statistical power for the analysis techniques used. Structural equation modeling holds better where larger sample sizes are involved. This analysis technique is susceptible to nuances in the data, which have a more profound impact on the overall results in smaller samples.

Terminology Related to the Study

Destructive leadership has been described in the literature in many ways. The terms used in the literature as being synonymous with or as being encompassed within destructive leadership were identified and are defined here.

Abusive supervision: "subordinates' perceptions of the extent to which supervisors engage in the sustained display of hostile verbal and nonverbal behaviors, excluding physical contact" (Tepper, 2000, p. 178).

Fanatical management: Management situation characterized by the intense and intolerant supervision of a leader who is also inconsistent in the way he or she thinks or acts (Steiner, 2004)

Petty tyranny: Leadership situation in which the leader's power over subordinates is emphasized through displays of harsh rigidity and an emphasis on authority and power distance (Ashforth, 1994).

Toxic leaders: Leaders who behave disingenuously by engaging in corruption, hypocrisy, sabotage, and manipulation thereby effecting serious and long-term harm on followers and on the organization (Lipman-Blumen, 2005).

The operational definitions for the following terms have been developed based on the meaning of the terms within the context of the current study.

Active faculty incivility: an openly rude or discourteous behavior directed towards a student or group of students that is more serious in nature; for example, expressing anger towards a student who communicates difficulty understanding a concept being taught (Alt & Itzkovich, 2015; Knepp, 2012)

Casual interaction: an encounter between faculty and student in which the exchange is of a lighter more general nature. For example, the discussion held entails non-academic topics such as the weather, shared hobbies, or personal interests (Cox, McIntosh, Terenzini, Reason, & Lutovsky Quaye, 2010).

Duration of interaction: the average length of time in minutes of face-to-face encounters with an instructor outside of the classroom.

Faculty incivility: an intentional rude or discourteous behavior that disrupts or interferes with the harmony of the classroom (Clark, 2008a; Feldman, 2001). These actions are both passive and active in nature (Alt & Itzkovich, 2015).

Faculty-student interaction: any face-to-face contact a student has with faculty outside the classroom. This term is used interchangeably with student-faculty interaction to mean the same thing.

Frequency of interaction: the number of times in a semester that students experience a face-to-face contact with an instructor outside the classroom.

Passive faculty incivility: a more subtle discourteous behavior directed towards a student or group of students that is less serious in nature; for example, ignoring students' questions during lectures (Alt & Itzkovich, 2015; Knepp, 2012)

Substantive interaction: an encounter between faculty and student in which a more in-depth and meaningful discussion is held on topics including, but not limited to, student's future career, intellectual interests, or personal affairs (Cox et al., 2010).

Note also that for the purposes of this study, *faculty* referred to the instructor of record for a course, while *student* referred to any student enrolled at any level within the university (freshman, sophomore, junior, or senior and also graduate student).

Principal Findings

Interactions between faculty and students at WKU occur with low frequency about three times in a semester and do not last long averaging 12 minutes in duration. Students interact with professors in both casual and substantive ways with little differences between the two types in terms of frequency of occurrence. Perceived incivility was not a significant predictor of type of interaction, in that, despite perceiving incivility on the part of a professor, students reported similar rates of casual and substantive interactions. While the observation that students and faculty on campus are engaging in substantive and casual interactions with equal frequency is favorable, the low frequency of interactions observed is concerning. Campus leadership teams will need to consider ways for improving interaction frequency such as facilitating opportunities for faculty to engage students in small group discussions of non-academic as well as academic topics while targeting underclassmen specifically. The development and maintenance of campus-wide structures that support these initiatives are also crucial.

Summary and Preview of Chapters

This chapter provided a background to the problems of low frequency faculty-student interactions and faculty incivility investigated here. To fulfill the need for a better

understanding of the driving factors of faculty-student out-of-class interactions, this study determined the usefulness of in-class faculty incivility behaviors, as perceived by students, in predicting the types of out-of-class interactions that occur between faculty and students. Using structural equation modeling, relationships between in-class incivility and out-of-class interactions were tested. Despite the limitations of not accounting for other factors that have been shown to influence out-of-class interactions, the study contributed to the literature by bringing the discussion on faculty incivility within the context of other disciplines and not just nursing while applying the lens of destructive leadership to demonstrate the severity of the issue. Chapter Two develops the conceptual framework on which the study was based. Chapter Three details the methodology used in conducting the study. Chapter Four presents the process used in analyzing the data collected and the results of that process. Chapter Five discusses the key findings and relates the study to other literature.

CHAPTER II: REVIEW OF THE LITERATURE

What is Destructive Leadership?

As a synthesis of the literature on destructive leadership, Einarsen, Aasland, and Skogstad (2007) defined destructive leadership as

> the systematic and repeated behavior by a leader, supervisor, or manager that violates the legitimate interest of the organisation by undermining and/or sabotaging the organisation's goals, tasks, resources, and effectiveness and/or motivation, well-being, job-satisfaction of subordinates. (p. 208)

Craig and Kaiser (2013) revised this as

> the systematic and repeated behavior by a leader, supervisor, or manager that knowingly violates, or inappropriately risks violating, the legitimate interest of the organization, its members, or other legitimate stakeholders by undermining and/or sabotaging the organisation's goals, tasks, resources, motivation, well-being, job satisfaction, or effectiveness of such stakeholders. (p. 442)

When influence and persuasion become coercion and manipulation, destructive leadership strikes. Craig and Kaiser's inclusion of stakeholders highlights the potentially widespread effect of destructive leadership.

Schema for Conceptualizing Destructive Leadership Behavior

Einarsen et al. (2007) categorized leader behavior as either negative or positive and as directed towards either the organization or subordinates. Placing the behaviors in a quadrant, as depicted below in Figure 1, illustrated the idea that each type occurs on a continuum. This continuum highlights the notion that destructive leaders are not

consistently destructive in all situations. They may not target all subordinates within the organization; in fact, they may only target the actual organization behaving destructively by mismanaging resources, ruining company image, or damaging relationships with stakeholders. The targets of each type of destructive leader, as well as the target of such behavior as depicted in the diagram, are described in further detail.

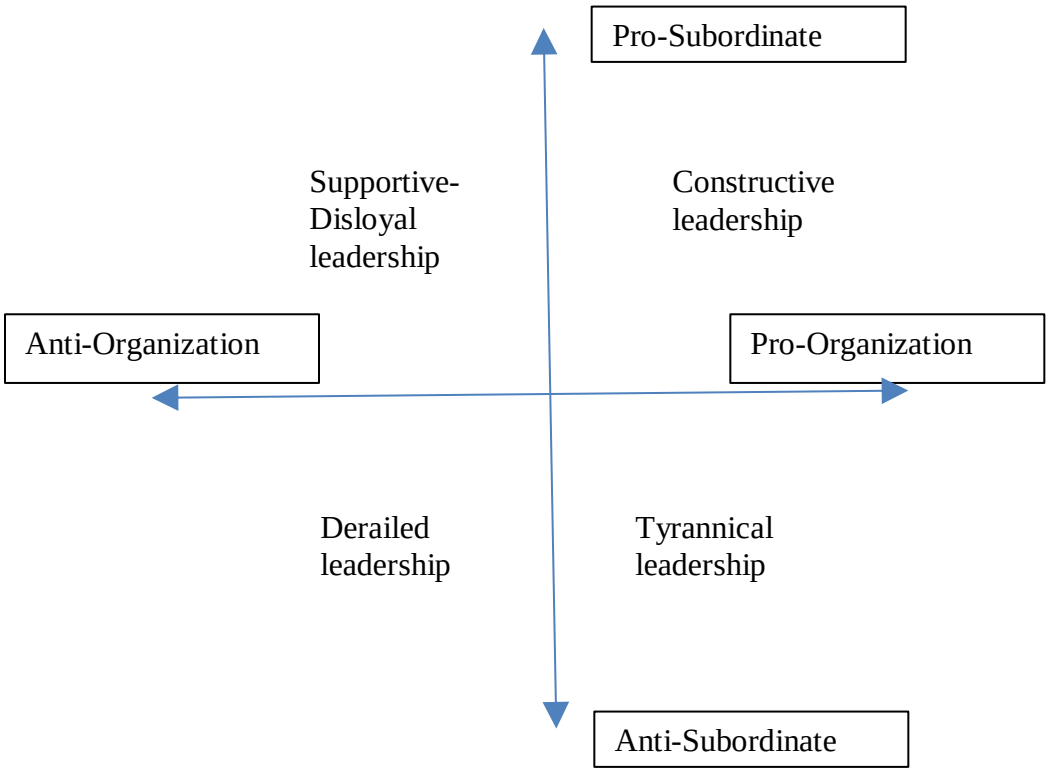

Figure 1. Schema for conceptualizing leadership behavior. Reprinted from "Destructive leadership behavior: A definition and conceptual model" by S. Einarsen, M. S. Aasland, and A. Skogstad, 2007, *The Leadership Quarterly, 18*, p. 211. Copyright 2007 by Elsevier, Inc.

Tyrannical leaders act in ways that shame or demean subordinates, using coercive power to get the job done. The possibility exists for a tyrannical leader to get along well

with some subordinates while targeting and mistreating others. Furthermore, since tyrannical leaders do not act destructively towards the organization, their negative behaviors can go undetected by anyone higher up in the chain of command.

Like tyrannical leaders, derailed leaders are also guilty of bullying or mistreating subordinates, but, in addition, they are typically involved in activities that pose harm to the organization such as embezzlement and other acts of fraud. In supportive-disloyal leadership, the leader treats subordinates well but acts at the expense of the organization by either misusing or allowing the misuse of company resources. Finally, constructive leadership represents the ideal situation wherein the leader bears the best interest of the subordinates in mind while also actively working towards achieving performance targets. This schema provides an introductory overview of the different ways in which leaders engage in destructive behaviors to aid in conceptualizing destructive leadership.

The Toxic Triangle

The toxic triangle, developed by Padilla et al. (2007), provided a visual representation of the destructive leadership construct depicting a confluence of factors that allow destructive leadership to occur. To develop the triangle, Padilla et al. reviewed over 150 sources covering topics such as destructive leadership, bad leadership, toxic leadership, administrative evil, charismatic leadership, abusive supervision, corruption in organizations and politics, psychology of mental disorders, and many others. As depicted in Figure 2, the components of the triangle are the destructive leader, the followers, and a conducive environment. Each domain of destructive leadership is discussed in the following sections.

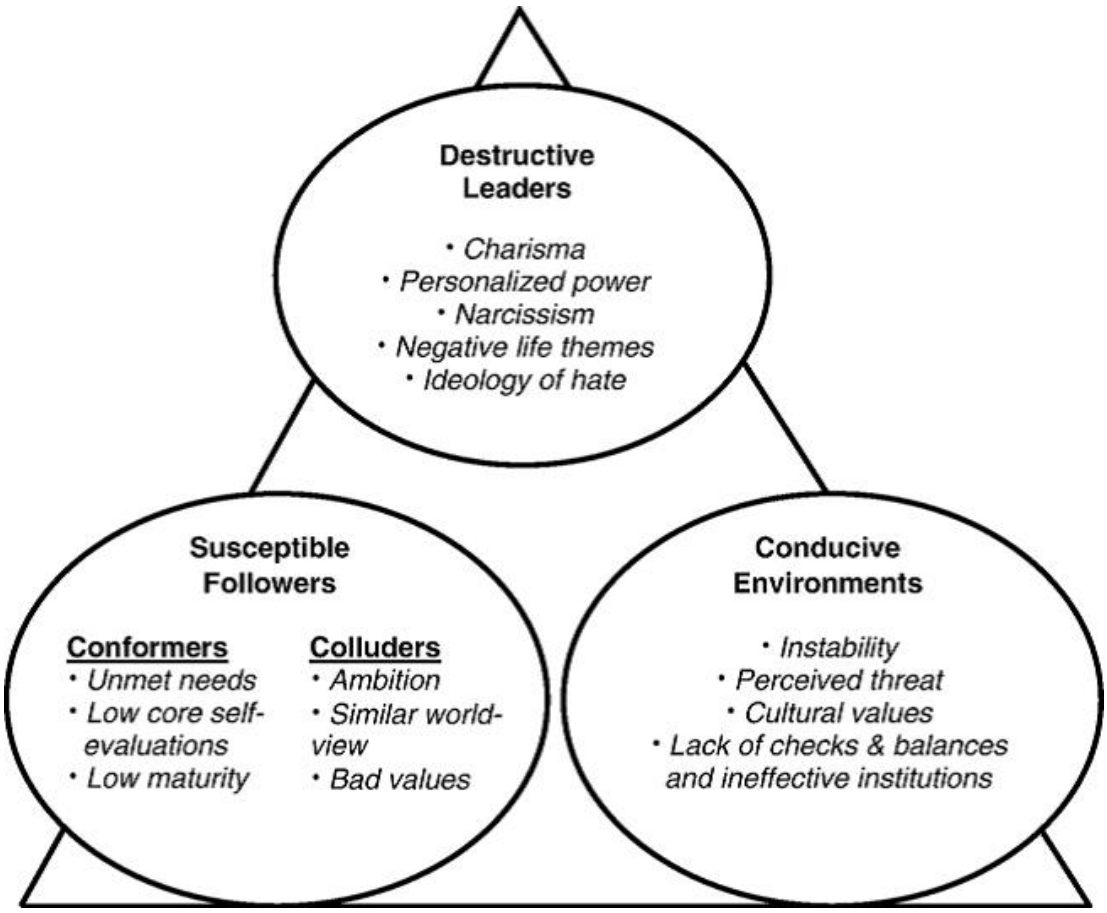

Figure 2. Toxic triangle of destructive leadership. The triangle depicts the attributes of each component: destructive leaders, susceptible followers, and conducive environments. The formation of the triangle depicts the intricate intertwining of each component. Reprinted from "The toxic triangle: Destructive leaders, susceptible followers, and conducive environments," by A. Padilla, R. Hogan, and R. B. Kaiser, 2007, *The Leadership Quarterly, 18*, p. 180. Copyright 2007 by Elsevier, Inc.

The Destructive Leader

Based on the literature reviewed, Padilla et al. (2007) described the destructive leader as being charismatic and narcissistic, as well as an individual who uses the power of the leadership role to advance a personal agenda, has endured difficult life experiences as a child, and has a take on life that has little regard for the wellbeing of others. These

five main characteristics have all been identified in examples of destructive leaders, and they typically all occur together for the individual to rise to power and produce deleterious effects (Padilla et al., 2007). A better understanding of how these characteristics can occur in an individual as well as how they can be masked or go undetected is gained by examining individual studies aimed at characterizing destructive leaders.

In a simulation of real-world problems and on the job dilemmas, created for the purposes of engaging a group of 80 undergraduates in role-play exercises, Illies and Reiter-Palmon (2008) found that persons who value self-enhancement more so than self-transcendence proposed more destructive solutions to the problems presented. Self-enhancement values represent a desire for individual achievement and power, whereas self-transcendence values represent more collectivist goals of benevolence towards and love for others (Schwartz & Boehnke, 2004). Respondents were, for example, willing to resolve proposed scenarios in a way that quickly maximized company profits at the expense of long-term loyal customers instead of applying solutions that benefited all involved. Respondents were also required to analyze the problems faced by the fictitious company in the scenario presented and restate it based on their understanding. Analysis of the way in which respondents expressed the problem also revealed an individual or collective sense of the issue, which was also dependent on personal values. Some respondents expressed concern for their individual outcomes stating, for example, "How can I sell books to APL without ruining my reputation?" or "How can I benefit the most?" (Illies & Reiter-Palmon, 2008, p. 259). Others expressed the problems as a collective dilemma: "We will be supporting an organization that contrasts our own moral

beliefs if make [*sic*] deal" (Illies & Reiter-Palmon, 2008, p. 259). This influence of personal values increased as the situation faced became more ambiguous.

Based on Schwartz and Boehnke's (2004) theory of human values, possessing self-enhancement values does not make one a bad or dangerous person; in fact, all humans possess some degree of self-enhancement values. Where these values are not tempered by self-transcendence values, they can have negative effects on others. Padilla et al. (2007) posited that all five characteristics of a destructive leader previously described must be present together. This notion is easy to accept as individuals with this desire for personal power and achievement with scant regard for others may not be able to take charge and attain a leadership role without being able to, for example, charm those around with their charisma.

In destructive leadership, charisma has three components: vision, energy, and an ability to self-represent in a positive light (Conger, 1990; Gardner & Avolio, 1998). Destructive leaders instill fear and hence, compliance, in followers by painting a grim forecast of the future. They then put forth themselves as being well-equipped to "save the day" and seemingly follow through by appearing to work tirelessly to complete the mission (Padilla et al., 2007). They are often egocentric and focused on their own agendas, claiming to have special knowledge or skills which qualify them to make judgments on best actions for the organization or group. Charisma also makes a destructive leader affable, thereby making it easier to dissimulate or justify negative actions. Note that being a charismatic leader does not necessarily equate to destructiveness (Padilla et al., 2007). In fact, McClelland (1975) and later House and Howell (1992) distinguished between *personalized* charismatic leadership and *socialized*

charismatic leadership. Personalized charismatic leadership is characterized by an emphasis on holding dominion and authority over others, an interest in appearing important and crucial to the organization's success, as well as the exploitation of others. On the other hand, with socialized charismatic leadership being based on beliefs of fairness, the leader bears in mind the collective interest of the group while developing and empowering subordinates. Instead, this tendency for self-aggrandizing displayed through personalized charisma is perhaps a reflection of narcissism which has been illustrated as a distinguishing trait of personalized and socialized charismatic leadership (Popper, 2002). Comparative self-aggrandizement wherein an individual speaks favorably of his or her abilities relative to others is what distinguishes narcissists and non-narcissists (Campbell, Reeder, Sedikides, & Elliot, 2000).

The connection between narcissism and an emergence to leadership, especially in situations of ambiguity, has been observed. Nevicka, DeHoogh, VanVianen, Beersma, and McIlwain (2011) worked with a sample of 236 undergraduates who were assigned a set of computer exercises simulating combat situations. Since a group leader was not designated and all participants were first trained to use the computer simulator to manipulate and maneuver the war vehicles, any member could take charge of the operation. Researchers observed that the most narcissistic participants, as measured by the Narcissistic Personality Inventory, tended to emerge as leaders of each group for all activities. This was the case despite the gender and performance of the individual during the task. The level of narcissism of the leader was also positively correlated with the reward to be obtained. Groups with leaders high in narcissism reported communicating

and participating less in making decisions than other groups with leaders lower in narcissism.

The other characteristics of destructive leaders that have been identified were that they oftentimes had quite difficult or disturbing experiences as a child, which have resulted in the leader holding beliefs that have a theme of hatred or contempt for others. Mumford et al. (2007) compared 80 historical ideological and non-ideological leaders. Both groups had equal numbers of leaders who were violent and nonviolent, as well as Westerners and non-Westerners. The group under study was also compared to a reference group of charismatic and pragmatic leaders. Based on content analysis of their respective biographies, researchers identified that in addition to possessing ideologies of hate, ideological leaders were associated with significantly more violence than non-ideological leaders. The biographies analyzed also had the common theme of negative childhood experiences.

The Followers

One of the other domains of the toxic triangle consists of the followers. Padilla et al. (2007) described two types of followers: colluders and conformers. Colluders are followers who accept the ideals of the destructive leader and willingly participate in accomplishing the leader's goals. Thoroughgood, Padilla, Hunter, and Tate (2012) further identified two types of colluders: opportunists and acolytes. Opportunistic colluders tend to align themselves with the leader for personal gain. They tend to be ambitious and hungry for status as well as greedy and self-centered putting their needs before others. They will therefore willingly ascend to a higher status within the organization on the backs of others. The acolyte colluders, on the other hand, believe wholeheartedly in the

leader's agenda and aid in accomplishing the mission, as this is aligned with their personal beliefs and values.

Conformers, on the other hand, are those followers who do not necessarily believe in the leader's objectives but yet are permissive of the destructive behavior. The reasons for which followers conform are typically varied and, as such, conformers can also be thought of as different types: lost souls, bystanders, and authoritarians (Thoroughgood, Padilla, et al., 2012). Lost souls are characterized by having an unclear sense of who they are as individuals, needing to be saved, and looking to the leader to fill the voids in their lives. They typically have low self-esteem, low perceptions of their self-efficacy, and a predominantly external locus of control. Lost souls have also been described as people experiencing turmoil in their lives who are uncertain about who they are as individuals (Thoroughgood, Padilla, et al., 2012).

Bystanders are similar to lost souls in that they also have low self-esteem, low perceptions of their self-efficacy, and a predominantly external locus of control. Instead of looking to the leader as someone who can save the day, however, they simply feel too inept to challenge the leader's authority and hold that leader accountable. Bystanders also tend to be high self-monitors in that, when interacting with others, they constantly search for cues to judge their behavior and will adjust based on the feedback they perceive. As high self-monitors, they are able to assimilate to the work conditions without their disagreement with the leader being detected. They also tend to be introverts who do not have a strong courageous prosocial disposition and so are not empowered to take a stand (Thoroughgood, Padilla, et al., 2012). This fear of the consequences is perhaps warranted as workers involved in whistleblowing have oftentimes received some type of

punishment for their actions in the form of a demotion, transfer, or group exclusion (McDonald & Ahern, 2002).

Authoritarian conformers, on the other hand, are guilty of following blindly; they feel duty bound to comply with the leader. They also tend to believe that the leaders' bullying acts towards others, for example, are reactionary and therefore merited. Investigating the impact of authoritarianism on followership, Son Hing, Bobocel, Zanna, and McBride (2007) observed that right-wing authoritarian followers (those who believe in individual benefits as opposed to collective benefits) were more likely to support unethical decisions than followers low in right-wing authoritarianism. Additionally, working pairs comprising leaders high in social dominance (desire for power and status), coupled with followers high in right-wing authoritarianism, effected the most destructive solutions to problems simulated.

Evidently, the impact of the followership on the perpetuation of the destructive behaviors occurs differently for each type of follower. Further research on the influence that the different types of followers have on the way in which they each perceive and react to the destructive leadership situation is needed. Development of measures for assessing the different follower types would aid in advancing the literature on destructive leadership (Thoroughgood, Padilla, et al., 2012).

Missing from this discussion on followers are those who do not support this type of leadership: followers who opt to rebel against the leader and/or leave the organization. An examination of the personality types or defining characteristics of these individuals would also provide useful insight into followership within the context of destructive leadership. Including this group also negates the criticism that the literature on

destructive leadership depicts followers as sheep and does not accommodate the possibility of bottom-up leadership.

Additionally, no distinction is made between followers who are targets of the negative behavior and those followers who have the leader's favor. As stated earlier, the destructive leader is not necessarily and, in fact, is rarely destructive in all scenarios and towards all subordinates (Einarsen et al., 2007; Padilla et al., 2007;). As such, it is also essential to examine whether these measures of follower susceptibility are related to the subordinate experience be it as a target or victim, observer; or an active participant, willing or reluctant.

The Environment

A conducive environment will provide the mechanism for the destructive actions to occur. According to Padilla et al. (2007), a conducive environment is one that typically lacks controls and systems of accountability, which would ordinarily keep a leader in check. Organizational environments that contribute to destructive leadership are generally unstable and may also be facing a crisis or challenge, such as economic hardship or low profitability. Given these conditions, the leader has the opportunity to act destructively and can justify actions by claiming they are warranted given the current failing state of the organization.

Environments that are characterized by a more individualist rather than collectivist culture also tend to promote destructive leadership as these environments will tend to emphasize leader as well as follower thinking that is characterized by low pro-social disposition and high social dominance as described earlier. Interestingly, Thoroughgood et al. (2011) observed that followers' perceptions of the leader's

destructive behavior was perceived as more aversive where the company was performing poorly but where the organizational climate was intolerant to destructive behaviors. As such, the interplay of these factors—organizational culture, overall financial health of organization, and accountability systems—is important in followers' perceptions of and reactions to destructive leadership. This system of factors is worth further examination.

Balducci, Fraccaroli, and Schaufeli (2011) observed that jobs involving demanding tasks as well as those where resources for completing tasks were inadequate or sparse tended to support destructive leadership. In fact, destructive behaviors were exacerbated when both these conditions existed together.

Additionally, destructive leaders tend to surround themselves with people who support their agenda and agree with/share their vision or ideals in order to avoid being challenged on their opinion or expectations (Steiner, 2004). These colluders provide a shielding effect, thereby allowing the destructive behaviors to go unchecked. Careful examination of the leader as well as followers is crucial to understanding destructive leadership and implementing mechanisms to prevent it.

While the toxic triangle provides an important framework for further exploring destructive leadership, it was beyond the scope of the current study to employ the triangle as a conceptual model. The toxic triangle was presented here to aid readers in understanding destructive leadership as well as in obtaining a grasp of how or why it may occur in well-intended, purpose-driven organizations that serve the public good such as educational institutions. Educational institutions are not immune to occurrences of destructive leadership. In higher education, it is typically difficult to establish a proper system of checks and balances without infringing on schools' autonomy (McLendon,

2003; Mortimer, 1973). In addition to this challenge of establishing systems of accountability, frequently occurring departmental factions (Ambrose, Huston, & Norman, 2005), as well as the adherence to traditional gendered norms such as women being less capable than men (Gardner, 2012), provide opportunities for destructive leadership to occur. Given also that classes largely go unsupervised by department heads and professors have academic freedom within the classroom to create their own policies and lead discussions to their liking, it is possible for these destructive behaviors to filter into the classroom as observed in Alt and Itzkovich (2015), Alt and Itzkovich (2016), Clark (2008a), Clark (2008b), Itzkovich and Dolev (2016), Knepp (2012), Knepp (2016), Lasiter et al. (2012), and Marchiondo et al. (2010). The literature reviewed in later sections will provide details on instances of destructive leadership in higher education as well as their effects on students and professors.

Factors that Predict Destructive Leadership

Essential to an examination of the nature of conducive environments is an analysis of factors that predict destructive leadership. Surveying 609 employees of a large public administration agency in Italy, Balducci et al. (2011) examined factors that predict the occurrence of destructive leader behaviors. Destructive behaviors were conceptualized as acts of bullying and measured using a revised version of the Negative Acts Questionnaire. Occurrences of Post-Traumatic Stress Disorders (PTSD) were measured using the PTSD Civilian Checklist Scale. Balducci et al. found that incidences of bullying could be predicted by job demands, job resources, and employee neuroticism where a job involving a demanding workload with few resources for completing tasks assigned to employees with high neuroticism provided conditions for bullying to occur

and for the employees with high neuroticism to be targets. They focused on neuroticism because it has been shown to be connected to bullying (Coyne, Chong, Seigne, & Randall, 2003). They also observed that in organizations where bullying occurs, victims experience PTSD symptoms, including continually reliving the event and avoiding the source of trauma.

Effects of Destructive Leadership

Using a nonexperimental design with an interrupted time series approach to data collection, Tepper (2000) explored the impact of destructive leadership on followers. In Tepper's study, destructive leadership was termed *abusive supervision*. Data collection occurred in two waves with a six-month gap in between Time 1 and Time 2. The sample was almost evenly distributed in terms of gender. While the majority of respondents were from the service industry, workers in retail, manufacturing, government, and education also formed part of the sample.

Tepper's (2000) measures included abusive supervision, perceived mobility, and organizational justice at Time 1 as well as voluntary turnover, job satisfaction, life satisfaction, organizational commitment, work and family conflict, and psychological distress at Time 2. Organizational justice was conceptualized as having three dimensions: interactional—the idea of being treated with respect and honesty based on the given context; procedural—the idea of being party to fair decision-making processes regarding the day-to-day operations of the organization; and distributive—the sense of being treated fairly relative to others.

One criticism of this study is that perceived mobility was measured using two items that asked respondents to indicate whether or not it would be difficult to find an

acceptable job if they left and whether or not it would be difficult to find a new job that was as good as the current job. Note that the author did not qualify the descriptors *acceptable* and *as good*. So, respondents' basis for comparison—be it remuneration package or organizational culture—is unknown.

Despite this obscurity, the results indicated that workers who experienced abusive supervision reported resigning from the position, having a lowered satisfaction with the job and life in general; having difficulty maintaining appropriate balance between work and family life; and experiencing depression, anxiety, and emotional exhaustion. These negative effects were even greater where subordinates had low job mobility (regardless of organizational justice).

Interestingly, the effect of abusive supervision on psychological distress indicators (for example, anxiety and emotional exhaustion) was only partially mediated by organizational justice, whereas organizational justice fully mediated the effect of abusive supervision on job and life satisfaction. While organizational justice helps to buffer the impact of abusive supervision on job and life satisfaction, conducive environments that allow destructive leadership to pervade would typically lack organizational justice. Schyns and Schilling's (2013) meta-analysis of 57 studies on destructive leadership confirmed the occurrence of these effects described by Tepper (2000) as well as identified other effects including follower resistance, poor organizational performance, and counterproductive actions.

Bryant, Buttigieg, and Hanley (2009) offered an insightful comprehensive picture of the effects of destructive leadership on followers. They conducted semi-structured interviews with 14 Australian workers. Participants reported that they engaged in

behavioral changes such as developing habits of drinking after work to fall asleep and also taking narcotics, including antidepressants and drugs, to relax. Participants also reported changes in emotion such as feeling angry all the time and also experiencing intense feelings of self-hate as well as hate towards the boss with a desire to cause harm. They often used up all opportunities to avoid going to work such as maximizing the number of sick days taken.

Studying destructive leadership in the setting of the police force in Slovenia, Duffy, Ganster, and Pagon (2002) investigated the psychological and physiological impact of social undermining on employees. Duffy et al. defined *social undermining* as purposeful behaviors intended to gradually erode the target's reputation within the environment and to prevent the establishment of positive relationships with others. Social undermining, as defined by Duffy et al. captures the more subtle destructive acts in which leaders engage that oftentimes go undetected because they are difficult to perceive and explain.

The psychological effects investigated included feelings of self-efficacy and sense of organizational commitment, as well as the display of active and passive counterproductive behaviors. The physiological effects investigated included headaches, dry mouth, and clammy hands. Results indicated that social undermining, engineered by a supervisor, was not only related to the psychological and physiological effects studied but also that the relationship was stronger than supervisor support, in that, the negative behaviors were more effective at eliciting these responses than were the positive behaviors at reducing these effects.

While it remains unclear whether these observations translate across different cultures around the world, research has shown that the brain processes negative and positive experiences differently and also in different centers (Kensinger, 2007). As a result, negative experiences are felt more strongly and are longer lasting than positive ones (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). Additionally, Duffy et al. (2002) observed that destructive behaviors demonstrated by colleagues were just as powerful in eliciting the psychological and physiological responses in victims as when these behaviors are exhibited by a supervisor.

In an experimental study, Baron (1988) asked 83 undergraduate students to perform a task of developing an advertising campaign to market a new product and were then offered feedback on the task. The feedback took the form of a numerical rating and a comment. Numerical ratings for both treatment conditions were the same, varying between 3 and 4 on a 7-point scale. The comments, however, differed by treatment condition in that subjects in the constructive condition received a constructive critique: for example, "Slogan needs to be more attention-getting and there should be a clearer focus on key aspects of the product." Similarly, participants in the destructive condition received destructive criticism: for example, "Didn't even try; I wasn't impressed at all. If his/her work doesn't improve, I'd try to get someone else to do it." Although the numerical rating of the quality of their work was the same, participants in the destructive condition reported feeling angry, frustrated, and anxious upon reading the feedback. Interestingly, when asked how they would respond to the feedback, Barron's participants indicated they were more likely to become defensive or avoid responding if the reviewer

were a subordinate or peer, but they were more likely to persist if the reviewer were a supervisor.

Offering the leader's perspective, DeHoogh and DenHartog (2008) interviewed 73 chief executive officers (CEOs) at small- and medium-sized organizations in the Netherlands regarding their role within the organization. From the interviews, a social responsibility score was computed as a composite of five categories: moral-legal standard, internal obligation, concern for others, concern about negative consequences, and self-judgment. As a way of triangulating the data collected, the researchers also surveyed two groups of employees who reported to the leaders interviewed at each company. One group responded to items aimed at determining the respective leader's leadership style. Responses from the other group revealed their perception of the organization's performance outcomes. Based on the results, leaders who had high social responsibility scores (based on the coding of the interview transcripts) were perceived as using a more positive leadership style, such as ethical or power-sharing leadership, as opposed to a more destructive style, such as despotic leadership. Leaders with high scores on the social responsibility factors were also perceived as more effective in terms of performance outcomes.

Destructive leadership is not usually all bad all the time (Padilla et al., 2007; Thoroughgood, Padilla et al., 2012). The leader may have some positive effects on some followers or alternatively may have some positive outcomes. In fact, Ludwig and Longnecker (1993) observed that success usually precedes destructive leadership and posited that destructive leader behavior originated after leaders had experienced a certain degree of success upon which they began to develop the following notions: "loss of

strategic focus, privileged access, control of resources, and inflated beliefs in ability to manipulate outcomes" (p. 269). While privileged access and a greater control of organizational resources are generally positive outcomes and offer some reward for the leader's success, losing strategic focus and developing an inflated belief in one's ability tend to have a negative impact on the leadership.

Further, Shaw, Erickson, and Harvey (2011) challenged that followers' perceptions of a leader's destructiveness could possibly stem from their interpretation of the term *destructive*. Conducting a multinational study using Web-based data collection, researchers asked 707 participants to indicate the extent to which their supervisor engaged in certain behaviors. Respondents also provided an overall rating of their respective supervisors on various items which researchers then used to determine whether the supervisor was perceived as either good, average, or destructive. Shaw et al. noted that although the supervisors were ascribed high scores on just a few negative behaviors, they were still rated as destructive overall. They posited that being perceived as destructive would make it difficult for the leader to gain social power within the group and, as such, be appreciated for the positive behaviors they may exhibit. Without this appreciation for their positive behaviors, their overall rating would be poor. These results question the accuracy or reliability of followers' assessments of a leader's behavior or perhaps underscore the notion that existing instruments typically used do not capture the more covert forms of destructive behavior including inappropriate comments, thoughtless acts, or negative gestures (Neuman & Baron, 1997). These milder forms of mistreatment in the workplace, such as rude comments, reprimands, and indirect forms of intimidation, are worthy of scholarly attention (Andersson & Pearson, 1999; Pearson, Andersson, &

Porath, 2000; Pearson & Porath, 2005). Additionally, given that stressful situations have the potential to produce different results each time (Lazarus, 1993), careful consideration of how destructive leadership will be measured over time is warranted.

Mediators and Moderators of the Effects of Destructive Leadership

A *mediator* is an independent variable through which the principal independent variable affects the dependent variable. What this means is that the independent variable effects some change in the mediator which in turn affects the dependent variable. As such, the independent variable affects the dependent variable both directly and indirectly. On the other hand, in moderation, two independent variables taken together have a combined effect on the dependent variable.

Based at an automotive company, Harris, Kacmar, and Zivnuska (2007) investigated potential mediators of the impact of abusive supervision on performance outcomes. Harris et al. considered meaning of work as a mediator of destructive leadership effects with job performance as the outcome. This means hypothesizing that where employees felt their work was important and held value to them as well as to others, abusive supervision would have little effect on performance. They surveyed 2,024 full-time employees at the company and observed that abusive supervision negatively affected the performance of employees thereby confirming the results of Tepper's (2000) study. Researchers also observed that the meaning of work acted not to mediate but to *exacerbate* the negative effects of abusive supervision on performance. Though contrary to what they expected, the results are consistent with the notion that the destructive acts hurt more where the job matters.

LeRoy, Bastounis, and Minibas-Poussard (2012) also investigated negative emotions as mediators of the impact of destructive leadership on counterproductive work behaviors as the outcome. They framed destructive leadership within Greenberg's (1993) concept of interactional justice with sub-constructs informational justice and interpersonal justice. Informational justice refers to the sharing of correct and pertinent information while interpersonal justice captures the quality of interactions. The concept of interactional justice represents destructive leadership in that withholding information is one way of excluding some subordinates from the in-group (Northouse, 2010), and interactions lacking dignity and truthfulness are also characteristic of destructive leadership. The mediation pathway is depicted in Figure 3.

While anger and fear were not significant mediators of passive behaviors, they were significant mediators of active counterproductive behaviors for interactional justice. Employees who are not well-informed (informational justice) can begin to feel fearful, and this drives counterproductive work behaviors. Likewise, employees who do not feel as though they are treated fairly develop anger towards the situation and engage in counterproductive work behaviors.

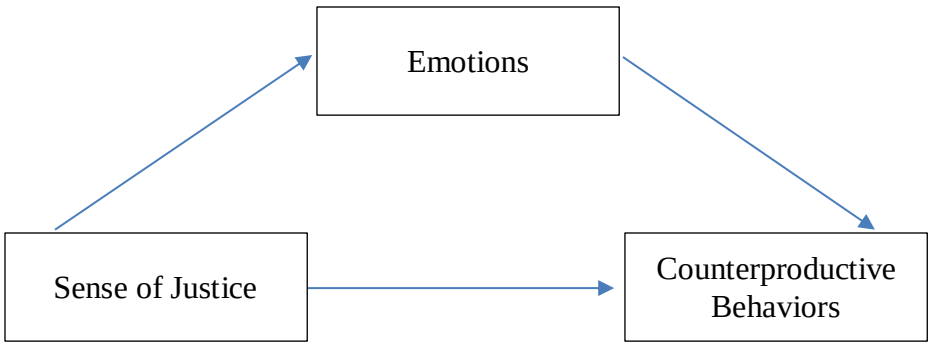

Figure 3. Mediation pathway for the effect of sense of justice on counterproductive work behaviors. Adapted from "Interactional justice and counterproductive work behaviors: The mediating role of negative emotions," by J. LeRoy, M. Bastounis, J. Minibas-Poussard, 2012, *Social Behavior and Personality, 40,* p. 1349. Copyright 2012 by the Society for Personality Research.

Note that Duffy et al. (2002) also used tenure and measures of the subjects' inclination for experiencing negative and positive emotions from encounters as mediators. Based on the analyses performed, social undermining by both supervisor and colleague is positively correlated with active counterproductive behaviors as well as with physiological changes. Lowered self-efficacy and organizational commitment were only related to social undermining by a supervisor and not by a colleague.

Using a sample of 715 full-time employees from various industries, Harvey, Stoner, Hochwater, and Kacmar (2007) investigated the role of positive emotions and ingratiation as moderators of the impact of destructive leadership on outcomes such as job tension, job departure, and emotional exhaustion. Participants completed a survey comprising a composite of various scales measuring the moderators—meaning of work, positive affect, and ingratiation; the independent variable—abusive supervision; and the

dependent variable—work performance. Work performance was measured in three ways: a self-rating, an organizational annual rating on the participant's file, and a supervisor's rating of performance. They observed that participants who displayed positive emotions and used ingratiation (such as flattery to win others over) were somewhat protected from the negative effects of destructive leadership. Note that destructive leadership occurrence was measured using an abbreviated version of Tepper's (2000) abusive supervision scale which contains items such as the following: "My boss makes negative comments about me to others," "My boss tells me my thoughts or feelings are stupid," and "My boss tells me I'm incompetent" (pp.190-191). They also observed that where participants did not use ingratiation tactics and were also low in the display of positive emotion,s the effect of abusive supervision was greater. Additionally, where individuals with low positive emotions actively practiced ingratiation, there was an effect of abusive supervision on emotional exhaustion; that is, the effect of abusive supervision on emotional exhaustion remained despite the ingratiation efforts. Only positive affect reduced the impact of abusive supervision on emotions. These findings are not hard to accept given that destructive leaders tend to surround themselves with likeminded people (Steiner, 2004), and so, through ingratiation, a subordinate could communicate that he or she is in agreement with the leader's vision, actions, and/or intentions whether or not this is actually true.

While the destructive leader may still be capable of accomplishing organizational goals, it is important to consider the cost incurred in reaping these benefits. Are they worth the negative effect on the emotional, psychological, and physical well-being of followers or the lost human potential upon their departure? Destructive behaviors are not

relegated to the leader exclusively but can also result from the actions of followers, both colluders and conformers, as observed in Gardner's (2012) study. Indeed, destructive actions executed by followers could possibly have even more deleterious effects than those carried out by leaders (Baron, 1988). Although this study did not focus on the outcomes of destructive leadership, the effects were described here to emphasize the need for research in this area, so as to mitigate its impact.

Destructive Leadership in Education

Few studies have examined destructive leadership in education. Bligh, Kohles, Pearce, Justin, and Stoval (2007) generated a random sample of 491 high schools in California and mailed surveys to their respective principals. To complete the surveys, the principals rated the heads of all main academic departments in terms of performance, citizenship, and complaining behaviors. Upon receiving the principals' responses, researchers sent surveys to the corresponding department heads. These teachers in turn rated principals on portrayed leadership style and also rated themselves on job satisfaction, efficiency, and resistance behaviors.

Using correlational and hierarchical regression analyses, it was determined that follower job satisfaction and resistance were only significantly related to perceptions of aversive leadership. Correlations between resistance and self-efficacy as well as organizational citizenship behavior, complaining, and performance were not statistically significant. These results indicated that even though teachers felt their leaders acted destructively, they still felt they were able to maintain discipline within the classroom, stimulate student engagement, and provide quality instruction. Unlike the corporate world, destructive behaviors did not affect job performance. Given the way in which

these findings depart from what has been observed in the corporate world, this study begs to be replicated. Researchers offered that results could possibly stem from single-site bias as well as the notion that given the nature of education, teachers still maintain a great deal of control over their performance in the classroom. Further research in this area would shed light on the reasons for these discrepancies.

Destructive leadership has also been studied in the context of higher education. Two qualitative studies in the college context, Gardner (2012) and Lester (2009), considered how female faculty members experienced bullying behaviors by colleagues and supervisors. Both found that the female faculty members viewed the bullying as gendered. This means that the destructive behaviors typically involved demeaning remarks towards women because of their perceived inability to perform on par with men. In addition, their experiences negatively affected their work outcomes, work-life balance, and their willingness to stay at the institution.

In Lester's (2009) study, interviews were conducted with female faculty from male-dominated and female-dominated fields. In the male-dominated fields, students and colleagues alike questioned the professors' ability to teach the subject area. While a description of bullying in the context of female-dominated fields was not provided, participants did note that bullying of female faculty by male faculty was more prevalent in the departments where male-dominated vocations were taught. The participants also highlighted that instability in leadership also contributed to the culture of bullying that developed on the campus in the study. Turnover in the present position, as well as persistent in-fighting among faculty for power within the faculty senate, have contributed to the bullying behavior observed on campus.

The women interviewed in Gardner's (2012) mixed methods study reported being the target of demeaning comments. They also stated that they had received both subtle and direct threats from administrators, other faculty members, and even parents of students. They felt powerless to report the behavior for fear of being punished, for example, by being assigned undesirable class schedules. These sentiments are consistent with the notion of whistleblowers in the workplace becoming targets of bullying (Bjørkelo, 2013). The results of the quantitative portion of the study supported the notion of destructive leadership being gendered in that women were more likely to feel as though their efforts on the job were not recognized and that they were not as respected by their department chairs as their male counterparts.

Using a purely qualitative approach, Lewis (2004) described destructive leadership in a university setting. Unstructured interviews with 15 participants were conducted to capture participants' experiences as subordinates in various roles with destructive leadership in higher education. Participants ranged in rank from assistant professor to department head and the group consisted of women predominantly. The participants interviewed reported being humiliated and undermined by colleagues in front of students. They also reported feeling marginalized and that the effects of the negative experience lingered even after the destructive behaviors had stopped. Though not referred to as PTSD, participants reported meeting with other colleagues who had shared the experience to rehash the details for up to a year after the bullying had ceased to occur.

Victims' responses to bullying were similar to those reported in corporate settings: shame and anger as well as other forms of emotional and psychological distress

(Lewis, 2004). They also reported avoidance behaviors such as absenteeism at work and departure in addition to becoming more arrogant and intolerant of others (Lewis, 2004).

Aspects of the Toxic Triangle in Higher Education

Leaders and Followers. Within the context of a college or university, leaders at various levels can be involved in destructive behaviors. From the department chair or dean of the college to the head of a special committee, all have the potential to engage in destructive behaviors. Committees, research teams, conferences, and other activities all provide opportunities for in-groups and out-groups to develop and can thereby foster the development of destructive behaviors. Similarly, followers of the various types can occur in higher education to allow the subsequent development and perpetuation of destructive behaviors.

Environment. Traditionally, a board of trustees or regents oversees non-profit institutions. The precise role of this board varies from one institution to the next. In fact, the degree of involvement of the board in the running of the institution can also change according to the current state of the college or university. For example, a board may closely supervise when an institution is passing through a period of change, uncertainty, or chaos, but then may adopt a more relaxed approach to overseeing once the dust settles (Michael & Schwartz, 1997). To identify consistencies in the role of the board of trustees within the state of Ohio, Michael and Schwartz (1997) sampled 104 institutions in the state, ranging from private and public four-year institutions to technical and community colleges. It was found that there was a statistically significant difference in the perception of the role of the board of trustees from one institution to the next, both amongst the board members themselves as well as amongst the institutional staff overseen. Evidently,

there is no agreed upon standard of operation, and this lack of standards would allow for the easy creation of that conducive environment. Gardner (2012) and Lester (2009) also reported organizational instability at both the upper and lower levels of management due to administrative turnover of the president position and the department head at the institutions in their respective studies.

From Destructive Leadership to *Destructive Pedagogy*

As stated earlier, destructive leadership can even trickle into the classroom. While this area is currently understudied, a few related concepts exist. The notion of oppressive pedagogy highlights teacher-centered teaching and learning which limit students' thinking and cognitive development (Frere, 1970/2012). This idea is only loosely associated with destructive leadership, however.

Researchers have also explored faculty incivility. Earlier research on faculty incivility has investigated uncivil behavior towards other faculty members or colleagues within a department as in the studies conducted by Armstrong (2012) and Knepp (2012). More recent research has begun to explore faculty incivility towards students and a collection of these few studies is discussed in the next section. It should be noted that subtle biases in the literature have been observed at times. Student incivility in the classroom was usually described as observations, whereas faculty incivility was typically described as students' perception. Additionally, studies on incivility in academia have predominantly focused on actions committed by students instead of by faculty. Research on academic incivility is just beginning to focus on faculty as the wrongdoers (Marchiondo et al., 2010). The current study seeks to continue in that vein by examining faculty behaviors to further develop this stream of literature.

Using the term *faculty incivility* does not capture the full concept of destructive leadership as, like workplace incivility, faculty incivility generally refers to more subtle misconduct and is not as intense as bullying, for example (Andersson & Pearson, 1999). Yet the documentation of occurrences of professor bullying of students, as observed in Chappell et al. (2004), further emphasizes the need to frame faculty incivility within the context of destructive leadership. Faculty incivility, as conceptualized here, entails both passive and active acts. As such, exploring faculty incivility, as has been done in the current study, represents a starting point or potential launching pad for bringing the destructive leadership literature into the context of higher education as it relates to the faculty-student relationship.

Faculty Incivility in the Classroom

Defining Faculty Incivility

Incivility has been defined as "acting rudely or discourteously, without regard for others, in violation of norms for respect in social interactions" (Andersson & Pearson, 1999, p. 455). *Workplace incivility* has been defined as "acting with disregard for others in the workplace, in violation of workplace norms for respect" (Andersson & Pearson, 1999, p. 455). Extending this idea, Clark (2008a) defined *faculty incivility* as "any action or speech that disrupts the harmony of the teaching learning environment" (p. 284). While Tiberius and Falk (1999) offered that faculty incivility directed at students can be considered as "normal conflicts that all of us have encountered in personal relationships" (p. 4), Alt and Itzkovich (2016) emphasized the intentional nature of faculty incivility behaviors as well as the idea that these behaviors can also be more overt in nature.

Impact of Faculty Incivility on Students

Experiencing incivility has been correlated with feeling less well-adjusted in college (Alt & Itzkovich, 2016) and feeling like one does not belong (Caza & Cortina, 2007). Students who were subjected to faculty incivility have also reported experiencing anxiety, nervousness, and depression (Caza & Cortina, 2007; Marchiondo et al., 2010). These symptoms are similar to those experienced by individuals who have worked with a destructive leader as observed in Tepper (2000).

The nursing students in Clark's (2008b) phenomenological study revealed feeling angry, fearful, stressed out, and depressed. Students directed the anger they experienced not only towards faculty members but also towards friends and family. They also experienced headaches, difficulty sleeping, and nausea. In response to their experiences, some students became emotionally withdrawn. Students also experienced a greater sense of being treated unjustly (Caza & Cortina, 2007). The physical symptomatology and emotional effects reported in Caza and Cortina's (2007) study are also similar to those experienced by followers of destructive leaders as described in Tepper (2000) and Bryant et al. (2009). Long-term experiences with incivility resulted in withdrawal from the program or institution (Clark, 2008b). Although, Clark (2008b) had a small sample of only seven students, the study initiates exploration of the topic and warrants further investigation. All studies taken together illustrate the need for policy development to better guide praxis. Creating policy on faculty incivility could conceivably establish a framework for developing a culture that does not support destructive behaviors. Organizational cultures that do not uphold the negative behaviors could be helpful in preventing their occurrence (Thoroughgood et al., 2011).

Hirschman (1970) proposed a conceptual model of responses to adverse conditions within an organization. The three responses suggested were exit, voice, and loyalty, wherein those affected either decide to leave, speak out, or remain as loyal subordinates. Farrell (1983) refined this model to include neglect, which speaks to the more passive protests to the undesirable conditions staged as counterproductive behaviors. While the response to adverse conditions model has been proposed as a way of conceptualizing employees' reactions to firms or organizations that are suffering from economic decline, it is certainly suitable here as destructive leadership often acts as the underlying contributor to organizational decline (Schilling, 2009; Schyns & Schilling, 2013).

Table 1

Comparison of Outcomes of Destructive Leadership and Faculty Incivility

Impact on followers	Faculty incivility (Students)	Destructive Leadership
Nervousness, anxiety, stress, depression	✓	✓
Anger, fear	✓	✓
Headaches, difficulty sleeping	✓	✓
Engaging in avoidance behaviors	✓	✓
Performance	x	✓

As synthesized in Table 1 above, the impact of faculty incivility on students is astoundingly similar to that of destructive leadership on followers. Emotional, psychological, and physiological effects have been reported by both students and employees who have been targets of the behavior. Note also that an impact on student

performance has not been demonstrated in the literature as studies have not yet considered this variable. These observations further emphasize the need to apply the concept of destructive leadership to the study of faculty incivility in the context of higher education.

Factors Predicting Student Perception of a Professor's Behaviors

Itzkovich and Dolev (2016) investigated differences in the way students perceived faculty incivility based on students' emotional intelligence. To conceptualize *emotional intelligence*, authors used Salovey and Mayer's (1990) definition: "Emotional intelligence involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (p. 189). Emotional intelligence scores were found to predict students' perception of faculty incivility. Despite the negative relationship hypothesized, no correlation between emotional intelligence scores and faculty incivility perception was observed. Also, researchers did not identify any differences in the relationship between emotional intelligence and perception of incivility by student gender.

Academic entitlement, defined as having the expectation of succeeding in school without demonstrating responsibility for that achievement (Chowning & Campbell, 2009), has also been indicated as one of the factors that predicts student perception of faculty incivility in the classroom (Knepp, 2016). Yet students who have a heightened sense of academic entitlement have also demonstrated student incivility—uncivil behaviors directed both towards faculty (Kopp & Finney, 2013) and dissatisfaction with the institution (Miller, 2013).

The impact of right-wing authoritarian beliefs on perceptions of faculty incivility has been investigated also. Individuals high in right-wing authoritarianism were more likely to perceive faculty behavior as uncivil (Knepp, 2016), although right-wing authoritarian followers are more likely to be submissive to destructive leaders (Son Hing et al., 2007).

Approaches to Studying Faculty Incivility

Research on faculty incivility in the classroom is limited. Thus far, studies have been conducted predominantly in nursing education (Clark, 2008a; Clark, 2008b; Lasiter et al., 2012; Marchiondo et al., 2010). Studies have been focused on determining examples of incidences of incivility and their respective frequencies (Clark, 2008a; Marchiondo et al., 2010); determining students' perception of incivility (Alt & Itzkovich, 2016; Clark, 2008a; Clark 2008b; Lasiter et al., 2012); as well as the determinants of this perception as in Itzkovich and Dolev (2016). Other studies have also described and identified the impact of incivility on students as well as students' responses to incivility as in Caza and Cortina (2007), Clark (2008b), Marchiondo et al. (2010), and Itzkovich and Alt (2016).

As far as instruments are concerned, Caza and Cortina (2007) used workplace incivility constructs. An Incivility in Nursing Education Scale has been developed by Clark and Springer (2007a, 2007b). The Incivility in Nursing Education Scale has been tested by Clark (2008a) and Marchiondo et al. (2010). It was also the basis for Alt and Itzkovich's (2015) development of a more general scale applicable to various majors. Further discussion on these instruments is provided in Chapter Three.

In summarizing the range of research on the topic, two observations become apparent. The first observation is that the scope of the research has been broad, ranging from frequency and examples of incidence to impact as well as predictors of incivility. What is currently lacking is in-depth exploration along each of these veins. Within that same idea of more in-depth exploration is the need to further expand beyond nursing programs. The second observation is that many of the studies currently involve a small group of the same authors. The current study attempted to further the research on the topic by applying concepts to a variety of programs along with nursing and to also apply the construct itself as a way of predicting the nature or extent of the faculty-student relationship.

With avoidance as one of the responses to destructive leadership (Tepper, 2000) and both avoidance (Clark, 2008b; Marchiondo et al., 2010) and program withdrawal as a response to faculty incivility (Clark, 2008b), it is worth evaluating the impact of destructive leadership as displayed via faculty incivility on faculty-student interactions. Before conceptualizing such a study, the literature on faculty-student interactions should also be reviewed. The following section of the current chapter focuses exclusively on faculty-student interactions.

Faculty-Student Interactions

It would be expected that faculty and students would interact given the close working relationship that exists between the two. Since students attend classes, participate in discussions, respond to questions, and turn in assignments, they will interact with the professor to some degree. Students may also seek clarification on a subject or assistance with an issue while the course is ongoing. Although it seems

reasonable to expect that faculty and students would interact outside of class, this is oftentimes not the case (Chang, 2005; Cotten & Wilson, 2006; Endo & Harpel, 1982), yet out-of-class interactions are important for student development (Astin, 1993). The following review of the literature delves deeper into faculty-student interactions.

Typology of Faculty-Student Interactions

Cox and Orehovec (2007) categorized five distinct types of student-faculty interactions occurring outside the classroom in a case study conducted in a public residential college campus environment. The residential college in question was established at the university as a way of fostering interactions between faculty and students. To that end, the college hosted several formal and informal events with faculty and students participating as guests. In this study, the researchers analyzed observation data gathered upon attending three types of events hosted by the college: tea, dinner, and a visit to an off-campus restaurant. They also conducted four focus group sessions with students, as well as semi-structured interviews with two faculty members. Applying grounded theory techniques to the data analysis process, five types of interactions were identified from observing the various events as well as from interviews and focus group discussions: disengagement, incidental, functional, personal, and mentoring.

Disengagement in this study referred to situations where there was no interaction at all between and among students and faculty. At the various events, Cox and Orehovec (2007) observed that students typically sat with each other and, similarly, faculty members sat with other faculty members. Although both groups were actively involved in conversation amongst themselves, there was hardly any intermingling of the two groups.

The second type of interaction described was *incidental*. As the name suggests, faculty and students meet by coincidence either on- or off-campus. These interactions are casual, and the exchange shared rarely goes beyond superficial pleasantries. For example, a faculty member and student running into each other while both are getting lunch would be considered an incidental interaction since the encounter is unplanned. Cox and Orehovec (2007) offered the example they observed at a Halloween party where a faculty member and a student went up to a refreshment table at the same time. While partaking of the food served, the faculty member complimented the student on her costume to which the student responded by indicating that a friend had made it. The brief exchange then ended without any further discussion. Thus, whereas there is some interaction in incidental encounters, the discussion is trivial and easily forgotten.

A third type of interaction is a *functional* one. This involves faculty member and student working together to accomplish a mutual goal. Examples of a functional interaction include visiting the professor during office hours to seek clarification on an assignment, to discuss a concept, or to further explore an idea. Cox and Orehovec (2007) noted that students' visits during office hours were quite infrequent for some professors. A professor in the study revealed that during his nine years of teaching, only one student had made use of his office hours offered each semester. Further, although the student later told him that the meeting had been helpful in preparing for a course exam, she did not return for other visits. Students may also seek contact with a professor to find out about a grade or about their progress through a course without actually maintaining regular contact with the professor (Cotten & Wilson, 2006).

Functional interactions can also include faculty and students working together as part of a committee or on a research project. Functional interactions are the most typical (Cox & Orehovec, 2007; Fusani, 1994). Being armed with a purpose for interacting, it becomes easier to surmount barriers to communication such as personal relationship, trust, and confidence (Button & Rossera, 1990). Cox and Orehovec (2007) offered the example of a student asking a professor to explain the meaning of a Latin phrase hanging on a wall of the room in which students and faculty were gathered for tea. The professor provided an explanation with examples; however, this did not lead to any further discussion as after the student thanked the professor for the explanation, she rejoined the student group.

The fourth interaction identified was of the *personal* type wherein the discussion extends beyond academic themes to more informal topics such as hobbies, interests, and even personal challenges. Note that these interactions are intentional, and this intent is what distinguishes them from some incidental interactions. Personal interactions can sometimes be preceded by functional ones, which serve as an icebreaker of sorts (Cox & Orehovec, 2007). While functional interactions are typically relegated to achieving an assigned purpose, some can evolve into a personal interaction when the professor and student find something in common (Cox & Orehovec, 2007). Students in the study offered the example of attending office hours to further discuss an idea presented in class in one case and attending a tutoring session offered by a professor in another case. Both students ended up talking with the respective professors for an extended time on personal topics such as mutual interests and current events.

The final type of interaction identified in the study was *mentoring*. This is where there is a purposeful blend of discussion surrounding academic and non-academic interests. Mentoring represents the intersection of functional and personal interactions. Institutions often aspire to develop mentoring relationships between faculty and students and some have even established formal structured programs to facilitate these relationships (Campbell & Campbell, 1997). Cox and Orehovec (2007) noted that mentoring relationships are also the least common. Of the students they sampled, only one reported having mentoring relationships with professors. This student highlighted being able to identify with the professors he considered as mentors based on their life experiences. Interestingly, while the other students in the study did not consider the professors as mentors, the professors felt they served as mentors for the students. This kind of disconnection between professors and students should be further explored as sharing an accurate mutual understanding of the nature of their shared relationship is important for effective interactions.

Cox (2011) noted that this typology of interactions is flexible, and interactions can flow from one form to the next for the duration of a course or even within the same encounter, as conversations develop and become more elaborate after the initial exchange of greetings. The interactions were initially outlined in a hierarchy then later reorganized into a non-hierarchical arrangement that acknowledged the fluidity of the typology as well as the notion that faculty and students could begin interacting at any point along the typology; interactions could jump to personal or functional without first encountering incidental interactions (Cox, 2011). While a connection between interaction type and

student academic outcomes is yet to be investigated, the establishment of a typology is a useful beginning for analyzing the impact of interactions on student outcomes by type.

With the exception of studies that have focused specifically on the mentoring relationship, few studies have considered these different types of interactions or have made attempts at developing a typology. Mara and Mara (2011) applied the framework to a case study of interactions within a residence program in which faculty members also resided on campus. They offered that the typology is useful in capturing subtle interactions that are otherwise overlooked by the items on scales such as the National Survey of Student Engagement. This is important as these subtle interactions have been observed to eventually lead to more meaningful interactions such as of the functional or even personal type (Cox & Orehovec, 2007; Mara & Mara, 2011). Cox (2011) did, however, note that the typical national survey on faculty-student interactions does not encompass all the interaction domains of the model. For example, the National Survey of Student Engagement (2016), administered to 322,582 students across 560 degree-granting institutions, measured student engagement with faculty using four items:

> During the current school year, how often have you:
>
> • Talked about career plans with a faculty member
>
> • Worked with a faculty member on activities other than coursework (committees, student groups, etc.)
>
> • Discussed course topics, ideas, or concepts with a faculty member outside of class
>
> • Discussed your academic performance with a faculty member. (p. 15)

Worded in this way, the survey captured specific occasions of functional interactions typically centered on academic themes. Expanding the current research beyond instruments such as these to gather data on other types of interactions could potentially be useful. The current study aimed to incorporate broader aspects of Cox and Orehovec's (2007) typology to capture the more general forms of faculty-student interactions to determine whether or not the type of interaction influences the relationship between incivility and interaction.

Frequency of Faculty-Student Interactions

Faculty-student interactions do not occur frequently (Chang, 2005; Cotten & Wilson, 2006). Meaningful interactions (such as functional, personal, or mentoring interactions) occur even less frequently than casual or incidental interactions (Cox et al., 2010). While only a few studies have provided a basis for precisely estimating an overall mean frequency of interactions in numerical terms, the results obtained clearly indicate that reactions are infrequent. Details on how frequency has been studied are provided in the following paragraphs.

Fusani (1994) collected data from both faculty and students on various measures including frequency of interaction. A group of 282 students were asked to indicate a raw value for the number of times they had visited a specific instructor of a single selected course during the semester in which the study was conducted. Similarly, faculty members were asked to indicate the number of students that had visited their office all enrolled in the same selected course for the semester under study. The sample of faculty members consisted of those who were the instructor of record for the classes in which the students sampled were enrolled (13 in total). An additional 50 instructors were also surveyed to

increase the size of the sample. Data collection occurred at the midway point of the semester after the mid-semester grades had been recorded. Fusani observed that, on average, students interacted with the professor for the class 3.31 times during the semester and also that 23% of the sample had never visited the instructor of record for the selected class, while 50% had experienced two or less interactions with the instructor. These numbers depict that in this sample, a small number of students had frequent interactions, therefore raising the overall mean number of interactions to 3.31. Exploring differences between this small group with more frequent interactions and the more typical group with little to no interaction would provide useful insight. Based on class sizes with respect to number of student visits reported by faculty, it was concluded that faculty estimates of frequency of contact coincided with what the students had reported.

Surveying faculty members at 45 four-year institutions, Cox et al. (2010) also reported infrequent contact with students. The mean number of casual interactions, for example, to exchange brief greetings reported by professors was 14.2, indicating that professors had interacted with about 14 first-year students on a weekly basis. Other forms of casual interactions described as "casual conversation" and "discuss non-academic topics of mutual interest" were reported with weekly means of 6.5 students and 3.9 students, respectively. For the substantive interaction categories "discuss intellectual or academic-related matters," "discuss matters related to the students' future career," and "discuss a student's personal matters," the weekly means were 4.6 students, 2.6 students, and 2.4 students, respectively. Cox et al. concluded that not only do faculty interact infrequently with students but also that when these interactions do occur, they are predominantly of the casual rather than the substantive type.

The study conducted by Nadler and Nadler (2001) is also worth discussing here because they measured frequency similar to Fusani (1994). A total of 149 undergraduate student respondents were asked to complete a questionnaire on each of the professors with whom they were taking classes during the semester under study. Frequency was measured using one item on the survey. For that item, students indicated the number of times they had met outside of class with the professor for each course taken, during the semester up to the point of data collection. Surveys were administered towards the end of the semester. Results indicated that on average male students interacted with the professor for a course 3.02 times during the semester while female students interacted 2.20 times on average. Since the goal of the study was to identify the effect, if any existed, of student and instructor gender on frequency of interactions, overall results were not presented. Means of 3.02 interactions (for male students) and 2.20 interactions (for female students) are quite low and somewhat coincide with the mean of 3.31 that Fusani (1994) observed.

Chang (2005) and Flowers (2006) incorporated the element of race by focusing on African-American students at community colleges. Chang administered the Community College Student Survey within the Los Angeles community college district across nine schools to determine the frequency of interaction based on race. Students were asked to select the number of times they had interacted with the professor for the course in question, during the week prior to which they completed the survey, on a scale of zero to five with 0 = *no interactions* and 5 = *interacting five or more times*. Students were asked about interactions in four different ways, making the maximum score 20 if a student interacted with a professor in all four ways for five or more times each. The study was

not limited to out-of-class interactions, as "participating in discussions" as well as "communicating with a professor before or after class" were also included as response options. The mean response was 5.2 on the 20-point scale indicating a low frequency of interactions. Also indicative of low frequency of interactions was the observation that the most frequent response was *no interaction*, while only 4% of the students sampled indicated they had experienced 15 interactions. By ethnicity, African Americans had the most frequent interactions, interacting even more frequently than European Americans in the sample. The most frequent type of interaction was in class participation in discussions. Before and after class communication were the second most frequent type; in-office consultations were infrequent. Estimating frequency using this study is difficult, since frequency was measured over a short period (one week) and measures included in-class interactions. These results also indicate the low frequency of faculty-student interactions outside of class.

Using a Likert frequency scale with anchors 1 = *never,* 2 = *sometimes,* and 3 = *often,* Flowers (2006) measured student interaction with faculty captured using three scale items: informal contact with advisor or other faculty occurring outside of a classroom or office; interaction with faculty about academic matters occurring outside of class time; and discussion with advisor regarding academic plans. Flowers noted that the mean for the responses to these items ranged from 1.56 to 1.79 for African American males at 2-year institutions and 1.78 to 2.12 for African American males at 4-year institutions. Based on these results, the most popular answers varied between *never* and *sometimes*. Additionally, these results provided evidence that interactions typically occur

more frequently at four-year rather than two-year institutions. The sampling frame for the current study was a single four-year institution.

Other studies with frequency as one of the variables measured relied on data from existing datasets. One such dataset is that obtained upon administering the College Student Experiences Questionnaire from Indiana University Bloomington. Based on data collected as part of the College Student Experiences Questionnaire, faculty-student interactions are infrequent (Gonyea, Kish, Kuh, Muthiah, & Thomas, 2003). The questionnaire measures student-faculty interactions as an index comprising 13 items. The items capture functional, personal, as well as mentoring interactions, although this typology is not used. Additionally, the items are simply bundled as interactions and distinctions are not made by type. Survey items include *Discussed academic program or course selection with a faculty member*, *Socialized with a faculty member outside of class (had a snack or soft drink, etc.), Worked with a faculty member on a research project*, and *Asked an instructor or staff member for advice and help to improve your writing*. Items were measured on a Likert scale with response options *never*, *occasionally*, *often*, and *very often*. For most of the items, the majority of the students selected the *occasionally* response indicating interactions were infrequent. For the items *Socialized with faculty outside of class*, *Talked with faculty member, counselor, or other staff about personal concerns*, *Met with faculty member or staff advisor to discuss the activities of a group or organization*, and *Worked with a faculty member on a research project*, the most common answer for all students was *never*. For the item *Participated with other students in a discussion with one or more faculty members outside of class*, the most common answer among upperclassmen was *occasionally*, whereas for underclassmen the

most common answer was *never*. Although there were some variations in frequency by activity or interaction type and also by student level (i.e., first-year, sophomore, junior, and senior), interactions with faculty generally occurred infrequently.

While most studies have only considered face-to-face interactions, Gross (2015) also assessed virtual interactions occurring via email, voice call, text messaging, and social media. Based on the premise that both faculty and students have increased their usage of social networking sites over the years, opportunities to interact should have also increased. Gross observed that 98.6% of students in the study had interacted with professors via email, while as many as 85.4% of students had experienced face-to-face interactions with professors. The frequency of these interactions by method of communication was not presented. Gross did note that a single student typically used more than one type of communication for interacting with professors: email, text message, voice call, video chat, Facebook, Twitter, instant messaging, virtual learning environment, or face-to-face meeting. The most typical number of communication means used was four. Additionally, the frequency of interaction was also greater where students used multiple modes of communicating with faculty.

Studies incorporating virtual interactions provide a more comprehensive estimation of frequency, but as stated previously, noting the type of or reason for the interaction is important. Students' virtual contact with a professor could be limited to an email requesting clearance for enrollment in the course (Cotten & Wilson, 2006) or for clarification on an assignment deadline (Frankel & Swanson, 2002).

A few observations have been made regarding the way in which frequency of faculty-student interactions has been studied thus far in the literature. There is a great

deal of variation in terms of the instruments that have been used. Cross-sectional studies tended to rely on an instrument designed by the researchers as done in Brady and Eisler (1999), Cox et al. (2010), Endo and Harpel (1982), Frankel and Swanson (2002), Fountaine (2012), Fusani (1994), Jaasma and Koper (2002), Komarraju et al. (2010), and Nadler and Nadler (2001). On the other hand, longitudinal studies such as Flowers (2006), Fuentes et al. (2014), Hurtado et al. (2011), and Lundberg and Schreiner (2004) relied on existing instruments. Another aspect that also varied widely is the time frame studied. The College Students Experiences Questionnaire assesses frequency of interactions occurring within an entire academic year (Gonyea et al., 2003). While Nadler and Nadler (2001) measured the number of interactions that occurred during a semester; Fusani (1994) measured the number of interactions that occurred during a half semester, and Chang (2005) assessed number of interactions that occurred within a week. Studies have also been inconsistent in the way frequency has been measured. The respondents sampled have typically been students as in Chang (2005), Cole (2008), Endo and Harpel (1982), Flowers (2006), Fountaine (2012), Fuentes et al. (2014), Hurtado et al. (2011), Jaasma and Koper (2002), and Nadler and Nadler (2001). Although, Campbell and Campbell (1997), Cox et al. (2010), and Frankel and Swanson (2002) sampled professors and Brady and Eisler (1999) and Fusani (1994) sampled both students and professors.

The interactions asked about on the instruments used have been limited to those occurring with professors as in Nadler and Nadler (2001) or expanded to other institutional staff such as academic advisors as in Flowers (2006). Additionally, students have been asked to estimate the frequency of interactions with an instructor for a specific

course as in Fusani (1994), or with all professors the student has during a particular semester as in Nadler and Nadler (2001).

While Fusani (1994) used frequency as an independent variable, Cox et al. (2010), Flowers (2006), and Nadler and Nadler (2001) have used frequency of interactions as a dependent variable to identify factors that influence interactions between instructors and students. Frequency has been measured using a Likert scale as in Myers et al. (2005) or a Likert frequency scale with response anchors including *often*, *sometimes,* and *never,* as in Flowers (2006), Hurtado et al. (2011) and Lundberg and Schreiner (2004), or simply as a recall of the number of times an interaction occurred over a certain time period as in Campbell and Campbell (1997), Cox et al. (2010), Fusani (1994), Jaasma and Koper (2002), and Nadler and Nadler (2001).

Duration of Interactions

While frequency was the most common variable studied, a few studies also considered duration measuring it in different ways. The mentors in Campbell and Campbell's (1997) study maintained a log of their meetings with students. Faculty mentors were asked to record the date of the meeting, its duration in minutes, as well as the topics discussed. Data on the mean duration of interactions were not presented. Instead, Campbell and Campbell compared total number of interaction minutes by student gender as well as faculty gender and did not observe any significant differences in the duration of contact for male students compared with female. They also noted that, where the faculty and student were of the same gender, the interactions lasted shorter periods of time, although they occurred more frequently. Comparing only male-male

faculty-student pairs with female-female faculty-student pairs, they observed that female pairs had longer and more frequent meetings.

Jaasma and Koper (2002) and Nadler and Nadler (2001) measured duration and examined the length of contact in relation to outcome variables but did not present results on actual duration. Instead, duration results were grouped into low and high minutes representing short and long duration and used to evaluate differences between professors in terms of instructor characteristics. Jaasma and Koper considered instructor gender and communication styles—measured as displays of verbal and nonverbal immediacy in class. Nadler and Nadler also considered instructor gender as well as perceived credibility (including sub-constructs of trustworthiness and competence) and perceived empathy. Since these studies focus more on factors predicting interaction than mere duration of the interaction, they are discussed in more detail in a later section. Measures of frequency and duration do not provide insight into the mechanism encouraging or discouraging interactions. They do, however, paint a preliminary sketch of interactions upon which researchers can further delineate. As such, obtaining measures of the frequency and duration of interactions were secondary goals of this study.

Given the notion that interactions can begin as informal, incidental encounters but can then go on to develop into functional or even personal interactions, the duration of the contact is an important measure to capture (Cox, 2011). Duration could possibly indicate that the faculty-student interaction is transitioning between types within the same interaction. This notion further emphasizes the need to measure duration. Both Jaasma and Koper (2002) and Nadler and Nadler (2001) asked students to recall how long they had met with faculty in minutes. These interactions with faculty could have occurred at

any time during the semester—even closer to the beginning of the semester—which would make it difficult for students to give reasonable estimates for the duration of contact. As such, researchers in this area will also need to carefully determine how duration will be measured, while also capturing type of interaction.

Satisfaction with Interactions

Nadler and Nadler (2001) examined differences in student satisfaction with out-of-class interactions based on student and instructor gender. They identified a greater satisfaction among students who interacted with professors of the same gender in that male students were more satisfied with their interactions with male professors compared to female professors and similarly, female students were more satisfied interacting with female professors than male professors. Notably, the difference between the satisfaction rating female students assigned to female and male professors was smaller than the difference in satisfaction assigned by male students. Given this gap in satisfaction rating by professor and student gender, it may be that perceptions of interactions are gendered as are perceptions of destructive behaviors towards subordinates as observed in Gardner (2012) and Thoroughgood et al. (2011). As such, the current study also considered professor and student gender.

Similar to duration, research on the quality of the interaction is underdeveloped. It will also be important to examine quality of the interaction as well as student and professor satisfaction since these factors may be important in determining the nature of future interactions going forward both with the same professor or student as well as with other professors or students (Frankel & Swanson, 2002).

Impact of Faculty-Student Interactions

Impact on Students. The literature is quite clear on the positive impact faculty-student interactions have on students. Enhanced academic performance as well as intellectual and psychological development are some of the benefits students reap from interacting with professors.

Performance. Campbell and Campbell (1997) observed an effect of interaction on performance among the students in the mentorship program they studied. Students participated in the program for one year upon entry to the university in the study. Since transfer students were part of the program, a mentee could be at any stage along the path to degree scale completion. Campbell and Campbell established a control group matched with the treatment group (students in the program) based on gender, ethnicity, year and semester of enrollment, and GPA prior to enrollment. Researchers collected data each fall and spring semester for three academic years.

The outcome variables assessed were academic achievement and student retention. Academic achievement was measured as student GPA recorded for the first and second semesters of the program as well as a cumulative GPA for the three years of data collection. Retention was measured as a dichotomous variable capturing whether or not students were enrolled during the spring semester of the final year of the study. Their findings indicated that students in the mentorship program had GPAs that were on average 0.3 points higher than students who were not mentored and that this difference was even greater in the first semester of the mentorship year. Retention was also greater among the mentored group as 30% more mentored students registered in the final semester of the study than students in the control group. Researchers also observed weak

correlations between frequency and duration of interaction and GPA. It should be noted that Campbell and Campbell (1997) did not have any data on faculty-student interactions within the control group and whether or not students in the control group had a mentoring relationship with a professor on campus. Thus, researchers need to be cautious in attributing the differences observed in GPA and retention to the increased interaction facilitated by the program. Additionally, while mentorship is an effective way of influencing student performance through interactions, given the high faculty to student ratios of mid-sized and large institutions, developing a mentoring relationship with each student would not be feasible due to limits to a professor's time. Nadler and Nadler (2001) as well as Cotten and Wilson (2006) cited time constraints, both on the part of students and professors, as possible deterrents to frequent or long interactions.

Endo and Harpel (1982) used the frequency and quality of faculty-student interactions to predict student academic and social outcomes. In the longitudinal study performed, they followed students at a single university from the freshman year to beyond graduation. Respondents were surveyed at four points in time: during the first year, as upperclassmen, upon graduation, and again as alumni.

Frequency of contact was measured using eight items which were separated into four groups of two items each that captured formal interactions (academic and career advice) and informal interactions (discussing a wide range of topics, coursework, and academic advice). Note that academic advice appeared as both a formal and informal interaction. The distinction offered between formal and informal interactions was that formal interactions generally consisted of a professional approach in dealing with students whereas informal interactions were more friendly and personal. For example,

formal interactions were narrowly limited to "traditional academic and vocational advising topics" (Endo & Harpel, 1982, p. 120), whereas informal interactions encompassed a broader interest in a student's emotional and cognitive development.

Quality was measured in terms of student satisfaction with the advising received as well as student perception of the helpfulness of the interaction. Students were asked to indicate the number of times they spoke to an instructor regarding a given topic as well as the number of professors they spoke to regarding such topic, and these numbers were taken as frequency measures. Researchers also controlled for student background characteristics and student educational expectations.

In the raw data presented, the range for these frequency measures was 4-16 for both formal and informal interactions. These numbers are, however, difficult to interpret as there is no guideline as to the timeframe allotted for the interactions, in that, whether these interactions occurred in a week, month, semester, or year was not stated. Additionally, since the study's goal was to determine the impact of this frequency on student outcomes by comparing less frequent to more frequent interactions, comparisons were made without qualifying the frequency results as being particularly low frequency or high frequency overall. In any case, the results indicated that the frequency of faculty-student interactions impacted both social and intellectual development, but contrary to the results of Chapman and Pascarella (1983) and Terenzini, Lorang, and Pascarella (1981), no effect was demonstrated on academic achievement. Note that these studies were performed quite some time ago, and the possibility exists that college culture has shifted since then. Newer studies should be considered here as well.

Kim and Lundberg (2016) demonstrated an impact of faculty-student interactions on the development of cognitive skills among a sample of 5,169 undergraduate students in the University of California system. Students with greater interactions with faculty demonstrated greater gains in the development of cognitive skills. Cognitive skills were measured as a composite of six items for which students assessed their ability to write clearly and effectively; read and comprehend academic material; understand a specific field of study; prepare and make a presentation; and their level of analytical and critical thinking as well as research skills. These enhanced cognitive skills were shown to have developed by way of increased student engagement within the classroom.

Researchers have also studied faculty-student interactions in terms of race and student ethnicities. Using an existing dataset with a sample of 1,422 African-American and Latin American undergraduate students at baccalaureate institutions, Cole (2008) observed that where faculty provided support and encouragement, there was a positive impact on students' GPAs. On the contrary, where faculty provided guidance with study skills and negative feedback, students' GPAs were lower. These results were consistent for both ethnicities studied. Lundberg and Schreiner (2004) also identified the quality of faculty-student relationships as a significant predictor of student learning. They measured quality of relationships using one item that required students to indicate the closeness of their relationship to faculty ranging from 1 = *distant* to 7 = *approachable and encouraging*. Student learning was a holistic measure including items such as understanding art, enjoying literature, and maintaining good health habits. Students with higher quality relationships reported greater levels of student learning.

While research on faculty-student interactions has typically focused on undergraduates, Fontaine (2012) surveyed doctoral students to determine the extent of interactions with faculty and their impact on students. Like Chang (2005) and Flowers (2006), Fontaine focused on African-American students, surveying those attending a Historically Black College or University (HBCU). Students who engaged with faculty socially and for the purposes of progression towards degree completion and research practices indicated they had a more positive experience in the program.

Although the mechanism by which interactions with faculty impact performance is unclear, Cotten and Wilson (2006) observed that students who interacted with their professors outside of class felt more at ease and participated more *in* class. Students also reported feeling more connected with the college community. This connection with the community facilitates academic and social integration which impacts not only performance but also persistence within the program (Pascarella & Terenzini, 1983). Cotten and Wilson also suggested that interactions with faculty can also enhance the efforts students expend in completing assignments and preparing for assessments in order to impress or to avoid disappointing a professor with whom students have had prior contact outside of class. Students in Cotten and Wilson's study attributed this external motivation to perform to having experienced a personal interaction or developed a personal relationship with a professor.

Intellectual and psychological development. The impact on students of frequent, quality interactions with faculty extends beyond academic performance. Students also benefit by way of intellectual and psychological development, for example, by developing self-confidence, independence, and self-directed learning habits. Endo and

Harpel (1982) observed that students who experienced frequent and high-quality interactions with faculty developed better public-speaking and problem-solving skills. Specifically, frequency had a greater impact on personal outcomes while quality of interaction impacted attainment of intellectual goals (Endo & Harpel 1982). Quality faculty-student interactions have also been shown to positively correlate with students' academic self-concept, as well as their intrinsic and extrinsic motivation (Komarraju et al., 2010). Conversely, students who experienced negative interactions had higher levels of amotivation (Komarraju et al., 2010).

Impact on faculty. As in any two-way relationship, it would be expected that the interactions would also have an impact on professors. Frankel and Swanson (2002) asked professors to reflect on a satisfactory as well as a dissatisfactory incident (interaction) involving a student. Incidents were of three types distributed across two categories: student-initiated and professor-initiated. The student-initiated interactions were either for clarification or for a request. An example of clarification would be seeking further details on the requirements of an assignment while a request could be, for example, extension of an assignment deadline. The professor-initiated interactions included, for example, an interaction to offer feedback. Professors were asked to classify the type of interaction as well as to indicate the impact the interaction had on their subsequent behavior. Professors reported engaging in five changes in behaviors: a modification of course content or teaching style, a clarification of course requirements, a reinforcement of previous action taken, provision of more positive feedback, and an increase in authoritativeness. The last change was in response to dissatisfactory encounters. This impact on professors affected

both how they managed future encounters within the course in question as well as for other courses taught thereafter.

While the impact of interactions on students has been studied extensively, few studies on the impact on professors were found. Given that past experiences impact the way an individual relates to others in future experiences (Ouelette & Wood, 1998), it is important to also examine the impact of these interactions on professors, as doing so will provide a better understanding of how faculty and students relate to each other during certain encounters (Frankel & Swanson, 2002).

While the literature has provided evidence that interacting with faculty bears positive outcomes for students, both on their academic performance as well as on their cognitive and psychological development, an exploration of the outcomes derived by students was beyond the scope of this study. Outcomes are described here to emphasize the important and pertinent need to further understand the mechanism of faculty-student interactions.

Factors Predicting Interactions

Given the low frequency of faculty-student interactions yet how much they impact both students and faculty, examining factors that determine how frequently these interactions occur as well as the quality and nature of these interaction would be pertinent. Student age, gender, and level of parental education have been identified as significant predictors of interaction. In a community college setting, older, male students whose parents were educated had more frequent interactions with faculty (Chang, 2005). Time spent on campus, studying with others, and speaking with an academic counselor were also strong predictors of the frequency of interaction (Chang, 2005).

At four-year institutions, the students with more frequent interactions with teachers were female, were white, had higher first-year GPAs, were undecided about their major, and had experienced more frequent interactions with their high school teachers (Fuentes et al., 2014). In addition to these factors, Hurtado et al. (2011) also identified academic engagement measured by time spent studying, discussing course-related matters with students, and participating in developmental programs as being predictive of the frequency of interactions. Hurtado et al. also observed that, where students perceived faculty as more caring, they were more likely to have more frequent interactions.

Cotten and Wilson (2006) identified similar determinants of interactions. Students in the focus groups they conducted described difficulties they had in connecting with faculty because they felt as though faculty members were not interested in interacting with them; that faculty did not have sufficient time to interact with them; and that they were not sufficiently familiar with the faculty member's research to participate in a conversation with faculty. Students also reported feeling that a more interactive teaching style invited out-of-class communication. Based on the comments offered in the focus group sessions, it was also evident that students lacked a clear understanding of a faculty member's role on campus in that they did not view interaction with students as part of a professor's responsibilities.

The notion of this power distance and its perpetuation by faculty or even by students is highlighted in Owen and Zwahr-Castro's (2007) attempt at having students categorize various faculty-student interactions as appropriate or inappropriate. Owen and Zwahr-Castro gave students a list of 33 hypothetical situations in which faculty and

students interacted outside of the classroom. It was specified that all interactions were non-sexual and while most were initiated by faculty, a few were initiated by the hypothetical student, and yet others did not clearly specify whether the student or faculty initiated the interaction. Students were asked to score the appropriateness of the interaction. Students regarded as inappropriate actions such as professors engaging in personal friendship with an individual student in his or her class or after the class had ended; inviting an individual student to lunch or to dinner; inquiring about a student's personal life; inviting a student to share about his or her personal information as part of a class exercise; and allowing students to engage with him or her on a first name basis. Note that students did view actions such as inviting a group of students to dinner and allowing students to call him or her at home regarding school-related matters as appropriate.

Similarly, Schneider et al. (2011) asked professors and administrators to provide a dichotomous rating of the appropriateness of various hypothetical scenarios. A sample of 69 professors distributed across six focus groups as well as structured small-group interviews with 17 administrators provided these ratings. One of the scenarios presented involved a faculty member inviting students to a bar following a professional reception on campus and also buying students a drink. There was some discrepancy in rating the invitation to the bar. For administrators, 59% of the sample rated the action as inappropriate while only 39% of professors deemed it as such; however, buying a student a drink at the bar was rated as inappropriate by the vast majority of administrators and professors (Schneider et al., 2011). In another scenario, professors unanimously agreed that it was appropriate to invite a group of students out for a meal, as did the students in

Owen and Zwahr-Castro's (2007) study. Yet, a few administrators ranked this as inappropriate. While students regarded inviting an individual student out for a meal as inappropriate (Owen & Zwahr-Castro, 2007), the majority of professors and administrators viewed inviting a student who was a research assistant for a meal as appropriate (Schneider et al., 2011).

In assessing Owen and Zwahr-Castro's (2007) and Schneider et al.'s (2011) studies, differences in opinions on appropriateness of faculty-student interactions are evident. These differences occurred among professors, between administrators and professors, and also among students. While the methodological differences between the two studies prohibit us from making direct comparisons, the differences in how students, professors, and administrators regarded the appropriateness of interactions highlight the complexity of this issue. These inconsistencies in appropriateness could possibly contribute to the low frequency of interactions, even where professors communicated a desire to interact (Cotten & Wilson, 2006; Cox & Orehovec, 2007). Further research in this area is needed to identify factors that contribute as determinants of interactions.

Additionally, neither study accounted for the respective class size which would also impact the nature of the faculty-student relationship as well as interactions between students and faculty. Larger class sizes are more prohibitive of shorter power distances. Differences in class sizes should also be considered.

Interestingly, although the students in Cotten and Wilson's (2006) study indicated that teaching style had an impact on whether or not they interacted with a teacher, Cox et al. (2010) did not observe any effect of pedagogical practices (student-centered or teacher-centered) on out of class interactions. Pedagogical practices were measured using

four domains: *active teaching and assessment*, *learning through applications*, *promoting encounters with differences,* and *feedback to students*. Though not depicted based on the names of the domains, each had elements of student-centered as well as teacher-centered approaches. For example, the domain active teaching and assessment had items capturing both *lecture* and *group discussion* as forms of instruction as well as *multiple drafts of written work* and *multiple choice tests/exams* as forms of assessments. Cox et al. did find that faculty employment status and faculty gender impacted interactions. Researchers observed that part-time faculty had less frequent interactions than their full-time peers and that female instructors had less frequent interactions than male instructors. This was true even though female faculty were more likely to employ an interactive student-centered pedagogy. Brady and Eisler (1999) studied students' in-class interactions with faculty and, while they did not observe any differences by student gender, they did observe differences in interaction by faculty gender, wherein female faculty interacted more with students than male faculty where class sizes were large. No significant differences in interaction were found for small or medium-sized classes. Although Brady and Eisler focused on in-class interactions, their findings are worth mentioning here because of the element of gender and the notion that having an idea of interactions inside the classroom can potentially aid in conceptualizing the mechanism by which interactions outside of the classroom occur.

Nadler and Nadler (2001) examined the impact of student and instructor gender along with perceived instructor empathy and credibility on the frequency and duration of out of class interactions. As mentioned previously, they observed that students had more frequent interactions with male instructors than female instructors. Students were

generally more satisfied with interactions with professors of the same gender. Additionally, male students were less satisfied with female instructors than were female students with male instructors. Male instructors were perceived as more competent than female professors by both genders. The reasons behind these differentials in satisfaction and perception of competence warrant further exploration but are outside the scope of the current study.

Moving away from gender, researchers identified strong correlations between instructor empathy and frequency of interactions but not duration. Where a student perceived the instructor as being empathetic, there were more frequent interactions. Instructors who were perceived as displaying trustworthiness were also visited more frequently by students.

Although Jaasma and Koper (2002) examined frequency and duration of interaction as well as satisfaction with contact as predictors for perceived verbal and nonverbal immediacy among faculty, their study should be considered here since researchers did not place limitations on the direction of the relationship, meaning that students' perception of a professor's verbal and nonverbal immediacy could also act as a predictor for interaction. Students in the study had more frequent contact with instructors they perceived to be higher in verbal immediacy, while higher nonverbal immediacy was associated with longer interactions. Female instructors were perceived as more verbally and nonverbally immediate than male instructors and had more frequent and longer interactions with students. Note that this contradicts Cox et al. (2010) and also Nadler and Nadler (2001).

Myers et al. (2005) found that a professor's perceived communication skills such as ego support, defined as enhancing another's self-perception, and persuasiveness and the affinity-seeking strategies used by the professor such as sensitivity, self-inclusion, inclusion of others, comfortable self, and supportiveness were strong predictors of interactions between faculty and students.

In sum, the focus of research on faculty-student interactions has primarily been on frequency of interactions as well as their impact. A positive effect on academic performance as well as psychological and intellectual development has been demonstrated by Campbell and Campbell (1997) and also by Endo and Harpel (1982). In spite of this observed positive impact, a paucity of research has examined the reasoning behind the choice to interact or not to interact. Communication style and mechanism as well as teaching style have been investigated as predictors of interaction (Jaasma & Koper, 2002; Myers et al., 2005; Nadler & Nadler, 2001). Note that studies on other predictors have not been identified. Studies have also neglected to examine the effects of faculty incivility or other destructive behaviors on the part of the professor or a toxic classroom. Research aimed at understanding the instructional and institutional factors that promote interactions is needed (Cox & Orehovec, 2007). Specifically, the field would benefit from the determination of behaviors and other tools that can be implemented to develop a climate that encourages interactions (Cox & Orehovec, 2007). The current study sought to make connections between faculty-student interactions and destructive leadership as demonstrated through faculty incivility as a way of contributing to the understanding of the mechanisms of interactions.

Summary of Chapter

This chapter explored the streams of literature on destructive leadership, faculty incivility, and faculty-student interactions. Studies on destructive leadership have thoroughly considered a broad range of topics including prevalence of destructive leadership, a determination of behaviors followers consider destructive, factors contributing to followers' experiencing or being targets of destructive leadership, and the impact of destructive behaviors on the organization as well as on followers. Despite this extensive development, there has been little exploration of the topic in the context of educational institutions.

Research in the area of faculty incivility has mirrored this scope. Studies have considered a broad range of similar topics including prevalence of incivility, a determination of actions students consider uncivil, factors contributing to students' perception of incivility, and the impact of incivility on students. While the research paths in the area of faculty incivility are similar to those of destructive leaderships, each path is in dire need of further exploration.

Similarly, the literature on faculty-student interactions lacks extensive development in the area of determining factors that drive interactions, given the clear benefits these interactions have on both students and professors. This study attempted to fill the voids outlined here by considering avoidance, one of the effects of destructive leadership as an impact of faculty incivility in the classroom and predictor of interactions outside of the classroom.

CHAPTER III: METHODOLOGY

Developing a better understanding of the factors that drive faculty-student interactions is both important and pertinent (Cotten & Wilson, 2006; Cox & Orehovec, 2007). A proposed start for this vein of investigation would be to focus on developing precise descriptors of actions that encourage interactions (Cox & Orehovec, 2007; Jaasma & Koper, 2002; Nadler & Nadler, 2001), particularly those of a more meaningful nature that address a broad range of more personal issues (Endo & Harpel, 1982). Given the importance of faculty-student interactions for students' emotional and psychological development (Komarraju et al., 2010), as well as the existing gap in the literature concerning factors that drive interactions, determining the implications of destructive faculty behaviors such as incivility on out-of-class interactions is crucial.

As stated in Chapter One, the purpose of this study was to determine whether or not in-class faculty incivility behaviors as perceived by students predict the types of out-of-class interactions that occur between faculty and students. A secondary goal of this study was to provide an estimate of the frequency and duration of out-of-class faculty-student interactions as they occur on the campus where the study took place. The study also attempted to identify possible differences in frequency by type of interaction.

To that end, the research questions guiding the study were the following:

1) How frequently do students interact with faculty outside of class?
2) On average, for how long do students interact with faculty outside of class?

3) Are there significant differences in frequency of faculty-student interactions by type of interaction?
4) To what extent do incivility behaviors demonstrated by faculty in the classroom, as perceived by students, predict the type of interactions students have with faculty outside of class?

A non-experimental approach incorporating various quantitative analytic methods was employed. Questions 1 and 2 required the computation of the descriptive statistics: mean, median, and mode. To answer Question 3, a simple paired samples *t*-test was conducted. For the *t*-test, the independent variable was the type of interaction and the dependent variable was frequency. Structural equation modeling was utilized in answering Question 4. This approach allowed various analyses to be incorporated including factor analysis as well as regression analyses. All analyses used a confidence interval of 95% with a significance level of $\alpha = 0.05$, Further details on the nature of the variables modeled and how they were measured are provided in the section on measures.

Research Site

The study was conducted at Western Kentucky University (WKU). WKU is a mid-sized four-year institution in the Southeastern region of the United States. According to Helbig et al. (2016), the institution has an enrollment of over 20,000 students including undergraduate and graduate, served by approximately 770 full-time faculty and 420 part-time. At the time of the study, around three quarters of the undergraduate student population was enrolled full-time. Among the undergraduate student population, the mean age was 22 years and 57.1% of students were female. Traditional students (students

under the age of 25 years) represented 79.3% of the undergraduate population. For graduate students the mean age was 32 years with 64.7% females.

By student level, freshmen represented 24% of all undergraduates, while sophomores, juniors, and seniors represented, 18%, 19%, and 25%, respectively. The remaining 14% comprised post-baccalaureate, as well as high school and undergraduate non-degree seeking, students.

Students originated from 45 different states and from 70 countries worldwide. In terms of proportions, 78.6% of the undergraduates were considered in-state and 15.3% from other states, while only 6.1% of the students were from foreign countries. The distribution of students by ethnicity was as follows: White, 76.3%; Black, 8.9%; Hispanic, 3.1%; Asian, 1.2%; American Indian/Alaskan, 0.2%; Hawaiian/Pacific Islander, 0.1%; and two or more races, 2.6%. Note that this distribution did not include international students. Among undergraduates who had declared a major, nursing was the most commonly selected major with elementary education a close second.

Sampling Frame and Sample

The survey was circulated among all students at the institution, allowing for comparisons with students enrolled in graduate programs as graduate students typically experience greater interaction with faculty, enjoying a more mentoring relationship (Cusanovich & Gilliland, 1991). The undergraduate population at the university in 2015 stood at approximately 17,315, while 2,753 graduate students were enrolled (Helbig et al., 2016).

As a current student of the institution, access to the research site was gained through internal channels including the university's information technology department.

All communication with the population was made via email, making use of the information technology department's electronic mailing list for students.

Data Collection

Data collection occurred over a period of four weeks. Surveys were first circulated towards the end of the semester but prior to Thanksgiving break. Collecting data at that point allowed students sufficient time within the course to get to know and understand the professor of record and also to get an understanding of classroom policy and procedures. Students would have also had several opportunities for interacting with the professor both inside and outside the class. Commencing measurement towards the end of the semester is consistent with studies such as Jaasma and Koper (2002) and Nadler and Nadler (2001). Students received a short initial email inviting them to participate in the study. A follow-up reminder email was sent precisely one week later. Another reminder was sent at the four-week mark, and the survey was closed at the end of the fourth week. A copy of the survey has been included in Appendix A.

Variable Measures

The approach for measuring each variable is outlined in the following sections.

Frequency and Duration

Overall frequency was measured using five items asking students to indicate the number of times they had out of class interactions with the instructor of record for each class they had during the semester under study. To measure duration, students were asked to provide an estimate in minutes of the average duration of the interactions they had experienced with the respective professors for each class. As observed variables, frequency and duration were measured directly. Students were asked to respond to sets of

questions for each class they were taking. For example, where students indicated that they were taking three courses during the semester of data collection, three sets of interaction questions were presented in the survey. These questions measured professor gender, average duration of interactions, frequency of the different types of interactions, and whether or not the student was involved in a special project or committee work with the professor.

Type of Interactions

For this study, the more general typology consisting of two domains developed and published by Cox et al. (2010) was used. To measure the two types of interactions—casual and substantive—the six-item Faculty-Student Interaction Scale was used. Further details on the development of the scale as well as its psychometric properties are presented in the section on instrument development.

This variable served as a dependent variable in the study. Additional analyses were conducted using *t*-test and ANOVA to compare interaction frequency and duration by various student-level variables such as gender, ethnicity, classification level, and GPA. These analyses facilitated comparison of the students in this study with those sampled in other studies.

Perceived Faculty Incivility

The final independent variable in the study was faculty incivility. Incivility was measured using the Perceived Faculty Incivility Scale (PFIS). The PFIS consists of 21 items distributed across two factors denoting passive and active behaviors. Details on the development and psychometric properties of this scale are provided in the section on instrument development.

Covariates in the Model

Previous studies have controlled for student background variables such as age, gender, ethnicity, and major, as well as first-year and high school GPA. These variables were also included here. Instead of accessing university data on students' high school and first-year GPA, the study relied on self-reported data. Opting to do so stemmed from the desire to allow students to remain anonymous to elicit answers that would be unencumbered by apprehension of the type of backlash from whistleblowing described by McDonald and Ahern (2002) as a consequence for potentially reporting a professor in the event incivility had been observed. In any case, self-reported data have their merits (Wentland & Smith, 1993) and, in the case of achievement, are highly correlated with actual measures (Pike, 1993).

Another covariate in the study was student classification level. Given that differences in interaction have been observed by student level (Fuentes et al., 2014; Kuh & Hu, 2001), students were also asked to indicate their current classification within the institution at the time of data collection.

Additionally, as outlined in the previous chapter, prior research has indicated the following: subordinate perceptions of leader aversiveness are dependent on leader gender (Thoroughgood et al., 2011); destructive leadership in higher education tends to be gendered (Gardner, 2012; Lester, 2009); and there is some discrepancy in student interaction with faculty by faculty gender (Jaasma & Koper, 2002). Based on these findings from previous studies, accounting for the gender of the professor was also important.

Omitted Variables

While perception of justice has been demonstrated to affect followers' perception of destructive leadership (Tepper, 2000) as well as students' perception of faculty incivility (Alt & Itzkovich, 2015), it was not included here. The desire was to create a parsimonious model to first explore these relationships. Also stemming from the desire for parsimony was the exclusion of academic entitlement, despite the identification of its relationship to perception of incivility (Knepp, 2016). Once a model has been established, other variables could then be included in later studies. Student disposition for interacting with professors possibly determined prior to the start of a course was also omitted here (Cox et al., 2010). This would be better explored under a more in-depth analysis such as that afforded in a qualitative investigation. Another variable that has not been included but could possibly be related to interaction is student personality or affect, which has been shown to moderate the effect of destructive leadership (Harvey et al., 2007).

The Proposed Model

Figure 4 shows the proposed model representing the relationships that this study attempted to explore. Based on the fit of the data, the model was altered considerably. Changes made were consistent with the supporting theory as well as the preliminary statistical analyses. Details on the steps that were taken to alter the model are provided in the section on model modification.

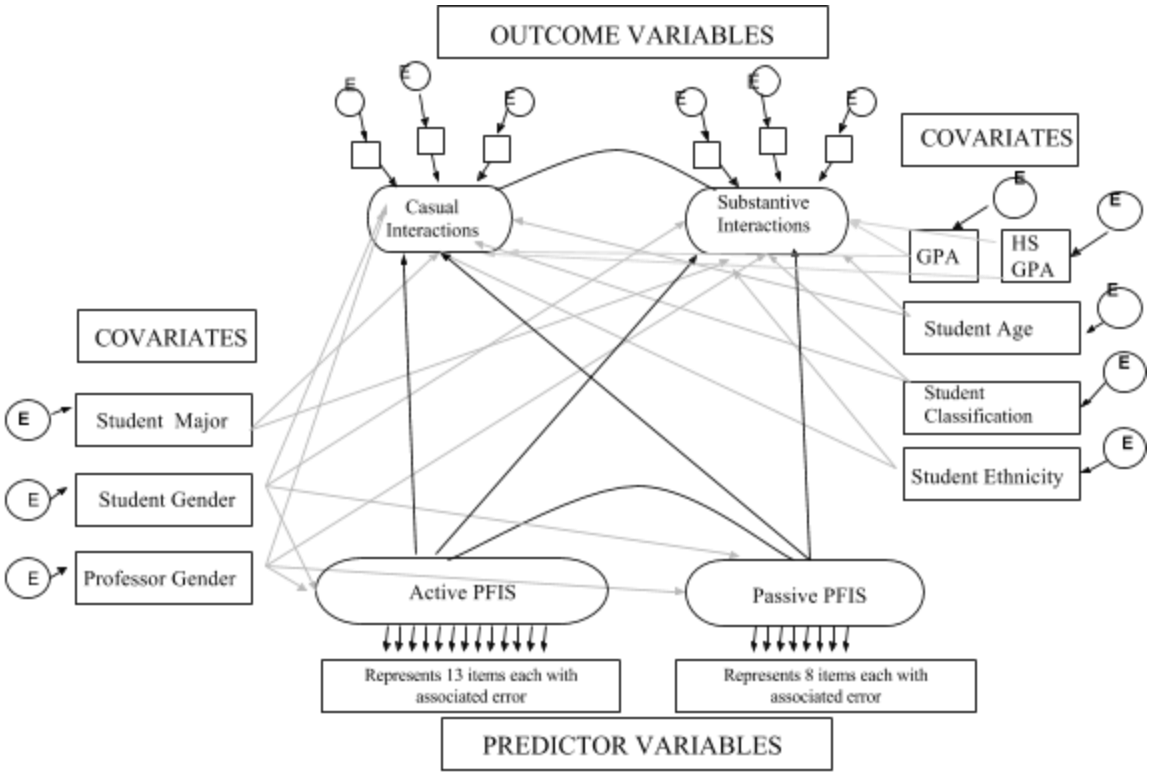

Figure 4. Proposed model of relationships between perceived incivility and faculty-student interactions. The independent variable is located at the bottom and the dependent variable at the top. The covariates have been placed along the sides of the model. All arrows depict predicting relationships. The arrows from the covariates have been drawn in gray for the sole purpose of improving visibility of the drawing.

Instrument Development

The instrument used consisted of 55 items compiled from the existing literature, distributed across five sections (see Appendix A for complete survey). Each section was presented on a different page of the instrument as a potential way of mitigating respondent fatigue. The first section collected demographic data, background information, as well as information on the covariates. The second section asked students to indicate the number of classes they were taking during the semester under study by

providing a name for each class. In the third section students indicated the number of times they had out-of-class interactions with the professor of record for *each* of the classes named in the previous section. The fourth section consisted of items assessing professor's gender, average duration of the interactions experienced, and the 6-ítem scale measuring frequency of each type of interaction. Students were also asked to indicate whether or not they were working with the professor in question on a special project or committee. These items were grouped by class and students entered responses corresponding to one class per page in that section of the survey. Students were also asked to indicate whether or not they had witnessed negative behaviors on the part of faculty in the classroom. Where students indicated they had not observed any negative behaviors, they were brought to the next page to respond to similar items for a different class. The number of pages displayed were determined by the number of courses the student indicated they were taking for the semester. Where students indicated they had observed negative behaviors, the fifth section was displayed immediately after whether or not they had responded to the items in the fourth section for each class taken. The fifth and final section consisted of the 21-item scale measuring faculty incivility. The 21 items were distributed across three pages each with seven items. This section was displayed only to those students who indicated they had witnessed a negative behavior. Once students responded to the items of the PFIS (if displayed), the survey ended. As such, if a student indicated he or she was taking four classes but had observed incivility in the second class taken, then the survey would be routed to the PFIS scale after the student had completed class-specific responses for the second course. Following completion of the PFIS, the survey would end so only class-specific responses for class one and two

would have been recorded. The survey was organized in this way to reduce the likelihood of survey fatigue while increasing the chances of receiving responses that would allow for model testing. The development of each scale used in the survey is described in the following sections.

Incivility Scale

Two scales were found in the existing literature that measured faculty incivility. The merits of each one are discussed below with the goal of explaining to the reader the rationale behind the selection. The Incivility in Nursing Education Scale was initially developed by Clark, Farnsworth and Landrum (2009) and later revised and revalidated by Clark, Barbosa-Leiker, Gill, and Nguyen (2015). The INE consisted of 62 items measuring faculty and student incivility, which were developed based on a review of the literature as well as interviews conducted with faculty and students. Respondents are asked to indicate whether they perceived each item as disruptive or uncivil, as well as the frequency with which they have experienced the behavior within the year prior to taking the survey. The faculty incivility construct comprised two sub-constructs, threatening behaviors, measured using 13 items, and uncivil behaviors, measured using 20 items. Similarly, student incivility comprised sub-constructs threatening behaviors, also measured with 13 items, and uncivil behaviors measured with 16 items. These sub-constructs were intended to capture the gradation in severity of incivility. In the Revised Incivility in Nursing Education scale (INE-R), these sub-constructs have been eliminated and a few items have been reworded and reordered. The current INE-R consists of 48 items measuring classroom incivility on the part of both students and faculty (24 items

each). Changes made in developing the INE-R were based on the results of studies performed using the instrument since the time of its publication.

To test the INE-R, researchers performed a confirmatory factor analysis in which they assessed two models: a one-factor and a two-factor model. Using the fit indices computed (see Table 2 below), researchers concluded that the two-factor model, separating student incivility from faculty incivility, was a better representation of the construct.

Table 2

Goodness of Fit Measures for the INE-R

Model	Respondents	RMSEA	SRMR	CFI
One - factor	Students	0.081	0.020	0.802
	Faculty	0.073	0.054	0.916
Two-factors	Students	0.081	0.020	0.930
	Faculty	0.101	0.030	0.894

Developed by Alt and Itzkovich (2015), the Perceived Faculty Incivility Scale (FPIS) measures classroom incivility displayed by professors only. Items for the PFIS were compiled by conducting content analysis of qualitative descriptions provided by a sample of 100 students from their encounters of either witnessing or experiencing incivility. Two raters with extensive knowledge of the theory and existing research on faculty incivility independently coded the student descriptions to identify behaviors. Each behavior identified was used to formulate a scale item. The interrater reliability of coders was not indicated. Based on the content analysis, coders initially suggested a four-factor model with active and passive incivility each consisting of two sub-constructs: group-

directed and individual-directed. This is similar to Thoroughgood, Tate, Sawyer, and Jacob's (2012) notion of norm-violating, rule-violating, subordinate-directed, and organization-directed classifications of destructive leadership behaviors. After performing an exploratory factor analysis with a sample of 744 students (M_{age} = 24.4 years) using principal components analysis, a two-factor model of active and passive incivility was indicated. Factor loadings ranged from 0.395 to 0.786 with most items loading well above the accepted 0.300 cutoff point. Four items loaded on both the passive and active factors. Where this was the case, the items were placed with the factor where there was the higher loading, with the exception of the item, *gives you a negative personal feedback in an offending manner*," which loaded as 0.430 on the active sub-construct and 0.495 on the passive but was grouped as active based on the raters' initial content analysis. Additionally, six items were eliminated completely, as, although they had high factor loadings in the 0.500 and 0.600 range, they were classified as one factor by raters during the qualitative coding but loaded on the opposite factor in factor analysis.

The final instrument developed consists of 21 items measuring the two sub-constructs using a 5-point Likert frequency scale. To measure active incivility, 13 items have been used with a reliability of 0.90, while eight items measure passive incivility with a reliability of 0.73. The values for Cronbach's alpha for active incivility indicates the items have excellent reliability in measuring the sub-construct since the value is at the cutoff point of 0.90. At 0.73, the reliability of items for the passive factor is adequate. A follow-up confirmatory factor analysis, which, as the name indicates, should confirm the factor structure proposed in the exploratory factor analysis was not performed.

In comparing the two scales, the following critiques can be offered. First, the goodness of fit for the INE-R based model teeters on the border between adequate and poor. As shown in Table 1 above, the CFI is 0.93, which falls in the range of good based on the cutoff of 0.90. The RMSEA is high at 0.08 and falls in the acceptable range. While the values for SRMR and CFI are independent of sample size, the use of RMSEA is inappropriate here as RMSEA is better suited for larger samples. This may explain why the fit is mediocre.

Second, the samples used for the INE-R factor analysis performed were too small. Tinsley and Tinsley (1987) recommended five to ten respondents per item. Using the minimum number allowed, at least 240 students and faculty would be needed for a confirmatory factor analysis. With 310, the student sample size (M_{age} = 32.15 years) is acceptable; however, the faculty sample of 182 is too small.

Third, researchers of the PFIS did not perform a CFA prior to implementing it in further studies. A follow-up confirmatory factor analysis should have been performed to confirm the factor structure proposed in the exploratory factor analysis.

Though not a critique, it is worth considering that the PFIS was developed in Israel with items originally generated in Hebrew and then translated into English. As such, the scale may function differently with the proposed sample given that perceptions of behavior may be influenced by cultural norms. A cursory review of the items indicated that they were similar to the destructive work behaviors scale proposed in Thoroughgood, Tate, et al. (2012).

Based on these evaluations, the PFIS was used. A confirmatory factor analysis was performed using the entire sample since the number of persons who indicated they had observed negative behaviors was small.

A more thorough review of the items revealed that the wording of some would have to be slightly changed. For example, Item 15 of the scale reads e*xpresses anger in response to students showing misunderstanding(s) during a lecture*. This was changed to e*xpresses anger in response to students showing misunderstanding(s) during a class*. Doing so enhanced the clarity of the instrument since not all students would have a lecture as a class on which survey responses would be based. The term *class period* encompasses a class, tutorial, or lab session. All instances of the use of the word *lecture* were changed to *lecture or class period*. This was the case for Items 14, 15, 17, and 21. In the fourth item which reads, r*egularly dismisses class long before the end of the lesson*, the following change was made to improve clarity: r*egularly dismisses class long before the scheduled end time*. For this item, *end of the lesson* could be interpreted as the set of learning targets or discussion points that were scheduled for the day rather than the actual chronological class period.

Additionally, Item 3, which originally read, i*gnores students applications during lectures*, was changed to *ignores students' requests during classes or lectures* to improve clarity. The word *requests* was substituted for the word *applications*, as these two are synonymous and could have been confused during the translation process. Item 6, which originally read, i*gnores your personal scholastic difficulties* was changed to *ignores your personal academic difficulties*. Another change made was the correction in grammar and terminology of Item 5, which originally read, *is not available for you during reception*

hours and was edited to read, *is not available to you during office hours*. Similarly, Item 14 was corrected from *makes offensive inclusions towards students during lectures* to m*akes offensive insinuations towards students during class*. These nonessential changes should affect neither the reliability nor the validity of the instrument, as the replacement words are similar to the original wording. In any case, the CFA based reliability of the instrument could be computed.

Faculty-Student Interactions Scales

As outlined in Chapter Two, five different types of faculty-student interactions have been identified—disengagement (a non-type), incidental, functional, personal, and mentoring (Cox & Orehovec, 2007). Attempts at capturing the subtle yet important differences among each type have not proven fruitful thus far, as the instrument developed has not stood up to psychometric testing (B. Cox, personal communication, August 18, 2017). As such, a less specific approach to classifying interactions by type will be employed by using the scale developed in Cox et al. (2010). This scale consists of two factors: casual interactions and substantive interactions. The casual interaction subscale consists of three items assessing the number of occasions on which faculty and student: *discussed non-academic topics of mutual interest, had casual conversations,* or *exchanged brief greetings*. The Cronbach's alpha reliability for this scale was 0.905, where greater than 0.90 is excellent. Similarly, the substantive interaction sub-scale also consists of three items assessing the number of occasions on which faculty and student: *discussed matters related to the student's future career, discussed a student's personal matters,* or *discussed intellectual or academic-related matters*. The Cronbach's alpha for this scale was 0.789, which indicates acceptable reliability as it is within the acceptable

range of 0.700 to 0.800. Based on item wording, it can be inferred that casual interactions include incidental and personal interactions and that substantive interactions include functional as well as personal. This short scale does not capture mentoring. Since mentoring can be considered a hybrid of personal and functional interactions occurring over time, this confluence of types and duration could possibly make it difficult to measure as a distinct type of interaction (see Chapter Two for a more complete discussion on mentoring and the other types of faculty-student interaction). Additionally, since mentoring involves both personal and functional interactions, its omission should not be crucial.

As stated earlier, the final research instrument combines these two scales with additional questions measuring covariates and grouping variables. The instrument in its entirety was tested by the researcher as well as piloted with a group of experts for the purpose of estimating response time needed and ensuring questions were clearly written and easily understood.

Data Analysis

Following the close of the survey, the data collected were cleaned and analyzed. Data cleaning involved renaming and recoding of variables. In the initial dataset downloaded from Qualtrics, the headings for data columns consisted of the corresponding survey question number. These numbers were replaced with informative and descriptive variable names developed. Variables were also recoded as a way of changing word responses into numerical answers. The data were also evaluated for missing cases which were dropped. Once the data had been cleaned, the analyses were conducted. Details on the steps that were taken to analyze the data are provided in the following paragraphs.

Descriptive Statistics

To fill one of the voids in the literature, the study provided descriptive statistics on dependent variables: frequency, duration, and type of faculty- student interactions. The studies reviewed demonstrated that faculty-student interactions were infrequent (Chang, 2005; Cotten & Wilson, 2006; Endo & Harpel, 1982; Fusani, 1994), but few studies have indicated an estimate number of meetings in a given time period (be it week, month, or academic term). The current study provided an estimate of mean frequency and duration of interactions reported by respondents during the academic term as well as occurrence of type of faculty-student interaction. The overall frequency and duration measures as well as the frequency measures by type of interaction were compared based on student level factors including gender, ethnicity, classification level, and GPA. These comparisons were performed using *t*-tests and ANOVA where appropriate.

Prior to conducting comparative analyses certain assumptions should be met. For the *t*-test to be robust, the data should have been derived from a simple random sample, all outliers should have been removed from the sample and the data should be normally distributed. For a paired samples *t*-test, performed here to assess differences by interaction type since each respondent would have offered a respective frequency for both types of interactions, the differences between interaction types across pairs should also be normally distributed. To meet these assumptions, the five cases of outliers were dropped from the dataset as described earlier, using the 70 maximum interactions rule defined for the analysis. To correct for the skewness of the data, frequency values were transformed by taking the base ten logarithm of each score. Although, distribution normality can generally be ignored with larger samples where $N > 40$, normalizing the data afforded a

more robust analysis and stronger *p* values which was important given the exploratory nature of this study.

For the ANOVA, the assumptions are similar to those described for the *t*-test. An additional assumption is that there is homogeneity of variance of the data, and this becomes important where the sizes of the respective groups are unequal. Based on Levene's test for homogeneity of variance, equal variances could be assumed across all subgroups analyzed. Where differences were observed, the Bonferroni method was used for *post hoc* analyses to identify between which groups these differences have occurred. Bonferroni was the *post hoc* analysis of choice as it is the most conservative and therefore most appropriate given the exploratory nature of the study.

Following these analyses, attempts were made at first performing the confirmatory factor analyses discussed earlier and also assessing the model proposed in Figure 4. Prior to conducting the confirmatory factor analyses and the structural equation modeling, the requirements for model identification, as well as the process by which model fit will be assessed, were carefully considered and defined.

Assessment of the Fit of the Model

The fit of a model is typically assessed by conducting a goodness of fit analysis. Note that *model* used here refers to both the proposed model, depicted in Figure 4, as well as the array of measurement scales used in the study. In a goodness of fit analysis, the proposed model is compared with two extreme versions of the model—a baseline model in which there are no correlations and a saturated model in which all items and variables have been correlated with each other. When determining the goodness of fit of a proposed model, one examines goodness of fit indices. This study employed three fit

indices: the root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the Tucker Lewis Index (TLI).

RMSEA. As the name suggests, the root mean square error of approximation gives an estimate of the amount of error there is in the model for each degree of freedom (Acock, 2013), where the degree of freedom is the total number of observations that are free to vary (Field, 2009). What this means is that there is an added penalty for each level of complexity added to the model (Acock, 2013) with the overall goal of developing the most parsimonious model possible.

The RMSEA is calculated using the following equation:

$$RMSEA = \sqrt{\left(\frac{T/(N-1)}{df}\right)}$$

where *df* is the degrees of freedom, *N* is the size of the sample, and *T* is determined using the equation

$$T = \max(\text{model } \chi 2 - df, 0).$$

An RMSEA less than 0.05 is ideal as this indicates convergence of the model to the data analyzed (Cangur & Ercan, 2015). When the RMSEA is less than 0.05, the model is considered good. This means it captures the concepts measured well. Where the RMSEA is between 0.05 and 0.08, the model is adequate, and if the RMSEA is between 0.08 and 0.10, the model is considered mediocre (Acock, 2013; Cangur & Ercan, 2015).

Comparative fit index. The comparative fit index (an incremental fit index) compares the proposed model to a baseline model which assumes that there are no latent variables in the model and that all measures are uncorrelated.

It is computed using the following equation:

$$1 - \frac{max[(\chi 2\ of\ target\ model\ -\ df\ of\ target\ model), 0]}{max\ [(\chi 2\ of\ target\ model\ -\ df\ of\ target\ model), (\chi 2\ of\ independent\ model\ -\ df\ of\ independent\ model), 0]}$$

(Cangur & Ercan, 2015, p. 158).

In the equation above, *max* indicates the maximum value for the terms in the brackets. For the CFI, the maximum and minimum scores are 1 and 0, respectively, and higher scores are better. A score above 0.90 was initially regarded as acceptable (Bentler, 1990), however, more recent publications adhere to a stricter cut off point of 0.95 as a very good fit (Schermelleh-Engel & Moosbrugger, 2003). For the purposes of the current study, the stricter cutoff point was used to denote very good fit and 0.90 to denote mediocre fit. Although the model has some basis in previous research, as elaborated in the previous chapter, the connection between faculty incivility and interactions has been inferred. Being strict in assessing goodness of fit to develop a model that will withstand the rigors of further testing was therefore important.

***Tucker Lewis index*.** TLI is also an incremental fit index that compares the proposed model to the baseline model. It is non-normed, which means its maximum and minimum values can extend beyond one and zero respectively. Despite these differences, the TLI is interpreted similarly to the CFI with higher numbers indicating better fit. As with the CFI, the stricter cut off point of 0.95 was also used. The TLI is calculated by the formula:

$$\frac{(\chi 2/v)\ of\ independent\ model\ -\ (\chi 2/v)\ of\ target\ model}{(\chi 2/v)\ of\ independent\ model\ -\ 1}$$

The RMSEA and CFI indices are robust as they are not affected by the estimation method used, be it maximum likelihood estimation, generalized least-squares, or the asymptotically distribution-free techniques (Cangur & Ercan, 2015). The RMSEA and CFI indices are also not affected by sample size, especially where samples are large. Although the TLI is not as robust, since it is more sensitive to larger sample sizes and estimation method (Cangur & Ercan, 2015), it was still included since sample size and estimation method were not problematic here. As stated earlier, the maximum likelihood estimation method was used, to which TLI is insensitive (Cangur & Ercan, 2015) and the sample size obtained was relatively small.

As a rule of thumb, the chi-squared fit test statistic was also reported since it was used as the basis for calculating all other fit indices (see formulae in the following sections). It is an absolute fit statistic, which means it assesses the fit of the model in and of itself without comparing to other versions of the model. This is calculated using the formula:

$$\chi 2 \ = \ -2\{-\frac{1\,(n\,-\,1)}{2}[\mathrm{tr}(S\epsilon^{-1}) \ + \ log\,|\epsilon| \ - \ log|S| \ - \ p]\} \ = \ (n \ - \ 1) \cdot F$$

The chi-squared test statistic measures how much the data deviate from perfection. It shows how well the model fits the data in the sample.

Model Modification

Following an initial assessment of the fit of the scale or the model, options for modifications are generally explored. Modification indices identify potential adjustments that can be made to the scale or model to improve the fit. These modifications are suggested by the analysis software, regardless of the fit. Accordingly, even if the scale or model fit is good, suggestions can still be offered for improving the fit. Typical changes

suggested include adding covariate relationships between the measurement errors of variables in a model or items on scales of the instrument. Since suggested modifications are based on idiosyncrasies within the data, changes must be made cautiously. Before deciding to accept or reject a modification suggested, the extent to which the change will improve the fit as well as whether or not the change is consistent with theory should be considered carefully (Acock, 2013). Suggested modifications for the scales used were made only where they were consistent with the underlying theory. Where the scale was adjusted, changes were made one at a time while re-evaluating fit after each change was implemented.

Confirmatory Factor Analysis of Measurement Instruments

Although the instrument used comprised existing scales, conducting a confirmatory factor analysis of these scales was necessary. To conduct a confirmatory factor analysis on the interaction type scale, a sample of 60 would be needed as the scale consists of six items and there should be five to ten respondents per item for adequate testing (Tinsley & Tinsley, 1987). The sample size was sufficiently large to conduct a factor analysis. The results of the factor analysis of the interactions scale as well as the modifications made are presented in the next chapter.

For the confirmatory factor analysis of the PFIS, the sample was divided so that only those students who indicated they had witnessed or experienced a negative behavior on the part of the professor were included in the analysis. The corresponding section of the sample numbered 137 respondents. For the confirmatory factor analysis on the PFIS, a sample of between 105 and 210 respondents would be needed since there were 21

items. Given that the sample for analysis consisted of 137 subjects, the size was adequate for the analysis.

Conducting the factor analysis, a good fit was not obtained. An exploratory factor analysis was conducted to reassess the factor structure of the PFIS. A few modifications were made to the factor structure of the scale and a subsequent confirmatory factor analysis was performed. A good fit was obtained for only one section of the scale, as such, only part of the scale was used for the structural equation modeling.

Model Identification

Before conducting analysis of the proposed model, it was important to consider model identification as a way of ensuring that estimation of the proposed model was feasible. Considering model identification involves assessing whether or not there is sufficient known information within the model to facilitate estimation of the unknown information (Acock, 2013; Kenny, 2014).

For the proposed model (shown in Figure 3) there are 32 observed variables being measured (as indicated by the rectangles in the model). With 32 observed variables, the number of known values is given by the equation $\frac{k(k-1)}{2}$, where k is the number of observed variables

For the proposed model, the number of known values was 496, and these parameters were being used to estimate the six latent variables (as indicated by the ovals in the model); the associated error in measuring all variables (latent and observed); and the covariance between each pair of sub-constructs on the respective scales. As such, it was anticipated that the model would be identified given the ratio of estimated to free parameters.

The proposed model also met the structural requirements for identification in that, as proposed, faculty incivility predicted faculty-student interactions and not vice versa and there was no correlation between neither faculty incivility and faculty-student interactions nor the items being used to measure them.

Structural Equation Modeling

Following the confirmatory factor analysis, partial structural equation modeling was performed. Since the study aimed to determine factors that predict several variable relationships, the best approach was developing a model to be analyzed (see Figure 4). Structural equation modeling combines several multiple linear regression equations and allows for the use of categorical dependent variables unlike multiple linear regression in which dependent variables must be continuous (Muijs, 2011). This technique also accounts for measurement error associated with assessing latent variables whereas multiple linear regression does not (Muijs, 2011). Accounting for this measurement error facilitated sound conclusions, since the variables are not observed, and the model would rely on the ability of the scales to assess perceived incivility. SEM also accounts for variables that have direct and indirect effects on the dependent variable (Muijs, 2011). In the proposed model, for example, as gleaned from the current literature on the topic, student gender affects both perceptions of faculty incivility and interactions with faculty (see Figure 4). SEM facilitates consideration of both pathways of effects.

Using STATA software, the model was estimated using maximum likelihood estimation method. The model was tested gradually by first assessing relationships between the independent and dependent variables before introducing covariates. Although a good fit was obtained for the model, the relationships between the incivility

scale and the interactions scale were not significant. Results obtained are detailed in the fourth chapter.

Limitations to the Study

As previously stated, the current study employed existing scales to measure intended variables. Although these scales had been tested previously in a few other studies, further testing prior to adoption here would have verified their suitability for use here. The interactions scale was appropriately modified to obtain a good fit. For the PFIS, on the other hand, a different factor structure seemed most appropriate. These modifications to the instruments should have been tested thoroughly prior to attempting to test relationships between the two concepts. The portion of the sample to be used for the structural equation modeling was also quite small. This was a limitation to the study as structural equation modeling holds better where larger sample sizes are involved. This analysis technique is susceptible to nuances in the data, which have a more profound impact on the overall results in smaller samples.

Role and Responsibilities of the Researcher

It is important to clarify the part the researcher played to ensure adherence to correct procedures. The researcher was committed to the ethical collection and analysis of data. Data were accumulated, stored, and will be disposed of later as approved by the Institutional Review Board. The researcher also adhered to strict procedures in conducting analyses to ensure the integrity of the results obtained. Advanced courses in statistical analysis including structural equation modeling—the analysis technique used in the study—prepared the researcher to adopt this role.

Since the current study proposed a novel idea, there was a desire for results to yield a model that is functional and also useful in establishing a relationship between faculty incivility in the classroom and faculty-student interactions. This new idea would have to be robust enough to withstand replication in similar as well as dissimilar educational contexts. This desire for robustness superseded any desire for the model to be identified. As such, sterile procedures were utilized at every step along the way from data collection to data analysis and interpretation.

As a current student of the institution where the research was conducted, there was also a certain reluctance to portray the faculty, and by extension the institution, in a negative light in the event incidences of incivility were high. To allow students to feel comfortable in responding to questions, the protocols approved by the Institutional Review Board for removing identifying information from data as well as from any future publication were followed.

Summary of Chapter

Chapter Three provided a detailed description of the methodology that was used in exploring the topic. Students at a single regional institution in Kentucky, Western Kentucky University, were surveyed. The data collected were cleaned and analyzed using a combination of methods. Computation of measures of central tendency were used to answer the research questions related to estimating the frequency and duration of interactions (Research Questions 1 and 2). A *t*-test was used to answer the questions comparing the frequency of interactions by type of interactions (Research Question 3). The usefulness of incivility in predicting type of interaction was assessed using structural equation modeling. The study as designed contributed to advancing the research on

faculty incivility towards students and on faculty-student interactions by providing insight on the nature of the relationship between these two concepts that can be used to guide further studies.

CHAPTER IV: PRESENTATION OF RESULTS

The current chapter will present a description of the results obtained from the study. It will outline the step-by-step process by which the data were cleaned and prepared for analysis. Details on how the analyses were performed as well as the methodological decisions taken are also offered. Finally, the results along with estimates of their statistical and practical significance are presented.

Data Cleaning

Following data collection, the resulting dataset was downloaded from Qualtrics as a comma-separated values file, which was opened in Microsoft Excel in order to clean the data. The first 17 columns containing response information including time, date, and location stamps were removed. All variables were renamed so that column headings displayed variable names instead of the corresponding item number. A participant identification number was also generated for every survey respondent. This identification number consisted of a five-digit alphanumeric code of which the first character was a letter designating the sampling site and the four remaining digits were numbers corresponding to the order in which the response was entered. For example, the first respondent was assigned 0001 and the last respondent at the time of analysis was assigned 1002, so that these responses were designated W0001 and W1002, respectively.

The data file was then loaded into SPSS and a case-by-case evaluation of responses to identify outliers was then performed. Additionally, variable categories were collapsed where necessary.

Variable Renaming and Recoding

As stated earlier, all variables were renamed so that an interpretable name appeared in the dataset for each instead of the survey question number. For example, the variable student gender was recorded as STU_GEN. A code book was compiled to maintain a log of all the variable names created as well as the number and wording of the corresponding survey question. The code book allowed for quick consultation during data analysis and reporting.

In addition to renaming the variables, responses were recoded as a means of converting string or non-numeric responses to numeric variables. For example, student gender was recoded so that a 0 was used to represent male respondents and a 1 to represent female respondents. Some variable categories were also collapsed due to the low number of respondents in particular categories. Considering student ethnicity, for example, the White students numbered 753, while all other ethnic groups had less than 70 respondents. This distribution is depicted in Figure 5 on the following page. To facilitate analyses, White remained as a separate category while all other ethnicities were combined to form a single category labeled non-White. Note that the larger category was used as the reference category with an assigned numeric value of zero.

The exceptions to this assignation of reference categories were first year and high school GPA which were recoded so that an *A* appeared as a 3, a *B* as a 2, a *C* as a 1, and a *D or lower* as 0 despite A being the largest category and B being the second largest category and so on. This was because GPA is an ordinal variable in that an A is higher in rank and value than a B, C, or D, and, as such, was assigned the highest value. Although a grade of D or lower, still had some value, it was assigned a 0 as has been done for all

reference categories for ease of comparison. Another exception to this rule of thumb was student classification, which is also an ordinal variable since a sophomore would be higher in rank or further along in degree completion than a freshman.

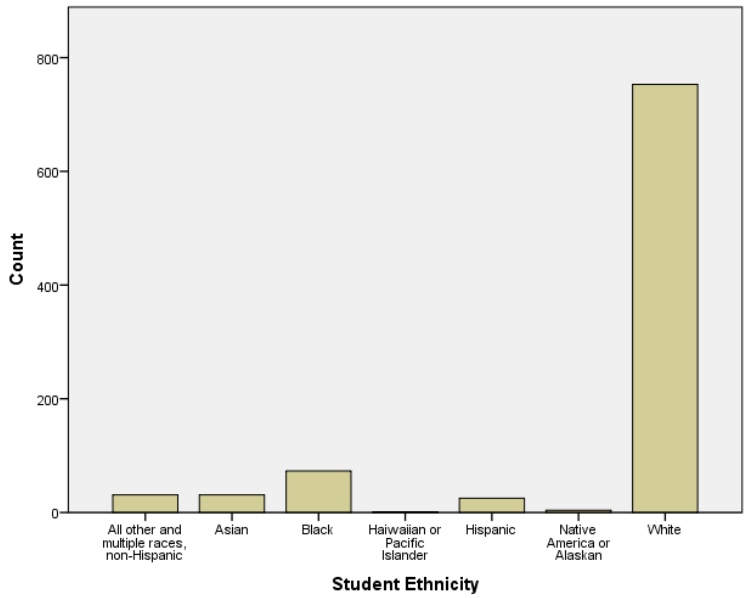

Figure 5. Distribution of ethnicities in the sample. The frequencies for each ethnic group were Multiple races - 31, Asian – 31, Black, 73, Native Hawaiian, 1, American Indian – 4, and White – 753. Collapsing the smaller groups into one yielded a comparison group of 161.

Table 3, shown on the following page, gives the variable names and the type of recoding done. The recoded variables are easily identified since their names consist of the original variable name preceded by RCD for recode. After each variable was recoded, it was moved from the end of the dataset—the default location—so that it was adjacent to the original variable that had been recoded. This allowed for a quick comparison of actual values from the dataset to check that the recoding had been executed accurately.

Table 3

Schema Used in Recoding of Variables

Variable name	Description of recoding performed
Student gender	Male = 0, Female = 1 Cases with other or prefer not to say were excluded from gender-based analyses.
Student ethnicity	White = 0, Non-White = 1
First-year GPA[a]	A =3, B= 2, C = 1, D or lower = 0
Student Classification	Freshman = 0, Sophomore = 1, Junior = 2, Senior = 3, Graduate Student = 4
Student FUSE Status	No = 0, Yes = 1
Class 1 Professor Gender[b]	Male = 0, Female = 1.
Class 1 Professor FUSE Status[b]	No = 0, Yes = 1
Class 1 Professor Project/Committee Status[b]	No = 0, Yes = 1
Class 1 Professor Negative Behavior[b]	No = 0, Yes = 1
Perceived Faculty Incivility Scale Item[c]	almost never = 0, rarely = 1, sometimes = 2, often = 3, almost always = 4

Note. [a]High school GPA was recoded in the same way and has been omitted from this table. [b]The same type of recoding was done for each of the five classes. [c]All items on the incivility scale were similarly recoded.

Evaluation of Dataset

Further cleaning of the data involved scanning and removing obvious and excessive outliers. This was done in various ways for different variables. First, descriptive statistics were computed for all background variables where relevant and have been presented in the following table.

Table 4

Descriptive Statistics of Student Background Variables

Variable	*N*	Minimum	Maximum	Mean	Std. Deviation
Student age	867	16	1997	26.61	67.61
First-year GPA	916	0	3	2.35	0.77
High School GPA	913	0	3	2.50	0.67

From Table 4, note that student age ranged from 16 to 1997. It was therefore evident that one respondent indicated an age in years of 1997. This was corrected to 20 years and retained. All the respondents younger than 18 years of age, six in total, were removed from the dataset. Doing so yielded an age range of 18 to 79 with a mean of 21.9 years (*SD* = 6.91) for undergraduates and 32.4 years for graduates (*SD* = 10.61). Since this is close to the institutional mean of 22 years (Helbig et al., 2016), the older students were retained as the sample was representative of the population in terms of age. Further comparisons between the sample and the population are made in the next section, which describes the final resulting sample after data cleaning.

Outliers among the continuous variables were identified by creating a box plot depicting the distribution of each variable then performing a visual examination of the resulting plot and cross referencing the actual data point.

Looking at the frequency of interaction measure for each course, several outliers were flagged. For example, one respondent indicated she had interacted with professors 999,999,999 times in the first class, 69 times in the third class and 8,008,135 in a fifth class. Further investigation showed the class names she had input were Earth Destruction 101, Space Conquering 350, Fundamentals of Universe Creation, Truth Manipulation with Feelings 101, and Blogging 609. This response was removed from the dataset. Another respondent indicated she had interacted with a professor 300 times. This response was flagged for potential removal from the dataset. To determine a cutoff point for interaction frequency, a maximum possible number of interactions was estimated as 70. Given that there are 14 weeks in a semester with 5 days in each week, this assumed a student interacted with a professor on a daily basis. Using the cutoff figure, all cases reporting an interaction frequency for any given class greater than 70 were flagged for potential removal in the dataset. There were five such cases. Closer examination of the responses entered in answer to the remaining questions for these high frequency cases revealed that other questions had been answered appropriately. As such, these high frequency responses were possibly due to overestimation. To handle this, a filter variable for frequency was generated for which all high frequency responses were a 1 and all other responses were 0. Doing this allowed for analyses to be conducted both including and excluding the cases to determine the impact they had on the results.

Additionally, all cases that did not input a response for interaction frequency for any of the five classes were also dropped from the dataset as, essentially, these responses only provided background information and no other questions were answered. These cases numbered 124 in total. Applying the cutoff of 70 resulted in a range of interaction frequency of 0 to 50 for four of the five courses taken with a range of 0 to 40 for the fourth class. A cursory evaluation of these high frequency responses revealed that students were interacting frequently with professors of classes such as Jazz Band which could potentially involve interactions for rehearsals and performances. Other high frequency interaction courses were Medical Surgical Clinical and science labs. The final decision taken was to exclude from analysis those responses that overestimated interaction frequency by reporting frequencies greater than 70.

For the variable duration of interaction for each of the five courses, outliers were similarly identified by a visual inspection of box plots of the variables. One outlier of 1,000,000 minutes was identified. Based on the responses provided to the other survey items—class names were tomato, potato chips, and mustard with tacos as major—it was evident the respondent did not take the survey seriously, and so this response was dropped from the dataset. Once this was removed from the dataset, the range was 0 to 180 minutes for class one. For the remaining classes two, three, four, and five, the maximum duration of interaction in minutes was 120, 240, 90, and 78, respectively. Note that a cutoff point was not established since a reasonable estimate could not be determined.

Blank spaces on the type of interaction scale were taken as 0's since this question only displayed if students had input a non-0 number to the question: *How many times*

have you interacted with the professor of your _____ class? Similarly, blank spaces on partially filled type of interaction scale were taken as 0's. This was because where a student indicated he or she had experienced four interactions and filled in numbers that sum to four on the type of interaction scale, the spaces left blank would therefore correspond to 0's.

There were three types of glaring inconsistencies for the interactions scale. The first type was where a respondent indicated a higher frequency of interactions when responding to the question, *How many times have you interacted with the professor of your _____ class?* When asked to indicate the frequency by type of interaction, however, lower values were entered. For example, one respondent indicated that he had interacted with the professor four times, but when asked about these interactions by type, the highest frequency entered was 1 for only two interactions bringing the total to 2. Where this was the case, the responses were taken at face value since the possibility exists that the respondents engaged in other types of interactions that did not fit into the categories named on the survey.

The second type of inconsistency was where students indicated a lower frequency of interactions when asked to indicate the number of times they interacted with the professor of the class; however, when asked to indicate the frequency by type of interaction, higher values were entered. For example, one respondent indicated she had interacted with the professor of record for the given class a total of three times yet had interacted to exchange brief greetings 10 times. These inconsistencies were also included in the final analysis, since it is likely that the student was not considering exchanging brief greetings as an interaction, while responding to the initial question on frequency.

The possibility also exists that upon seeing the breakdown of interactions by type, participants were able to recall other interactions they had not thought of before. If this was the case, this provided support for the need to consider type of interactions in future research to obtain a more accurate measure of the frequency of interactions.

The third type of inconsistency observed was where students indicated they had experienced a particular number of interactions but then neglected to fill in those numbers by type of interaction leaving those questions blank. Note that most instances of this type of inconsistency occurred where students indicated they had experienced or witnessed incivility in their fifth class. It could be that the response fields were left blank due to survey fatigue, since students would have been required to fill these out for the four prior classes. Since there was no way of knowing to which interaction type the frequency number corresponded, these cases (eight in total) were eliminated from the dataset. Prior to each type of analysis, additional cleaning of the data was performed that was specific to that type of analysis. This additional cleaning is outlined before describing the analysis.

Overall Description of Final Cleaned Dataset

The initial dataset had a total of 1,002 responses. Following the cleaning, the final dataset consisted of 785 respondents of which 594 (75.9%) were female and 177 (22.6%) were male. The sample was predominantly White, 81.7% with a mean age of 23.84 years. The sample included 221 (28.3%) freshmen, 92 (11.8%) sophomores, 135 (17.3%) juniors, 191 (24.5%) seniors, and 142 (18.1%) graduate students. The sample was representative of the population in terms of age but differed slightly in terms of ethnicity, gender, and student classification level. Within the sample, 19 students indicated they

were the recipient of a grant focused on promoting interactions with professors—the Faculty Undergraduate Student Engagement grant. Students were also asked to indicate whether or not they worked with any of their class professors on a special project or committee. The number of students who worked with professors on projects or committees for each class is presented in Table 5. Given the small numbers, this grouping variable was not utilized in analyses.

Table 5

Student Participation in Project or Committee Work with Professors

Class	Project/committee participation		Percentage yes
	Yes	No	
1	73	647	9.3
2	43	536	5.5
3	40	432	5.1
4	31	352	4.0
5	15	229	1.9

Data Analysis

Descriptive Statistics

To answer Research Questions 1 and 2, the descriptive statistics of frequency and duration of interaction were computed using the entire dataset of 785 responses. The results of these analyses are described in the following sections.

Frequency. Frequency was measured using several items at various points throughout the survey. After initially being asked to provide the names of up to five courses being taken during the semester, students were then asked to indicate the

frequency with which they interacted with the professor responsible for each of the five courses outside of class. The mean of this frequency measure was determined for all five classes and taken as the raw frequency. Since not all students would have multiple classes numbering up to five, the individual student mean across classes was computed in such a way that values were not penalized where students were taking less than five classes. For example, if a student was only taking two classes, the sum of interaction frequency was divided by two instead of by five. The sample mean for raw frequency is presented in Table 6.

Table 6

Frequency Means by Type of Interaction

Interaction	*N*	Minimum	Maximum	Mean	*SD*
Raw frequency	785	0.00	50.00	2.94	4.53
CAS1-exchanged brief greetings	546	0.00	25.00	2.45	3.62
CAS2-had casual conversations	541	0.00	35.00	1.21	2.49
CAS3-discussed a non-academic topic	540	0.00	16.50	0.78	1.80
Overall Casual	548	0.00	22.67	1.48	2.27
SUB1-discussed intellectual/academic matters	553	0.00	40.00	2.45	3.20
SUB2-discussed career related matters	544	0.00	16.67	1.06	1.77
SUB3-personal (non-academic) matters	538	0.00	30.00	0.84	2.07
Overall Substantive	555	0.00	20.00	1.46	1.87

Students were later asked to indicate the frequency with which they interacted with the professor of each class in six different ways: *discussed non-academic topics of mutual interest, had casual conversations, exchanged brief greetings, discussed matters related to the student's future career, discussed a student's personal matters,* or *discussed intellectual or academic-related matters*. The first three types of interaction were denoted casual interactions (Cox et al., 2010) and were referred to as Casual 1, 2, and 3, respectively. The latter three were denoted as substantive interactions and were referred to as Substantive 1, 2, and 3, respectively. The mean frequency by type of interaction was also computed for each student across all five classes again taking into consideration that not all students would be taking five courses. The sample mean for frequency by type has also been presented in Table 6.

Based on the results, students at WKU interacted with professors they had on average 2.95 times in the semester. Students indicated they had 1.49 casual interactions and 1.46 substantive interactions. The most frequent type of casual interactions reported was the exchange of brief greetings with a mean frequency of 2.47 times in a semester, while the most frequent type of substantive interaction was discussion of intellectual or academic matters, which occurred 2.46 times in the semester. Interestingly, students indicated that their discussion of non-academic topics of both causal and substantive nature were quite infrequent occurring 0.78 and 0.84 times per semester.

The following figures provide a visual display of the distribution of raw frequency, overall casual interactions, and overall substantive interactions. As illustrated in the graphs, the vast majority of students experienced low frequency interactions. The distribution for casual and substantive interactions were quite similar. These graphs also

depict the positive skewness of the data as illustrated by the long tail on the right side of each distribution. Based on the skewness of the data, the median and mode for frequency measures were also reported in Table B1 in Appendix B. For further analysis, the skewness of the data was corrected computing the log of the frequency. Figures 9, 10, and 11 shown below illustrate this correction. This normality correction offered by the log computation boosted the statistical power of the analyses performed by meeting required statistical assumptions.

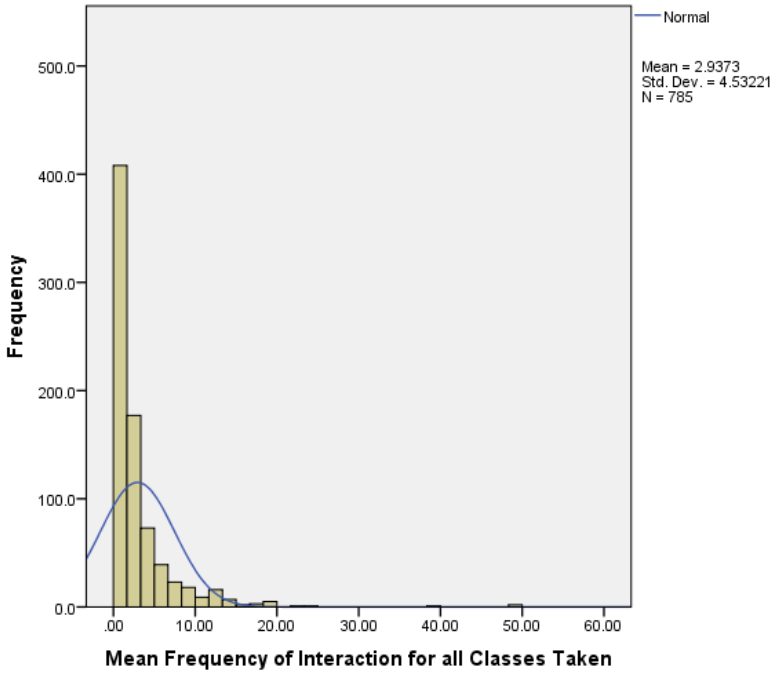

Figure 6. Average raw frequency of interactions across the five classes students take.

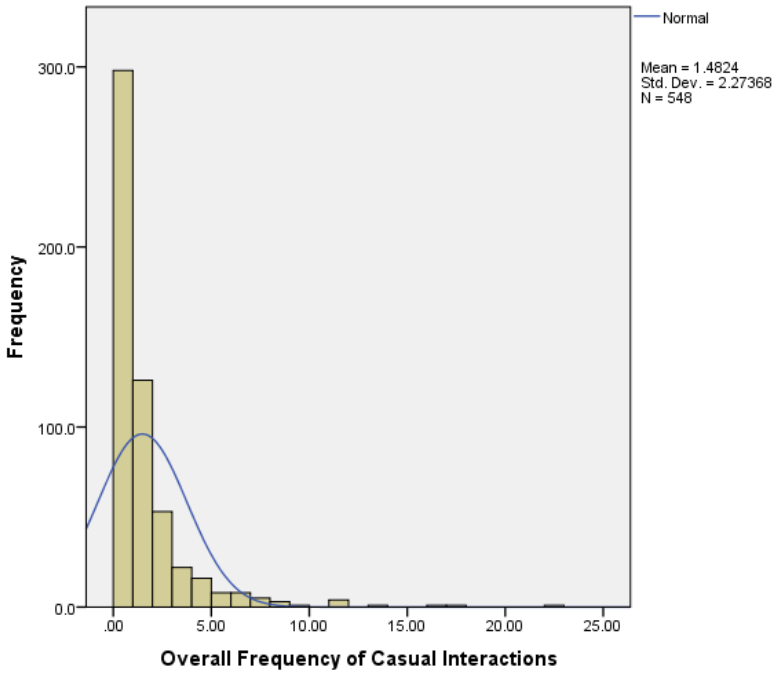

Figure 7. Average overall frequency of casual interactions across the five classes.

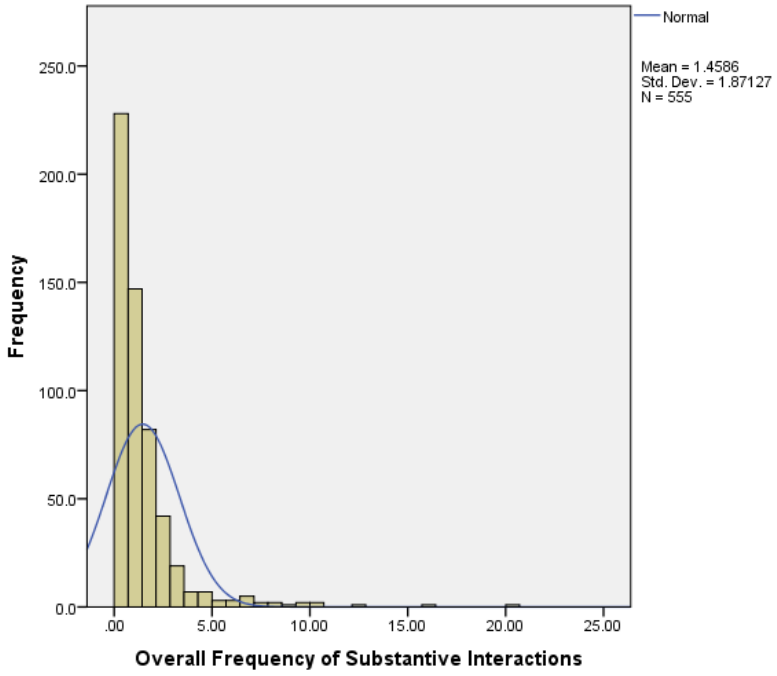

Figure 8. Average overall frequency of substantive interactions across the five classes.

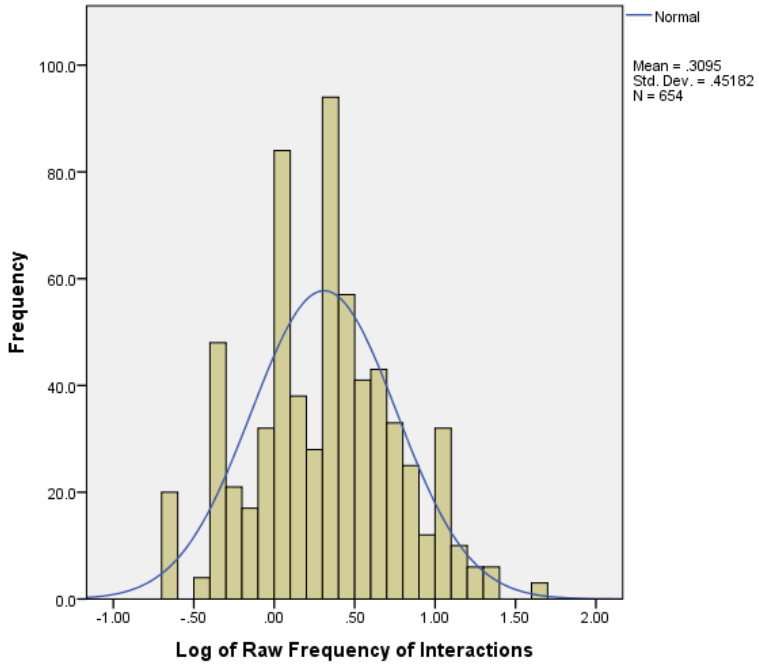

Figure 9. Distribution of overall frequency measures transformed by log computation.

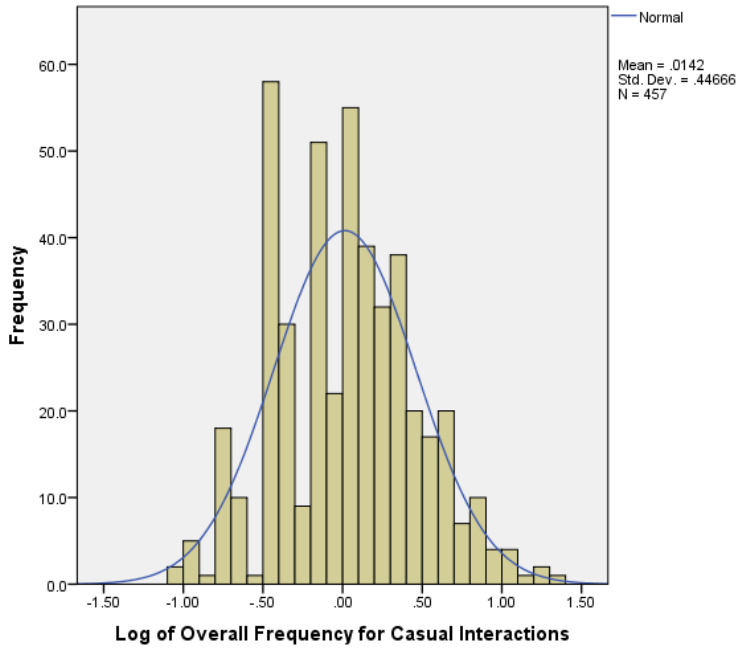

Figure 10. Distribution of transformed casual interactions frequency measures.

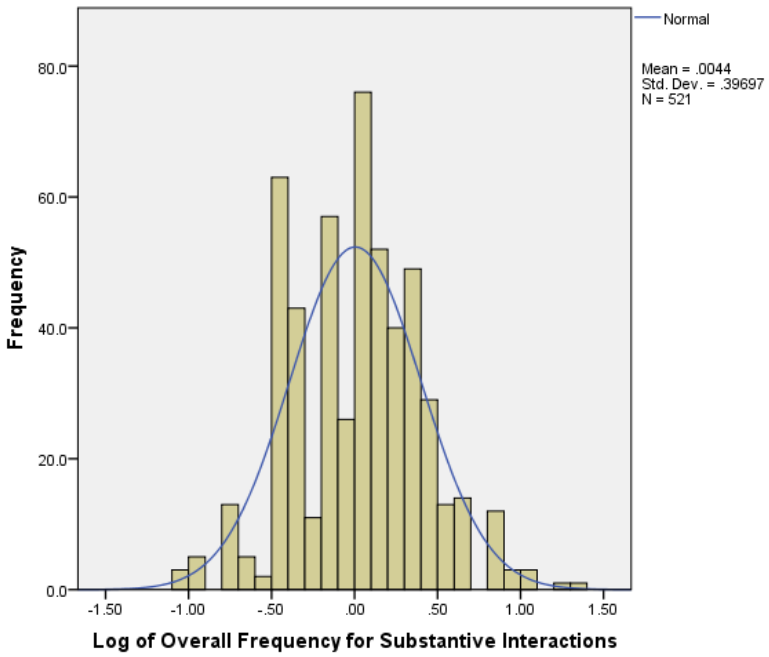

Figure 11. Distribution of transformed substantive interactions frequency measures.

Duration. Duration was measured for each class students were taking using one item per class. The item asked students to estimate in minutes the average duration of interactions. Similarly, a mean duration was computed for each respondent in the sample considering all the classes taken. This mean also accounted for cases where less than five classes were taken. To answer research question two, an overall sample mean duration was then computed as 11.72 minutes for which the range was 0 to 180 minutes and standard deviation 15.84. The low mean computed for such a wide range in duration of interaction indicated that only a few students experienced these long interactions as depicted in Figure 12. As many as 127 students reported experiencing interactions that were only one minute long. The median duration value was 5.00 minutes. Given that the duration data were also skewed, a log transformation for this variable was also performed and the results are illustrated in Figure 13.

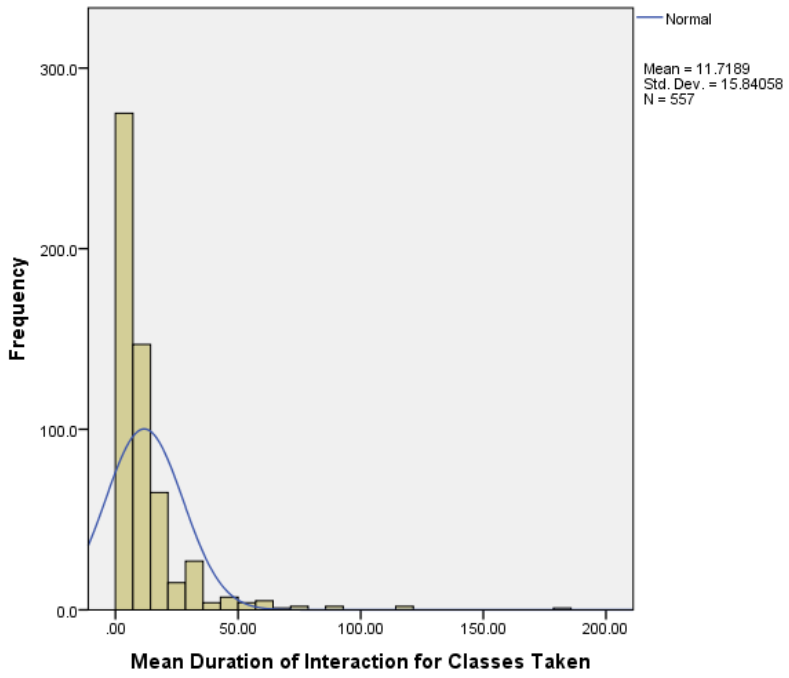

Figure 12. Distribution of mean interaction duration for all classes.

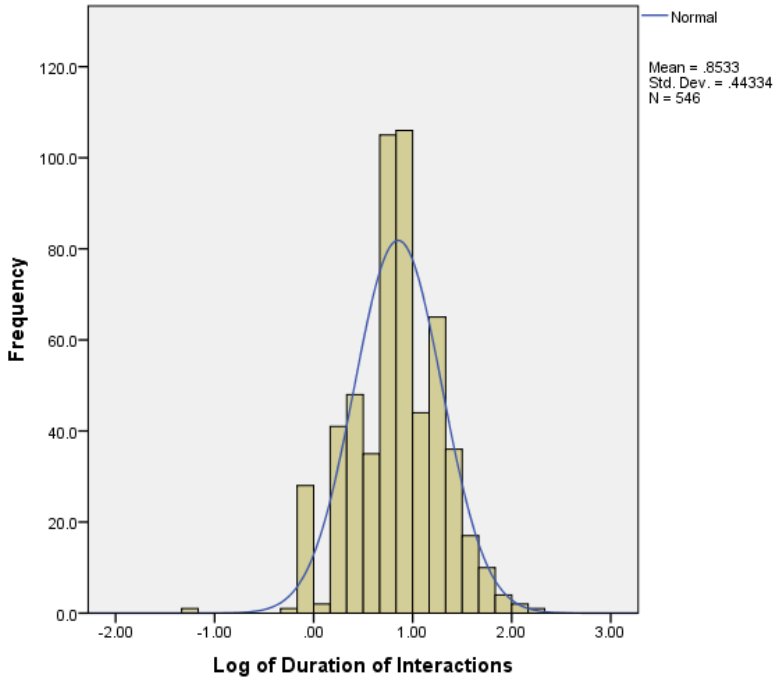

Figure 13. Distribution of transformed mean interaction duration for all classes.

Comparison of Overall Frequency by Student Level Variables

As stated earlier, the base ten logarithm of the data was computed to normalize the distribution of values. As shown in Figures 9, 10, and 11, the log frequencies appeared to be normally distributed. The results of the Shapiro-Wilk's tests for significance indicated that the transformed data were not significantly different from normal for the overall frequency and for the frequency of casual interactions. Although the substantive frequency and duration remained non-normal, these variables were used in analyses as subsequent tests performed in conjunction with the comparative analysis of the data using *t*-tests and ANOVA indicated that the non-normality was not problematic. Note also that, while the log frequency values were used in all analyses, the mantissa means are presented for ease of interpretation.

Gender. Comparing the raw frequency by student gender using an independent samples *t*-test, no significant differences were observed between the mean frequency with which male students (M = 2.56, SE = 0.24) and female students (M = 3.01, SE = 0.21) interact with a professor, t (611) = -0.94, p = 0.349. The effect size was computed as r = 0.04 indicating that not only is the effect of gender on interaction frequency not statistically significant but also that it is practically minuscule.

Ethnicity. Exploring the data by ethnicity, another independent samples *t*-test revealed that the small difference observed in the frequency with which White students (M = 2.97, SE = 0.19) interact with professors compared with non-White students (M = 2.88, SE = 0.35) was not significant t (615) = 0.92, p = 0.358 with an effect size of r = 0.04.

Classification level. Assessing differences in frequency by student classification did reveal statistically significant differences F (4, 648) = 31.13, $p < 0.001$, $\omega = 0.57$. Using the Bonferroni *post hoc* analysis, differences were significant for the particular student groups as shown in Table 7. Note that graduate students had significantly more interactions when compared with all other students. Mean frequencies for each group of students are presented in Table B2 in Appendix B.

Table 7

Results of the Bonferroni Post Hoc Contrasts Identifying Differences between Groups

Classification level pair	Mean difference	*p*
Freshman - Junior	-0.84	0.047
Freshman - Senior	-1.78	<0.001
Freshman - Graduate	-3.55	<0.001
Sophomore - Senior	-1.79	0.001
Sophomore - Graduate	-3.56	<0.001
Junior - Graduate	-2.71	<0.001
Senior-Graduate	-1.77	<0.001

GPA. Examining the sample by high school and first-year GPA, the vast majority of students reported earning As ($N_{\text{high school}} = 449$; $N_{\text{first-year}} = 392$) and Bs ($N_{\text{high school}} = 266$; $N_{\text{first-year}} = 278$). On the other hand, only a small group of students reported earning

Cs ($N_{\text{high school}}$ = 60; $N_{\text{first-year}}$ = 96) and Ds or lower ($N_{\text{high school}}$ = 5; $N_{\text{first-year}}$ = 17). Given the small sizes of these latter two groups, they were combined for the comparative analyses. For high school GPA, no significant differences were observed between groups, F (2, 648) = 0.73, p = 0.483, ω = 0.45. For first year GPA, however, the one-way ANOVA analyses indicated that significant differences existed between groups, F (2, 649) = 18.87, $p < 0.001$, ω = 0.50). Using Bonferroni *post hoc* analyses, differences were observed between each of the groups, in that, students who reported a first-year GPA of an A interacted significantly more frequently (M = 3.48, SE = 0.28) than students reporting a GPA of B (M = 2.70, SE = 0.24) or C or lower (M = 1.77, SE = 0.26) with $p <$ 0.001 for both relationships. Similarly, students who reported a B interacted significantly more frequently than students who reported a C or lower, p = 0.027. These differences were not only significant but the size of the effect of GPA, indicated by ω on interaction frequency was large.

Comparison of Overall Frequency by Different Types of Interactions

Comparing substantive and casual interactions for the overall sample using a paired sample *t*-test of the log frequency values, no statistically significant differences were observed by type of interaction, t (432) = -0.47, p = 0.636 with an effect size of r = 0.02. This analysis answers the second research question posed. Further exploration of the differences by student level factors were performed to identify possible differences as have been done in other studies.

Comparison of Different Types of Interactions by Student Level Factors

Gender. Comparison of the frequency of different types of interactions by student gender also did not reveal any significant differences. Male students had more frequent

casual interactions (M = 1.41, SE = 0.17) than substantive interactions (M = 1.23, SE = 0.13). The paired samples t-test indicated these differences were not significant, t (99) = 0.13, p = 0.900, with a minimal effect size of r = 0.02. For female students, substantive interactions (M = 1.51, SE = 0.10) were more frequent than casual interactions (M = 1.47, SE = 0.12). This difference was also not statistically significant, t (325) = -0.82, p = 0.412 with an effect size of r = 0.02.

Ethnicity. For non-White students, casual interactions ($M_{\text{Non-WHITE}}$ = 1.62, SE = 0.22) were more frequent than substantive interactions ($M_{\text{Non-WHITE}}$ = 1.49, SE = 0.17). Again, these differences were not significant, $t_{\text{Non-WHITE}}$ (84) = -0.47, p = 0.641 with effect size r = 0.05. For White students, the frequency means for casual and substantive interactions were equal.

Classification level. Similarly, no significant differences were observed in respective frequency of interaction type by classification level. The difference in frequency of casual interactions compared with substantive interactions was not statistically significant across groups of students, F (4, 427) = 0.59, p = 0.669, ω = 0.36. Expressed in a different way, although freshman students had more casual interactions than substantive ones, these differences were not significant when compared with those observed in sophomore students who had more substantive interactions than casual. The same can be said for all pairs of student groups. Interestingly, seniors also had more casual interactions than substantive, whereas juniors and graduate students both had more substantive interactions than casual. These means are presented in Tables B3 and B4 in Appendix B.

GPA. Differences in frequency by type for first-year and high school GPA were also not significant, F_{FY} (2, 428) = 0.11, p_{FY} = 0.899, ω_{FY} = 0.36 and F_{HS} (2, 429) = 0.04, p_{HS} = 0.964, ω_{HS} = 0.19. Interestingly, examining the differences by high school GPA, all groups reported more frequent substantive interactions than casual. By first-year GPA, only students who reported an A also reported more frequent substantive interactions. Frequency values can be found in the extended results presented in Appendix B.

Comparison of Duration by Student Level Variables

Gender. Male students reported longer interactions (M = 12.31, SE = 1.767) than female students (M = 11.67, SE = 0.70); however, these differences were not statistically significant, t (536) = -0.09, p = 0.925, r < 0.01. Duration was measured in minutes.

Ethnicity. Non-white students reported longer interactions (M = 13.04, SE = 1.46) than White students (M = 11.45, SE = 0.76); however, these differences were also not statistically significant, t (540) = -1.12, p = 0.264, r = 0.05.

Classification Level. Differences in duration of interactions by student level were also subtle and nonsignificant, F (4, 540) = 1.93, p = 0.104, ω = 0.45. Graduate students reported having the longest interactions (M = 16.10, SE = 2.54) and senior students reported having the shortest interactions (M = 10.64, SE = 1.03). Other duration means are presented in Table B11 of Appendix B.

GPA. Similarly, differences in duration by GPA were not significant, neither for first-year students, F_{FY} (2, 541) = 1.61, p_{FY} = 0.201, ω_{FY} = 0.45, nor for high school, F_{HS} (2, 540) = 2.36, p_{HS}= 0.095, ω_{HS} = 0.45. As can be expected, based on the literature and the trends observed in the current study, students who recorded an A for their first-year GPA reported the longest interactions. The same was also true for those students who

reported an A for their high school GPA. These duration means are presented in Table B2 of Appendix B.

Testing the Interactions Type Scale

A confirmatory factor analysis was performed for the interactions type scale depicted below in Figure 14.

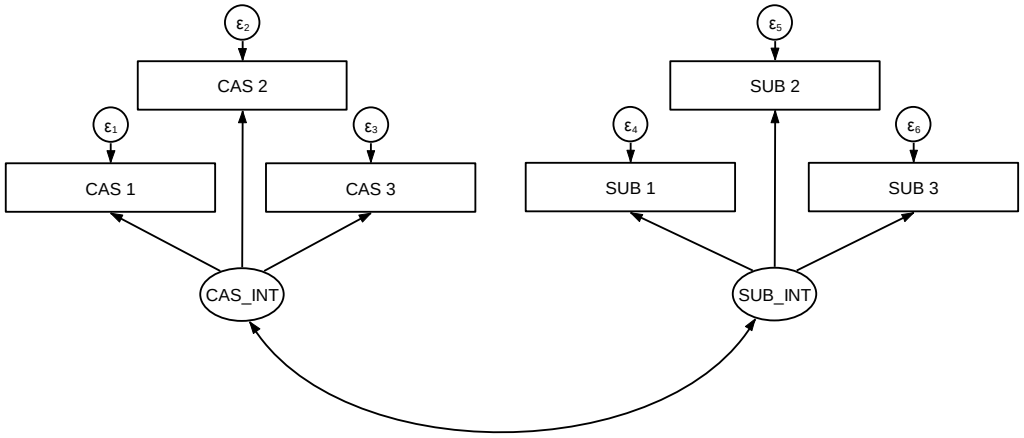

Figure 14. Interaction type scale modeled for confirmatory factor analysis.

CAS 1: exchanged brief greetings	SUB 1: discussed intellectual/academic matters
CAS 2: had casual conversations	SUB 2: discussed matters related to future careers
CAS 3: discussed non-academic topic of mutual interest	SUB 3: discussed personal non-academic matters

The output was first checked to verify that all relationships were statistically significant, and the variances were not negative. Once these checks were performed, the goodness of fit was computed. The initial results of factor analysis indicated a very good fit based on the CFI and TLI of 0.97 and 0.95, respectively, but a poor fit based on the RMSEA of 0.21. The χ^2 value was 191.84. Recall that, as stated in Chapter Three, a CFI and a TLI greater than 0.95 indicate a very good fit and an RMSEA less than 0.08 indicates an

acceptable fit. The modification indices computed indicated 13 variable relationship changes that would improve the model. The suggested modification corresponding to the greatest potential model improvement was evaluated first. This modification offered an expected parameter change of 124.37 and involved introducing a covariance relationship between the corresponding errors of the CAS 2 and SUB 3 items. As shown in Figure 14, CAS 2 reads had casual conversations and SUB 3 reads discussed personal non-academic matters. These two could potentially be interpreted similarly by students since personal matters would be discussed with professors in more casual conversations as opposed to formal dialog. This change was accepted and introduced into the model. Assessing the goodness of fit with this change revealed an RMSEA of 0.14 and a CFI and TLI of 0.99 and 0.97, respectively.

Computing modification indices again indicated nine potential changes for improvement. The highest change corresponded to introducing a covariance between CAS 3 and SUB 3. Both items denote discussions of non-academic topics; the difference between the two is that CAS 3 involved more frivolous or inconsequential topics while SUB 3 involved discussions of a more personal nature. Given that both discussions center on non-academic topics, the distinction between the two is neither as clear nor as rigid as other items. A relationship between these two items makes theoretical sense, so it was introduced, and the model was tested again. The RMSEA improved to 0.11 and the CFI and TLI to 0.99 and 0.98, respectively. The χ^2 value was 85.99. Assessing the modification indices once more for further improvement returned seven suggested changes. These were evaluated in turn for theoretical soundness starting with the change

offering the greatest potential improvement. The evaluation process used is summarized in Table 8.

Table 8

Suggested Modifications for Improving the Fit of the Interactions Type Scale

Wording for Item Pairs		χ^2	Decision
CAS 1 - exchanged brief greetings	CAS 3 - discussed a non-academic topic	21.72	Reject suggestion since no apparent relationship between the two items
CAS 2 - had casual conversations	SUB 1 - discussed intellectual/academic matters	18.65	Same as above
CAS 1 - exchanged brief greetings	SUB 1 - discussed intellectual/academic matters	14.11	Same as above
SUB 2 - discussed career related matters	SUB 3 - personal (non-academic) matters	10.86	Accept suggestion since career related matters could be viewed by respondents as something personal and so there could be some conceptual overlap between the two

Based on the evaluation, a covariance relationship was added to the errors of SUB 2 and SUB 3. Running the analyses again, this change yielded a CFI and TLI of 1.00 each and an RMSEA of 0.11. The χ^2 value was 46.92. With the desire to maintain a parsimonious model as well as the good fit obtained based on the CFI and TLI, the final scale was modeled as shown in Figure 11. All accepted changes made involved the introduction of three relationships between the covariance of three item pairs on the scale. The final scale had a Cronbach's alpha of 0.80 on both subscales.

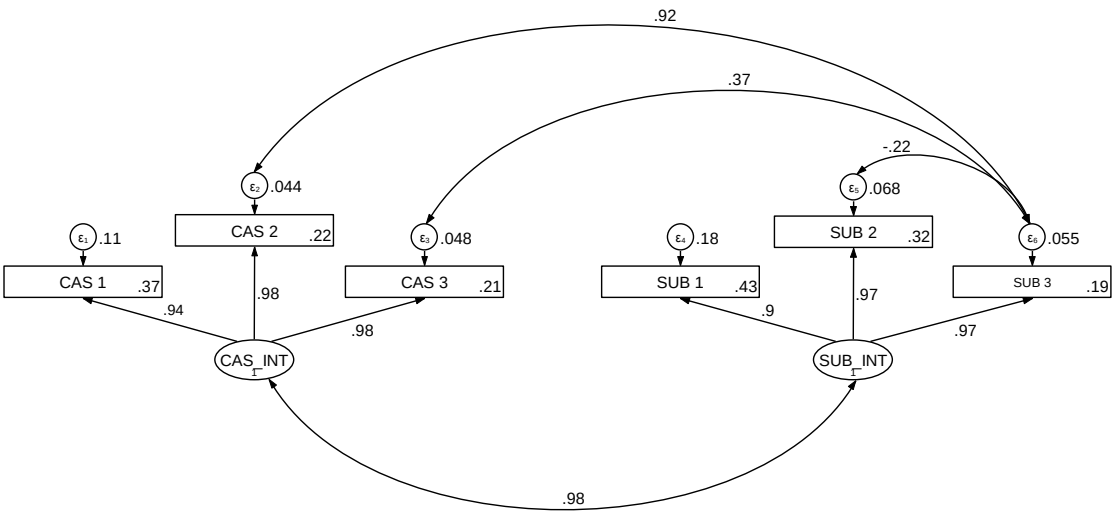

Figure 15. Interaction type scale determined based on confirmatory factor analysis.

Testing the Perceived Faculty Incivility Scale

To test the incivility scale shown below in Figure 16, a confirmatory factor analysis was performed. A subset of the sample consisting of the 137 respondents who indicated they had negative experiences with professors was used in this analysis. The initial results revealed an inadequate fit with an RMSEA of 0.13 and a CFI and TLI of 0.76 and 0.73, respectively. The χ^2 value was 598.33. Computing modification indices suggested introducing a covariance between the errors of Items 15 and 16 (ACT 7 and 8) on the scale. These items read, *Professor expresses anger in response to students showing misunderstanding during a class* and *Professor is angry at you as a response to your misunderstanding of the learning material*. The apparent similarity between these two items prompted acceptance of the suggested change. Reassessing the fit of the scale returned an RMSEA of 0.12 and a CFI and TLI of 0.79 and 0.77, respectively. The χ^2 value was 543.35.

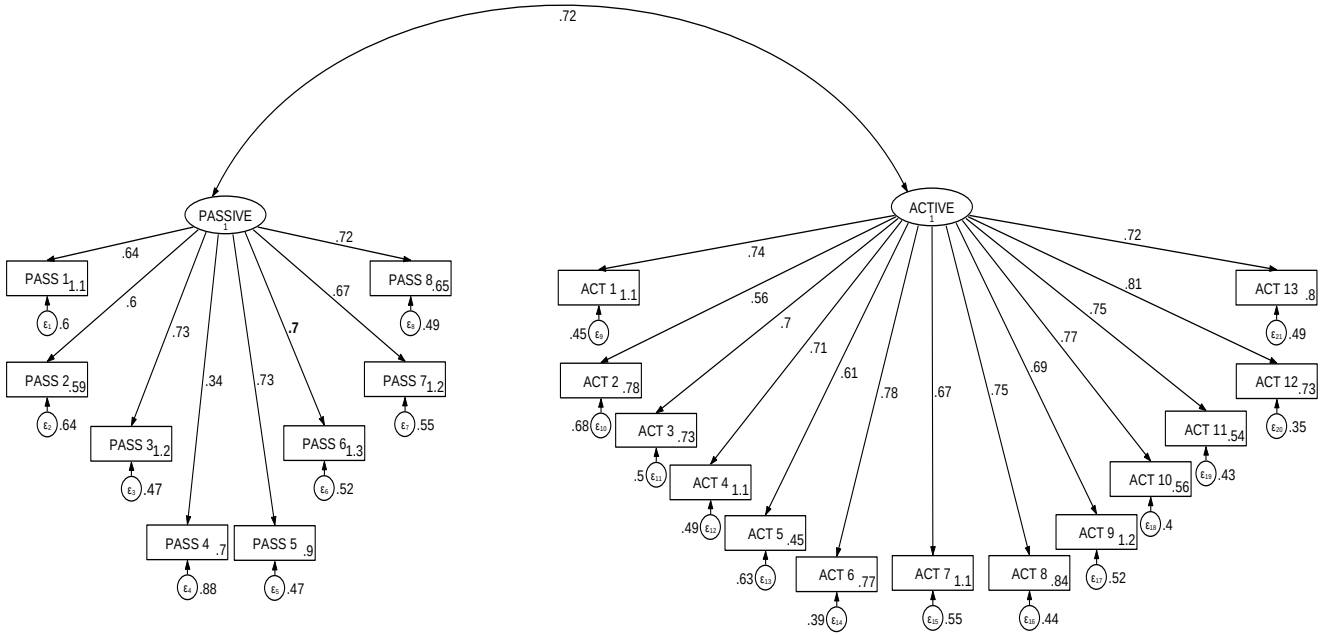

Figure 16. Perceived Faculty Incivility Scale (PFIS) tested.

PASS 1: Ignores your personal hardships
PASS 2: Uses personal cell phone during class/lecture
PASS 3: Ignores students' requests during class/lecture
PASS 4: Regularly dismisses class long before the scheduled end time
PASS 5: Is not available to you during office hours
PASS 6: Ignores your academic difficulties
PASS 7: Ignores students' questions during class/lecture
PASS 8: Arrives unprepared to his/her class/lecture

ACT 1: Gives you a negative personal feedback in an offensive manner
ACT 2: Discriminates against students during a class/ lecture
ACT 3: Addresses you derogatively
ACT 4: Makes demeaning remarks towards students who express difficulties understanding the learning material, during lectures
ACT 5: Uses offensive personal comments concerning your appearance
ACT 6: Makes offensive insinuations towards students during class

ACT 7: Expresses anger in response to students showing misunderstanding(s) during a class/lecture
ACT 8: Is angry at you as a response to your misunderstanding of the learning material
ACT9:
ACT 10: Addresses you with offensive personal comments
ACT 11: Yells at you as a response to misunderstanding
ACT 12: Mocks you as a response to m misunderstanding of the learning material
Act 13: Talks to students derogatively in class

Computing modification indices once more returned several options for improvement and these were evaluated individually, as shown below in Table 9. Based on this evaluation of the suggested modification, a covariance was introduced between the errors of Items 8 and 17. Analyzing the fit indices for this iteration of the model returned an inadequate fit with an RMSEA of 0.12, CFI of 0.80 and TLI of 0.77. No further modifications could be feasibly made in a way that maintained parsimony while providing good fit. As such, the decision was made to perform an exploratory factor analysis to verify the factor structure of the scale.

Table 9

Suggested Modifications for Improving the Fit of the PFIS

Item Numbers & Wording	χ^2	Decision
Pair 1 : Items 3 and 7 Item 3 - ignores students' requests during class Item 7 - ignores students' questions during class	35.05	Reject suggestion since there is no apparent relationship between the two items
Pair 2: Items 2 and 10 Item 2 - uses his/her personal cellular phone during lectures (e.g., answers phone calls/messages, reads or sends text messages) Item 10 - arrives unprepared to his/her lectures	30.30	Same as above
Pair 3: Items 7 and 17 Item 7 - ignores students' questions during class Item 17- answers students rudely during class	22.76	Same as above

(continued)

Item Numbers & Wording	χ^2	Decision
Pair 4: Items 4 and 13 Item 4 - regularly dismisses class long before the scheduled end time Item 13 - uses offensive personal comments concerning your appearance	19.32	Same as above
Pair 5: Items 2 and 7 Item 2 - uses his/her personal cellular phone during lectures (e.g., answers phone calls/messages, reads or sends text messages) Item 7 - ignores students' questions during class	17.16	Same as above
Pair 6: Items 5 and 6 Item 5 - is not available to you during office hours Item 6 - ignores your personal academic difficulties	16.53	Same as above
Pair 7: Items 8 and 17 Item 8 - gives you a negative personal feedback in an offensive manner Item 17 - answers students rudely during class	15.44	Accept suggestion since career related matters could be viewed by respondents as something personal and so there could be some conceptual overlap between the two

Exploratory Factor Analysis of the Perceived Faculty Incivility Scale

Prior to conducting the exploratory factor analysis, a preliminary evaluation of the data was performed. A total of 137 responses were used from the existing sample for this analysis. A preliminary analysis of the responses was performed prior to conducting the CFA to determine the descriptive statistics of the set of responses for each item. The

mean response for the various items ranged from 0.55 and 1.71. Recall that the response scale for the items was 0 = *almost never,* 1 = *rarely,* 2 = *sometimes,* 3 = *often, and* 4 = *almost always.* Low means for items are indicative of low frequency occurring offences. Item 6, *ignores academic difficulties*, was the most frequently occurring behavior with Item 8, *offers negative personal feedback in an offensive manner*, being the second most frequent behavior.

Considering the skewness of the items, all were within the acceptable range of ±2 with the exception of two items. Item 13, *uses offensive personal comments concerning your appearance*, had a skew of 2.52 and Item 19, y*ells at you as a response to misunderstanding*, had a skew of 2.21. Since both items had kurtosis values of 6.40 and 4.80, respectively, which were within the acceptable range of plus or minus seven, the analyses were performed including these items.

The exploratory factor analysis was performed using maximum likelihood estimation and promax rotation. Based on the scree plot shown below in Figure 13, a three-factor scale would seem most appropriate.

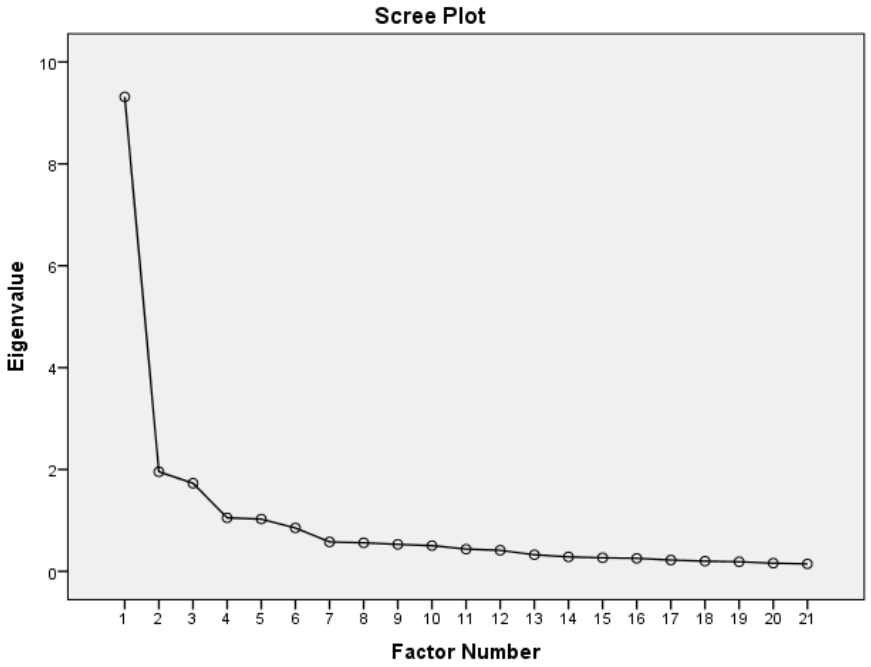

Figure 17. Scree plot of the factor analysis of the PFIS.

Examining the Eigenvalues presented in Table 10 and considering the items conceptually, it was determined that four factors were more suited.

Table 10

Factor Loadings for Items on the PFIS

Item	Factor				
	1	2	3	4	5
1. ignores personal hardships	0.20	0.02	0.07	-0.02	**0.52**
2. uses cell phone	0.05	-0.02	**0.66**	0.16	0.01
3. ignores requests	-0.10	0.08	0.22	**0.55**	0.21
4. early class dismissal	0.04	-0.01	**0.71**	-0.06	-0.15
5. unavailable for office hours	-0.16	0.05	**0.41**	**0.32**	**0.33**

(continued)

Item	Factor				
	1	2	3	4	5
6. ignores academic difficulties	0.05	-0.02	-0.19	0.05	**1.00**
7. ignores students questions	-0.06	0.04	0.16	**0.68**	0.08
8. negative personal feedback	**0.66**	0.03	-0.25	0.30	0.04
9. discriminates against students	**0.76**	-0.20	0.16	-0.09	0.00
10. unprepared for class	0.09	-0.15	**0.65**	**0.35**	0.08
11. addresses derogatively	**0.69**	-0.02	-0.01	-0.12	0.24
12.demeaning remarks	**0.67**	0.04	-0.18	0.12	0.10
13. offensive personal comments about appearance	**0.33**	**0.37**	**0.45**	-0.23	-0.14
14. offensive insinuations	**0.82**	-0.06	0.17	0.09	-0.12
15. expresses anger (toward students) misunderstanding lecture	-0.17	**0.95**	-0.03	0.19	-0.10
16. expresses anger (towards you)-misunderstanding material	-0.03	**0.83**	-0.07	0.06	0.13
17. answers rudely	0.29	0.27	-0.19	**0.63**	-0.17
18. offensive personal comments	**0.73**	0.08	0.12	-0.22	0.15
19. yells	0.20	**0.55**	0.18	-0.04	0.05
20. mocks	**0.45**	**0.33**	-0.02	0.05	0.12
21. talks derogatively during class	**0.72**	-0.10	0.07	0.**30**	-0.17

Note. Factor loadings $\geq \left| 0.30 \right|$ are in boldface. The extraction method used was maximum likelihood. The rotation method used was promax with Kaiser normalization.

A cursory examination of the loadings revealed a factor loading of 1.00 on a fifth factor for Item 6. Since this was not theoretically possible, it indicated that Item 6 was problematic; therefore, it should be eliminated from the scale. On the first factor, eight

items were strongly loaded with loadings ranging from 0.66 to 0.82. Three items were strongly loaded on the second factor with loadings ranging from 0.55 to 0.95. For the third and fourth factors, the numbers of items that loaded were five and three, respectively, with loadings ranging from 0.41 to 0.71 and from 0.55 to 0.68, respectively. Two items loaded on to the fifth factor with loadings of 0.52 and 0.33. The items that loaded on each factor were then examined collectively to determine a descriptor for the factors. The group of items that loaded on the first factor seemed to describe actively uncivil behaviors communicated through speech while the fourth factor seemed to involve passively uncivil speech. Similarly, Factors 2 and 3 seemed to denote actively and passively uncivil actions, respectively.

One of the items that loaded strongly on the fifth factor had loadings well below the cutoff point of 0.30 on all the other factors. Examining this item conceptually, it was difficult to determine on which of the other four factor it would fit best. The item read, i*gnores your personal hardships (such as: illness or personal problems within the family)*. Without elaboration on how the ignoring was done, it was difficult to determine on which factors this item fit best.

Another ambiguity involved Item 13, *uses offensive personal comments concerning your appearance*, which had a strong loading of 0.45 on the third factor—passively uncivil actions—but seemed to fit better with factor one—actively uncivil speech—for which the loading was 0.33. A similar discrepancy was observed for Item 20 which states, *mocks you as a response to misunderstanding of the learning material*. This item loaded strongly on Factor 1 with a loading of 0.45, but would have been appropriate on Factor 2—actively uncivil actions—for which the loading was 0.33.

To resolve these conflicts, Item 6 was eliminated and a secondary analysis was performed using fixed factor extraction. The results for the extraction of four factors using maximum likelihood estimation are given in Table 11.

Table 11

Factor Loadings for Fixed Factor Extraction of the PFIS

Item	Factor			
	1	2	3	4
1. ignores personal hardships	0.17	0.18	0.27	0.14
2. uses cell phone	0.05	-0.02	**0.67**	0.15
3. ignores requests	-0.07	0.08	0.26	**0.67**
4. early class dismissal	0.05	-0.10	**0.64**	-0.06
5. unavailable for office hours	-0.17	0.15	**0.52**	**0.41**
7. ignores students questions	-0.02	-0.01	0.15	**0.76**
10. unprepared for class	0.10	-0.15	**0.67**	**0.37**
8. negative personal feedback	**0.68**	0.06	-0.25	0.27
9. discriminates against students	**0.76**	-0.21	0.17	-0.10
11. addresses derogatively	**0.66**	0.07	0.09	-0.06
12. demeaning remarks	**0.71**	0.05	-0.16	0.12
13. offensive personal comments about appearance	**0.31**	**0.32**	**0.38**	-0.24
14. offensive insinuations	**0.83**	-0.08	0.13	0.00
15. expresses anger-misunderstanding lecture	-0.13	**0.91**	-0.12	0.12
16. expresses anger-misunderstanding material	-0.06	**0.93**	-0.06	0.06

(continued)

17. answers rudely	**0.34**	0.24	-0.28	**0.51**
18. offensive personal comments	**0.70**	0.16	0.19	-0.20
19. yells	0.18	**0.59**	0.19	-0.06
20. mocks	**0.42**	**0.43**	0.02	0.02
21. talks derogatively during class	**0.74**	-0.14	0.01	0.21

Note. Factor loadings $\geq \left| 0.30 \right|$ are in boldface. The extraction method used was maximum likelihood. The rotation method used was promax with Kaiser normalization.

With the exception of the first item, all items loaded strongly on the factors with loadings ranging from 0.31 to 0.93 explaining a total of 67.71% of the variance observed. Once more, there were several cross-loadings. Items 5 and 10 loaded unto both Factors 3 and 4. For both items, the stronger loading was for Factor 3 and based on theory these items fit best with that factor. Item 13 loaded unto the first three factors with loadings of 0.31, 0.32, and 0.38, respectively. Although the loading corresponding to the first factor was the lowest of the set, the item fit best with the first factor based on theory. Item 17 was cross-loaded onto Factors 1 and 4 with loadings of 0.34 and 0.51. Based on theory, it was placed with Factor 4. Finally, Item 20 loaded unto Factors 1 and 2 with loadings of 0.42 and 0.43 and was assigned to Factor 2 on a theoretical basis. The final factor structure determined from the exploratory factor analysis is summarized in Table 12.

Table 12

Distribution of Items from the PFIS across the Four Factors Determined from the EFA

Factor 1 – Actively Uncivil Speech	**Factor 2 – Actively Uncivil Actions**
8. gives you a negative personal feedback in an offensive manner	15. expresses anger in response to students showing misunderstanding(s) during a class (lecture
9. discriminates students during lectures	16. is angry at you as a response to your misunderstanding of the learning material
11.addresses you derogatively	19. yells at you as a response to misunderstanding
12. makes demeaning remarks towards students who express difficulties understanding the learning material, during lectures	20. mocks you as a response to m misunderstanding of the learning material
13. uses offensive personal comments concerning your appearance	
14. makes offensive insinuations towards students during class	
18. addresses you with offensive personal comments	
21. talks to students derogatively during class	
Factor 3 – Passively Uncivil Actions	**Factor 4 – Passively Uncivil Speech**
2. uses his/her personal cellular phone during lectures (e.g., answers phone calls/messages, reads or sends text messages)	3. ignores students' applications during lectures
4. regularly dismisses class long before the scheduled end time	7. ignores students' questions during lectures
5. is not available to you during office hours	17. answers students rudely during class
10. arrives unprepared to his/her lectures	

This factor structure differed from that proposed by the instrument's developers in Alt and Itzkovich (2015) in that for that initial scale, Items 1 to 7 and 10 were loaded on a passive incivility factor while Items 8, 9, and 11 to 21 all loaded on an active incivility factor. Based on the results of the exploratory factor analysis, a four-factor model better suited the scale. Recall also that, as described in Chapter Three, the authors initially tested a four-factor model, albeit four factors that are distinct from the ones proposed here. The four factors specified denoted a distinction between passive and active behaviors that were either directed towards an individual student or towards the class as a whole. These four factors did not hold up to analysis. It may be that a change in the description of the factors was needed.

Using the same dataset, a confirmatory factor analysis (CFA) was performed. Ideally a CFA should be performed with a different sample; however, due to the small size of the dataset, it was not possible to adhere to these strict recommendations.
The CFA was performed first with each subscale to evaluate the fit of each section before determining the fit of the entire scale taken together. The active subscale was assessed first. The first round of analysis indicated a poor fit with an RMSEA of 0.11 and a CFI and TLI of 0.90 and 0.88, respectively. The χ^2 value was 166.09. The modification indices recommended correlating the errors of Items 15 and 16. Based on the wording (see Table 9), the correlation of the errors on these two items made theoretical sense as they both involve expressions of anger in the event of a failure to understand what is presented. Introducing this covariance of the errors resulted in a good fit based on the CFI of 0.93; however, the RMSEA of 0.09 and TLI of 0.92 remained in the poor fit range. The χ^2 value was 130.68. The modification indices suggested introducing another

covariance relationship between the errors of Items 1 and 5. Since this could not be supported by theory, the next highest modification of introducing a relationship between the errors of Items 13 and 18 was considered. This change was accepted since both items describe expressing anger towards students and could be related conceptually. Although the RMSEA remained high at 0.09, the fit of the model was good based on the CFI of 0.94 and TLI of 0.92, and the χ^2 value was 112.72. Other suggested changes could not be accepted on a theoretical basis. The Cronbach's alpha reliability for the actively uncivil speech subscale was 0.89 while the reliability for the actively uncivil actions subscale was 0.86.

Evaluating the passive subscale, a close to moderate fit was obtained with an RMSEA of 0.12 and a CFI and TLI of 0.93 and 0.89, respectively. The TLI was just outside the range of good fit while the RMSEA was poor. The modification indices suggested introducing correlations between the errors of the following pairs of items: 2 and 7, 5 and 10, 4 and 17, and 2 and 3. None of these suggestions were accepted, as they could not be supported by theory. Given the poor fit of the passive subscale, as determined by the CFA, this scale was excluded from the structural equation modeling.

Structural Equation Modeling

To conduct the structural equation modeling, further reorganizing of the dataset was performed. Using Microsoft Excel to visually assess the data, each class for which the PFIS was completed was identified. Recall that for each class, students were asked if they observed negative behaviors on the part of a professor. Where the answer was *no*, the interaction questions for the next class were generated by Qualtrics. Where the response was *yes*, respondents were then taken to the PFIS. After completing the PFIS,

the survey was terminated. To identify the class to which the responses on the PFIS corresponded, the data were filtered by the observed negative behavior question. Once these classes had been identified, the responses on the frequency of interactions by type were recoded into a new variable designated incivility class frequency of interaction type. These incivility variables were used in assessing relationships between incivility and interactions.

The relationships were modeled as shown in Figure 14. The model was constructed gradually beginning with just the principal variables. Provided a good fit was obtained with just the independent and dependent variables covariates would then be added. As stated in the previous section, only the active sub-scale was modeled since a good fit could not be obtained for the passive sub-scale.

Analyzing the model, the variable relationships appeared to fit well together as proposed since the model had an RMSEA of 0.08, a CFI of 0.93, and a TLI of 0.92. Examining the statistical significance revealed that the relationships were not significant. The actively uncivil speech items predicted casual interactions with a significance of p = 0.417 while the actively uncivil action items predicted casual interactions with a significance of p = 0.310. For substantive interactions, the significance was p = 0.371 and p = 0. 278, respectively.

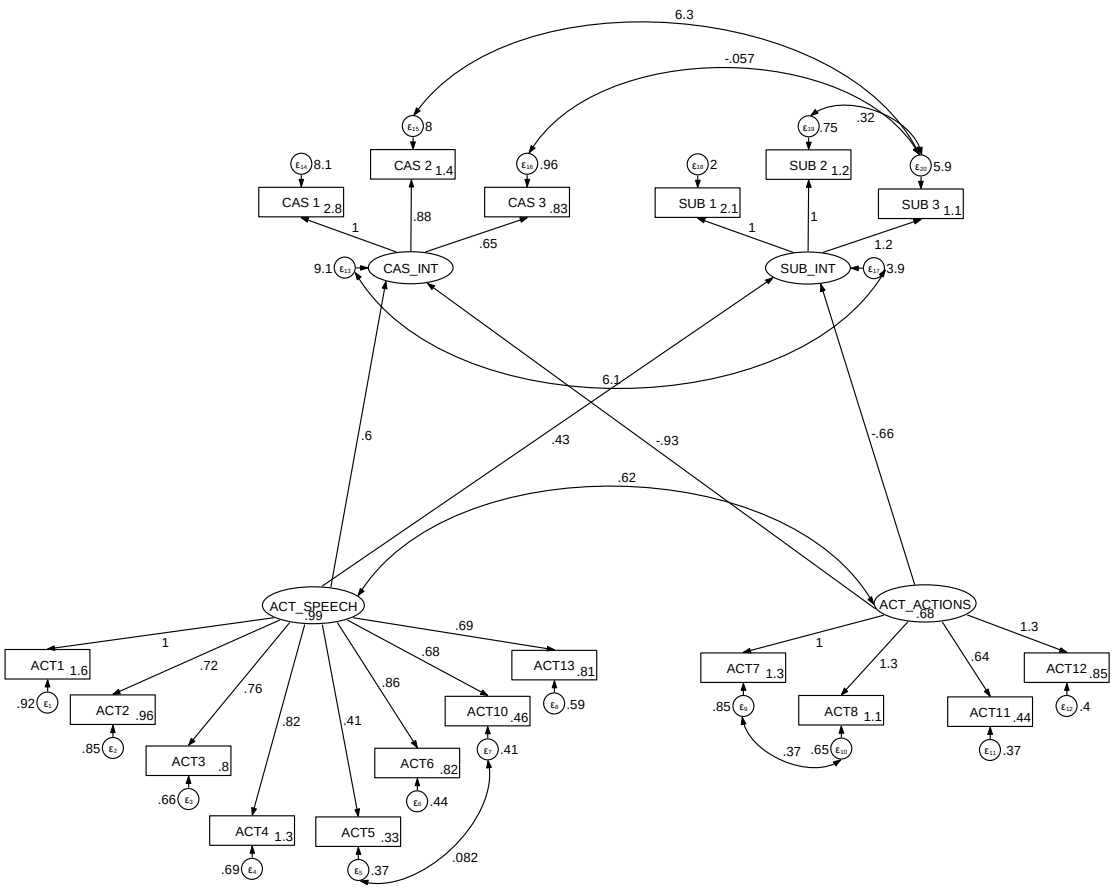

Figure 18. Partial model developed to assess the relationship between incivility and out-of-class interactions.

Summary of Results

On average, students interacted 2.94 times with professors. When analyzed by type, students interacted with professors 1.48 times casually and 1.46 times in substantive interactions. There was no statistically significant difference in frequency between casual and substantive interactions. In terms of duration, interactions typically lasted about 12 minutes. Following testing and adjustment of the scales used in the model, relationships between incivility and interactions were not significant. Perceived faculty incivility towards students did not predict students' interactions with professors.

Summary of Chapter

Chapter Four provided details on the processes used to clean and later analyze the data collected. Cleaning involved renaming and recoding variables as well as restructuring the dataset. The data analysis conducted included the computation of descriptive statistics for the parameters frequency and duration of interactions. A confirmatory factor analysis performed on the interactions scale indicated minor modifications to that scale to improve the way in which it measured type of interactions. For the incivility scale, an exploratory factor analysis followed by a confirmatory factor analysis indicated a complete restructuring of the scale to a four-factor model instead of a two-factor model as published in the literature. Minor changes to items were also made to obtain a moderate fit. Analyzing the model with these changes made to the scale, the relationships between the independent and dependent variables predicted based on the review of the literature were not statistically significant. The implications of these results are discussed in the next chapter. Future research directions are also suggested based on these results.

CHAPTER V: DISCUSSION OF RESULTS

Summary of the Study

The present study explored relationships between two larger streams of research—faculty-student interactions and destructive leadership embodied in faculty incivility towards students. The theoretical basis for the study was the premise that faculty incivility displayed in class, as perceived by students, could predict the frequency and type of interactions in which students engage with professors outside of the classroom. To test this conjecture, a sample of 785 students at WKU were surveyed of which 137 students indicated they had perceived incivility on the part of faculty during class. Overall, the students interacted with professors in an out-of-class setting infrequently and for short periods of time. Students also reported engaging in casual and substantive interactions with similar frequency. Among those students who indicated they had witnessed or experienced incivility on the part of a professor, the incivility behavior observed was not a significant predictor of the type of interaction in which students engaged with professors.

Interpretation of Results

Frequency and Duration of Interactions

Based on the results, faculty-student out-of-class interactions on the WKU campus occur infrequently (an average of 2.95 times in the semester). This observation is concerning given the potential positive impact of interaction with professors on students' cognitive and emotional development (Campbell & Campbell, 1997; Endo & Harpel, 1982; Komarraju et al., 2010). While WKU offers a few programs aimed at promoting

student engagement on campus, such as the Intercultural Student Engagement Center and the Faculty-Undergraduate Student Engagement grant, it remains unclear how these programs function, the size of the audience they reach, and whether or not they are evaluated in any way to determine goal attainment. It is also unclear whether promoting interactions between faculty and students is even one of the explicitly stated goals of these programs. Isolated programs such as these typically have small effects on increasing student interactions (Cox & Orehovec, 2007). Supporting institutional structures such as policies as well as campus climate and cultures would need to be established to enhance the success of these programs.

Despite the low frequency of interactions, the observation that differences between casual and substantive interactions were not statistically significant is an important one. Endo and Harpel (1982) noted that informal interactions covering a broad range of topics as opposed to interactions that were limited in scope to students' academic and professional development had a greater impact on students and recommended that faculty engage in a wider range of interactions with students. The current study demonstrated that on the WKU campus, students perceived their interactions with professors as being of this broader nature, encompassing a wider range of topics and discussion points. This could be a possible indication that interactions between faculty and students are more relaxed and informal. If this is indeed the case, these interactions stand to enhance student development. It would be interesting to explore the impact of this on student development on campus. Alternatively, it could possibly be the nature of interactions at WKU, in that, casual and substantive interactions are equally valued on campus.

Considering frequency in terms of student level variables, females interacted more frequently than males. Interestingly, male students had more frequent casual interactions than substantive ones, whereas for females, the reverse was true—substantive interactions occurred more frequently. These differences could possibly be a reflection of GPA rather than gender, since female students had higher GPAs than male students and interaction frequency has been shown to increase with GPA. Note, however, that these differences were not statistically significant and the effect sizes computed were minute, so they should be interpreted as more an indication of how similarly male and female students interact with professors.

By ethnicity, White students had slightly more interactions than non-White students. Given that these differences were not statistically significant coupled with the low effect size observed, they indicate that students of various ethnicities interact similarly with professors.

Other analyses indicated that students who were more advanced in their program interacted significantly more frequently with professors and that students who performed better, as measured by high school and first-year GPA, also reported significantly more frequent interactions. These results are not surprising as graduate students and upperclassmen typically interact with professors more frequently than underclassmen (Cusanovich & Gilliland, 1991; Fuentes et al., 2014; Kuh & Hu, 2001). Student GPA has also been shown to be related to interaction frequency.

Breaking this down by type of interaction, however, differences in frequency of casual and substantive interaction by student GPA were not significant. Students at WKU seem to have similar casual and substantive encounters.

While duration of interactions varied greatly, there were no significant differences in duration by student gender, ethnicity, classification level, and GPA. These results are expected given that there were no significant differences in type of interaction. Casual interactions involving the exchange of brief greetings, for example, would be much shorter in duration. Also, since casual and substantive interactions occurred at similar rates, it is not surprising that lengthy interactions lasting 180 minutes were reported. Given that these lengthy interactions were occurring with a band professor or a professor overseeing an internship, then lengthy meetings are not surprising.

Incivility

Of the 785 students who responded to the survey, 137 students reported experiencing incivility, representing 17.5% of the sample. Other studies have reported much higher incidence rates of 88% across students in a nursing program from two institutions measured by Marchiondo et al. (2010) and 76% across various disciplines at a single institution in Caza and Cortina's (2007) study. While the conditions of these two studies are different from that of the current study, they nevertheless form some basis for comparison. Marchiondo et al. focused on nursing students who were in the final year of their program and asked students about encounters experienced during the entire program indicating a time period of at least three years. Caza and Cortina, also had a longer time period asking students to respond based on their experiences during the previous year. While a longer time period would certainly increase the possibility of capturing additional negative experiences, the 17.5% reported by the current sample could still be considered low as it is much less than a half or a third of the other reported figures. This observation raises the following measurement question: Are students shying away from

reporting negative behaviors, or is the campus climate at WKU particularly civil? Another query concerning measurement raised here is that of sampling. Recall that students self-selected to form part of the sample of the study by opting to complete the survey. With that in mind, were students who have not experienced incivility more willing to participate? Additionally, since sampling occurred towards the end of the semester, students who could have withdrawn from a class within the first few weeks, during which time a student can drop a course without penalty, were not captured.

Given that only the active incivility section of the scale was used in assessing the relationships between incivility and interaction type, results must be interpreted cautiously, and all explanations suggested are mere possibilities that would need to be examined and tested further.

One possible explanation for the observation that perceived incivility was not significantly related to interaction is that students could be desensitized to incivility. Cotten and Wilson (2006) observed that students perceived that the duties associated with a professor's role did not include interactions with students, so it could also be that students have little expectations for professors in terms of displaying civility and accommodating behaviors. The current political climate in which the study was conducted offers some support for this notion of desensitization. Wolf, Strachan, and Shea (2012) observed that the incidence of incivility in politics has increased considerably since 2008. Examining online discourse in particular, Coe, Kenski, and Rains (2014) observed high incidences of incivility in virtual exchanges in the form of comments on news stories. Schaeffer (2013) has also asserted that a desensitization to violence developed through media could be related to the prevalence of incivility in

academia. Reflecting on more recent occurrences within the last two years, elected officials have regularly made formal statements that have elicited intense yet divided responses. While one portion of the population has remained flabbergasted and enraged by the perceived crassness exhibited in statements, segments of the population have expressed staunch defense for the authenticity of these expressions. Although this remains to be analyzed, the current period could potentially stand to represent a further shift of incivility in politics that has pervaded the wider society.

Another possible explanation is that, unlike the workplace, a course represents a finite time period in which the student would have to deal with the incivility. At the end of the semester, the student no longer has reason to interact with the professor. Knowing that the relationship is only temporary might make it easier to cope with the incivility. For upperclassmen who would be advanced in their majors and would possibly encounter the same professor in multiple courses, the time to degree completion and subsequent graduation is also finite. Furthermore, these students could be so committed to achieving their prescribed goal that they are willing to accept the incivility and not let it hinder their progress in any way. Harvey et al. (2007) also demonstrated that ingratiation aids in moderating the negative impact of destructive leadership on followers. Students could therefore avoid the negative impact of incivility by employing ingratiating behaviors. Recall also that the scale captures both witnessing and experiencing incivility. Perhaps those students who had only witnessed the incivility were not deterred from interacting with the professor. To parse out the impact of witnessing versus experiencing the incivility, these differences would have to be captured by the scale.

Relating Results to the Literature Reviewed

The mean frequency of interaction values computed for the sample are consistent with what has been observed in the literature. Fusani (1994) observed an interaction frequency of 3.31 times in a semester. Additionally, Nadler and Nadler (2001) indicated that male and female students interacted with professors 3.02 and 2.20 times in a semester, whereas in the present study, male and female students interacted 2.67 and 3.36 times with a professor in a semester. Note that, while the male students interacted more frequently than the female students in Nadler and Nadler's study, the opposite was true in the present study. This could have been due to either differences in the two samples or changes in interaction trends over time since the completion of Nadler and Nadler's study. Other interesting considerations are that male professors reported more frequent interactions with students than female professors in Cox et al.'s (2010) study and that students in Nadler and Nadler, as well as Jaasma and Koper (2002), displayed a same-gender preference for interaction with professors.

Despite these differences in samples, the results indicate that although students are engaging with professors in broad discussions encompassing casual and substantive topics, these discussions still do not occur frequently. It would be interesting to consider frequency of virtual interactions as was done in Gross (2015). Connecting with professors in the virtual realm could offer a means for increasing frequency of interactions.

Comparing the data by other student level variables interesting observations arose. While few studies reviewed considered ethnicity, recall that Chang (2005) observed that Black students at the community college level interact more frequently with professors than White. Cox et al. (2010), however, observed that White professors had

more frequent interactions with students than non-White professors. It would be interesting to further explore interaction frequency by ethnicity in other settings and contexts.

Although Cox et al. (2010) considered interaction type, respondents in that study were professors. Making loose comparisons with the results of Cox et al., the closeness in interaction frequency for casual and substantive interactions reported by students in the current sample are inconsistent with the results of Cox et al. where the frequency of casual and substantive interactions indicated a wider spread.

These differences could have occurred for various reasons. As stated earlier, students' experience of similar casual and substantive interactions could represent a reduction of the power distance between students and professors over time. The similar frequency of casual and substantive interactions could also possibly be a reflection of the campus culture. The institution's fact book asserts that faculty employ student-centered approaches to learning that involve personalized attention (Helbig et al., 2016). These forms of pedagogy could potentially aid in creating a campus environment that supports a more relaxed interaction setting. Conversely, the possibility also exists that measurement error could have affected these observations in that respondents did not make a clear distinction between casual and substantive interactions and so responded similarly to the questions posed for both sets of items. For example, the items could be interpreted as describing more the atmosphere of the interaction rather than the content. A conversation could be deemed as casual because both participants have adopted an informal approach, are relaxed in their respective chairs, and are joking all the while discussing pertinent issues. A closer examination of the analysis on the scale itself could be warranted to,

where necessary, incorporate clarifying language.

Given that the current study attempted to bring together two larger streams of literature—destructive leadership represented as faculty incivility and faculty-student interactions, a novel idea—only a partial discussion of results in the context of the existing literature could be completed. Few studies exist in faculty incivility towards students as this is an emergent area of research.

Implications of Results for Leaders and Practitioners in Higher Education

In considering the secondary goals of the current study—measuring the frequency and duration of interactions—the findings offer a few suggestions for leaders and practitioners in higher education. Given the broad scope of the discussions in which students at WKU reportedly engage with faculty and the benefits these offer for student development (Endo & Harpel, 1982), it would be worthwhile to consider ways of increasing the frequency with which these discussions occur. The institution is poised to do so given the parity in frequency between casual and substantive interactions observed in this study. A potential start for increasing frequency of interactions between faculty and students is to take advantage of the existing programs to form the basis of a shift in campus-wide policy, practice, and culture. Creating a culture in which faculty share more of themselves with students by way of their personal interests could serve as one way to get conversations going. The least frequent interaction sub-type reported was that of discussions of non-academic topics of mutual interest occurring 0.78 times in a semester (see Table 6). Students could potentially find it easier to establish bonds with professors who have mutual non-academic interests. The typical online faculty profile includes information on faculty's research interests excluding non-academic interests and hobbies.

Additionally, these are usually expressed in ways that are beyond the reach of students to utilize as conversation starters. Cotten and Wilson (2006) offered that students often do not understand the intricacies of faculty members' research and so find it difficult to connect with them based on their research. By adopting a more varied approach with academic and non-academic material, students could potentially find it easier to connect with faculty. This discussion of faculty's non-academic interests could also begin in class to then trickle out into out-of-class interactions. Cox and Orehovec (2007) offered that during a single encounter, interactions between professors and students could evolve into different types from casual to substantive or vice versa. A potential way of encouraging more frequent interactions with students would be to try to encourage this dovetailing of interactions between types.

Bearing in mind the large effect size of student classification on interaction frequency, programs aimed at increasing interactions could initially target students based on their classification level. The Faculty Undergraduate Student Engagement program could be expanded to incorporate a three-member research team instead of just two, in which a faculty member works with both an upper- and an underclassman to complete the project. The role of the underclassman could be as passive or as active as the research team desires. Involving freshman and sophomores provides a means for not only increasing interactions between faculty and this group but also provides a pipeline for getting more students involved in research on a continuous basis. It also lends continuity to any research project by providing opportunities for the study to remain ongoing even after the upperclassman graduates.

Increasing one-on-one interactions with students is important; however, it may

not be the most time effective solution. While a few students in the sample indicated interactions that lasted over an hour the vast majority reported shorter interactions lasting a few minutes. Furthermore, as exemplified in the Cotten and Wilson (2006) study, time constraints on both the parts of the student and professor pose an obstacle to frequent interactions. With this in mind, providing ways of interacting with small groups of students will also be crucial. Taking advantage of hosting department-based events such as the more casual rap sessions or the more substantive colloquia is one potential way of reaching several students at a time. Maintaining small groups of 10 to 15 students will provide sufficient opportunities for students to participate and interact with professors. Conducting these during the day over a lunch period would make them time efficient without requiring additional time from either party's schedule.

The successful implementation of any of these suggestions is hinged on the introduction of supporting structures of policy and culture. These programs should also be periodically evaluated to determine their effectiveness in meeting the intended outcomes. Certainly, a more careful and extensive study of the particular factors hindering interactions between faculty and students on the WKU campus would provide further suggestions for increasing interactions between faculty and students.

Implications of Results for Future Studies

Scale Development

Although scale development was not a stated objective of this study, possible avenues for improvement of the scales used are evident from this study. These cautiously offered suggestions could potentially improve the performance of the scales in future studies.

Interaction scale. Modifications were made to the interaction type scale published in Cox et al. (2010) based on the confirmatory factor analysis performed. The relationships introduced between the errors of the item pairs: CAS 2 and SUB 3, CAS 3 and SUB 3, and SUB 2 and SUB 3 (see Figure 11) enhanced the fit. Suggesting other changes that would improve the function of this scale is therefore pertinent for future studies, although doing so represents a departure from the current study's intended objectives. One possible way to enhance the ability of the scale to capture subtle differences in frequency of types of interactions is altering the wording of the first item from *exchanged brief greetings* to read, *only exchanged brief greetings*. This change in wording would clearly limit the interaction to an exchange of brief greetings making it distinct from all other interactions which, if cordial, would involve some exchange of brief greetings. Given the closeness in value of exchanged brief greetings to the overall raw frequency of interactions, a great deal of overlap may have occurred. Introduction of the word *only* would potentially make clear that this item refers only to short casual interactions but not an exchange of formalities occurring prior to engaging in other discussions.

Another suggested change to the scale would be to make clearer the distinction between casual discussions of non-academic matters and substantive discussions of personal (non-academic) matters. The wording of these two items does not clearly distinguish between the two conceptually and so respondents could have been answering these items similarly. If that were the case, then those responses would impact the observation of differences between casual and substantive interactions.

While the scale was useful in providing insight into how students were interacting

with faculty at WKU, these adjustments in wording would contribute to the soundness of conclusions drawn. Making these revisions would possibly aid in identifying any nuances in how respondents interpret questions thereby aiding in clarifying the distinction between casual and substantive interactions.

Having revised the wording of the interactions scale, it should be tested again across multiple institutions in different regions. Further testing of the scale will aid in the development of an instrument that could be useful in precisely determining the types of interactions occurring on a college campus. It will also equip college administrators with a quick dipstick assessment of the interaction atmosphere of their institutions. Given the importance of both types of interactions on student development, administrators will want to keep track of the respective frequencies with which both are occurring as a means of enhancing the student experience.

PFIS. Based on the results, the PFIS needs further work before it can be adopted for use in settings similar to that of this study. While the active sub-construct of incivility held up well to the CFA, the passive sub-construct did not indicate a good fit. Additionally, given that the active sub-construct of the PFIS demonstrated such good fit, the scale has great potential for being used to measure incivility with some further development. A key starting point for this development would be to take a step back from the current instrument and pursue a qualitative study involving a few focus groups with the goal of developing additional descriptors for behaviors including passive ones.

Following this qualitative study, quantitative data should be collected again to conduct an exploratory factor analysis (EFA) and subsequent confirmatory factor analysis (CFA). A wider net should be casted this time instead of limiting to a single institution.

That way, a greater sample size could be obtained to facilitate conducting the EFA and CFA with different samples. Once the factor structure of the PFIS has been clearly and carefully defined, it would be worth re-evaluating relationships between incivility and interaction type once more. Recall that recycling of data was one of the methodological challenges encountered in the present study. Analyzing new data for possible relationships between incivility and interaction type is a worthwhile process since results here were inconclusive. Future researchers would have to carefully avoid the pitfalls mentioned by establishing a much larger sampling frame for data collection.

Faculty-Student Interactions

In the realm of research on faculty-student interactions, one finding worthy of further exploration is the notion that on the WKU campus, regardless of gender, ethnicity, classification level, and GPA, there were no differences in frequency of interaction between casual and substantive. It would be worthwhile for future studies to explore underlying reasons for these observations. The present study raises the question of: what factors prompt students to engage in both casual and substantive interactions with faculty outside of the classroom? A follow up qualitative study aimed at discerning such factors would provide a good starting point for future researchers. It would also be intriguing to ascertain which party initiated these departures from the norm—student or professor—to engage in more casual discussion. Doing so would provide insight into how this could be achieved at other institutions. It also provides a launching pad for leveraging these interactions to enhance student achievement. It would also be useful to incorporate faculty respondents as well since the original scale developed by Cox et al. (2010) was targeted at faculty. Responses from faculty would aid in providing a means of

triangulating the data.

This study did not offer answers to the question of what factors drive faculty-student interactions. By exploring incivility, we have come somewhat closer by determining one factor that does not appear to determine the type of interactions in which students engage with faculty.

Incivility

Another potential vein for further research is exploration of the implications of incivility. If not avoidance, what then are some of the consequences of perceived incivility at WKU? Only a handful of studies have been conducted in this realm and with such small samples. This area is by no means saturated and institutions could benefit from the knowledge gleaned from studies focused on the impact or outcomes of incivility.

Once these outcomes have been determined, attempts at discerning the direction and magnitude of the relationship, if any, between interaction and incivility as well as incivility and other outcomes such as performance, graduation and retention rates should be made.

Summary of Chapter

This chapter provided an interpretation of the results of the study by placing them in the context of the institution of focus as well as relating them to the results of other studies. Increased out-of-class interactions between students and professors at WKU could be facilitated by way of encouraging faculty to regularly share not only academic but also non-academic interests with students so these serve as conversation starters; providing opportunities for faculty to engage small groups of students in academic and

non-academic discussions; and targeting underclassmen through, for example, the Faculty Undergraduate Student Engagement program. While a few suggestions for increasing the frequency of student interactions have been offered, the importance of establishing supportive institutional structures cannot be overemphasized. Any changes implemented should also be regularly evaluated for efficiency and effectiveness as well as statistical and practical significance. Qualitatively exploring interactions between faculty and students on campus would also provide additional details on how and why these interactions occur the way they do as well as what prevents these interactions from occurring more frequently. This insight could guide programs implemented to increase interactions.

Further studies focused on enhancing the interaction scale and the PFIS would also prove beneficial to this area of research. Finally, a qualitative and quantitative exploration of faculty incivility towards students at WKU—its prevalence, contributing factors, and impact—is also an important focus for future research.

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APPENDIX A

Survey of Student Interactions with Faculty

Section 1 Demographics and Background Variables

Please indicate your gender.

- ○ Male
- ○ Female
- ○ Other
- ○ Prefer not to say

Please indicate your age in years.

_____

What is your ethnicity?

- ○ White
- ○ Black
- ○ Hispanic
- ○ Asian
- ○ Hawaiian or Pacific Islander
- ○ Native America or Alaskan
- ○ All other and multiple races, non-Hispanic

What is your major here at WKU?

_____

Which of the following best describes your first-year GPA?

- ○ A
- ○ B
- ○ C
- ○ D or lower

What was your average grade in high school?

- ○ A
- ○ B
- ○ C
- ○ D or lower

What is your current student classification here at WKU?

- ○ Freshman (1)
- ○ Sophomore (2)
- ○ Junior (3)
- ○ Senior (4)
- ○ Graduate Student (5)

Section 2 Faculty-Student Interactions Page 1

In the spaces below please provide the names for each of the classes currently on your schedule for this semester. These names will appear later in the survey.

What is the first class you attend each week? (e.g., math, English) _____

What is the second class you attend each week? (e.g., math, English) _____

What is the third class you attend each week? (e.g., math, English) _____

What is the fourth class you attend each week? (e.g., math, English) _____

What is the fifth class you attend each week? (e.g., math, English) _____

Section 2 Faculty-Student Interactions Page 2

Think of the professor who teaches your _____ (response entered for class 1 is input here) class, how many times have you interacted with that professor outside of class this semester (e.g., for office hours, in the hallway, or anywhere around campus)?

Think of the professor who teaches your _____ (response entered for class 2 is input here) class, how many times have you interacted with that professor outside of class this semester (e.g., for office hours, in the hallway, or anywhere around campus)?

Think of the professor who teaches your _____ (response entered for class 3 is input here) class, how many times have you interacted with that professor outside of class this semester (e.g., for office hours, in the hallway, or anywhere around campus)?

Think of the professor who teaches your _____ (response entered for class 4 is input here) class, how many times have you interacted with that professor outside of class this semester (e.g., for office hours, in the hallway, or anywhere around campus)?

Think of the professor who teaches your _____ (response entered for class 5 is input here) class, how many times have you interacted with that professor outside of class this semester (e.g., for office hours, in the hallway, or anywhere around campus)?

Section 3 Faculty-Student Interactions Frequency & Duration

For your _____(response entered for class 1 name is input here), what is the professor's gender?

- ○ Male (1)
- ○ Female (2)

For your _____(response entered for class 1 name is input here), how long in minutes do your interactions with the professor outside of class usually last?

Is your _____(response entered for class 1 name is input here) professor your FUSE Faculty mentor?

Have you worked with your _____(response entered for class 1 name is input here) professor on an institutional or professional activity such as, for example, serving on a committee or working on a research project?

How many times during the semester did you interact with your _____(response entered for class 1 name is input here) professor ***outside of class*** and_____

Note: For any of the interactions listed, if you have never had it write 0.

	Indicate the number of times you had each type of interaction with Professor 1.
discussed intellectual or academic matters?	
exchanged brief greetings?	
discussed matters related to your future career?	
discussed personal (non-academic) matters?	
had casual conversations?	
discussed a non-academic topic of mutual interest?	

Have your ever witnessed your _____(response entered for class 1 name is input here) professor display any negative behaviors towards you or another student in your class?

- ○ Yes
- ○ No

Section 4 Perceived Faculty Incivility Scale

Continuing to think of this professor, the following questions are based on interactions that might occur ***in class***. Please respond to the best of your knowledge based on your experiences with the professor in class.

How frequently have you observed **Professor 1** exhibiting any of the following behaviors?

	Almost never	Rarely	Sometimes	Often	Almost Always	Not Applicable
Ignores your personal hardships (such as: illness or personal problems within the family)						
Uses his/her personal cellular phone during lectures (e.g., answers phone, calls/messages, reads or sends text messages)						
Ignores students' requests during lectures						
Regularly dismisses class long before the scheduled end time						
Is not available for you during office hours						
Ignores your personal academic difficulties						
Ignores students' questions during lectures						

How frequently have you observed **Professor 1** exhibiting any of the following behaviors?

	Almost never	Rarely	Sometimes	Often	Almost Always	Not Applicable
Gives you a negative personal feedback in an offensive manner						
Discriminates students during classes or lectures						
Arrives unprepared to his/her classes or lectures						
Addresses you derogatively						
Makes demeaning remarks towards students who express difficulties						
Uses offensive personal comments concerning your appearance						
Makes offensive insinuations towards students during class or lectures						

How frequently have you observed **Professor 1** exhibiting any of the following behaviors?

	Almost never	Rarely	Sometimes	Often	Almost Always	Not Applicable
Expresses anger in response to students showing misunderstanding(s) during a class or lecture						
Is angry at you as a response to your misunderstanding of the learning material						
Answers students rudely during classes or lectures						
Addresses you with offensive personal comments						
Yells at you as a response to misunderstanding						
Mocks you as a response to your misunderstanding of the learning material						
Talks to students derogatively during classes or lectures						

Thank you for participating in my study. Remember, individual responses are confidential; however, if you are interested in the aggregated results of the survey, please contact the researchers via email at trudy-ann.crossbourne857@topper.wku.edu

End of Survey

APPENDIX B

Extended Results

Table B1

Mean, Median and Mode of Interaction Frequency by Sub-Types

	N	minimum	maximum	Mean	Standard Error of Mean	Median	Mode	Standard deviation
Raw frequency	785	0.00	50.00	2.94	0.16	1.50	0.00	4.53
CAS 1-exchanged brief greetings	546	0.00	25.00	2.45	0.16	1.33	0.00	3.62
CAS 2-had casual conversations	541	0.00	35.00	1.21	0.11	0.50	0.00	2.49
CAS 3-discussed a non-academic topic	540	0.00	16.50	0.78	0.08	0.00	0.00	1.80
Overall Casual	548	0.00	22.67	1.48	0.10	0.78	0.00	2.27

(continued)

	N	minimum	maximum	Mean	Standard Error of Mean	Median	Mode	Standard deviation
SUB 1-discussed intellectual/academic matters	553	0.00	40.00	2.45	0.14	1.75	1.00	3.20
SUB 2-discussed career related matters	544	0.00	16.67	1.06	0.08	0.50	0.00	1.77
SUB 3-personal (non-academic) matters	538	0.00	30.00	0.84	0.09	0.00	0.00	2.07
Overall Substantive	555	0.00	20.00	1.46	0.08	1.00	0.33	1.87

Table B2

Overall frequency Averages by Classification Level

Classification Level	Mean	Standard Error of Mean	Standard Deviation	Median
Freshman	1.72	0.14	2.07	1.00
Sophomore	1.60	0.16	1.51	1.20
Junior	2.55	0.28	3.24	1.60
Senior	3.50	0.28	3.94	2.25
Graduate	5.26	0.67	8.04	2.50

Table B3

Frequency Averages for Substantive Interactions by Classification Level

Classification Level	Mean	Standard Error of Mean	Standard Deviation	Median
Freshman	0.95	0.07	0.89	0.67
Sophomore	0.90	0.09	0.76	0.67
Junior	1.60	0.22	2.22	1.00
Senior	1.64	0.14	1.69	1.25
Graduate	2.33	0.31	2.93	1.33

Table B4

Frequency Averages for Casual Interactions by Classification Level

Classification Level	Mean	Standard Error of Mean	Standard Deviation	Median
Freshman	0.96	0.10	1.24	0.50
Sophomore	0.85	0.10	0.76	0.67
Junior	1.34	0.26	2.64	0.67
Senior	2.02	0.25	2.90	1.00
Graduate	2.21	0.27	2.53	1.33

Table B5

Overall Frequency Averages by First-year GPA

First-year GPA	Mean	Standard Error of Mean	Standard Deviation	Median
A	3.49	0.27	4.53	2.00
B	2.62	0.22	3.67	1.25
C or lower	1.72	0.24	2.57	1.00

Table B6

Frequency Averages for Substantive Interactions by First-year GPA

First-year GPA	Mean	Standard Error of Mean	Standard Deviation	Median
A	1.68	0.08	1.87	0.67
B	1.30	0.11	1.57	0.89
C or lower	1.11	0.14	1.20	1.00

Table B7

Frequency Averages for Casual Interactions by First-year GPA

First-year GPA	Mean	Standard Error of Mean	Standard Deviation	Median
A	1.65	0.10	2.27	0.92
B	1.37	0.17	2.36	0.67
C or lower	1.15	0.18	1.59	0.67

Table B8

Overall Frequency Averages by High School GPA

High School GPA	Mean	Standard Error of Mean	Standard Deviation	Median
A	3.31	0.25	5.27	1.75
B	2.54	0.20	3.30	1.50
C or lower	2.10	0.38	3.07	1.00

Table B9

Frequency Averages for Substantive Interactions by High School GPA

High School GPA	Mean	Standard Error of Mean	Standard Deviation	Median
A	1.61	0.12	2.13	1.00
B	1.28	0.11	1.44	0.92
C or lower	1.10	0.18	1.17	0.88

Table B10

Frequency averages for Casual Interactions by High School GPA

High School GPA	Mean	Standard Error of Mean	Standard Deviation	Median
A	1.60	0.14	2.47	0.83
B	1.34	0.15	2.05	0.67
C or lower	1.25	0.23	1.46	0.72

Table B11

Duration Means for Different Classification Levels of Students

Classification Level	Mean	Standard Error of Mean	Standard Deviation	Median
Freshman	10.51	1.09	13.27	5.50
Sophomore	10.54	1.59	12.52	6.00
Junior	11.60	1.57	12.56	7.00
Senior	10.19	1.08	12.60	7.50
Graduate	16.64	2.64	24.12	10.00

Table B12

Duration Means for Student Groups by First-year GPA

First-year GPA	Mean	Standard Error of Mean	Standard Deviation	Median
A	12.06	1.11	18.30	5.00
B	11.69	0.85	12.18	8.33
C or lower	10.75	1.79	15.46	7.50

Table B13

Duration Means for Student Groups by High School GPA

First-year GPA	Mean	Standard Error of Mean	Standard Deviation	Median
A	11.82	0.69	12.52	8.50
B	12.44	1.54	21.13	5.75
C or lower	7.11	1.28	8.10	5.00