ABSTRACT

Understanding Student Faculty Interaction within Faculty-in-Residence Programs

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Student-faculty interaction within faculty-in-residence programs is a unique phenomenon within colleges and universities. This study aimed to develop a model for explaining how student-faculty interaction occurs within faculty-in-residence programs in residential colleges. The faculty-in-residence survey instrument was administered to students in five residential colleges at three institutions across the nation. Confirmatory factor analysis and structural equation modeling were used to develop an empirically-tested model for describing student-faculty interaction within faculty-in-residence programs. A causal model of student-faculty interaction resulted from the data analysis. The model suggests that student-faculty interaction within faculty-in-residence programs can be described through five factors: Knowledge of the faculty-in-residence position; Social Interaction; Academic Interaction; Value in the faculty-in-residence position; and Deeper Life Interaction. Deeper Life Interaction is particularly important as it encourages student affairs administrators and faculty to reimagine their role in transforming the lives of students through higher education.

Understanding Student-Faculty Interaction within Faculty-in-Residence Programs

by

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A Thesis

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CHAPTER ONE

Introduction

A recent nationwide study of college students suggests some discrepancy among student perceptions of the intended aims of higher education. Throughout a series of one on one interviews with researchers, many students explained their desire to participate in higher education in very practical terms that carried implications for higher education as an industry or business, rather than a social institution (Smith, 2011). Many students reported wanting to obtain a college degree in order to pursue more lucrative career paths. Other students explained that they enrolled in college simply because it was the next logical step after high school. They were not able to articulate distinct or thoughtful reasons for participating in postsecondary education because they had not considered their decision to attend college outside of its practical implications. Only a small minority of students implied that their decision to attend college was the result of a deeper desire to engage in mental, physical, emotional, and spiritual development that is congruent with the view of higher education as a social institution (Altbach, Gumport, & Johnstone, 2001; Smith, 2011). In their five-year study of how students develop during college, Astin, Astin, and Lindholm suggest:

> While higher education continues to put a lot of emphasis on test scores, grades, credits, and degrees, it has increasingly come to neglect its students' "inner" development – the sphere of values and beliefs, emotional maturity, moral development, spirituality, and of self-understanding." (2011, p. 2)

Though college and university faculty and administrators may not, and should not, expect high school seniors or even first or second-year college students to be able to articulate

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their desired learning outcomes in the appropriate vernacular, this data nonetheless poses an important question: Are students losing sight of the overarching meaning and purpose inherent within higher education? And if so, is it because the university is failing to uphold its end of the bargain?

Ream and Glanzer (2013) suggest three specific ends or purposes of higher education common to students at both faith-based and secular institutions. These include obtaining a job, becoming an upstanding citizen, and engaging in the pursuit of lifetime happiness. Each of these themes is inextricably connected to the holistic growth and development of college students. Described another way, Altbach, Gumport, and Johnstone (2001) suggest that colleges and universities are social institutions committed to the development of social functions such as human capital, civic engagement, and conservation of knowledge. Astin, Astin, and Lindholm (2011) expand upon these aims even further, suggesting that higher education should provide students with the tools to make meaning of their unique purpose in life. However, Smith reminds us that, "Few emerging adults talk about the value of a broad education for shaping people into informed and responsible citizens in civic life, for producing members and leaders of society who can work together toward the common good" (2011, p. 102). Consequently, it is questionable whether colleges and universities are providing appropriate structures and adequate resources to fully support the development of meaning and purpose within students as the ultimate end of higher education (Tagg, 2003). Astin, Astin, and Lindholm (2011) suggest that the university must first help students gain self-understanding before it can help them become more fully-developed humans, professionals, and citizens. One consideration related to the development of an

overarching meaning and purpose through higher education is the faculty. This study explores how colleges and universities use faculty-in-residence programs as a tool for creating environments in which learning is extended beyond the classroom. More specifically, this study seeks to understand and describe student-faculty interaction within faculty-in-residence programs.

The Role of the Faculty in Achieving Purpose

College and university faculty have significant power to shape the culture of the institutions in which they teach. Inherent within the role of the faculty member is a threefold commitment to teaching, research, and service. Nevertheless, much research has noted the discrepancy in the espoused aims of the faculty role, which include an equal commitment to all three areas of scholarship, and the underlying assumption that research is the sole determinant for gaining tenure (Boyer, 1990; Hacker & Dreifus, 2010; Schrecker, 2010). Palmer and Zajonc remind university faculty and administrators of the important role that they play in student development: "Beyond academic and research excellence, universities have forgotten their main purpose, which is to help students learn who they are, to search for a larger purpose for their lives, and to leave college as better human beings" (2010, p. 3). Similarly, in his book, *Scholarship Reconsidered: Priorities of the Professoriate*, Ernest Boyer suggests that there are certain universal tasks in which all professors should engage that are representative of a more all-encompassing commitment to teaching, research, and service. These tasks include: discovery (the creation of knowledge through research); integration (the assimilation of discovered knowledge across disciplines through writing and teaching); application (the use of knowledge to contribute meaningfully to society and the development of students and

other professionals); and teaching (the commitment to helping students learn and develop through the presentation and assessment of knowledge). Within these four components of scholarship, Boyer urges faculty not to lose sight of their unique gifts and talents that can distinguish their work in a way that positively impacts students and the institution. Ultimately, a faculty member's commitment to excellence and integrity within teaching, research, and service transcends all other responsibilities.

The distinct ways in which faculty apply their scholarship, specifically through teaching and service, are vital to the learning and development of the students with which they interact. One significant way that faculty can apply scholarship is in their service to students. Service to students can take many forms, including scheduling out-of-class meetings with students, advising student organizations, and serving as faculty partners for residence halls (Kuh & Hu, 2001). Each of these opportunities provide faculty a forum in which to serve by engaging students outside of the classroom. Notably, some research suggests that out-of-class experiences could potentially be more impactful on the student experience and the development of student learning outcomes than in-class experiences (Tagg, 2003).

Student-Faculty Interaction and Associated Learning Outcomes

Student-faculty interaction includes all collaboration between students and faculty, both in and out of the classroom. A wide body of literature suggests that student-faculty interactions are positively related to student learning outcomes (Kuh & Hu, 2001; Cotten & Wilson, 2006; Cox & Orehovec, 2007; Pascarella & Terenzini, 1991; Umbach & Wawrzynski, 2005). Cox and Orehovec (2007) conceptualize the frequency of student-faculty interactions in the form of a pyramid in which interaction ranges from very

infrequent (Disengaged) to very frequent (Mentoring). Subsequent studies differentiate

between specific types of student-faculty interactions wherein interactions are described

as social or substantive (Kuh & Hu, 2001), casual or substantive (Cox et al., 2010),

incidental or functional (Mara & Mara, 2010), and informal or formal (Cotten & Wilson,

2006). Still other studies present conceptual frameworks describing the function of

student-faculty interactions. Mara and Mara (2010) suggest that student-faculty

interactions can be conceptualized in three distinct categories including purposeful

opportunities, programming plans, and happenstance interactions. Similarly, Cole (2010)

suggests that interactions include course-related contact, active seeking of criticism or

advice, and mentoring relationships. Each of these frameworks contributes broadly to an

increased understanding of student-faculty interaction and further serves to provide

context for the exploration of student learning outcomes that result from such

interactions.

Student learning outcomes are tangible representations of the more nebulous

concepts of holistic development, meaning, and purpose. In effect, achieved student

learning outcomes give way to the creation of an overarching meaning and purpose

through higher education. In his book *Lost in Transition: The Dark Side of Emerging*

Adulthood, Christian Smith suggests:

> The most important payoffs of college education do not concern promotions and
> higher salaries. They have to do with forming thoughtful, critical, appreciative,
> careful, capable, and interesting family members, neighbors, citizens, workers,
> leaders, teachers, artists, researchers, and friends. In short, the truly important
> product of higher education is better people, not bigger promotions and
> paychecks. (2011, p.101)

In Smith's example, thoughtfulness, carefulness, critical thinking skills, and appreciation

of others are all learning outcomes that contribute to the creation of better students and

better people. Much research suggests that when faculty regularly engage students, both in and out of the classroom, they contribute to the fulfillment of many student learning outcomes (Kuh & Hu, 2001; Pascarella & Terenzini, 1991). For example, student-faculty interaction has been empirically linked to increased academic motivation (Komarraju, Musulkin, & Bhattacharya, 2010), cooperation among peers (Garrett & Zabriskie, 2003), commitment to the institution (Schreiner et al., 2011), openness to diversity (Reason et al., 2010), and self-concept and self-worth (Cotten & Wilson, 2006). Learning outcomes such as these provide students with the tools they need to critically analyze their understanding of themselves and the world, which can help provide meaningful context for their subsequent exploration of their role as students and professionals.

However, research tells us that students may not be explicitly aware of the positive outcomes that result from student-faculty interactions (Cotten & Wilson, 2006) and that many students are unlikely to develop positive perceptions of student-faculty interactions until late in their collegiate careers (Umbach & Wawrzynski, 2005). Similarly, students who do understand some of the benefits of student-faculty interactions are equally concerned with the costs of such interactions. For example, though a student might appreciate the benefit of networking opportunities provided by the professor, that same student might feel like he or she is burdened with the task of "maintaining performance," so as not to let the professor down after the connection has been made (Cotten & Wilson, 2006). Student perceptions of student-faculty relationships should not be overlooked when discussing student-faculty interactions.

Purpose and Significance of the Study

The preceding discussion considers overarching aims of higher education, the role that faculty play in helping students to achieve those aims, and the role of student-faculty interaction in producing student learning outcomes. One way campuses attempt to foster more student-faculty interaction is through faculty-in-residence programs. Faculty-in-residence programs represent a specific opportunity for faculty service that both challenges student perceptions of faculty and increases the likelihood that faculty will develop meaningful and substantive relationships with students (Sriram, Shushok, Scales, & Perkins, 2011).

Faculty-in-residence programs offer select faculty members the unique opportunity to live and learn with students in student residential communities. Alongside their duties as faculty, faculty-in-residence take on extra responsibilities associated with life in a student residential community. They live fulltime with their families in a home within the residence hall, where they provide both intellectual and social programming for students in the community as well as serve on the professional leadership team that governs the residence hall.

Because the very premise of faculty-in-residence programs ensures that faculty-in-residence strive to engage students both academically and socially, it is assumed that faculty-in-residence programs contribute positively to student learning outcomes such as holistic development (Cotten & Wilson, 2006; Kuh & Hu, 2001; Garrett & Zabriskie, 2003; Mara & Mara, 2010). However, just because faculty-in-residence programs provide faculty a venue for repeated formal and informal interactions with students, the venue alone is likely not enough to significantly impact student learning outcomes. In order for

faculty-in-residence programs to make a substantial impact on learning outcomes, students must not only experience high-quality, frequent interactions with faculty members, but these interactions must also change the way that students perceive the faculty role (Cotten & Wilson, 2006; Mara & Mara, 2010; Umbach & Wawrzynski, 2005).

Thus, though it is understood that faculty-in-residence programs aim to increase student-faculty interaction, which should in turn contribute to student learning outcomes, extant research does not explain *how* student-faculty interaction occurs within the parameters of faculty-in-residence programs (Cotten & Wilson, 2006; Mara & Mara, 2010). In an effort to address extant gaps in current scholarship, this study seeks to understand how student-faculty interactions occur within faculty-in-residence programs and what impact those interactions have on students. Achievement of this task will contribute meaningfully to the current understanding of faculty-in-residence programs and the ways in which such programs can contribute to student development of meaning and purpose through higher education.

A greater understanding of student-faculty interactions within faculty-in-residence programs will inform subsequent discussions regarding the purpose and scope of faculty-in-residence programs. Additionally, a developed sense of the specific ways in which faculty-in-residence programs impact students will encourage both faculty and staff to further study and evaluate faculty-in-residence programs. Moreover, it will provide evidence of the outcomes associated with this particular type of service to the institution. Thus, the purpose of this study is to develop an empirically-based model for understanding student-faculty interactions within faculty-in-residence programs.

Conceptual Framework

A conceptual framework through which to view the current study is informed equally by theoretical knowledge of student-faculty interaction and empirical evidence as determined by Sriram and McLevain's (*under review)* research. Sriram and McLevain present five factors descriptive of student-faculty interactions within faculty-in-residence programs. The five factors include Knowledge, Social Interaction, Academic Interaction, Value, and Deeper Life Interaction. They are defined as follows: Knowledge is the student awareness of the faculty-in-residence position; Social Interaction is casual and light-hearted interaction with the faculty-in-residence; Academic Interaction is an interaction with the faculty-in-residence that relates to intellectual stimulation, connections to other faculty, classes, major, or career; Value is a student's perception of the worth of the investment of resources for the faculty-in-residence position; Deeper Life Interaction is an interaction with the faculty-in-residence that reflects both a level of comfort and a relationship on a deeper, more personal level (e.g., conversations about relationships, family, spirituality).

Although Sriram and McLevain (*under review*) contribute to the literature by creating an instrument that measures aspects of student-faculty interaction in faculty-in-residence programs, their research does not examine how these variables interact with one another. In light of these established latent variables, the current study proposes two hypotheses, one more broad and the other more specific, that are useful in conceptualizing the impact of faculty-in-residence programs on students. First, though many students are aware that the faculty-in-residence program exists within their residence hall, not all of those students perceive value in interacting with the faculty-in-

residence. Secondly, and more specifically, Knowledge of the faculty-in-residence

position leads to increased Social and Academic Interactions, both formal and informal,

between the faculty and student. These Social and Academic Interactions then cause the

student to place Value in the faculty-in-residence position, which ultimately leads to

increased Deeper Life Interactions between the faculty and student (see Figure 1). The

remaining chapters seek to either confirm or modify this understanding of student-faculty

interaction within faculty-in-residence programs through psychometric survey data and

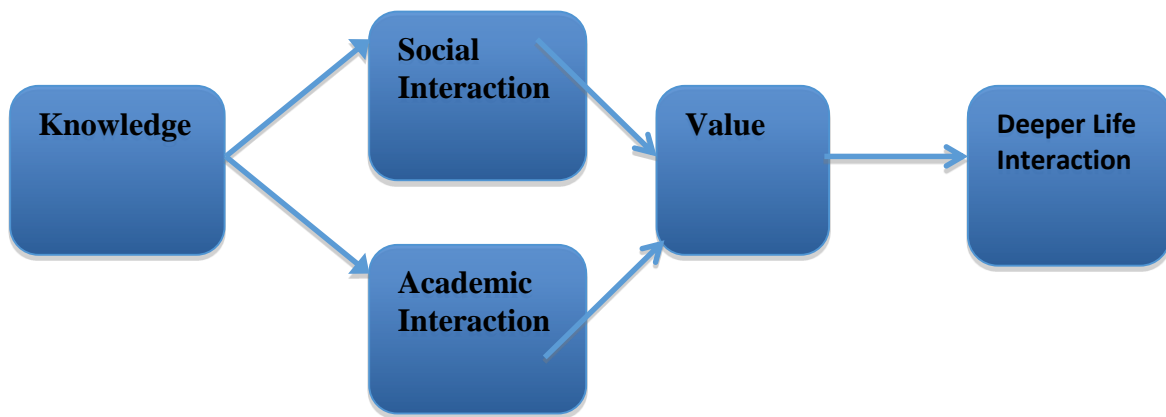subsequent analysis in the form of structural equation modeling.

Figure 1. Student-faculty interaction within faculty-in-residence programs.

Terms

The following terms will be used throughout the remaining chapters:

Faculty-in-Residence: a faculty member who lives in a student residential community

with the intention of interacting with students outside of the classroom, both formally and

informally.

Residential College: A residential community that welcomes students of all classifications and academic majors, and that is governed by a live-in faculty member, or faculty-in-residence (Ryan, 1992).

Informal Student-Faculty Interaction: non-programmed interaction between faculty and student (Cotten & Wilson, 2006).

Formal Student-Faculty Interaction: programmed interaction between faculty and student (Cotten & Wilson, 2006).

Knowledge (as used in conceptual framework): student awareness of the faculty-in-residence position.

Value (as used in conceptual framework): students' perception of the worth of the investment of resources for the faculty-in-residence position.

Deeper Life Interaction: an interaction with the faculty-in-residence that reflects both a level of comfort and a relationship on a deeper, more personal level (e.g., conversations about relationships, family, spirituality).

Summary

In an essay entitled, "The Loss of the University," Wendell Berry reminds his readers of the true purpose of higher education:

> The thing being made in a university is humanity…But what universities, at least the public-supported ones, are *mandated* to make or to help to make is human beings in the fullest sense of those words – not just trained workers or knowledgeable citizens but responsible heirs and members of the human culture." (1987, p.77)

If colleges and universities are to achieve this ideal, it must be done with the support and cooperation of faculty and student affairs professionals who are committed to helping their students find meaning and purpose through higher education. Faculty have a unique

opportunity to foster student growth and development through service in the form of faculty-in-residence programs. While extant research posits that student-faculty interactions and related learning outcomes should increase within faculty-in-residence programs, little research has been done to explore how student-faculty interaction occurs within faculty-in-residence programs. This study seeks to narrow that gap by creating a model for understanding and describing student-faculty interaction within faculty-in-residence programs.

CHAPTER TWO

Literature Review

Extensive research highlights the positive outcomes associated with student-faculty interaction occurring in and out of the classroom (Cotten & Wilson, 2006; Cox & Orehovec, 2007; Kuh & Hu, 2001). Though a traditional understanding of the faculty role might assume that faculty have more influence on students inside the classroom, significant research suggests that out-of-class interaction between students and faculty is even more impactful (Cotten & Wilson, 2006; Kuh &Hu, 2001). An exploration of current scholarly research on out-of-class interaction between students and faculty serves a dual purpose: (1) to provide insight into the unique ways in which both students and faculty influence and are influenced by their interactions with one another and (2) to consider how institutional culture impacts out-of-class interaction between students and faculty. Both of these ends will be explored in detail throughout the remainder of this section in an attempt to examine how out-of-class student-faculty interaction occurs and why such interaction occurs.

Relevant literature comes from four bodies of scholarship, including: studies that focus on student-faculty interaction generally; studies that focus on out-of-class interaction between students and faculty specifically in residential communities; and studies that focus on interaction between faculty-in-residence and students in residential communities. A fourth body of scholarship seeks to describe the unique role that residential colleges, which comprise the context of my study, play in facilitating student-

faculty interaction. Extant research in each of these areas informs my conceptual framework, which proposes a model for understanding student-faculty interaction in residential colleges with faculty-in-residence programs.

Making Sense of Student-Faculty Interaction: The Student Perspective

The following research aims to help the reader make meaning of student-faculty interactions from the student point-of-view in an effort to contribute to a broader understanding of how and why student-faculty interaction occurs. Student-faculty interactions will be explored first in terms of how such interactions impact students, and then in terms of how students perceive their interactions with faculty. Relevant studies will explore out-of-class student-faculty interaction broadly (Kuh & Hu, 2001; Cotten & Wilson, 2006; Alderman, 2008), specifically within residential communities (Garrett & Zabriskie, 2003; Benjamin & Griffin, 2013), and more precisely within faculty-in-residence programs (Mara & Mara, 2010).

The Impact of Student-Faculty Interaction on Students

In their comprehensive study on the effects of student-faculty interaction in the 1990s, Kuh and Hu (2001) review the impact of student-faculty interaction on student learning and personal development outcomes. Though the authors note that extant research highlights the idea that student-faculty interaction positively impacts students, Kuh and Hu explain that there is still much research to be done in this area. They seek to answer three research questions related to: (1) the differences in the nature of student-faculty interaction for first-year students as compared to senior students; (2) the role of student-faculty interaction in student satisfaction; and (3) the different types of student-

faculty interaction and the ways in which each type contributes to student learning outcomes and satisfaction.

For their quantitative study, Ku and Hu (2001) administered the College Student Experiences Questionnaire (CSEQ) to more than 5,000 students at 126 colleges and universities in an effort to determine the amount of time and energy that students devoted to various activities, student perceptions of institutional culture, and student perceptions of progress towards various learning outcomes. Kuh & Hu (2001) posited that student background characteristics, institutional structure, and organizational properties would determine student perceptions of the collegiate environment, which would then impact student interactions with both peers and faculty. An analysis of data suggested that most students experienced little contact with faculty outside of the classroom, and that when students did interact with faculty outside of class, it was in an attempt to clarify class content. Interestingly, Kuh and Hu (2001) noted that student perceptions of the quality of interactions between other members of the campus community (i.e., faculty-staff, faculty-faculty, student-student, etc.), predicted the frequency of student-faculty interactions. Moreover, they found that student-faculty interaction increased over a student's four years in college. While student-faculty interaction did not directly impact student satisfaction, it did positively impact learning outcomes related to educationally purposeful activities, as well as student perceptions of the college environment at large.

Notably, Kuh and Hu (2001) differentiated between substantive and social interactions between faculty and students, suggesting that substantive interactions have a more meaningful impact on student satisfaction and overall experience. It is possible that this study was limited by the assumptions inherent within the authors' initial conceptual

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framework. In their initial conceptual framework, Kuh and Hu (2001) posited that student perceptions of the environment would impact student interactions with faculty. However, Kuh and Hu (2001) note that it is plausible that the inverse could be true. Ultimately, the authors suggest that institutions would be wise to devote resources to substantive, rather than social, forms of student-faculty interaction, including faculty-supervised internships, capstone experiences, and faculty-moderated discussions. However, it is important not to dismiss social interactions altogether as such interactions might lay the foundation for more substantive interactions. Further, it would be helpful for future studies to conceptualize how both social and substantive interactions contribute to increased student-faculty interaction over a student's four years in college.

Student-faculty interaction can be broadly divided into formal and informal types. Garrett and Zabriskie (2003) conducted quantitative research aimed at analyzing the quality of student-faculty interactions within living-learning programs across two broad categories: (1) formal-academic interactions and (2) informal-mentor interactions. They found that living-learning programs were successful in their attempt to create out-of-class student-faculty interactions, both in the formal-academic and informal-mentor categories. However, though student-faculty interaction was higher in residential communities with living-learning programs than in residential communities without such programs, Garrett and Zabriskie (2003) noted that, overall, out-of-class interaction between students and faculty was still very low, with the majority of students admitting that they only engaged in activities in the "informal-mentor" category "a few times a semester" (p. 43). These findings suggest that while living-learning programs may be successful in creating structures for student-faculty interactions to occur, more effort is needed to increase both

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student and faculty buy-in so that such structures do not exist in vain. This study also raises the question as to whether two categories are enough to capture the complexity of student-faculty interactions.

A qualitative case study by Mara and Mara (2010) explores how faculty-in-residence programs promote student engagement. Mara and Mara, who are both faculty members themselves, explored student-faculty interactions within a faculty-in-residence program at North Dakota State University over the course of two years in an attempt to explain the ways in which such programs encourage informal interactions and related learning outcomes. Researchers augmented their qualitative case study design with the National Survey of Student Engagement (NSSE), which was administered to students twice over the course of the two-year case study. Mara and Mara (2010) highlight the ways in which residential communities become living and learning communities through faculty involvement on multiple levels, including both faculty who regularly engage with students through formal and informal programmatic opportunities (i.e., faculty partners or faculty mentors) and faculty who actually live in residence in the residential community (i.e., faculty-in-residence).

Ultimately, Mara and Mara (2010) present a model for analyzing student-faculty interactions that divides student-faculty interactions within faculty-in-residence programs into the following three categories: happenstance interactions; programmatic interactions; and purposeful opportunities. While these three categories suggest how student-faculty interaction might occur within faculty-in-residence programs, they fail to explain why such interaction occurs. Mara and Mara (2010) suggested that while all three types of interaction contribute to student learning outcomes, the type and frequency of interaction

depends on both faculty and student motivation to interact, and that interaction is not consistent for all students. Interestingly, Mara and Mara (2010) noted the difference in student response to various faculty-initiated opportunities for interaction. For example, when faculty-in-residence held office hours in the lobby of the residence hall, in an attempt to engage students in their environment, students showed little interest in engaging faculty. Similarly, when faculty joined students for meals in the residential dining facilities, students and faculty often sat at separate tables, neglecting to interact with one another. However, this was not always the case as researchers noted that sometimes dining hall interactions led to meaningful conversations with students, though these students were most often students who the faculty already knew from their heightened involvement in the community. This study suggests that disengagement between students and faculty (Cox & Orehovec, 2007) is the most common type of interaction even in faculty-in-residence programs, which embrace meaningful student-faculty interactions as a stated goal. Future research would benefit from an increased understanding of the factors that motivate students and faculty to move from happenstance interactions to programmatic interactions and from programmatic interactions to purposeful interactions.

Student Perceptions of Student-Faculty Interaction

In an effort to highlight student-faculty interaction as a contributing factor to overall student experience, Cotten & Wilson (2006) explored student-faculty interactions and predictors of such interactions. Their study sought to answer three research questions pertaining to: (1) do students and faculty interact outside of the classroom, and, if so,

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how? (2) why do students and faculty interact outside of the classroom? and (3) what does interaction between students and faculty mean for higher education?

Cotten and Wilson (2006) divided 49 students (first-year through senior) into nine focus groups where they were asked questions relating to their contact with faculty members outside of the classroom, their perceptions of faculty members, and their interest in forming relationships with faculty. The results of the qualitative study indicated that student-faculty interactions occurred infrequently and were mostly related to class content. Cotten and Wilson (2006) suggest, "This observation is consistent with the fact that students with specific needs initiate most interactions [with faculty]; students do not realize that faculty are available to do more than just help them with homework" (p. 497). The authors distinguished that juniors and seniors were more likely to see the importance of interacting with faculty and even understood that faculty had significant resources to offer, though they were still unsure of the appropriate ways to initiate discussion with faculty outside of the classroom. Further, even when students understand that faculty have much to offer them, they still remain wary of developing relationships with faculty outside of the classroom. Cotten and Wilson (2006) found that students perceive their relationship with faculty as a give and take. Though students noted that interacting with faculty gave them an increased sense of belonging within the larger college community, they also noted that, "Establishing a relationship with a faculty member can be costly – it puts a certain amount of responsibility on you. Once you've established a relationship, you can't slack off; you've got to maintain performance" (Cotten & Wilson, 2006, p. 500). Students noted their busy schedules, their desire to fit in with peers, and their perception that faculty were too busy for them as impediments to

their desire to interact with faculty outside of the classroom. The authors suggest that this finding may be a result of students' limited perceptions of the academy and, more specifically, the role of faculty within the academy.

Like Kuh and Hu (2001), Cotten and Wilson (2006) suggest that student academic, or substantive, interactions are more meaningful for students than social interactions. Interestingly, however, Cotten and Wilson (2006), suggest, "When students interact with faculty that *are not* their instructors, *academic* interactions appear important. And when students interact with faculty that *are* their instructors, *social* interactions appear more important" (p. 510). Cotten and Wilson (2006) assert the need for environments that create room for student-faculty interaction, noting, "Given that students and faculty must be present in the same location for substantive engagement to occur, institutions need to keep this obvious fact in mind as they design physical spaces and programs in order to create spaces that are attractive to both students and faculty…" (p. 515). Unlike Kuh and Hu, who compare substantive interaction to social interaction, Cotten and Wilson (2006) encourage informal, social interactions as a precursor to more academically-focused interactions. Further, Cotten and Wilson (2006) highlight the need for research aimed at understanding the factors that evoke interaction between faculty and students.

In light of this need, a 2008 dissertation by Alderman explored how students interact with faculty outside of the classroom, and moreover, how students perceive those interactions. Alderman (2008) conducted a qualitative naturalistic inquiry study in which she participated in one-on-one interviews with 24 undergraduate students in an attempt to gain insight into how students experience interactions with faculty outside of the

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classroom. Based on her interviews with students, Alderman (2008) created a more complex typology of student-faculty interactions: course-related activities; conference or study-abroad opportunities; interaction related to post-graduation plans; interaction during faculty office hours; and faculty participation in student organizations and activities (p. 50). Student-faculty interaction during faculty office hours was the most common form of interaction mentioned. Though Alderman's framework is helpful in understanding a wide range of academic and social interactions between students and faculty outside of the classroom, it fails to consider more personal types of student-faculty interaction unrelated to academics.

Alderman (2008) found that students perceived that the following faculty traits contributed to positive student-faculty interactions: approachability, enthusiasm and passion, general care and concern for students, and service as a mentor or role model. Conversely, lack of respect for students and their time precluded meaningful student-faculty interactions. Alderman (2008) also found that junior and senior students were more likely than first-year or sophomore students to view faculty as mentors. Students suggested that the institution could encourage student-faculty interactions outside of the classroom by endorsing programmed social events and emphasizing the value of faculty office hours, in addition to providing faculty with resources and suggestions for quality interactions. Alderman (2008) specifically notes meals in faculty homes as a suggestion for creating quality student-faculty interaction. Lastly, similarly to Cotten and Wilson (2006), Alderman (2008) suggested that positive out-of-class interactions between students and faculty contribute to student experience and achievement inside of the classroom. Both studies highlight the link between formal and informal student-faculty

interactions. Alderman (2008) cites the need for future studies to explore ways in which the institution can promote student-faculty interactions.

A study by Benjamin and Griffin (2013) considers the impact of student-faculty interactions from the perspective of student workers, specifically Resident Assistants, or RAs. The authors used a case study method involving 73 RAs from a large research university to determine how functional interactions (Cox & Orehovec, 2007) between RA and faculty influence RA interaction with other faculty members.

Results of the study suggested that interactions between RAs and faculty varied significantly among individual RAs. Though some RAs were eager to interact with faculty, others communicated a lack of clear guidelines regarding the appropriate ways in which to involve faculty in residence hall programming. Notably, however, Benjamin and Griffin (2013) found that required, functional interactions between RA and faculty opened the door for more personal interactions, which, in some cases, lead to a mentoring relationship between RA and faculty, along with positive learning outcomes including pre-professional benefits, personal benefits, and academic benefits. The same type of relationship could also be true of the faculty-in-residence position in that students may perceive the official title and role of the faculty-in-residence as an invitation to interact with that faculty member.

The results of this study are helpful in that they support the idea that functional interactions that are high in frequency encourage the development of more substantive, personal interactions, which is a finding that is also generalizable to non-RA student-faculty interactions. Moreover, this finding encourages a need for further exploration of the Knowledge component of student-faculty interaction explored in my conceptual

framework, which suggests that students must first know about the faculty-in-residence position in order to pursue additional social or academic types of interactions with the faculty-in-residence.

Making Sense of Student-Faculty Interaction: The Faculty Perspective

The following research aims to help the reader make meaning of student-faculty interactions from the faculty point-of-view in an effort to contribute to a broader understanding of how and why student-faculty interaction occurs. Student-faculty interactions will be explored first in terms of how such interactions impact faculty, then in terms of how faculty perceive their interactions with students, and finally in reference to the ways in which faculty characteristics and pedagogy either promote or preclude student-faculty interaction. Relevant studies will explore out-of-class student-faculty interaction broadly (Einarson & Clarkberg, 2004; Umbach & Wawrzynski, 2005; Cox et al., 2010), specifically within residential communities (Golde & Pribbenow, 2000), and more precisely within faculty-in-residence programs (Sriram et al., 2011).

The Impact of Student-Faculty Interaction on Faculty

A 2011 qualitative study by Sriram, Shushok, Perkins, and Scales considers the impact of faculty-in-residence programs on faculty learning and development. Researchers analyzed portfolios, which were comprised of stated goals for the academic year and evaluations from students and student affairs administrators in the faculty's community of residence, from six faculty-in-residence at a large, private research institution. Additionally, researchers interviewed each of the six faculty participants to gain an understanding of the ways in which the faculty member had developed, both

intellectually and personally, as a result of living in residence with students. Researchers then translated their findings into a Faculty-in-Residence Development Model which organizes faculty learning and development into five themes: Opportunities (opportunities to employ personal teaching philosophy); Means (means of teaching students); Roles (various faculty roles in residential community); Benefits (academic and personal growth as a result of faculty-in-residence position); and Outcomes (learning and development outcomes that result from the faculty-in-residence position).

An important finding from the study emphasizes the intellectual gains that occur when faculty commit to living life together with students. One faculty-in-residence reported, "I was reminded in concrete ways of something I had only really known in theory before: that learning happens constantly, anywhere, anytime" (Sriram et al., 2011, p. 46). Additionally, the faculty participants cited the increased time spent with students as a primary factor in their progression from merely advising students to taking an active role in developing students. While offering meaningful insights into the impact of faculty-in-residence programs on faculty learning and development, this study encourages future research to explore further opportunities to improve the assessment of faculty-in-residence programs overall.

Faculty Perceptions of Student-Faculty Interaction

Einarson and Clarkberg (2004) explored out-of-class student-faculty interactions at a research university. They examined both institutional and personal factors that encourage and discourage faculty from engaging in out-of-class interactions with students. Based on their own review of the literature, Einarson and Clarkberg (2004) suggest that the following four factors most directly impact faculty interaction with

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students outside of the classroom: intensity of competing time demands; institutional norms and practices; personal beliefs and attitudes; and interpersonal skills. These factors informed the development of a survey instrument designed to measure nature and frequency of out-of-class student-faculty interactions and the effect of those interactions on faculty, as well as the institutional and personal factors that promote or preclude such interactions. Einarson and Clarkberg's (2004) factors fail to consider what opportunities the institution provides faculty to engage students outside of the classroom (Sriram et al., 2011).

In their analysis, Einarson and Clarkberg differentiated between out-of-class student-faculty interactions that were research-focused and those that were not. Surprisingly, an analysis of survey responses from 859 faculty suggested that busy faculty schedules did not preclude faculty from engaging in research-focused or other out-of-class interactions with students, but rather, that faculty with significant teaching and research commitments were more likely to engage in out-of-class interactions with students. Additionally, in regards to institutional norms and practices, Einarson and Clarkberg (2004) concluded that faculty who regularly engage in meaningful out-of-class interactions with students do so because of a personal, intrinsic desire to develop students rather than because of any extrinsic rewards or incentives offered by the institution. Further, many faculty who did not engage in out-of-class interactions with students were deterred by the belief that students were not interested in interacting with faculty outside of the classroom. This finding is interesting in light of the fact that related studies have found that students are similarly deterred from interacting with faculty because they believe that faculty are not interested in interacting with them (Cotten & Wilson, 2006).

Moreover, these findings support the need for more formalized institutional structures to pave the way for student-faculty interaction in response to the fact that both students and faculty are often unwilling to initiate such interactions despite the resulting personal and academic gains for both parties (Kuh & Hu, 2001; Sriram et al., 2011; Umbach & Wawrzynski, 2005). Einarson and Clarkberg (2004) call for further studies to explore in more depth the relationship between research-focused (academic) and non-research focused (social) student-faculty interactions at greater variety of institution types.

Similarly to Einarson and Clarkberg (2004), Golde and Pribbenow (2000) posit the faculty tenure system and variances in student and faculty cultures as significant reasons for faculty hesitation to engage students outside of the classroom. Golde and Pribbenow (2000) explored opportunities for faculty involvement in the creation of residential learning communities, including faculty-in-residence programs, faculty partners or fellows, and teaching academic classes in residence hall spaces. The authors conducted a phenomenological case study to understand what personal and institutional factors contributed to faculty involvement in residential learning communities. They interviewed 15 faculty members who were identified by residence life administrators as "closely involved in initial and ongoing activities of the learning communities" (p. 5). Based on their interviews with faculty members, researchers separated their findings into two distinct categories: factors related to ongoing faculty involvement within the residential community and factors impeding successful faculty integration within the residential community.

Their results suggested that faculty initially desired to become involved in residential communities because they wanted to interact with students outside of the

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classroom, because they believed that student-faculty interaction outside of the classroom was important, and/or because they believed that residential learning communities promoted "interdisciplinary and innovative education" (Golde and Pribbenow, 2000, p. 6). Further, once becoming involved with residential communities, faculty continued their involvement as a result of improved quality of relationships with both faculty and students involved in the community, as well as the impact of the community on their pedagogy. Researchers noted dissonance between faculty and student affairs professionals, and their respective roles in promoting the university's mission, as a primary impediment to successful faculty participation in residential communities. Related research by Sriram (2014) echoes this finding, suggesting that Collaboration with Academic Affairs is one of the lowest of 13 competencies related to student affairs practice.

Additionally, Golde and Pribbenow (2000) noted a tension related to the differing faculty and student expectations of faculty involvement in the residential community. Whereas faculty expected their involvement in the residence hall to be a natural outgrowth of their work in the classroom (i.e., igniting a passion in students for a particular discipline), students conversely hoped that they would get to know faculty on a more personal level as a result of their involvement in the residential community. This finding is similar to Cotten and Wilson's (2006) suggestion that students who know faculty in more academic contexts (i.e., class, research opportunities, etc.) desire more social interactions with those faculty while the opposite is true for students who initially come to know faculty in a more social setting. Golde and Pribbenow (2000) conclude that movement towards a learning paradigm in which students, faculty, and administrators

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work together to promote a cohesive institutional culture will positively impact the further creation of residential learning communities in which both students and faculty benefit from out-of-class interactions.

The Influence of Faculty Characteristics on Student-Faculty Interaction

In their quantitative study of the role of faculty in student learning and engagement, Umbach and Wawrzynski (2005) sought to understand what faculty characteristics and practices predict student learning outcomes. The authors' quest is supported by previous research suggesting that, given the high cost of a college education, student-faculty interactions do add value to the experience. Umbach and Wawrzynski (2005) attempted to answer three research questions related to (1) faculty behaviors and attitudes that encourage positive student learning outcomes, (2) the impact of faculty behaviors and attitudes on creating a culture that encourages student learning and engagement, and (3) the types of college campuses in which this culture exists.

The authors used data from the National Survey of Student Engagement (NSSE) to examine the level of student engagement with Chickering and Gamson's (1987) good educational practices as well as the attitudes and behaviors of faculty at partnering institutions. The sample for the study was made up of over 40,000 students, both first-year students and seniors, and over 14,000 faculty members at 137 colleges and universities. Umbach and Wawrzynski (2005) used hierarchical linear modeling to confirm that course-related interactions predicted student engagement, and moreover, that active and collaborative teaching styles were more appealing to students than traditional lecturing. Further, as noted by Cotten and Wilson (2006) and Kuh and Hu (2001), this study also supported that upper-division students are more likely than first-year students

to perceive faculty as mentors. Perhaps most notably, Umbach and Wawrzynski (2006) found that faculty were instrumental in creating a culture that emphasized student learning outcomes, and that student perceptions of gains increase when faculty emphasize best practices. Umbach and Wawrzynski (2006) concluded, "We found that faculty behaviors and attitudes affect students profoundly, which suggests that faculty members may play the single-most important role in student learning" and "Because faculty play a critical component of the collegiate experience, colleges and universities need to find ways (perhaps new ways) to support and reward faculty in their teaching role" (p.176).

Related research explores faculty tendencies inside the classroom that cause students to perceive faculty as more approachable outside of the classroom (Cox, Reason, McIntosh, Terenzini, Reason, & Quaye, 2010). Like many other studies (Cotten & Wilson, 2006; Kuh & Hu, 2001; Garrett & Zabriski, 2003; etc.), researchers determined, through qualitative methodology, that most faculty members engage in very little contact with students outside of the classroom. Moreover, Cox et al. found that students are more likely than faculty to initiate interaction and that many faculty members do little to encourage more meaningful relationships with students. However, they also found that a significant minority of faculty members did engage in more frequent and more meaningful interactions with students outside of the classroom. The researchers then used structural equation modeling in an attempt to determine why some professors were more likely than others to engage students outside of the classroom.

Notably, male professors, full-time professors, white professors, and professors who taught first-year courses were more likely to interact with students outside of the classroom, though such interactions were more often functional rather than substantive.

While such functional interactions begin the process of breaking down barriers between students and faculty, more substantive interactions are necessary if the academy is to fully embrace a learning paradigm that sees faculty as mentors, rather than just instructors. Similarly to findings from related research (Boyer, 1990; Golde & Pribbenow, 2000; Hacker & Dreifus, 2010), faculty pressure to publish proved an impediment to substantive student-faculty interactions outside of the classroom. Surprisingly, researchers were unable to demonstrate that effective pedagogical practices, such as regular feedback on student assignments, creation of collaborative learning opportunities, and facilitation of group discussions, contributed to student-faculty interaction outside of the classroom. This finding may suggest the need for opportunities for student-faculty interaction that reach beyond academic interaction (i.e., opportunities for Social and Deeper Life interaction). Researchers urged future studies to consider what student characteristics, if any, make certain students more likely to seek faculty interaction outside of the classroom.

Making Sense of Student-Faculty Interaction: Institutional and Organizational Culture

The following research aims to help the reader make meaning of student-faculty interactions from an institutional perspective in an effort to contribute to a broader understanding of how and why student-faculty interaction occurs. Research from Fuentes, Alvarado, Berdan, and DeAngelo (2014) explores how institutional culture can promote higher quality student-faculty interactions while research from Cox and Orehovec (2007) sheds light on the ways in which one residential college seeks to promote a culture of meaningful student-faculty interaction.

Fuentes et al. (2014) suggest that student peers and faculty members are primary facilitators of a socialization process that leads to more meaningful interactions between students and faculty. Fuentes et al. (2014) used quantitative survey methodology analyzed through structural equation modeling to explore the relationship between early student-faculty contact and communication (i.e., within a student's first-year of college) and the development of a mentoring relationship between student and faculty by the student's senior year. They found that students' interactions with faculty during their first year of college served as a socialization process which then shaped their experiences with faculty members through their senior year.

Similarly to Kuh and Hu (2001), Cotten and Wilson (2006), and Garrett and Zabriskie (2003), Fuentes et al. (2014) conceptualize student-faculty mentoring relationships in two distinct categories, formal mentoring and informal mentoring, wherein formal mentoring refers to in-class interactions and informal mentoring refers to out-of-class interactions. They suggest that informal mentoring between students and faculty contributes more meaningfully to learning outcomes than does formal mentoring and that a culture of mentoring relationships between students and faculty is created through the socialization of students into the academy. Further, Fuentes et al. (2014) find that, when students meet and interact with faculty regularly during their first year of college, they are more likely to seek faculty guidance throughout the remainder of their college experience as they continue to develop academically, socially, emotionally, and spiritually. These findings suggest that institutional culture plays a strong role in the way in which students are socialized upon matriculation. Subsequently, faculty and peers are largely responsible for creating a culture in which student-faculty interaction is both

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meaningful and valued. In response to studies that have noted limited interaction between students and faculty before a student's junior or senior year (Cotten & Wilson, 2006; Kuh & Hu, 2001; Cox & Orehovec, 2007), Fuentes et al. (2014) suggest that faculty must make meaningful contact with students during their first-year of college so as to create a culture of collaboration between students and faculty that extends through the student's senior year and beyond.

Similarly to Kuh and Hu (2001) and Cotten and Wilson (2006), Cox and Orehovec (2007) support the general findings that (1) student-faculty interaction is infrequent on most college campuses, and (2) that out-of-class interactions between students and faculty are more important than in-class interactions. In an effort to better understand student-faculty interactions outside of the classroom, Cox and Orehovec (2007) employed a mixed-methods approach to address two research questions relating to (1) the nature of student-faculty interaction outside of the classroom, and (2) the conditions that promote and preclude out-of-class interactions between students and faculty.

Cox and Orehovec conducted their study in a residential college, wherein student-faculty interactions were a stated learning outcome. Even after purposefully selecting students who were active within the residential college, the researchers found that student-faculty interactions were both infrequent and often ineffective. Their results suggested that, "Even within a small community that intentionally fostered faculty-student interaction outside the classroom, only eight of the 40 associated faculty members had made enough contact with students to be remembered" (Cox & Orehovec, 2007, p. 352). Findings such as this call for future studies to gain insight and understanding into

the effectiveness of current efforts to increase student-faculty interactions (i.e., faculty partner programs, faculty advising opportunities, faculty-in-residence positions, etc.).

Cox and Orehovec (2007) translated their results into a typology that juxtaposes frequency and nature of student-faculty interaction. From least frequent to most frequent, Cox and Orehovec (2007) conceptualized the nature of student-faculty interaction in five distinct categories, including: Disengagement (no interaction outside of classroom); Incidental Contact (unintentional contact); Functional Interaction (contact that occurs for a specific, academically-related purpose); Personal Interaction (purposeful interaction that involves around the interests of the student or faculty); and Mentoring (interaction related to career and professional development, emotional and psychosocial support, and role-modeling). Notably, in their sample size of over 20 students, only one student displayed a Mentoring relationship with a faculty member. Further, interviews suggested that faculty perceive themselves as mentors to students at a higher rate than students perceive them as mentors. However, Cox and Orehovec (2007) noted that both students and faculty were unhappy with such limited and inconsequential interactions, emphasizing the need to increase resources aimed at fostering student-faculty interactions. Finally, Cox and Orehovec (2007) called for future studies to address the value of student-faculty interactions from both the student and faculty perspectives, as well as the influence of campus culture on student-faculty interaction.

Residential Colleges

Thus far, this chapter has explored how and why student-faculty interaction occurs from three different perspectives (student, faculty, and institutional) and within three different venues: (1) general out-of-class student-faculty interaction; (2) student-

faculty interaction within residential communities; and (3) student-faculty interaction within faculty-in-residence programs. Subsequent studies further expand upon this research by exploring a specific type of residential community known as a residential college, which is the context for the current study. In Chapter One of this study, a residential college is defined as a residential community that welcomes students of all classifications and academic majors, and that is governed by a live-in faculty member, or faculty-in-residence. The following literature expounds upon the ways in which residential colleges are distinct from other residential learning communities, as well as the ways in which residential colleges promote more meaningful forms of student-faculty interaction.

Residential colleges aim to integrate students' in-class and out-of-class experiences within the university. While perhaps this is a stated goal of other types of residential communities (e.g., traditional residence halls, living-learning programs, etc.), residential colleges have specific physical and organizational structures that promote a more seamless fusion of the academic and social realms of the collegiate experience (O'Hara, 2001). Residential colleges are distinguished by the "presence of faculty, both as administrators and residents; by a sense of continuing tradition reinforced with ritual and symbol; and by organized student life in the form of student government, organizations, teams, educational endeavors, and social activities" (Ryan, 2001, p. 19). Such qualities are embodied within physical structures of the residential college such as housing for associated faculty members, study spaces for students, community spaces for both students and faculty, and a communal dining hall for members of the college, as well as through the organizational and symbolic structures within the residential college,

including a college crest, a student governing board, and events such as weekly tea that bring students and faculty together. Moreover, in an attempt to represent a smaller subset within the larger university landscape, residential colleges are enriched by students from all classifications and academic disciplines (O'Hara, 2001).

A 2012 study by Jessup-Anger describes residential colleges as smaller enclaves within a research university that are devoted to the liberal arts ideal, in which the liberal arts ideal promotes the holistic development of students through a commitment to lifelong learning. Jessup-Anger suggests that one key way in which residential colleges uniquely impact students' commitment to lifelong learning is through increased opportunities for student-faculty interaction. O'Hara (2001) adds that intentional student-faculty interaction is key in solving a crisis that he refers to as "the poverty of student life" (p. 52) within the modern university. Ryan (1992) emphasizes the role of faculty in creating both formal and informal opportunities for student interaction within the college, wherein faculty have the opportunity to listen to, advise, and affirm students.

At their best, residential colleges embrace the educational value that is inherent within community life (Ryan, 1992). Residential colleges are most successful when both students and faculty are committed to "the principle that informal contact in structured community life is a significant element in the learning process – contact between students and instructors, and among students themselves" (Ryan, 1992, p. 34). Both students and faculty have much to gain if they simply embrace the physical and organizational structures within the residential college that promote meaningful interactions among members of the community. My study explores student-faculty interaction within faculty-in-residence programs at residential colleges in an attempt to better understand both how

and why student-faculty interaction occurs in an environment that embraces and encourages such relationships.

Moving Towards a Framework for Understanding Student-Faculty Interaction in Faculty-in-Residence Programs

Thus far, the studies reviewed in this section suggest that the quality of student-faculty interaction is more important than the frequency of student-faculty interaction, that student perceptions of faculty are strongly tied to their decision to interact with faculty, that faculty play an important role in creating a culture where student-faculty interaction is valued, and ultimately, that both substantive and social student-faculty interactions contribute positively to student-learning outcomes. Further, studies related specifically to student-faculty interaction within residential communities suggest that out-of-class social and substantive interactions between students and faculty are often infrequent, even when student-faculty interaction is a stated goal. Reasons for this include a lack of fluidity between student and faculty cultures within the institutions. Lastly, relevant research distinguishes residential colleges from other forms of residential communities and describes the unique role of student-faculty interaction within residential colleges.

A recent study by Sriram and McLevain (*under review*) sought to add to this body of research through the examination of student-faculty interaction in residential colleges with faculty-in-residence programs. Sriram and McLevain created a statistically valid and reliable psychometric survey instrument to measure student-faculty interaction. An analysis of the initial survey results led Sriram and McLevain to hypothesize, through the creation of conceptual framework, about how student-faculty interaction might occur

within faculty-in-residence programs. They then urged future studies to expand upon their research by either confirming or modifying their conceptual framework. This study seeks to answer that call.

The current conceptual framework describes student-faculty interaction within faculty-in-residence programs through five factors: Knowledge, Social Interaction, Academic Interaction, Value, and Deeper Life interaction. The framework suggests that student-faculty interactions within faculty-in-residence programs can be understood in three overarching categories of interaction: Social interactions, Academic interactions, and Deeper Life interactions. These three categories of interaction are then facilitated or inhibited depending upon students' Knowledge and perceived Value of the Faculty-in-Residence (see Figure 2 below).
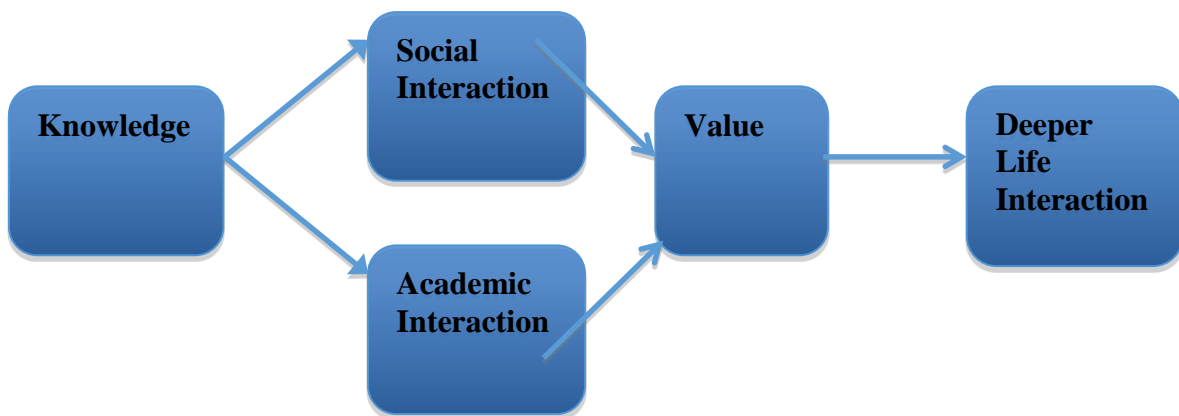

Figure 2. Student-faculty interaction within faculty-in-residence programs.

This three-category model of student-faculty interaction aims to synthesize the work of scholars such as Kuh and Hu (2001), Cotten and Wilson (2006), Garrett and Zabriskie (2003), and Benjamin and Griffin (2013) who conceptualize student-faculty

interaction in only two categories (i.e., either social and substantive interactions or formal and informal interactions), by suggesting a third category of interaction, called Deeper Life interaction, related to meaningful interactions that are distinct from academic interactions. Even scholars such as Alderman (2008), who described student-faculty interaction in six categories (i.e., course-related activities; conference or study-abroad opportunities; interaction related to post-graduation plans; interaction during faculty office hours; and faculty participation in student organizations and activities) fail to recognize more personal, Deeper Life interactions between students and faculty. The essence of Deeper Life interaction is demonstrated in the Mentoring tier of Cox and Orehovec's (2007) pyramid of student-faculty interaction, which describes a personal relationship between student and faculty as defined by emotional and psychosocial support and role modeling (p. 356).

Additionally, much of the literature suggests that student-faculty interaction increases over a student's four years in college (Kuh & Hu, 2001; Cotten & Wilson, 2006, Umbach & Wawrzynski, 2005, etc.). Though many studies suggest that intentional efforts such as advising opportunities and involvement in residential learning communities contribute to increased student-faculty interaction (Kuh & Hu, 2001; Golde & Pribbenow, 2000; Garrett & Zabriskie, 2003, etc.), it is also important to consider *how* such efforts encourage increased student-faculty interaction. The conceptual framework presented in this study seeks to demonstrate how student-faculty interaction occurs by suggesting that Knowledge of the faculty-in-residence program leads to increased Social and Academic interaction. Social and Academic interactions then lead the student to

place Value in the faculty-in-residence program, which then encourages Deeper Life interaction between the student and faculty-in-residence.

Though considerable research has explored student-faculty interaction inside and outside of the classroom using both qualitative and quantitative methodologies (Kuh & Hu, 2001; Benjamin & Griffin, 2013; Cotten & Wilson, 2006; Einarson & Clarkberg, 2004; Umbach & Wawrzynski, 2005; etc.), few studies explore student-faculty interactions within faculty-in-residence programs (Cox & Orehovec, 2007; Garrett & Zabriskie, 2003; Golde & Pribbenow, 2000; Mara & Mara, 2010; Sriram et al., 2011; etc.), and no extant studies have done so using quantitative methodology. Qualitative studies provide much insight into the phenomena examined, but the purpose of such studies is not to make inferences to a larger population. Therefore, the nature of qualitative studies is such that existing research on student-faculty interactions within faculty-in-residence programs cannot be generalized to the wider population of faculty-in-residence programs. A quantitative study can add to the current literature by allowing findings from a sample to be inferred on a larger population.

The information found from existing studies suggests that faculty-in-residence programs increase student-faculty interaction, which leads to positive learning outcomes. Further, one such study even suggests a framework for understanding different categories (i.e., happenstance, programmatic, and purposeful) of student-faculty interaction within faculty-in-residence programs (Mara & Mara, 2010). However, no extant study seeks to understand how various aspects of student-faculty interaction relate to one another.

This study is fueled by the need for quantitative research to promote a broader understanding of student-faculty interaction within faculty-in-residence programs. The

framework presented by Sriram and McLevain (*under review*) seeks to synthesize the work of previous scholars by describing the relationship between Social, Academic, and Deeper Life student-faculty interaction within faculty-in-residence programs. My study will use structural equation modeling to confirm or modify the relationship described in their framework. The model posits that students' knowledge of the faculty-in-residence position influences the level of comfort a student feels in interacting with the faculty-in-residence. Social and academic interactions between students and faculty-in-residence cause the student to place value in the faculty-in-residence position, which in turn, encourages the student to engage in deeper life interactions with the faculty-in-residence. Through interactions such as these, faculty-in-residence programs present faculty and students with the opportunity to learn and grow from one another in meaningful ways.

CHAPTER THREE

Methods

Research Design

This study seeks to understand and describe student-faculty interactions within

faculty-in-residence programs through the creation and validation of a causal model of

student-faculty interaction and related outcomes. In order to address the stated research

question, this study uses a quasi-experimental, cross-sectional survey design.

Confirmatory factor analysis and structural equation modeling will be used to analyze the

data. Confirmatory factor analysis is used to confirm the validity and structure of the

instrument as a measure of latent variables. In this case, I will use confirmatory factory

analysis to determine if the five factors of student-faculty interaction that I propose in my

conceptual framework (Knowledge, Social Interaction, Academic Interaction, Value, and

Deeper Life Interaction) have the necessary construct validity to make their

corresponding instrument items appropriate measures of the constructs.

Structural equation modeling will then be used to develop a causal model that

explains if and how these five factors relate to one another in the way that I propose (i.e.,

Knowledge leads to Social and Academic Interaction which leads to Value which then

leads to Deeper Life Interaction). In other words, confirmatory factor analysis will allow

me to determine whether or not there is a relationship between my observed variables and

their latent variables, and structural equation modeling will allow me to determine how

those latent variables influence each other. Structural equation modeling is an appropriate

tool for the current study because I already have specific, empirically-based ideas about which of my survey items reflect each of the five factors of student-faculty interaction that I propose, and I now desire to examine the ways in which the factors are related. This knowledge, which contributed to my conceptual framework, was gleaned from prior research in which Sriram and McLevain (*under review*) performed an exploratory factor analysis of data after the initial creation and distribution of the Faculty-in-Residence (FIR) survey used in this study.

Population, Sample, and Participants

The population for this study consists of college undergraduates in the United States who are part of residential colleges. My sample will include undergraduate students who currently live in residential colleges with faculty-in-residence at Baylor University, Virginia Polytechnic Institute and State University, Yale University, Rice University, and Tulane University. My operational definition of residential colleges warrants that each residential college identified for use in this study must be open to students of all classifications and academic disciplines. Because of that provision, my sample will include male and female undergraduate students of a variety of classifications and academic disciplines who live in residential colleges with faculty-in-residence programs. The FIR survey instrument will be sent to all residents of designated residential colleges at each institution mentioned above. At Baylor University, I will send my survey to residents of Brooks Residential College (N=366), the Honors Residential College (N=342), and Teal Residential College (N=347); At Virginia Polytechnic Institute and State University, I will send my survey to residents of West Ambler Johnston (N=830) and the Honors Residential College at East Ambler Johnston (N=300);

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At Yale University, I will send my survey to residents of selected residential colleges (N=300); At Rice University, I will send my survey to residents of selected residential colleges (N=350 per college, on average); At Tulane University, I will send my survey to residents of Wall Residential College (N=250). I expect 15% of my participants to respond to the survey which will result in a total of approximately 460 survey responses.

Data Collection

As survey responses will be collected from five institutions across the nation, I chose a cross-sectional survey method for data collection in an effort to obtain data efficiently from a large number of participants at each institution. Additionally, I chose purposive sampling in order to ensure that each student surveyed has a similar context for understanding student-faculty interactions within his or her residential college, as determined by my operational definition of a residential college, which is expanded upon in chapters one and two of this study.

Background of Instrument

The survey instrument being used in this study, entitled the Faculty-in-Residence (FIR) survey, was recently created by Sriram and McLevain (*under review*) in an effort to move towards a broader understanding of student-faculty interaction within faculty-in-residence programs. Sriram and McLevain first created survey items based on their knowledge of theory paired with their own experience working in a residential college. After piloting the FIR survey at two institutions, one public and one private, they used a principle components factor analysis to determine that the survey instrument is both valid and reliable. The FIR survey consists of five scales, including: Knowledge (of the

faculty-in-residence position); Social Interaction (casual and light-hearted interactions with the faculty-in-residence that impact the student's experience); Academic Interaction (interactions with the faculty-in-residence that relate to intellectual stimulation, connections to other faculty, classes, major, or career); Value (students' perception of the worth of the investment of resources for the faculty-in-residence position); and Deeper Life Interaction (student interactions with the faculty-in-residence that reflect both a level of comfort and a relationship on a deeper, more personal level (e.g., conversations about relationships, family, spirituality).

Variables and Scale

Each survey item asks participants to state their level of agreement with a declarative statement using a six-point Likert scale. The response options include: Strongly Disagree, Moderately Disagree, Slightly Disagree, Slightly Agree, Moderately Agree, and Strongly Agree. I intentionally removed a neutral response option in an effort to determine some level of agreement or disagreement from each participant. Each item is ultimately intended to capture student-faculty interactions within faculty-in-residence programs. Examples of survey items that comprise each scale include: "I know where the faculty-in-residence's home is located" (Knowledge); "I am glad that my institution devotes resources to having faculty live in residential communities with students (Value); "I think the faculty-in-residence does a great job of creating opportunities to interact with students that are more casual and light-hearted" (Social Interaction); "I feel more academically connected to my institution because of the faculty-in-residence" (Academic Integration); and "I would feel very comfortable asking the faculty-in-residence for advice" (Deeper Life Interaction).

Traditional demographic questions relating to age, classification, gender, race, ethnicity, and self-reported GPA are paired with questions relating specifically to a student's experience in the residential community, including home state, number of visits home per semester, leadership positions within the community, and length of time in the community. Three additional demographic questions are related specifically to the gender, ethnicity, and academic discipline of the faculty-in-residence.

Reliability of Instrument

The reliability of the FIR survey instrument was analyzed using Cronbach's alpha, which measures internal consistency. Cronbach's alpha measurements suggest how well individual survey items correlate with one another, thus determining the reliability of a given scale (Trochim & Donnelly, 2008). In other words, high Cronbach's alpha measurements for a given scale suggest that each of the survey items within that scale are measuring the same latent variable. The survey instrument for the current study consists of 44 items comprising five scales. When the FIR survey was first piloted and the resulting data analyzed, each of the five scales had Cronbach's alpha measurements between .84 and .96. Cronbach's alpha scores above .8 are considered very good, which suggests that the survey instrument is very reliable (Trochim & Donnelly, 2008).

Validity of Instrument

While reliability measures how well individual survey items relate to one another, validity measures how well an entire scale of survey items relates to the latent variable. For example, validity measures how well a designated set of survey items measures the latent variable, Knowledge. Described another way, validity allows the researcher to

determine to what extent a given scale represents what it is intended to represent. Content validity measures the extent to which a latent variable, and the survey items that comprise it, are representative of a given social construct (Trochim & Donnelly, 2008). For example, the Social Interaction scale in the FIR survey has high content validity because the items in the scale are consistent with Social Interaction, as described in the literature. Sriram and McLevain (*under review*) used both a review of scholarly research surrounding student-faculty interaction within residential communities as well as their own first-hand experience working as a faculty-in-residence and a graduate hall director in a residential college, respectively, in order to increase content validity of each of the five scales within the FIR survey. Their exploratory factor analysis demonstrated appropriate construct validity in the instrument.

Distribution of Instrument

I will distribute the FIR survey online through Qualtrics survey software to students who live in residential colleges at Baylor University, Virginia Polytechnic and State University, Yale University, Rice University, and Tulane University. The link to the Qualtrics survey will be sent via email from the faculty-in-residence to students at each residential college in early December. In January, I will compile the survey results from each institution and analyze the data together.

<div align="center">

Data Analysis

</div>

Survey data will be analyzed using confirmatory factor analysis and structural equation modeling. These analyses will allow me to examine the conceptual framework that guides this study. First, through the use of confirmatory factor analysis, I will be able

to determine if the five latent variables that I suggest are represented by their observed variables in the FIR survey. Confirmatory factor analysis is another check for construct validity. Then, through structural equation modeling, I will be able to determine if Knowledge indeed predicts Social and Academic Interaction and if Social and Academic Interaction then predict Value. I will then determine how these variables directly and indirectly predict Deeper Life interaction. Structural equation modeling allows the researcher to determine if a given input variable can successfully predict a given outcome variable (Holtzman & Vezzu, 2011).

In my conceptual framework, each factor can function as both an independent and a dependent variable, depending on a student's progression within the model. For example, in the beginning of a student's college career, Knowledge acts as the independent variable while Social and Academic Interaction are both dependent variables. I suggest that Knowledge of the faculty-in-residence position will lead to Social and Academic Interaction. Once the student has progressed through the model and is experiencing Social and Academic Interaction with the faculty-in-residence, I suggest that the student will then begin to perceive Value in the faculty-in-residence position (i.e., Social and Academic Interaction lead to perceived Value). When that occurs, Social and Academic Interaction become independent variables and Value becomes a dependent variable. This continues as a student progresses through the model to Deeper Life Interactions with the faculty-in-residence. Through the use of confirmatory factor analysis and structural equation modeling, my study plans to modify and improve the suggested relationship between each of the five factors as appropriate (see Figure 3 below).
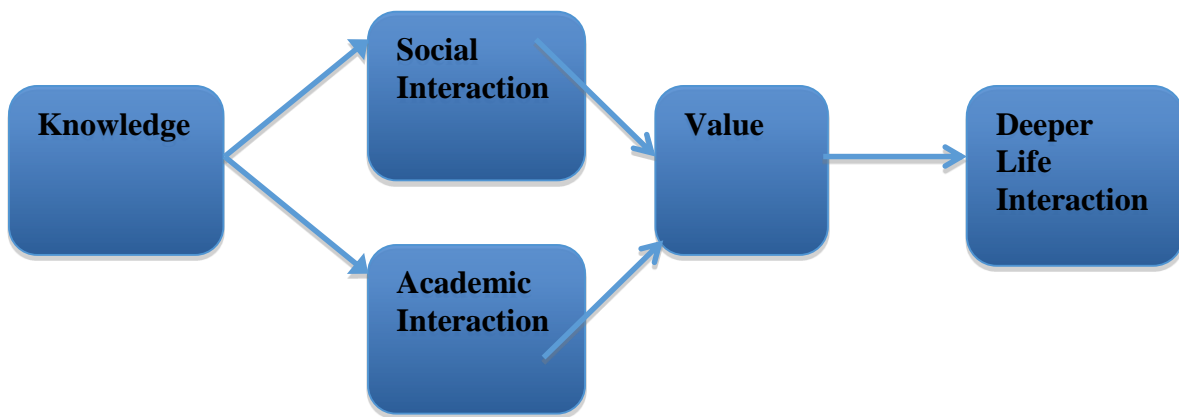
Figure 3. Student-faculty interaction within faculty-in-residence programs.

Limitations

Limitations to this study include that it is quasi-experimental in nature, meaning that I used purposeful sampling, rather than random assignment, to determine my study participants. This limits the generalizability of my findings. However, because I am distributing my survey to a large sample of students from residential colleges across the nation, my results should be largely generalizable to undergraduate students within residential colleges. Secondly, because I will distribute my survey to every member of the selected residential colleges, yet I am expecting a relatively low response rate (only 15%), it is possible that selection bias may lead to a skewed understanding of student-faculty interaction within faculty-in-residence programs that is not representative of each student's experience in the residential college. Lastly, my understanding of student-faculty interaction within residential colleges is limited in that it only considers student-faculty interaction from the student point-of-view; it does not seek to understand student-faculty interactions from the faculty point-of-view (Sriram et al., 2011). Therefore, it is

possible that my understanding of student-faculty interaction within residential colleges may be skewed.

CHAPTER FOUR

Results

The purpose of this study is to explore student-faculty interaction within faculty-in-residence programs. The data discussed here includes student responses to 11 demographic questions and 44 survey items aimed at describing student interactions with faculty-in-residence in residential colleges. In total, I received survey responses from five residential colleges at three different institutions. The initial response totals were as follows: Brooks Residential College (N=89); Honors Residential College (N=81); Teal Residential College (N=62); The Residential College and Honors Residential College at Ambler Johnston (N=243); Baker Residential College (N=65). The combined responses of each residential college totaled 540 responses. The survey was sent to a total of 2,535 students, making my total response rate 21%. After removing participants who did not complete the entire survey, I used 413 responses in my data analyses. Research suggests a minimum of 150 participants when using maximum likelihood estimation in AMOS, and that "as the sample size increases, the MLE [maximum likelihood estimation] method increases its sensitivity to detect differences among the data" (Teo et al., 2013, p.10). Therefore, a sample size of 413 is very good.

Demographic Information

Participants of the study who provided demographic information included 155 males (37.5%) and 238 females (57.6%). Of those, 42.6% were first-year students

(N=176), 27.6% were sophomores (N=114), 16.2% were juniors (N=67), 8% were

seniors (N=33), and 1.2% were graduate students (N=5). Participants ranged in age from

18 years old (15.7%; N=65) to 23 years old or older (2%; N=8), with 51% of participants

identifying as age 18 or 19 (N=208). Races and ethnicities represented in the study

include Asian/Asian American/Pacific Islander/South Asian (<1%; N=3), Black/African

American (8.7%; N=36), Hispanic/Latino(a) (<1%; N=1), Multiracial/Multiethnic (<1%;

N=2),White/Caucasian/European American (76%; N=314), and Other (7.3%; N=30).

The majority of participants (50.4%; N=208) had lived in their current residential

community for one year, 26.2% (N=108) of participants had lived in their current

community for two years, 14% (N=58) had lived in their current community for three

years, and 5.1% (N=21) had lived in their current community for four or more years.

Over one-fourth (26.2%; N=108) of students who completed the survey had held a

leadership position within their current residential community. The majority of

participants (62%; N=257) reported that they go home less than one time per month,

while 7.7% (N=32) of participants reported that they never go home during the semester,

20.1% (N=83) reported that they go home once per month, and 5.5% (N=23) of

participants reported that they go home more often than once per month.

Data Screening Process

It was necessary to screen my data before running my data analyses in AMOS.

AMOS (Analysis of Moment Structures) is a data analysis program that allows the user to

draw a model illustrating his or her hypothesized relationships among certain variables,

and to then compare that hypothesized model with empirical data. When performing data

analyses with the AMOS program, AMOS requires that there be no missing data in the

data set. Therefore, it was necessary to eliminate several responses from my initial data set. Any participant who did not indicate an answer for each of the 44 survey items was excluded from the final data set. This form of data removal is called listwise deletion of available case analysis, in which it is acceptable to remove all missing data points assuming that those data points are missing at random (Jackson, Gillaspy, & Purc-Stepenson, 2009).

The second step in preparing my data for analysis was to reverse code the following three survey items: (6) I would vote to get rid of the [faculty master] position if I knew it would make my costs lower; (12) The [faculty master] has had a negative impact on my residence hall this year; and (16) I think the [faculty master] is intimidating.

The final step in preparing my data for analysis required that I codify each residential college with a number, so as to remove any experimenter bias in the data analysis process. After eliminating cases with missing data, reverse coding where appropriate, and codifying each residential college with a number, my data was ready for analysis.

Confirmatory Factor Analysis

I chose confirmatory factor analysis as the first step in my data analysis because it is a strong measure of construct validity. Confirmatory factor analysis allowed me to determine how well each of my survey items, or observed variables, measured their respective latent variables, or unobserved variables. Confirmatory factor analysis is an appropriate first step because the Faculty-in-Residence survey instrument has already been found valid and reliable via a principle components factor analysis conducted previously

by Sriram and McLevain (*under review*). Research suggests that it is inappropriate to conduct a confirmatory factor analysis before an assessment instrument has been fully developed and validated (Byrne, 2010, p.97).

Hypothesized Model

I chose AMOS as the platform through which to conduct both my confirmatory factor analysis and my structural equation model. When conducting analyses on AMOS, the researcher first presents a hypothesized model that is representative of the researcher's theory of the phenomenon in question, which in this case is student-faculty interaction within faculty-in-residence programs. In regards to the confirmatory factor analysis, I constructed a hypothesized model which suggested that student-faculty interaction within faculty-in-residence programs can be explained by five latent variables (Knowledge, Social Interaction, Academic Interaction, Value, and Deeper Life Interaction) and that each latent variable is represented by a distinct set of survey items as follows: Knowledge (items 1-6); Value (items 6-11); Social Interaction (items 12-22); Deeper Life Interaction (items 23-35); and Academic Interaction (items 36-44). Lastly, I hypothesized that each of the five latent variables are correlated to one another, which suggests that they are distinct measures of the same phenomenon. See Figure 4 for a visual representation of my initial hypothesized model.

Data Estimation, Normality, Outliers, and Multicollinearity

In AMOS, data estimation refers to the process through which the program calculates the coefficients between the observed and unobserved variables. Research

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suggests that data maximum likelihood (ML) is the most appropriate form of data estimation for data that is normally distributed (Byrne, 2010; Schreiber et al., 2006).
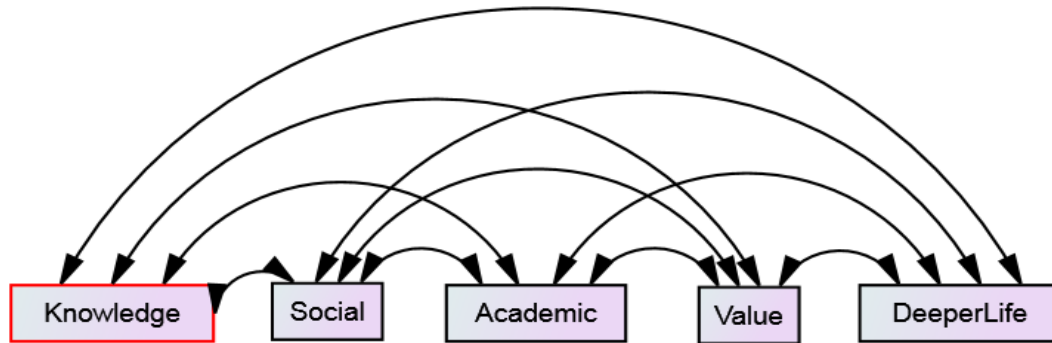
Figure 4. Confirmatory factor analysis.

Therefore, because my data is normally distributed, it was appropriate for me to use maximum likelihood (ML) estimation for my data analysis.

It is also important to assess normality of data before running subsequent analyses in AMOS. Non-normal data suggests that participant answers are heavily skewed in a certain direction, either positively or negatively, whereas normal data suggests that participant answers fall along a traditional bell curve. Normality is important because it ensures a more accurate assessment of variance and covariance within the AMOS model (Byrne, 2010). Univariate normality is the probability distribution of one random variable. Univariate normality is assessed via the standardized kurtosis index (β_2). While there does not seem to be a consensus regarding a cut-off for kurtosis values, Byrne (2010) suggests noting values greater than ±7 as possible indicators of "early departure from normality" (p.103). In this case, two observed variables on the knowledge scale, item one and item four, are greater than seven. However, because both one and four are theoretically sound items, "I know where the faculty-in-residence's home is located" and

"I know the faculty-in-residence's name," I chose not to delete them from the Knowledge scale.

A third important consideration in AMOS data analysis is the assessment of multivariate outliers. Multivariate outliers represent data that significantly differ from all other scores in a given data set. Multivariate outliers can be determined via the calculation of the squared Mahalanobis distance (D^2), which represents the number of standard deviations between a group of data and the means, or centroids, of all variables (Bryne, 2010, p.105-106). Bryne (2010) suggests that a D^2 score that "stands distinctively apart from all the other D^2 values" (p. 106) is considered a multivariate outlier. I did not find any D^2 values that were significant outliers in my data set, which in turn means that there are no multivariate outliers of concern.

A final consideration when preparing data for analysis in AMOS is the multicollinearity of the data (Schreiber et al., 2006; In'nami & Koizumi, 2013). Multicollinearity accounts for instances in which observed variables are too highly related (In'nami & Koizumi, 2013). Extreme multicollinearity is a concern because it can skew model fit. In'nami and Koizumi (2013) suggest excluding one of any pair of variables with a correlation higher than $r = .90$. My initial hypothesized model included two variable pairs with correlations of higher than $r=.90$. The variable pairs were Deeper Life Interaction and Academic Interaction ($r=.96$) and Deeper Life Interaction and Social Interaction ($r=.92$). In light of the expressed multicollinearity, I chose to run a principal components analysis on my data in order to determine which observed items were causing overlap among the Academic Interaction, Social Interaction, and Deeper Life

Interaction latent variables. The results of the principal components analysis are discussed later in the "Model Modifications" section of this paper.

Model Fit: Initial Hypothesized Model

After taking into account the mode of data estimation, the normality of data, the presence of outliers, and the multicollinearity of observed variables, it was appropriate to examine model fit. Research suggests it is appropriate to report the following data when determining model fit in a confirmatory factor analysis: significance of regression weights, description of model (chi-square, probability level, and degrees of freedom), and goodness-of-fit indicators (CFI, RMSEA, and SMC) (Byrne, 2010; Screiber et al., 2006; Jackson, Gillaspy, & Purc-Stepenson, 2009). My initial confirmatory factor analysis suggested an adequate fit between my hypothesized model and the data.

Significance of regression weights. In AMOS, unstandardized regression weights are examined for significance at the $p < .001$ level. Significance is determined by dividing the unstandardized coefficient by the standard error (Teo et al., 2013). Each regression weight in my initial model was significant, meaning that the hypothesized relationships between my latent variables and each of their observed variables are significant. This finding means that all items were in fact measurements of their corresponding latent variables.

Description of model. Absolute fit indices such as chi-square, probability level, and degrees of freedom allow the researcher to determine to what extent his or her model can replicate the sample data (Teo et al., 2013). Chi-Square (χ^2) determines if, and to what extent, the researcher's model is misspecified, or does not align with the sample

data. Theoretically, the researcher would want a non-significant chi-square value because that would mean that there was no significant difference between the hypothesized model and the observed data. However, much research notes the inconsistency of the chi-square statistic in accurately determining model fit (Byrne, 2010; Screiber et al., 2006; Teo et al., 2013). Teo et al. (2013) suggest, "The χ^2 has been found to be too sensitive to sample size increases such that the probability level tends to be significant… Consequently, a non-significant p-level is uncommon, although the model may be a close fit to the data" (p.14). The chi-square statistic in my initial model was 2933.606, with a probability level of .000. Further, my initial confirmatory factor analysis model had 820 distinct sample moments and 727 degrees of freedom, which suggest that 727 of the 820 sample moments were free to vary, while I imposed 93 distinct parameters to be estimated.

Goodness-of-fit indicators. Goodness-of-fit indicators are useful in determining how well the researcher's hypothesized model represents the data. There are a variety of goodness-of-fit indices to choose from in AMOS, however, Byrne (2010) and Schreiber et al. (2006) recommend reporting the following indices: CFI (Comparative Fit Index); RMSEA (Root Mean Square Error of Approximation); and SMC (Squared Multiple Correlations).

The CFI value can fall anywhere between zero and one and is representative of the hypothesized model compared to the null model. Much research suggests CFI values close to or above .95 to be indicative of excellent model fit (Byrne, 2010; Schreiber, 2006). My initial hypothesized model had a CFI of .88, which indicates a bad model fit.

Byrne (2010) suggests that the RMSEA statistic is, "…one of the most informative criteria in covariance structure modeling" (p.80). The RMSEA value is representative of

how well the researcher's hypothesized model would fit the population covariance matrix. Byrne (2010) suggests that RMSEA values of .06 or less indicate excellent model fit, while RMSEA values of .06 - .08 indicate decent model fit. My initial hypothesized model had a RMSEA value of .08, indicating decent model fit.

The SMC indicates the reliability of the relationship between a latent construct and its observed variable. In other words, the SMC for a specific observed variable describes what percent of variance in the latent variable is accounted for by that specific observed variable. In my initial confirmatory factor analysis, item 34 on the Deeper Life scale (.883) and item 2 on the Knowledge scale (.199), have the highest and lowest squared multiple correlation values, respectively.

Model Modifications

After reviewing the initial hypothesized model in the confirmatory factor analysis, it is necessary for the researcher to determine whether or not the hypothesized model is an appropriate fit to the data. If the researcher is satisfied with the fit of the model, both theoretically and statistically, no further changes need to be made. However, it is also possible that the researcher might want to make changes to his or her hypothesized model after comparing it to the data, so as to create a model that more accurately represents the data. When making model modifications, it is vitally important that any modifications are justified both theoretically and statistically. It is inappropriate to make modifications that are justified statistically but not theoretically just to improve model fit (Byrne, 2010). Because my initial hypothesized model represented only an adequate fit to the data (CFI=.88; RMSEA=.08), I wanted to consider whether or not it would be appropriate to modify my model in order to achieve a better fit to the data.

Byrne (2010) suggests two types of statistics that are helpful when gauging whether or not it is appropriate to modify an initial hypothesized model: (1) Standardized Residual Covariances; and (2) Modification Indices. Regarding standardized residual covariances, Byrne suggests, "they represent estimates of the number of standard deviations the observed residuals are from the zero residuals that would exist if model fit were perfect" (2010, p.86). Byrne (2010) suggests that standardized residual covariances with values greater than 2.58 are not ideal. In my initial confirmatory factor analysis, the following 11 observed item pairs have standardized residual covariances greater than 2.58: Knowledge 4 and Academic 36 (2.929); Knowledge 2 and Academic 40 (2.645); Knowledge 4 and Deeper Life 35 (2.709); Knowledge 4 and Deeper Life 33 (2.694); Knowledge 2 and Deeper Life 25 (2.879); Knowledge 4 and Deeper Life 27 (2.701); Knowledge 2 and Social 21 (2.684); Social 20 and Social 21 (2.743); Knowledge 2 and Value 6 (2.823); Knowledge 2 and Value 7 (3.539); and Knowledge 2 and Value 8 (2.706). This indicates some statistical discrepancy, which means that it could be appropriate to modify my initial model. Further, it is important to note that 10 of the 11 residual covariances above 2.58 involve an observed item on the Knowledge scale (either Knowledge 2 or Knowledge 4).

The second type of statistic useful in determining the appropriateness of model modification are the modification indices (MI). An MI value "represents the expected drop in overall chi-square value if the parameter were to be freely estimated in a subsequent run" (Byrne, 2010, p.86). When considering MIs, the researcher is looking for any MIs in the covariance section that are significantly larger or smaller than all of the others. An outlier may indicate that the researcher should correlate two error terms.

However, the researcher must confirm that correlating the error terms in question would make both statistical *and* theoretical sense. In order for the correlation of two error terms to make theoretical sense, the two observed variables represented by the error terms should be similar measures of the same idea. In my initial hypothesized model, the MIs for the following measurement error pairs were significantly smaller or larger than the others: err 23 and 26; err 27 and 28; and err 6 and 7. I chose to correlate all three of the stated measurement error pairs because it made both statistical and theoretical sense to do so. The modifications made only a minor improvement to my overall model fit (CFI = .89; RMSEA =.08).

Because a review of both the standardized residual covariances and the modification indices caused only minor improvements to my model, I chose to revisit the principal components analysis mentioned earlier in this chapter. This analysis groups together variables that are highly correlated with one another and mostly separate from other subgroupings of variables in order to form factors. As I had suspected after reviewing the correlations of the latent variables in my initial confirmatory factor analysis, the principal components analysis suggested some overlap between Academic Interaction, Social Interaction, and Deeper Life Interaction. The overlap was evidenced in the fact that some of my survey items had high loadings on the same factor in the rotated component matrix. In order to more precisely define each factor, or latent variable, I studied the rotated component matrix to determine which items loaded strongly on more than one of the Social, Academic, or Deeper Life factors.

After comprising a list of items that loaded strongly on more than one factor, I read each item to determine if it made theoretical sense for that particular item to load on

two of the interaction scales. If one item was both statistically and theoretically

representative of two different latent variables, I chose to delete that item in order to more

precisely define and differentiate the three categories of student-faculty interaction (social

interaction, academic interaction, and deeper life interaction). The following 16 survey

items were deleted as a result of this process: Knowledge 2, Social 12, Social 13, Social

15, Social 16, Social 20, Social 21, Social 22, Deeper Life 29, Deeper Life 31, Deeper

Life 32, Deeper Life 33, Deeper Life 35, Academic 40, Academic 43, and Academic 44.

It is important to note that 15 of the 16 items that I chose to delete came from either the

Social, Academic, or Deeper Life interaction scales. Table 1 displays the factor loadings

of the 28 survey items that comprise the revised faculty-in-residence survey.

Model Fit: Revised Model

After deleting those items from my hypothesized model, I conducted a third

confirmatory factor analysis in AMOS with my revised 28-item model. The results

indicated that my revised model was an excellent fit to the data (CFI=.95; RMSEA=.06).

Moreover, all of the regression weights were again significant, and the number of

standardized residual covariances exceeding the cut-off value of 2.58 was reduced from

11 to seven. Additionally, the revised model had a chi-square value of 929.96 with a p-

value of 0, and 337 degrees of freedom. Finally, it is important to note that the revised

model is no longer at risk for multicollinearity, as none of the latent variable correlations

exceed the recommended cut-off of r=.90. Deeper Life Interaction and Academic

Interaction had the highest correlation at r=.85, while Knowledge and Academic

Table 1

Factor Loadings for Revised Faculty-in-Residence Survey

Item	Knowledge	Social Interaction	Academic Interaction	Value	Deeper Life Interaction
1	0.558				
3	0.389				
4	0.578				
5	0.872				
6				0.81	
7				0.81	
8				0.96	
9				0.91	
10				0.86	
11				0.81	
14		0.797			
17		0.856			
18		0.9			
19		0.87			
23					0.863
24					0.925
25					0.9
26					0.808
27					0.881
28					0.876
30					0.885
34					0.864
36			0.914		
37			0.914		
38			0.839		
39			0.866		
41			0.73		
42			0.845		

Interaction had the lowest correlation at r=.39. Thus, it is safe to conclude that the confirmatory factor analysis is indicative of a well-fitting model. Table 2 compares the goodness-of-fit statistics for the initial confirmatory factor analysis and the revised confirmatory factor analysis.

Table 2

Goodness-of-Fit Indices of Confirmatory Factor Analysis Models (N=413)

Model	df	χ^2	χ^2/df	CFI	RMSEA
Initial	727	2933.61	4.04	0.88	0.08
Revised	337	929.96	2.76	0.95	0.06

Note: CFI = comparative fit index; RMSEA = root mean square error of approximation

Structural Equation Model

Byrne suggests that, "Because the primary concern in working with a full SEM model is to assess the extent to which these relations are valid, it is critical that the measurement of each latent variable is psychometrically sound" (2010, p.164). Because I first completed a confirmatory factor analysis on my final data set, I know that each of my five latent variables and their respective observed variables are psychometrically sound. Now, I will discuss the creation and analysis of my full structural equation model, which includes both a measurement model (the CFA) and a structural model (the SEM).

The structural component of a structural equation model allows the researcher to hypothesize about the causal relationships of latent variables. My hypothesized structural model is comprised of five latent variables and the 28 survey items that were included in the revised confirmatory factor analysis. The structural model is a graphical representation of the conceptual framework of this study. As such, my hypothesized

structural model posits that the latent variable Knowledge causes both Social Interaction and Academic Interaction, and that Social and Academic Interaction then cause the student to Value the Faculty-in-Residence position, which then leads to Deeper Life Interaction. Knowledge is the only solely exogenous, or independent, variable, while Social Interaction, Academic Interaction, Value, and Deeper Life Interaction are all endogenous, or dependent variables. Any factor that has a single-headed arrow pointing at it in the hypothesized model is an endogenous variable. Conversely, any factor that does not have a single-headed arrow pointing at it is an exogenous variable. See Figure 5 for a visual representation of the SEM model.

Because I have already completed a statistically sound confirmatory factor analysis with my hypothesized model and data set, it is not necessary to revisit the discussion of data preparation. I again used the maximum likelihood estimation method and I had already checked my data for normality, outliers, and multicollinearity. As such, after drawing the model with the appropriate causal, or single-headed, arrows in place, I was ready to run the data analysis and check for model fit.

Model Fit: Initial Structural Equation Model

As with the confirmatory factor analysis, AMOS produces many statistics that can be used to describe the structural equation model. However, also like the confirmatory factor analysis, much research agrees upon the importance of reporting the following data when examining the model fit of a structural equation model: (1) significance of regression weights; (2) description of the model (chi-square, probability level, and degrees of freedom); and (3) goodness-of-fit indicators (CFI, RMSEA, and SMC) (Byrne, 2010; Screiber et al., 2006; Jackson, Gillaspy, & Purc-Stepenson, 2009).
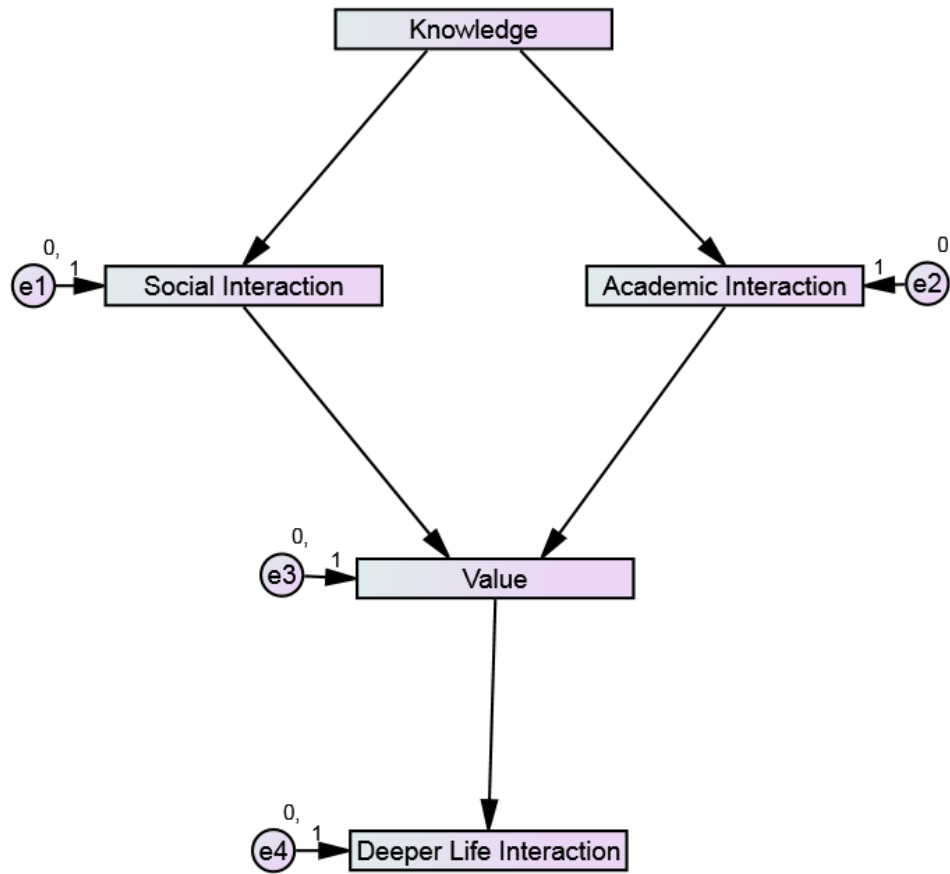
Figure 5. Structural equation model of student-faculty interaction within faculty-in-residence programs.

For the structural equation model, research suggests also reporting the Expected Cross-Validation Index (ECVI), which compares the hypothesized model to another sample of equal size. While there is no determined acceptable range for ECVI scores because they can vary so much among models, research suggests that smaller ECVI values represent a closer fit to the data (Bryne, 2010). Moreover, the ECVI score is especially useful in comparing the accuracy of a revised model to an initial model. My initial structural equation model suggested a good fit between my hypothesized model and the data.

After examining the data output, I determined that all but one of the parameter estimates in my model were significant at the $p < .001$ level. The regression weight between Academic Interaction and Value was not significant ($p = .004$). The remainder of the hypothesized relationships among latent variables and between the latent variables and each of their observed variables were significant. Before examining the remainder of the output data, I made a note to revisit the non-significant relationship between Academic Interaction and Value when revising my model.

The chi-square statistic in my initial model was 1496.828, with a probability level of $p < .001$. Further, my initial structural equation model had 406 distinct sample moments and 342 degrees of freedom, which suggests that 342 of the 406 sample moments were free to vary, while I imposed 64 distinct parameters to be estimated.

Finally, I considered the goodness-of-fit statistics of my initial structural equation model. The CFI was .902, which represents a decent fit to the data. The RMSEA was .091, which represents mediocre fit to the data. The SMC values have a slightly different function in the causal model than in the confirmatory factor analysis. In the structural equation model, SMC scores explain to what extent a given latent variable is explained by the latent variable that predicts it. In my initial hypothesized model, Knowledge of the Faculty-in-Residence position explained 77.5% of Academic Interaction and 85.1% of Social Interaction; Academic and Social Interaction accounted for 56.6% of student value in the faculty-in-residence position; and Value explained 51.8% of Deeper Life Interaction between faculty and students. Lastly, the ECVI was 3.944. Because my initial hypothesized model represented only a decent, but not great, fit to the data (CFI=.90;

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RMSEA=.09), I wanted to consider whether or not it would be appropriate to modify my model in order to achieve a better fit to the data.

Model Modifications

The first step in revising my initial structural equation model was to consider the modification indices (Byrne, 2010). A review of the MI values revealed only one potential covariance that differed significantly from the others. Residual Error 3, which is the associated error term for the latent construct Value, and Residual Error 4, which is the associated error term for the latent construct Deeper Life Interaction, had an MI value much higher than all of the other MI values. However, after a theoretical consideration of the relationship between Value and Deeper Life interaction, I chose not to correlate the residual error terms of the two latent variables.

Because the MI values had been no help in revising my initial structural equation model and I still needed to deal with the single non-significant regression path (between Academic Interaction and Value), I decided to revisit the conceptual framework behind my structural equation model. In doing so, I found it theoretically appropriate to make two changes to my initial model: (1) I correlated the residual error terms of the Social Interaction latent variable and the Academic Interaction latent variable; and (2) I added two single-headed arrows to my model, one pointing directly from Academic Interaction to Deeper Life Interaction and one pointing directly from Social Interaction to Deeper Life Interaction. The three additional regression paths are helpful in detecting how Social Interaction and Academic Interaction directly impact Deeper Life Interaction apart from increasing Value. See Figure 6 for a visual representation of this revised model.
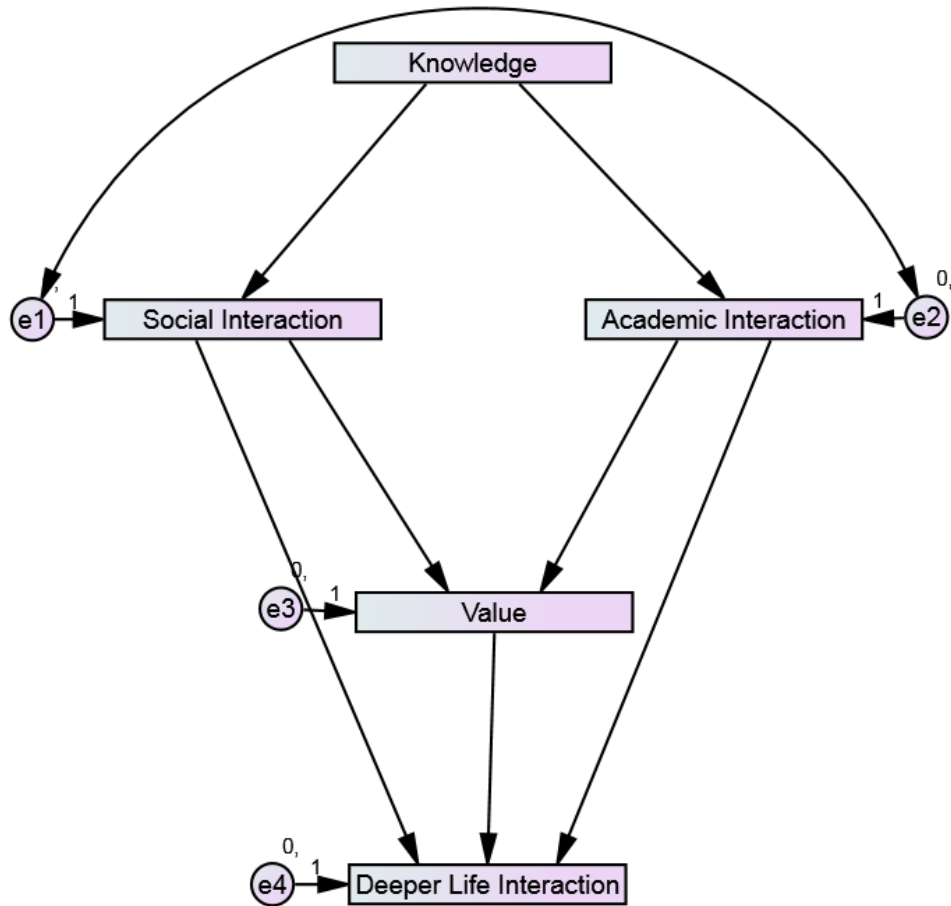
Figure 6. Revised structural equation model.

Model Fit: Revised Model

      After adding in the three additional constraints described above, I conducted a second analysis of my structural equation model with my revised model. The results indicated that my revised model was an excellent fit to the data (CFI = .954; RMSEA=.06). Further, all of the regression paths were now significant, including the path from Academic Interaction to Value, which was not significant in my initial model.

Additionally, the revised model had a chi-square value of 886.976, with a p-value of

.000, and 337 degrees of freedom. The SMC values for the revised model are as follows:

Knowledge of the Faculty-in-Residence position explained 17.8% of Academic

Interaction and 22.4% of Social Interaction; Academic and Social Interaction accounted

for 49.6% of student value in the faculty-in-residence position; and Value explained

79.3% of Deeper Life Interaction between faculty and students. Finally, the ECVI was

2.488, which is much smaller than the ECVI value for the initial model. With each of the

above parameters accounted for, it is safe to conclude that the structural equation model

is highly representative of the data. Table 3 compares the goodness-of-fit statistics for the

initial structural equation model and the revised structural equation model.

Table 3

Goodness-of-Fit Indices of Structural Equation Models (N=413)

Model	df	χ^2	χ^2/df	CFI	RMSEA	ECVI
Initial	342	1496.83	4.38	0.902	0.09	3.944
Revised	337	886.98	2.63	0.954	0.06	2.488

Note: CFI = comparative fit index; RMSEA = root mean square error of approximation; ECVI = expected cross-validation index

Limitations

The high number of participants who completed the entirety of the survey (N =

413) allowed for successful data analysis in AMOS. However, given the complexity of

the model and the high number of constraints placed on the model, an even higher sample

size would have been helpful in determining a well-fitting model. Additionally, the lack

of racial and ethnic diversity was a weakness in this study. Students who identified as

White/Caucasian/European American made up just over three-fourths (76%; N=314) of

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the entire sample, while the second-highest racial/ethnic population, Black/African American, comprised only 8.7% (N=36) of the sample. As always, a more diverse sample could more accurately predict student experience within faculty-in-residence programs.

The current sample included students from three universities, two mid-sized, private institutions (Baylor University and Rice University) and one large, public institution (Virginia Polytechnic Institute and State University). While the data presented here is generalizable to populations similar to these campuses, it may not be generalizable to other institution-types. For example, because only the Midwest and Southeast regions are represented in the current sample, the data presented here may not be generalizable to other regions of the country. Moreover, the results of this study may not be generalizable to campuses much larger or smaller than those represented in the study.

Lastly, the majority of the students who completed the survey had only lived in their current residential community for one academic year (50.4%). The results of the study could have been different if more students who had lived in the community for two or more years completed the survey. Their extended time living in the residential college could positively impact their knowledge of and interaction with the faculty-in-residence. The current sample could be biased in that those who chose to complete the survey may have been more likely to already have a strong positive or negative relationship with the faculty-in-residence. Ideally, each member of the focus population would respond to the survey so that the data found could be accurately generalized to the entire population of students who live in residential colleges with faculty-in-residence programs. However, the large number of participants from each residential college does suggest a relatively representative sample.

CHAPTER FIVE

Discussion

Much research supports the ability of student-faculty interaction to add meaning to students' collegiate experiences (Astin, Astin, & Lindholm, 2011; Palmer & Zajonc, 2010; Smith, 2011). While research demonstrates that student-faculty interaction is positively related to student-learning outcomes, there is some discrepancy regarding a model for describing student-faculty interaction generally, and a paucity of research aimed at understanding how student-faculty interaction occurs within faculty-in-residence programs, specifically.

A model by Cox and Orehovec (2007) conceptualizes the frequency of student-faculty interactions in the form of a pyramid in which student-faculty interaction ranges from very infrequent (Disengaged) to very frequent (Mentoring). Subsequent studies differentiate between two distinct types of student-faculty interaction, one casual or informal, and the other substantive or formal (Cotten & Wilson, 2006; Cox et al., 2010; Kuh & Hu, 2001; Mara & Mara, 2010; etc.). However, despite the existing models for describing student-faculty interaction generally, extant research does not explain how student-faculty interaction occurs within the parameters of faculty-in-residence programs specifically (Cotton & Wilson, 2006; Mara & Mara, 2010).

Faculty-in-residence programs facilitate student-faculty interaction by creating space for students and faculty to interact in meaningful ways (Jessup-Anger, 2012; Ryan, 1992). This study seeks to understand and describe how such interaction occurs within

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faculty-in-residence programs. A greater understanding of student-faculty interaction within faculty-in-residence programs provides a basis not only for improving current faculty-in-residence programs, but also for expanding the reach of such programs so that more students have the opportunity to benefit from interactions with faculty. The results of this study contribute to our current understanding of student-faculty interaction within faculty-in-residence programs by illustrating how such interaction occurs through an empirically-tested model. As is evidenced in the above discussion of extant models of student-faculty interaction, the model resulting from this study is a new and unique contribution to this area of research. To date, no other studies have used quantitative methodology to develop an empirically-based model for describing student-faculty interaction specifically within faculty-in-residence programs.

Implications for Theory

The results of this study posit an empirically sound framework for describing student-faculty interaction within faculty-in-residence programs. The results of the confirmatory factor analysis support the initial hypothesis that student-faculty interaction within faculty-in-residence programs is best represented through five distinct factors, including Knowledge of the faculty-in-residence position, Academic Interaction, Social Interaction, Value of the faculty-in-residence position, and Deeper Life Interaction. This is especially significant in that it supports the existence of a third category of interaction (Deeper Life Interaction) between students and faculty that goes beyond the two categories (i.e., formal and informal; casual and substantive; social and academic; etc.) commonly proposed by researchers to explain student-faculty interaction. The fact that the confirmatory factor analysis supports a third category of interaction has two major

implications: (1) that existing two-category models of student-faculty interaction are missing an important aspect of student-faculty relationships; and/or (2) that faculty-in-residence programs create specific opportunities for students and faculty to interact in more substantive and meaningful ways than do more traditional forms of student-faculty interaction (i.e., course office hours, homework help, advising appointments, etc.).

Despite the statistical and theoretical significance of the confirmatory factor analysis, it is important to revisit the topic of multicollinearity, a statistical phenomenon that was evident within the initial hypothesized confirmatory factor analysis model. As a reminder, multicollinearity occurs when two latent variables, or factors, are so highly related that they are at risk for measuring the same phenomenon, rather than two distinct phenomena (Byrne, 2010; In'nami & Koizumi, 2013). The initial confirmatory factor analysis model included two factor pairs that showed evidence of multicollinearity: (1) Deeper Life Interaction and Academic Interaction and (2) Deeper Life Interaction and Social Interaction. It is important to note that both cases of evidenced multicollinearity involve the Deeper Life Interaction factor and one of the Social or Academic Interaction factors.

Theoretically, it makes sense that there would be overlap among the three different interaction variables. For example, if a faculty-in-residence invited a student over to share a meal with his or her family, it is very possible that the student would experience Social, Academic, and Deeper Life interactions with the faculty-in-residence over the course of the evening, given the fluidity with which the subject of conversation might switch from plans for the upcoming weekend, to classes, to plans after graduation,. Such overlap seems expected and intuitive.

However, in order to reduce the statistical overlap among the three interaction variables, it was necessary to remove survey items from each variable. The removal of survey items that were similar in content created a greater distinction among the three interaction variables. For example, survey item 22 on the Social Interaction scale reads, "Because of my interactions with the faculty-in-residence in my residence hall, I feel more comfortable seeing other faculty as regular people." Similarly, survey item 44 on the Academic Interaction scale reads, "Because of my interactions with the faculty-in-residence in my residence hall, I feel more comfortable interacting with other faculty." Item 22 asks the student to reflect on the potential for social interaction between student and faculty while item 44 asks the student to report the level of comfort that he or she might feel interacting with faculty in their traditional role. However, because of the expressed similarity in the two items, which are from two different latent variable scales, it was best to delete both items in order to create smaller scales that are more distinctly representative of their respective latent variables.

In total, 16 items were deleted as a result of expressed similarity with another survey item, meaning that the final, revised survey consists of 28 total items and five latent variables (See Appendix A and B to compare the revised Faculty-in-Residence survey with the initial survey). The 28-item refined version of the instrument is shorter, clearer, and an even better measurement of these five latent variables than the 44-item version. The revised latent variable scales are comprised of no less than four survey items (Knowledge) and no more than eight survey items (Deeper Life Interaction). Moreover, it is theoretically consistent that the Knowledge scale would have less survey items than the Deeper Life Interaction scale, which is a significantly more complex concept.

Though the confirmatory factor analysis supported a five-factor model of student-faculty interaction, including three, distinct interaction types, the analysis of the structural equation model is particularly noteworthy in that it provides an explanation of the ways in which each of the five student-faculty interaction factors relate to and influence one another. No extant studies explore causation in regard to factors associated with student-faculty interaction within faculty-in-residence programs. The results of the structural equation model analysis are consistent with the relationship hypothesized in the initial conceptual framework for this study: Knowledge of the faculty-in-residence position leads to Social and Academic interaction with the faculty-in-residence, which in turn leads to the student placing Value in the faculty-in-residence position, and ultimately to Deeper Life interactions between the student and faculty-in-residence.

However, a consideration of the theoretical implications of the confirmatory factor analysis prompted the addition of two paths to the initial structural equation model. First, a double-headed arrow was added to the final structural equation model to correlate the residual error terms of Social Interaction and Academic Interaction as a means of noting the close relationship between the two types of interaction, especially in residential colleges. Correlating the error terms of Social Interaction and Academic Interaction is a good compromise between statistics and theory; it acknowledges that the two types of interaction often occur fluidly while still recognizing that each variable is a distinct aspect of the larger phenomenon of student-faculty interaction within faculty-in-residence programs.

Second, while the data suggested that Value was in fact a mediator between the Social and Academic Interaction variables and Deeper Life Inter action, as was

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hypothesized in the original conceptual framework, it made sense to add causal arrows pointing from Social and Academic Interaction directly to Deeper Life Interaction in order to illustrate the explicit impact that Social and Academic Interaction have on Deeper Life Interaction. The direct relationship between Social and Academic Interaction and Deeper Life Interaction without the presence of the mediator variable, Value, was not accounted for in the original hypothesized model. However, given that the addition of the direct relationship path to the initial model, which included Value as the mediator variable, proved more statistically accurate and made more theoretical sense, it was rational to alter the initial conceptual framework to reflect both the direct relationship and the mediated relationship of Social, Academic, and Deeper Life interactions. See Figure 7 for a visual representation of the revised conceptual framework.
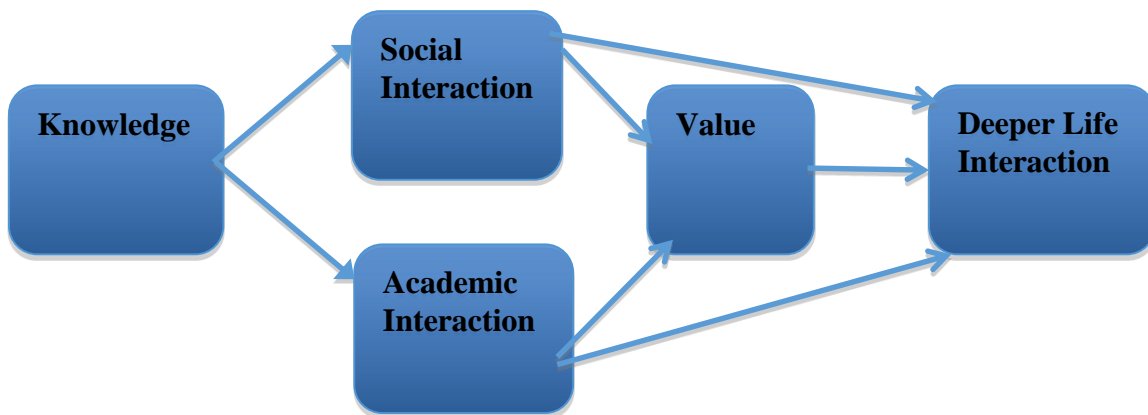

Figure 7. Revised conceptual framework: student-faculty interaction within faculty-in-residence programs.

The final conceptual framework presented in this study offers three important contributions to the current understanding of student-faculty interaction within faculty-in-

residence programs. First, the revised structural equation model and conceptual framework suggest that it is vitally important for students to have Knowledge of the faculty-in-residence position (i.e., the faculty-in-residence's name and location of his or her home, at the very least) in order to create a foundation for subsequent interactions with the faculty-in-residence. Second, the results of this study expand upon the work of previous scholars who used only two categories to describe student-faculty interaction within faculty-in-residence programs (Kuh & Hu, 2001; Cotten & Wilson, 2006; Garrett and Zabriskie, 2003; & Benjamin and Griffin, 2013). Lastly, the results of this study contribute to a broader understanding of *how* student-faculty interactions occur within faculty-in-residence programs, whereas previous studies have only endeavored to explain what types of interaction occurs within residential colleges and faculty-in-residence programs (Cox & Orehovec, 2007; Garrett & Zabriskie, 2003; Golde & Pribbenow, 2000; Mara & Mara, 2010; Sriram et al., 2011).

Implications for Current Practice

The results of this study provide noteworthy information for current scholar-practitioners to consider as they work to increase and improve student-faculty interactions on college and university campuses, specifically within faculty-in-residence programs. Perhaps most importantly, the results of this study encourage faculty and student affairs administrators to embrace the existence of student-faculty interaction on three levels, rather than just two. With very few exceptions (Alderman, 2008; Cole, 2010; Cox & Orehovec, 2007; & Mara & Mara, 2010), student-faculty interaction has long been dichotomized as occurring on a variation of two distinct levels: substantive or social (Kuh & Hu, 2001); casual or substantive (Cox et al., 2010); incidental or functional (Mara &

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Mara, 2010); informal or formal (Cotten & Wilson, 2006); or functional or substantive (Benjamin & Griffin, 2013). The addition of a third level of interaction between students and faculty, as supported by the results of this study, asks faculty to reimagine and redefine their understanding of the depth of influence that they can have in the lives of students. The findings presented here should impassion faculty to engage students far beyond the realm of academics and coursework and into life's big questions (Parks, 2000).

Furthermore, the results of this study pertaining to the Deeper Life factor urge faculty and student-affairs administrators to reflect on the role of adult mentoring within the lives of students. It is impractical to think that any faculty-in-residence could experience Deeper Life Interaction with all, or even the majority, of his or her students. However, this study implores consideration of the importance of Deeper Life Interactions throughout a student's college experience. If faculty-in-residence are not having Deeper Life Interactions with students, then who is? Whether with faculty, student-affairs administrators, or other students, the results of the current study encourage the creation of a collegiate culture that seeks to support Deeper Life Interaction in whatever setting it may occur.

The creation of a culture that values and encourages Deeper Life Interaction must occur both within and outside of faculty-in-residence programs. While there is significant potential for Deeper Life Interactions between students and faculty within faculty-in-residence programs, similar opportunities exist outside of faculty-in-residence programs. Student-affairs professionals and residence life administrators can support student-faculty interaction by inviting and encouraging a strong faculty presence within residential

communities that do not house faculty-in-residence programs. This can be accomplished through faculty partner programs, in which faculty members volunteer to partner with a particular floor of a residence hall in an attempt to support student development by meeting and interacting with students on their home turf. Faculty can do this informally by sharing a meal with the students of a particular residence hall or floor or formally by speaking to students about important topics within their specific discipline or pertaining to life generally.

The results of the structural equation model analysis are helpful in illustrating Deeper Life Interaction on a more practical level. The combination of the Knowledge variable and the three interaction types (i.e., Social, Academic, and Deeper Life) has particularly tangible implications. Much research has lamented the lack of out-of-class interaction between students and faculty (Kuh & Hu, 2001; Cotten & Wilson, 2006; Cox & Orehovec, 2007). However, the data posits that Knowledge of the faculty-in-residence position leads to Social and Academic Interaction between the student and faculty-in-residence. Therefore, in residential communities in which faculty-in-residence exist, residence life administrators and faculty-in-residence should partner together to create opportunities for the faculty-in-residence to build and maintain a consistent presence within the community from the beginning of the academic year.

Given that this component of student-faculty interaction is often assumed or overlooked, I offer some specific suggestions for increasing student knowledge of the faculty-in-residence position. Ideally, this would include both passive and active methods of disseminating information about the faculty-in-residence. For example, the faculty-in-residence could create a bulletin board containing both personal information and

information about his or her family. Further, the faculty-in-residence could open his or her home to the entire community for an informal gathering to explain the role of the faculty-in-residence in the community. This would give students an opportunity to explore the faculty-in-residence's home and learn more about the position without the pressure of a formal program or gathering. Passive and active opportunities such as these give students the opportunity to learn about the faculty-in-residence and his or her family on both a personal and professional level.

After working to establish a presence within the community, residence life administrators and faculty-in-residence should work to create opportunities for students to interact with the faculty-in-residence in both social and academic settings. Consistent with findings from previous research, this should include both formal and informal opportunities for interaction (Kuh & Hu, 2001; Cotten & Wilson, 2006). Tangible suggestions include shared meals between the faculty-in-residence and students, movie nights and game nights in the faculty-in-residence's home, and discussions about current events in the faculty-in-residence's home. Faculty-in-residence should keep in mind that the quality of these interactions far outweighs the quantity in terms of impact on student, meaning that rather than trying to facilitate frequent interactions, faculty-in-residence should invest their energy in creating opportunities for meaningful social and academic interactions with students (Kuh & Hu, 2001; Lundberg & Schreiner, 2004).

Further, because student perceptions of faculty are strongly tied to their decision to interact with faculty, faculty-in-residence should work especially hard to create a positive presence within the residence hall. In endeavoring to positively impact the lives of students through Social and Academic Interactions, faculty-in-residence can instill

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within students the uniqueness and importance of the faculty-in-residence position, which is represented as the latent factor Value in the conceptual framework for this study. However, as Umbach and Wawrzynski (2005) suggest, many students are unlikely to develop positive perceptions of student-faculty interactions until late in their collegiate careers. Therefore, it is important that faculty-in-residence are intentional in developing a rapport with first-year students in the community. While upper-division students may be more likely than first-year students to seek out faculty-in-residence on their own, this does not mean that faculty-in-residence should assume that first-year students are uninterested in interacting with them. Conversely, first-year students may simply may not be aware of the positive outcomes that can result from student-faculty interactions (Cotten & Wilson, 2006).

Finally, in a true embodiment of the heart of higher education (Palmer & Zajonc, 2010), students and faculty-in-residence have the opportunity to engage in Deeper Life Interactions. Theoretically, a student who has reached the Deeper Life Interaction phase of the model has already progressed through the previous four stages. He or she has a deep knowledge of and an appreciation for the faculty-in-residence position, and has built a relationship with the faculty-in-residence through various Social and Academic Interactions. It is at this stage of student-faculty interaction that faculty-in-residence have the opportunity to truly know students and speak into their lives in really important ways. Though embarking upon such a journey with a student can create some inherent discomfort within faculty, the results of this study urge faculty and student affairs administrators to embrace the opportunity to interact with students in meaningful ways. Such interactions embody the essence of mentorship in higher education.

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It is important to note that the practical implications of this study, specifically in regard to Deeper Life Interaction, extend beyond the scope of faculty-in-residence programs. The results of this study assert the importance of Deeper Life Interaction and describe how it can occur, but do not imply that Deeper Life Interaction can, or should, only occur within the confines of faculty-in-residence programs. Deeper Life Interaction, as defined in this study, includes interactions that reflect a level of comfort and a relationship on a deeper, more personal level. Deeper Life Interactions consist of conversations about relationships, family, spirituality, and life's big questions (Daloz Parks, 2000). In order for the University to embody practically what it means to engage in the creation of more fully developed human beings (Berry, 1987; Palmer & Zajonc, 2010), it is imperative that students are having Deeper Life Interactions with someone. While faculty-in-residence programs provide a unique forum through which Deeper Life Interaction can occur, faculty are certainly not the only members of the university that should seek to engage students in Deeper Life Interactions. Students can benefit from Deeper Life Interaction with their own peers as well as student affairs administrators.

This study emphasizes the importance of creating space within colleges and universities for Deeper Life Interactions to occur. Faculty, student affairs administrators, and students are all integral to the mission of the University, which is ultimately to cultivate humanity (Berry, 1987). However, if the University is to achieve such a lofty goal, social and academic interaction can no longer be the paradigm through which student success is viewed. Faculty and student affairs administrators must re-envision the impact that they can have on the lives of students through social, academic, *and* deeper life interaction. The emergence of Deeper Life Interaction through this study redefines

what it means to develop students in really powerful ways, and encourages faculty and student-affairs administrators to create opportunities to engage students in more personal ways.

Implications for Future Practice

The focus of this study included students who live in residential colleges with faculty-in-residence programs. The results of this study suggest that student-faculty interaction within faculty-in-residence programs can be explained through five different factors and that each factor in the model occurs either as a result of another factor and/or predicts another factor. However, what was not explored in the study is how student-faculty interactions within faculty-in-residence programs compare to other types of out-of-class student-faculty interaction. There are many informal and formal opportunities for students and faculty to interact outside of the classroom that do not require the faculty member to live in the residential community. As such, future research could use structural equation modeling to explain general out-of-class student-faculty interaction. The instrument used in this study could be easily modified for such research. Further, future studies could compare the structural equation model of general out-of-class student-faculty interaction to the structural equation model presented in this study in order to determine similarities and differences between student-faculty interactions within and outside of faculty-in-residence programs. Researchers could analyze this data in order to determine best practices in promoting student-faculty interaction at large.

A second recommendation for future research would explore student-faculty interaction within faculty-in-residence programs that exist in community-types that are not included in purview of residential colleges as operationalized by this study. Many

residential communities that do not fit within the definition of a residential college proposed in this study do house faculty-in-residence programs. A suggestion for future research would be to broaden the scope of the study to include all residential communities with faculty-in-residence programs in order to compare the experience of students with faculty-in-residence across community types. This could help determine what community types are more conducive to high-quality student-faculty interaction. Further, researchers could analyze the specific features of communities that report successful relationships between students and faculty-in-residence to see what physical and organizational characteristics of a community best promote student-faculty interaction.

A third recommendation for future research involves a deeper consideration of how different students experience student-faculty interaction within faculty-in-residence programs. While the current study reported the demographic make-up of the participant pool, this study did not consider in any depth the differences in student experience with faculty-in-residence based on student gender, classification, academic background, or length of time in the community. Future research could compare the experiences of first-year students with senior students in the community in order to determine if discrepancies exist in the depth of relationship between each student population and the faculty-in-residence. Further, future research could consider the difference in experiences of male and female students with faculty-in-residence that are same-gender as compared to faculty-in-residence that are opposite-gender. Researchers could use such information to determine what personal characteristics make students and faculty more likely to interact with one another.

Additionally, future research could bolster the current study with qualitative data from both students and faculty. Qualitative accounts of student experiences within faculty-in-residence programs would help better illustrate the quantitative data already presented in this study. Researchers could compare quantitative data with personal qualitative narrative in order to postulate about what motivates students to seek relationships with faculty-in-residence and what students find most rewarding in their relationships with faculty. Further, qualitative accounts of faculty experiences serving as the faculty-in-residence in a residential community could provide an even more complete picture of relationships between students and faculty. Qualitative accounts of faculty experiences in the faculty-in-residence position would offer student affairs administrators, students, and other faculty insight into not only the successes, but also the trials and tribulations that are a natural part of endeavoring to live life with students (Sriram et al., 2011).

A fifth recommendation for future research includes a quantitative or qualitative study that would determine what initially motivates students to live in residence halls with faculty-in-residence programs. Future research could compare the experience of students who are assigned to residential communities with faculty-in-residence programs to the experience of students who choose to live in residential communities with faculty-in-residence programs. This data could then be used to increase student buy-in to faculty-in-residence programs.

Conclusion

Arguably the most important end of higher education is the creation of more fully-developed human beings. However, transformation of this caliber cannot be seen in

a student's grade point average or in the number of student organizations to which he or she belongs. Rather, the evidence of a more fully developed human being exists in a student's relationships with others and the way that those relationships impact his or her understanding of what it means to live purposefully. Faculty-in-residence programs create intentional space for the development of such relationships within a college or university setting.

Faculty have much to offer students, not only because of their own experiences with higher education, but also because of their passion for mentoring students through teaching. The few faculty members who fully embrace life with students by living in residential communities are true testaments to the transformative power of higher education. Faculty-in-residence programs facilitate substantive and meaningful interactions between students and faculty and, as a result, allow students to develop a much broader understanding and expectation of the role of faculty within the institution. At best, student-faculty interaction within faculty-in-residence programs embodies the essence and spirit of transformative education.

The current study examines how student-faculty interaction occurs within faculty-in-residence programs through the development of an empirically-based model. This research fills a gap in previous literature that lacked both an understanding of how student-faculty interaction occurs within faculty-in-residence programs as well as a consideration of a deeper level of student-faculty interaction beyond social and academic interaction. The model developed in this study suggests that student-faculty interaction within faculty-in-residence programs is best explained through five interrelated factors: Knowledge (of the faculty-in-residence position); Social Interaction; Academic

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Interaction; Value (in the faculty-in-residence position); and Deeper Life Interaction. The model further suggests that each of the five factors influence one another in the following ways: Knowledge of the faculty-in-residence position leads to Social and Academic Interaction between the student and the faculty-in-residence; Social and Academic Interaction then lead the student to Value the faculty-in-residence program, which then leads to Deeper Life Interactions between the student and the faculty-in-residence.

The possibilities for future research that exist are important not only for administrators, faculty, and students, but for the field of higher education at large. A greater understanding of the intricacies of Deeper Life Interaction paired with a further exploration of Academic, Social, and Deeper Life Interaction as three, related components of the larger phenomenon of student-faculty interaction within faculty-in-residence programs are just two important opportunities that exist as a result of this research. My hope is that this study would be the impetus for a culture shift in higher education in which the ability of student-faculty interaction to transform the lives of students through Social, Academic, and Deeper Life Interactions is fully realized.

APPENDICES

APPENDIX A

Faculty-in-Residence Survey (Revised)

Student-Faculty Interaction within Faculty-in-Residence Programs

1=Strongly Disagree 2=Moderately Disagree 3=Slightly Disagree 4=Slightly Agree 5=Moderately Agree
6=Strongly Agree

Knowledge:

Student awareness of faculty-in-residence position.

1. I know where the [faculty master]'s home is located.
2. (3) I know in what department the [faculty master] teaches.
3. (4) I know the [faculty master]'s name.
4. (5) I know some general information about the [faculty master]'s family (spouse, children, pets, etc.).

Value:

Worth of the investment of resources for faculty-in-residence position to students.

5. (6) I would vote to get rid of the [faculty master] position if I knew it would make my costs lower. (REVERSED)
6. (7) I would vote to keep the [faculty master] position even if I knew it would make my costs higher.
7. (8) I believe that the [faculty master] position is worth the investment made by my institution.
8. (9) I am glad my institution devotes resources to having faculty live in residential communities with students.
9. (10) The [faculty master] has made my room and board fees more worth the cost.
10. (11) Even if I decide to live off campus next year, the [faculty master] increases my positive perception of living on campus.

Social:

Casual and light-hearted interactions with the faculty-in-residence that impact the student's experience.

11. (14) I think the [faculty master] does a great job of creating opportunities to interact with students that are more casual and light-hearted.
12. (17) The [faculty master] does a great job being social with students by playing games with them, attending sporting events, etc.
13. (18) Programs that involve the [faculty master] help to promote a more social/fun environment in my residential community.
14. (19) The [faculty master] has helped to create community in my residence hall this year.

Deeper Life:

Student interactions with the faculty-in-residence that reflect both a level of comfort and a relationship on a deeper, more personal level (e.g., conversations about relationships, family, spirituality).

15. (23) I would feel very comfortable "venting" to the [faculty master] about a bad day that I am having.
16. (24) I would feel very comfortable engaging in conversation with the [faculty master] about my family and/or personal life.
17. (25) I would feel very comfortable engaging in conversation with the [faculty master] about his/her personal life.
18. (26) I would feel very comfortable engaging in conversation with the [faculty master] about my past or current romantic relationships.
19. (27) I would feel very comfortable engaging in conversation with the [faculty master] about his/her personal spiritual journey.
20. (28) I would feel very comfortable engaging in conversation with the [faculty master] about my church and/or personal faith journey.
21. (30) I would feel very comfortable asking the [faculty master] for advice.
22. (34) I look up to the [faculty master] as a role model.

Academic:

Interactions with the faculty-in-residence that relate to intellectual stimulation, connections to other faculty, classes, major, or career.

23. (36) Events are more intellectually stimulating with the [faculty master] present.
24. (37) Programs that involve the [faculty master] help to promote a more intellectual environment in my residential community.
25. (38) I like that the [faculty master] creates programmed opportunities that are more academic in nature.
26. (39) I feel more academically connected to my institution because of the [faculty master].
27. (41) I think the [faculty master] does a great job of bringing in outside speakers to interact with students.

28. (42) Events planned by the [faculty master] have helped me to feel more prepared to accomplish my future career goals.

Demographics

29. What is your age?
    a. Slider feature allowing input of exact age
30. What is your classification?
    b. First-year
    c. Sophomore
    d. Junior
    e. Senior
    f. Graduate Student
31. How long have you lived in your current residential community?
    g. This is my first year
    h. This is my second year
    i. This is my third year
    j. This is my fourth or fifth year
32. What is your gender?
    k. Male
    l. Female
33. What is your race/ethnicity?
    m. American Indian / Alaska Native / Native Hawaiian
    n. Asian / Asian American / Pacific Islander / South Asian
    o. Black / African American
    p. Hispanic / Latino(a)
    q. Multiracial / Multiethnic
    r. White / Caucasian / European American
    s. Other
34. What is your GPA?
    a. Sliding scale
35. Have you ever held a leadership position within your current residential community?
    t. Yes
    u. No
36. Is your permanent home within the same state as your institution?
    v. Yes
    w. No
37. How often per semester do you visit home?
    x. Sliding scale
38. What is the race/ethnicity of your FIR?

y. American Indian / Alaska Native / Native Hawaiian

z. Asian / Asian American / Pacific Islander / South Asian

aa. Black / African American

bb. Hispanic / Latino(a)

cc. Multiracial / Multiethnic

dd. White / Caucasian / European American

ee. Other

39. What is the gender of your FIR?

ff. Male

gg. Female

40. What is the academic discipline of your FIR?

hh. Fill in the blank

41. Is this your FIR's first year?

ii. Yes

jj. No

APPENDIX B

Faculty-in-Residence Survey (Original)

Student-Faculty Interaction within Faculty-in-Residence Programs

1=Strongly Disagree 2=Moderately Disagree 3=Slightly Disagree 4=Slightly Agree 5=Moderately Agree 6=Strongly Agree

Knowledge:

Student awareness of faculty-in-residence position.

42. I know where the [faculty master]'s home is located.
43. I know where the [faculty master]'s office is located.
44. I know in what department the [faculty master] teaches.
45. I know the [faculty master]'s name.
46. I know some general information about the [faculty master]'s family (spouse, children, pets, etc.).

Value:

Worth of the investment of resources for faculty-in-residence position to students.

47. I would vote to get rid of the [faculty master] position if I knew it would make my costs lower. (REVERSED)
48. I would vote to keep the [faculty master] position even if I knew it would make my costs higher.
49. I believe that the [faculty master] position is worth the investment made by my institution.
50. I am glad my institution devotes resources to having faculty live in residential communities with students.
51. The [faculty master] has made my room and board fees more worth the cost.
52. Even if I decide to live off campus next year, the [faculty master] increases my positive perception of living on campus.

Social:

Casual and light-hearted interactions with the faculty-in-residence that impact the student's experience.

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53. The [faculty master] has had a negative impact on my residence hall this year. (REVERSED)
54. I like that the [faculty master] creates programmed opportunities that are more social in nature.
55. I think the [faculty master] does a great job of creating opportunities to interact with students that are more casual and light-hearted.
56. The [faculty master] seems like someone I would like to get to know.
57. I think the [faculty master] is intimidating (REVERSED).
58. The [faculty master] does a great job being social with students by playing games with them, attending sporting events, etc.
59. Programs that involve the [faculty master] help to promote a more social/fun environment in my residential community.
60. The [faculty master] has helped to create community in my residence hall this year.
61. I would feel very comfortable exchanging greetings (hello, goodbye, how are you?) with the [faculty master].
62. I would feel very comfortable engaging in conversation with the [faculty master] about random topics.
63. Because of my interactions with the [faculty master] in my residence hall, I feel more comfortable seeing other faculty as regular people.

Deeper Life:

Student interactions with the faculty-in-residence that reflect both a level of comfort and a relationship on a deeper, more personal level (e.g., conversations about relationships, family, spirituality).

64. I would feel very comfortable "venting" to the [faculty master] about a bad day that I am having.
65. I would feel very comfortable engaging in conversation with the [faculty master] about my family and/or personal life.
66. I would feel very comfortable engaging in conversation with the [faculty master] about his/her personal life.
67. I would feel very comfortable engaging in conversation with the [faculty master] about my past or current romantic relationships.
68. I would feel very comfortable engaging in conversation with the [faculty master] about his/her personal spiritual journey.
69. I would feel very comfortable engaging in conversation with the [faculty master] about my church and/or personal faith journey.
70. I like that the [faculty master] creates programmed opportunities that are meaningful in nature.
71. I would feel very comfortable asking the [faculty master] for advice.
72. I think the [faculty master] does a great job of bringing in outside speakers to interact with students about more serious topics such as relationships and spirituality.

73. I feel a sense of connection to the [faculty master] when I see him/her around my residence hall.
74. I feel very comfortable approaching the [faculty master] because he/she never seems too busy for me.
75. I look up to the [faculty master] as a role model.
76. I feel comfortable engaging in a deeper level of discussion at events led by the [faculty master] than I normally would at other events.

Academic:

Interactions with the faculty-in-residence that relate to intellectual stimulation, connections to other faculty, classes, major, or career.

77. Events are more intellectually stimulating with the [faculty master] present.
78. Programs that involve the [faculty master] help to promote a more intellectual environment in my residential community.
79. I like that the [faculty master] creates programmed opportunities that are more academic in nature.
80. I feel more academically connected to my institution because of the [faculty master].
81. I would feel very comfortable asking the [faculty master] for help if I was having trouble in a class.
82. I think the [faculty master] does a great job of bringing in outside speakers to interact with students.
83. Events planned by the [faculty master] have helped me to feel more prepared to accomplish my future career goals.
84. I would feel very comfortable engaging in conversation with the [faculty master] about the classes he/she is teaching or his/her other academic interests.
85. Because of my interactions with the [faculty master] in my residence hall, I feel more comfortable interacting with other faculty.

Demographics
86. What is your age?
    kk. Slider feature allowing input of exact age
87. What is your classification?
    ll. First-year
    mm.   Sophomore
    nn. Junior
    oo. Senior
    pp. Graduate Student
88. How long have you lived in your current residential community?
    qq. This is my first year
    rr. This is my second year
    ss. This is my third year

tt. This is my fourth or fifth year
89. What is your gender?
        uu. Male
        vv. Female
90. What is your race/ethnicity?
        ww.   American Indian / Alaska Native / Native Hawaiian
        xx. Asian / Asian American / Pacific Islander / South Asian
        yy. Black / African American
        zz. Hispanic / Latino(a)
        aaa.   Multiracial / Multiethnic
        bbb.   White / Caucasian / European American
        ccc.   Other
91. What is your GPA?
        a. Sliding scale
92. Have you ever held a leadership position within your current residential community?
        ddd.   Yes
        eee.   No
93. Is your permanent home within the same state as your institution?
        fff. Yes
        ggg.   No
94. How often per semester do you visit home?
        hhh.   Sliding scale
95. What is the race/ethnicity of your FIR?
        iii. American Indian / Alaska Native / Native Hawaiian
        jjj. Asian / Asian American / Pacific Islander / South Asian
        kkk.   Black / African American
        lll. Hispanic / Latino(a)
        mmm.   Multiracial / Multiethnic
        nnn.   White / Caucasian / European American
        ooo.   Other
96. What is the gender of your FIR?
        ppp.   Male
        qqq.   Female
97. What is the academic discipline of your FIR?
        rrr. Fill in the blank
98. Is this your FIR's first year?
        sss. Yes
        ttt. No

REFERENCES

Alderman, R.V. (2008). *Faculty and student out-of-class interaction: Student perceptions of quality of interaction* (Unpublished doctoral dissertation). Texas A&M University, Texas.

Altbach, P. G., Gumport, P.J., & Johnstone, D.B. (2001). *In defense of American higher education.* Baltimore, MA: The Johns Hopkins University Press.

Astin, A.W., Astin, H.S., & Lindholm, J.A. (2011). *Cultivating the spirit: How college can enhance students' inner lives.* San Francisco, CA: Jossey-Bass.

Benjamin, M., & Griffin, K. (2013). "Pleasantly unexpected": The nature and impact of resident advisors' functional relationships with faculty. *Journal of student affairs research and practice, 50*(1), 56-71.

Berry, W. (1987). The Loss of the University. In W. Berry (Ed.), *Home economics: Fourteen essays by Wendell Berry* (76-97). Berkeley, CA: Counterpoint Press.

Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate.* San Francisco, CA: Jossey-Bass.

Byrne, B.M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (2nd ed.). New York, NY: Routledge.

Cole, D. (2010). The effects of student-faculty interactions on minority students' college grades: Differences between aggregated and disaggregated data. *Journal of the Professoriate, 3*(2), 137 – 160.

Cotten, S., & Wilson, B. (2006). Student-faculty interactions: Dynamics and determinants. *Higher Education: The International Journal of Higher Education and Educational Planning, 51*(4), 487-519.

Cox, B.E., McIntosh, K.L., Terenzini, P.T., Reason, R.D., & Lutovsky Quaye, B.R. (2010). Pedagogical signals of faculty approachability: Factors shaping faculty-student interaction outside the classroom. *Research in Higher Education, 51,* 767 – 788.

Cox, B.E., & Orehovec, E. (2007). Faculty-student interaction outside the classroom: A typology from a residential college. *The Review of Higher Education, 30*(4), 343-362.

Einarson, M.K., & Clarkberg, M.E. (2004). *Understanding faculty out-of-class interaction with undergraduate students at a research university.* Paper presented at the annual meeting of the Association for the Study of Higher Education.

Fuentes, M.V., Alvarado, A.R., Berdan, J., DeAngelo, L. (2014). Mentorship matters: Does early faculty contact lead to quality faculty interaction? *Research in Higher Education, 55,* 288-307.

Garrett, M.D., & Zabriskie, M.S. (2003). The influence of living-learning program participation on student-faculty interaction. *Journal of College and University Student Housing, 32*(2), 38-44.

Golde, C.M., & Pribbenow, D.A. (2000). Understanding faculty involvement in residential learning communities. *Journal of College Student Development, 41*(1), 27-40.

Hacker, A., & Dreifus, C. (2010). *Higher education?* New York, NY: St. Martin's Press.

Holtzman, S., & Vezzu, S. (2001). *Confirmatory factor analysis and structural equation modeling of noncognitive assessments using PROC CALIS.* Paper presented at the annual conference of the Northeast SAS Users Group, Inc.

In'nami, Y., & Koizume, R. (2013). Structural Equation Modeling in Educational Research: A Primer. In Myint Khine (Ed.), *Application of structural equation modeling in educational research and practice* (23-53). Rotterdam, The Netherlands: Sense Publishers.

Jackson, D.L., Gillaspy, J.A., & Purc-Stephenson, R. (2009). Reporting practices in confirmatory factor analysis: An overview and some recommendations. *Psychological Methods, 14*(1), 6-23.

Jessup-Anger, J.E. (2012). Examining how residential college environment inspire the life of the mind. *The Review of Higher Education, 35*(3), 431-462.

Komarraju, M., Musulkin, S., & Bhattacharya, G. (2010). Role of student-faculty interactions in developing college students' academic self-concept, motivation, and achievement. *Journal of College Student Development, 51*(3), 332 – 342.

Kuh, G.D., & Hu, S. (2001). The effects of student-faculty interaction in the 1990s. *The Review of Higher Education, 24*(3), 309-332.

Lundberg, C.A., & Schreiner, L.A. (2004). Quality and frequency of faculty-student interaction as predictors of learning: An analysis by student race/ethnicity. *Journal of College Student Development, 45*(5), 549-565.

Mara, M., & Mara, A. (2010). Finding an analytic frame for faculty-student interaction within faculty-in-residence programs. *Innovative Higher Education, 36*(1), 71-82.

O'Hara, R.J. (2001). How to build a residential college. *Planning for Higher Education, 30*(2), 52-57.

Palmer, P.J., & Zajonc, A. (2010). *The heart of higher education: A call to renewal.* San Francisco, CA: Jossey-Bass.

Parks, S.D. (2000). *Big questions, worthy dreams: Mentoring emerging adults in their search for meaning, purpose, and faith.* San Francisco, CA: Jossey-Bass.

Pascarella, E.T., & Terenzini, P.T. (1991). *How college affects students* (2nd ed.). San Francisco, CA: Jossey-Bass.

Ream, T.C., & Glanzer, P.L. (2013). *The idea of a Christian college: A reexamination for today's university.* Eugene, OR: Cascade Books.

Reason, R.D., Cox, B.E., Lutovsky Quaye, B.R., & Terenzini, P.T. (2010). Faculty and institutional factors that promote encounters with difference in first-year courses. *The Review of Higher Education, 33*(3), 391-414.

Ryan, M.B. (2001). *A collegiate way of living: Residential colleges and a Yale education.* New Haven, CT: Yale University.

Ryan, M.B. (1992). Residential colleges: A legacy of living and learning together. *Change, 24*(5), 26-35.

Schrecker, E. (2010). *The lost soul of higher education: Corporatization, the assault on academic freedom, and the end of the American university.* New York, NY: The New Press.

Schreiber, J.B., Nora, A., Stage, F.K., Barlow, E.A., & King, J. (2010). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research, 99*(6), 323-338.

Schreiner, L.A., Noel, P., Anderson, E.C., & Cantwell, L. (2011). The impact of faculty and staff on high-risk college student persistence. *Journal of College Student Development, 52*(3), 321-338.

Smith, C., Christoffersen, K., Davidson, H., & Herzog, P.S. (2011). *Lost in transition: The dark side of emerging adulthood.* New York, NY: Oxford University Press.

Sriram, R. (2014). The development, validity, and reliability of a psychometric instrument measuring competencies in student affairs. *Journal of Student Affairs Research and Practice, 51*(4), 349-363.

Sriram, R., & McLevain, M. (*under review*). Grading the faculty: Developing an instrument to examine faculty-in-residence. *Journal of College Student Development.*

Sriram, R., Shushok, F., Perkins, J., & Scales, L. (2011). Students as teachers: What faculty learn by living in residence. *Journal of College and University Student Housing, 36*(2), 68-81.

Tagg, J. (2003). *The learning paradigm college.* Bolton, MA: Anker Publishing Company, Inc.

Teo, T., Ting Tsai, L., & Yang, C. (2013). Applying Structural Equation modeling (SEM) in Educational Research: An Introduction. In Myint Khine (Ed.), *Application of structural equation modeling in educational research and practice* (3-22). Rotterdam, The Netherlands: Sense Publishers.

Trochim, W., & Donnelly, J.P. (2008). *The research methods knowledge base* (3rd ed.). Cincinnati, OH: Atomic Dog Publishing.

Umbach, P.D., & Wawrzynski, M.R. (2005). Faculty do matter: The role of college faculty in student learning and engagement. *Research in Higher Education, 46*(2), 153-184.