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## Résumé de l'article

The relationship between graduate students and faculty members is a topic of great interest in higher education. While there is a wealth of theoretical and empirical research on the subject, discussions overlook the social dynamics that shape these relationships. This article seeks to fill this gap by presenting a conceptual framework that considers crucial components, including interpretations, reciprocal roles and responsibilities, relational factors, and effects, in analysing graduate student-faculty advisor relationships. By exploring these elements, the article offers a comprehensive framework that accounts for the nuances and limitations of these relationships and provides recommendations for best practices.



# **Towards a Deeper Understanding of the Graduate Student and Faculty-Advisor Relationship**

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## **Abstract**

The relationship between graduate students and faculty members is a topic of great interest in higher education. While there is a wealth of theoretical and empirical research on the subject, discussions overlook the social dynamics that shape these relationships. This article seeks to fill this gap by presenting a conceptual framework that considers crucial components, including interpretations, reciprocal roles and responsibilities, relational factors, and effects, in analysing graduate student-faculty advisor relationships. By exploring these elements, the article offers a comprehensive framework that accounts for the nuances and limitations of these relationships and provides recommendations for best practices.

## **Introduction**

University faculty provide instructional leadership and supervision to graduate students researching and seeking answers to real-world problems. As graduate supervisors, faculty members instruct and guide students to complete coursework, articulate their research problems, and conduct research (Knox et al., 2006; Lechuga, 2011). Exchanges or interactions between these faculty advisors and graduate students have become known as the faculty advisor-advisee or supervisor-student relationship. This conceptual paper uses the terms faculty advisor-student and supervisor-student relationships interchangeably. The supervisory phenomenon inherently creates a connection that fosters or hampers students' growth depending on interpersonal and institutional factors. Researchers consider this supervisory relationship essential and consequential to doctorate training (Al Makhamreh & Kutsyruba, 2021; Cassuto & Van Wyck, 2021; Golde, 2005). This is so even though students and their faculty advisors occasionally make decisions and relate without thinking through the consequences of their actions. It is hard to imagine the faculty advisor-graduate student relationship being over-emphasised because of the unique role this relationship plays in graduate education. Examining ethical issues in graduate education, Brown and Krager (1985) state that "a logical starting place is the day-to-day interaction between professors and students. This circumstance is particularly true for graduate education, in which the relationship between student and advisor is especially important" (p. 403). Similar perspectives abound on how faculty members and graduate students collaborate on issues such as authoring publications (Sandler & Russell, 2005), handling advisory or mentoring exchanges (Schlosser et al., 2011a), and living up to ethical or moral obligations (Brown & Krager, 1985). Faculty-graduate student relations transcend academics to include professional

and community interests. Golde (2005) and Ives and Rowley (2005) argue that positive advisory relationships are critical to doctoral degree completion. Lechuga (2011) adds that faculty-graduate student relationships promote student learning and professional growth and increase employment opportunities. On the other hand, poor faculty-graduate student relationships may lead to negative consequences, including delayed studies or withdrawal, time wastage, and loss of friendship and mentorship opportunities (Al Makhamreh & Kutsyuruba, 2021; Fetzer, 2008; Golde, 2005; Kim et al., 2018). These viewpoints speak to the crucial status of the supervisor-student relationship and suggest why the concept has continued to enjoy a conspicuous space in higher education discussions and practice.

Since the Middle Ages and throughout subsequent history, the relationship between faculty advisors and graduate students has evolved from a master-servant arrangement where the faculty advisor holds superordinate agency in providing instructional and research leadership (Whittington & Barnes, 2021) to models that allow more students' input, if not complete autonomy (Cassuto & Van Wyck, 2021; Gurr, 2001; Robertson, 2017; Vehviläinen & Löfström, 2016). Today, scholars use different terms to describe this bond, such as cognitive apprenticeship, advisement, collaboration, mentoring, and socialisation (Anderson & Carta-Falsa, 2002; Bégin & G  rard, 2013; Boyle & Boice, 1998; Cotten & Wilson, 2006; Frankel & Swanson, 2002; Jazvac-Martek, 2009; Kim et al., 2018; Lechuga, 2011; Weil, 2001). These terms have slightly different meanings depending on the context of graduate education, but they all generally refer to the alliance between professors and graduate students. Graduate supervision has progressed as universities have adapted to changing academic degrees' requirements and expectations. Increasingly, there have been calls for models that allow students to have more say in their instructional and research leadership.

Furthermore, it is imperative to address the considerable concerns surrounding the supervision of non-traditional PhD students, particularly those who study part-time or remotely. These students face distinctive challenges that demand additional resources and support (Gardner & Gopaul, 2012). Part-time students require comprehensive assistance in achieving a work-life balance, while online students require supervisors with specific skills and competencies to navigate remote communication and institutional transactions (Bengtsen & Jensen, 2015; Gray & Crosta, 2019; Nasiri & Mafakheri, 2015; Tengberg, 2015). Moreover, the recent COVID-19 pandemic has intensified online and distance education challenges.

On the other hand, the COVID-19 pandemic opened the doors to new thinking for facilitating educational activities and maintaining interpersonal communications remotely. Educational institutions and other service industries have continued to adapt to the prevailing circumstances, introducing or normalising remote human contacts and exchanges. As universities still grapple with these COVID-19 effects, the nature, form, quality, and impact of remote academic advisement or supervision on graduate students remain unknown in the present circumstances.

In addition to existing uncertainties are the cultural dimensions of supervisor-student relations, as relationships hardly ever happen in a vacuum. People live their relationships under specific cultural frames and structures (Fiske, 1991). It is important to note that different cultures have varying perspectives on individual differences and interpretations of the world (Cohen et al., 2018). These perspectives affect how institutions define communities and navigate relationships

in educational institutions. Today's institutions are expected to accommodate multiple cultures and beliefs, promoting interdependence among constituents (Furman, 1998). It is imperative to have discussions and take actions towards diversity and inclusivity, as these discussions and actions impact graduate education. For instance, in recognising and overcoming dissonance in postgraduate student research, Wisker et al. (2003) identify "working in a different research culture" (p. 94) as a considerable challenge for international students. Also, Kim's (2007) study with Korean doctoral students in the USA finds that cultural and language differences are barriers to quality supervisor-student relations. Common to Kim's (2007) and Wisker et al.'s (2003) findings are the identified influence of culture in postgraduate education, particularly on faculty advisor-doctoral student experiences. More particularly, as Schlosser et al. (2011) point out, the supportive and guiding role of the advisor (faculty) to the student-advisee makes it imperative to include the cultural or ethnic dimensions of academic advisement. Factors such as gender, sexual orientation, social class, ability status, language, religion or spirituality, and family may affect academic advisement relationships or processes in graduate education (Schlosser et al., 2011b). These examples inform and support faculty advisors and graduate students to embrace cultural consciousness in research and other educational engagements. The absence of conceptual harmony, the need for transparency and accountability, paradigmatic shifts in relational behaviours (master-servant to student-driven supervisory models), current exigencies in academic advisement, including the COVID-19 effect, and cultural influences begin to define the complexities in faculty advisor-graduate student relationships in the current circumstance.

Identifying all aspects of graduate student-faculty advisor (GS-FA) relationships is challenging because of the different disciplines, departments, personalities, and traditions in graduate programs. The quality and nature of these relationships vary depending on the academic discipline and can be crucial to a student's success. It is essential to conduct in-depth research to understand the intricacies of these relationships and inform policies and practices. To explore the relationships between graduate students (GS) and faculty advisors (FA), we have adopted patterns of roles and responsibilities and other considerations. This approach has allowed us to examine these parties' dependencies, mutual benefits and burdens, conflicts of interest, autonomy, exchanges, and power differentials. In exploring these elements, the article highlights a conceptual framework that embeds the nuances in GS-FA relationships and their shortcomings with recommendations on the practices that engender much more effective graduate training. This article presents our findings on the relationships between graduate students and faculty advisors.

### **Graduate Student and Faculty-Advisor Relationships: A Literature Overview**

We reviewed various academic journals to gain insights into graduate students' relationships with their faculty advisors. However, due to the complex nature of the subject, we have found no clear empirical definitions for this relationship. Researchers analyse the GS-FA relationship using different themes rather than a standardised methodology. These themes include interpersonal issues such as co-authorship, unfair treatment, sexual relationships, mentorship, socialisation processes, roles and responsibilities, and ethical considerations (Boyle & Boice, 1998; Brown & Krager, 1985; Fetzer, 2008; Lechuga, 2011; Sandler & Russell, 2005; Sullivan & Ogloff, 1998). Some studies suggest that the GS-FA relationship can impact a student's

academic success, attrition, and career aspirations. For instance, Kim et al. (2018) investigate the career motivations of doctoral students in a US research university and find that most students prefer jobs in academia. As reported, these students prefer jobs in the academy for purposes of reputation (personal and institutional) and their desires for an academic relationship with a particular advisor. Though a small sample does not warrant generalisation, the study identifies the perceived impact of the student-supervisor relationship on students' career prospects.

Similarly, a study by Golde (2005) reveals that doctoral students tend to drop out when there is a lack of interaction, trust, and academic support between them and their advisors. Schlosser et al. (2011b) suggest that universities should embrace a culturally diverse advisement model in graduate education due to the diverse student population and the significant role of faculty advisors. These scholars argue that advisory relationship models should consider cultural identifications such as race, ethnicity, gender, and sexual orientation to better support and guide graduate students. These are just a few examples of the GS-FA issues documented by researchers.

Researchers identify various ways to describe the relationship between graduate students and their faculty advisors, including mentorship, academic advisement, and enculturation (Boyle & Boice, 1998; Schlosser et al., 2011; Sullivan & Ogloff, 1998; Weil, 2001). Although these terms have slightly different meanings depending on the context, they generally refer to a close connection between the two parties. There are two types of relationships when advising doctoral students: mentoring and advisory. Mentorship is typically characterised by an informal, voluntary, and positive relationship (Weil, 2001). This type of relationship involves a mentor who has more experience and wisdom supporting the growth and development of a less experienced mentee. A mentor can take on many roles, such as a tutor, coach, advisor, counsellor, patron, sponsor, protector, guide, or parent surrogate (Weil, 2001, p. 473). Mentors help students achieve their career goals and instil moral and academic values. Participating in mentorship can be a valuable experience for both the mentor and mentee. Living a mentorship experience may require deep personal commitments and the associated risks from the people involved. Faculty members may tend to keep things more formal on the surface and avoid mentoring, favouring less personal advisory relationships with graduate students to forestall attendant interpersonal problems and discomforts. Of course, advisory relationships may develop into more of a mentorship orientation if the parties find closer personal connections and understandings.

Advisory relationships may be more structured and aim to guide students through course selection, research, and dissertation writing (Knox et al., 2006; Schlosser et al., 2011). Doctoral students are assigned advisors such as dissertation supervisors, research advisors, mentors, major professors, and committee chairs (Fetzer, 2008; Schlosser & Gelso, 2001). Both advisory and mentoring relationships serve as platforms for enculturation, which means integrating graduate students into a particular academic discipline and community of scholars (Lee, 2012). Some departments use orientation programs, feedback on assignments, peer matching, social gatherings, and summer research writing retreats to help new students understand programs, departmental structures, and faculty expectations (Boyle & Boice, 1998). It may be that the missing pieces in these descriptions are the aspects of social relations through which graduate students and their faculty supervisors exercise their role freedom and respond to each other's



actions and aspirations. There are several ways to explore the dynamics of graduate student and faculty relationships; in the following section, we have chosen role and responsibilities matrices to explain this relational phenomenon comprehensively.

### **The Roles and Responsibilities of Graduate Students and Faculty-Advisors**

The literature describes the GS-FA relationship as having various roles and responsibilities which involve legal and ethical considerations. These roles can be complex and varied, depending on the specific task and institutional arrangements. This complexity can make it challenging for students to understand how to interact with faculty advisors in different situations (Lechuga, 2011). Unclear expectations, duties, or roles can lead to misunderstandings, tension, and conflicts. It takes time for the GS and FA to understand each other and develop the necessary skills to handle changing demands effectively.

We provide examples of graduate students and faculty advisors or supervisors' roles. One such role is that of a group member, where the graduate student participates in individual and group learning activities (Brown & Krager, 1985; Lechuga, 2011). This approach is known to help the student become a part of the department or unit's academic community (Brown & Krager, 1985). As community members, students can engage in committee assignments and student organisations. In doctoral education, this is especially important because academic units determine policies that directly impact students, such as admissions, curricula, and funding (Golde, 2005). Additionally, the graduate student receives periodic guidance from their advisor or mentor, which is critical for their academic, personal, or professional development (Brown & Krager, 1985; Lechuga, 2011). Having academic advisory support is essential for socialising doctoral students into their respective professions (Schlosser et al., 2011a). This induction may be difficult for large academic units to adopt or where the unit culture is less hospitable to neophytes. Students associated with academic departments encompassing diverse disciplines or pursuing numerous research agendas may find it harder to find their place than those in smaller, more homogeneous units. Departmental arrangements make the support and hosting by faculty supervisors even more critical as students work to connect with those in their chosen field(s). In addition, the graduate student functions as a student-researcher who identifies and develops their research interests and skills under a faculty member's supervision and guidance (Brown & Krager, 1985; Fetzer, 2008; Lechuga, 2011). A graduate student may also work for a faculty member (Fetzer, 2008), especially under arrangements wherein a professor pays a student a stipend from a research grant.

A faculty member can take on various roles, such as being a curriculum planner and instructor for graduate students. They work with the student to plan their courses and supervise their learning discussions and lab activities, helping them develop essential skills (Brown & Krager, 1985; Fetzer, 2008; Lechuga, 2011). The faculty member also acts as a supervisor, guiding the student in choosing courses, research topics, and personal well-being (Brown & Krager, 1985; Fetzer, 2008; Lechuga, 2011). As the lead researcher, they oversee and direct the student's research (Brown & Krager, 1985; Fetzer, 2008). Additionally, the faculty member may hire graduate students to work as teaching or research assistants or lab attendants (Fetzer, 2008; Lechuga, 2011). They can also act as socialisation agents by encouraging students to participate in public speaking, attend conferences, and publish research papers, which help shape their

academic, professional, and personal growth. They often do so through interpersonal rapport, being mindful of the graduate student's interests and development needs and scouting for fit opportunities to facilitate (Anaya & Cole, 2001; Brown & Krager, 1985; Fetzer, 2008; Lechuga, 2011).

### **Components of Graduate Student and Faculty-Advisor Relationship**

Living the roles and responsibilities implies that graduate students and their faculty advisors embrace some dependencies, autonomies, mutual risks, and benefits, irrespective of the deployed relationship model. Whether or not the relationship leans towards authority dimensions, fundamental practices may apply, such as when the faculty-advisor (i.e., a dissertation supervisor) entertains minimum negotiation and solely directs the research or laboratory activities in which the student is engaged. On the other hand, there are instances where the GS and FA dyad intentionally collaborate and handle matters as colleagues, reserving optimum individual agency in their dealings and interplay. As stated earlier, relationships are often pliable and context-driven (Fiske, 1991). GS-FA exchanges may differ according to the dominant role or positionality of the advisor and the nature of their work. Together with circumstances, individual dispositions, and even institutional factors, these will be contextual factors that shape the nature of roles and relationships. We summarise these characteristics in three major themes: interactivity, collegiality, and legal-ethical obligations.

### **GS-FA Relationships as an Interactive and Measurable Phenomenon**

Promoting the GS-FA relationships as featuring interactive and measurable qualities suggests the importance of frequency and quality of communications between students and faculty members. How instructors interact with or engage students is critical to the quality of learning outcomes or achievements gained (Frankel & Swanson, 2002; Nystrand & Gamoran, 1991; Tinto, 2012). As a teaching philosophy and strategy, interactivity is well-established in pedagogical or andragogical literature. They range from traditional concepts such as involvement, engagement, and participation to emergent theories on student-centred learning. In the K-12 and post-secondary domains, the emphasis is usually on how teachers or professors relate to or interact with students to elicit optimum learning experiences and outcomes (Anderson & Carta-Falsa, 2002; Bain, 2004; Cotten & Wilson, 2006; Kuh, 2016; Tinto, 2012). Nystrand and Gamoran (1991) find that substantive engagement through student-centred approaches enhances student-teacher interactions and significantly impacts student achievement in the K-12 domain. Meaningful engagement allows students to engage in genuine and open dialogues with professors freely. Such interactions may be formal or informal, within the social context, in class or out of the classroom (Anaya & Cole, 2001; Boyle & Boice, 1998; Cotten & Wilson, 2006).

Reciprocity is critical to these interactions. Being reciprocal brings shared obligations often demonstrated through roles and benefits such that students gain new knowledge and skills from their faculty supervisors' support. Faculty members may improve their instructional or research leadership competencies by mentoring students (Al Makhamreh & Kutsyuruba, 2021; Lechuga, 2011). However, it can be challenging to correlate student-faculty interactions with learning outcomes (Kuh & Hu, 2001) because of mitigating factors such as the student's interests and availability, faculty members' attitudes or personalities, and institutional influences (Cotten &

Wilson, 2006). Interactions may not be limited to classroom spaces (Anaya & Cole, 2001). There is a need to investigate the underlying patterns of interactions between graduate students and faculty members to ascertain whether GS-FA relations are mediated by or a function of frequency, nature, or quality of exchanges and which of these elements impact learning outcomes.

### **GS-FA Relationships as Collegiality, Trust, and Respect Phenomenon**

Collegial practices encourage negotiated learning or heightened interactions between students and teachers (Anderson & Carta-Falsa, 2002). Researchers hold that graduate students and their supervisors thrive in welcoming, non-threatening, and collegial environments marked with mutual trust and decorum (Al Makhamreh & Kutsyuruba, 2021; Anderson & Carta-Falsa, 2002; Frankel & Swanson, 2002). Boyle and Boice (1998) studied how selected university departments integrated new graduate students into the academic community and scholarly work. They report that students whose supervisors regarded and treated them as colleagues were likelier to complete their dissertations than those who had worked with overbearing supervisors or committee members.

Generally, faculty members have a desire to work with students openly and respectfully. Studying the impact of faculty-student interactions on teaching behaviour, Frankel and Swanson (2002) find that professors make behavioural changes because of their satisfactory and dissatisfactory encounters with students. The professors make the following behavioural changes: they adjust their teaching methods; seek to explain course materials more carefully; work to encourage students with positive comments rather than focusing on negative actions, and make efforts to be more resolute and firmer when dealing with issues and instances of student misconduct. These findings suggest supervisor-student relationships that embrace lenient and less diligent practices may exacerbate difficulties. In other words, faculty dispositions towards students implicate future outcomes depending on the particularities of persons, contexts, and situations. Supervisors may benefit from a shift from giving the benefit of the doubt and assuming the best of students to a more contractual relationship that proactively avoids or ameliorates risks. From the literature, it is unclear what happens when trust and communications break down, so we are left with negative anecdotal understandings and perhaps “war stories.” The absence of research in this area creates a challenge in estimating or explaining the causes of supervisor-student disagreements and guiding parties on how to prevent, navigate, or settle issues when they arise. There is a need to entertain that some levels of toxic GS-FA relationships may be difficult to redeem or reconcile. Strained relationships may warrant students seeking to change supervisors and even withdraw from their programs of study.

GS-FA engagements may be inherently problematic to view as collegial because these lean towards the authority relationship dimension. Authority ranking is a “relationship of inequality” (Fiske, 1991, p.14). For the most part, and by the nature of these relationships, faculty supervisors’ experience and expertise position them in a power asymmetry over their students. Fetzer (2008) argues that graduate students and postdocs must cooperate with professors and fellow students in assigned duties without being possessive or competitive. Exhibiting inordinate personal interests in GS-FA relationships may jeopardise graduate students’ futures as they rely on supervisors’ recommendations to advance their careers. The perception that universities



support faculty more than students (Fetzer, 2008) puts pressure on graduate students to avoid conflicts at all costs. In Fetzer's (2008) submission, supervisors are not under obligation to negotiate tasks or projects with students. Taken without filters, this may convey to graduate students that they have no agency or are susceptible to supervisors' whims and caprices during exchanges. Such perceived or real imbalances of relationships might be considered repressive and unfair and even jeopardise students' well-being, especially in institutions where accountability systems are inadequate for redress. Then come questions such as: what happens if graduate students fall out with their supervisors or vice versa? What provisions prevent or reduce the risk of potential conflicts or facilitate the timely resolution of disputes? These questions drive the legal-ethical aspects of the GS-FA relationship phenomenon.

### **GS-FA Relationships as Legal-Ethical Obligation Phenomenon**

GS-FA relations as interactive and collaborative activities require each party's commitments and dependencies in relationships and roles. Sometimes graduate students and their academic advisors have disagreements or unsatisfactory experiences in the processes around dissertation supervision, research, learning settings, laboratory activities, and daily interactions (Al Makhmreh & Kutsyuruba, 2021; Fetzer, 2008; Frankel & Swanson, 2002). There is also the issue of intellectual property ownership, which can get complicated as academic advisors, who are primary or principal researchers, may have long-standing or externally-funded research programs and may be bounded by their "ownership stake." At the same time, the student may have a claim over some specific contributions. Students are relatively transient in the labs of faculty supervisors who may have spent many years investing their time and energy in research plans and programs. Interpersonal issues within student research groups may carry warning signs that precede problems arising with supervisors. Faculty supervisors may have little patience for less motivated students or those who are interpersonally combative with others in the lab.

Some universities and professional associations have adopted regulatory measures and instruments to forestall disputes and maintain order. For instance, the American Psychological Association (APA) has policies regulating members' conduct and ownership in collaborative research projects and publications (American Psychological Association, 1992). University policies and regulations, such as supervisor-student agreements, tend to guide faculty-student dealings. Supervisor-student agreements, learning contracts, or codes of conduct delineate the collaborating parties' roles, responsibilities, and rights (Sandler & Russell, 2005; Solomon, 1992) are becoming increasingly common and proactive devices to ameliorate relationships and role risks. Such instruments, policy documents, and the embedded consultations that underlie their details may be critical for promoting fair exchanges in academic spaces. These means may also help define roles, make responsibilities and expectations more explicit, and adjudicate matters such as attributions of authorship between students and faculty in collaborative research (Sandler & Russell, 2005).

However, policy documents may be inconsequential without the intention, motivation, and determination to monitor and abide by the terms of the agreements. Of course, verbal or written, loosely or strongly worded contracts are unlikely to provide absolute remedies or deterrents for passive or active relationship misconduct and abuses. Breaches and misconduct are more likely to be prevalent when people lack ethical convictions and commitments to the terms of implicit or

explicit agreements (Deutscher et al., 2019; Solas, 2016). There is no doubt that instances and patterns of dishonesty and misconduct in workplaces will continue but at a minimum. Exercising awareness of psychological contracting and direct exchange of expectations and commitments might help achieve sought-after relational results, including mutual benefits. Beyond written agreements, the ethical commitments of collaborating parties in any endeavour, including those associated with GS-FA partnerships and obligations, are vital. With illustrations entrenched in roles and responsibilities, Brown and Krager (1985) describe how faculty advisors and graduate students work together, devoting themselves to virtues such as respect and goodwill in working relationships. Some cultures dismiss ethical values as subjective and lacking empirical evidence (Hill, 2000); this makes it difficult to estimate how ethics entice graduate students and their faculty advisors to commit to harmonious relationships. Regardless of opposing views, being interactive, collegial, and having legal-ethical obligations remain essential for forming and sustaining GS-FA relations.

### **Determinants of Graduate Student and Faculty-Advisor Relationships**

Several mitigating influences that drive GS-FA activities are at the intersection of the earlier three components. Cultural or personal identifications such as ethnicity or race, gender, and sexual orientation affect relationships. In multicultural activities such as graduate education, people commonly identify or relate with others who share their beliefs or interests. Studying an organisation with junior and senior staff differentiated by gender and ethnicity, Athey et al. (2000) find that mentees receive more mentoring support from mentors who share similar cultures, languages, and interests. Also, in a race-related study, some (Latinx) undergraduate students in the US report having varying levels and forms of interactions (frequency and quality) with faculty members (Anaya & Cole, 2001). This study indicates that informal contact (meetings over coffee or drinks) with professors has a minimal impact on the student's academic achievements compared to focused didactic discussions on coursework, essay writing, and feedback. In another instance, Protivnak and Foss (2009) investigate counsellor education doctoral students' experiences to understand their motivations and experiences better. One notable finding is that some female students prefer to have female supervisors, believing this will enhance connections and support. Numerous instances abound that support Schlosser et al.'s (2011b) argument that "racial, biological sex and sexual orientation issues" (p. 36) affect GS-FA relations. These findings may be isolated cases rather than the norm. Nevertheless, there are indications that race, ethnicity, and personal identities may make a difference in interpersonal relationships.

In addition to ethnicity and gender issues, faculty and graduate students' personalities play into daily interpersonal exchanges, particularly mentoring relationships. Mentoring relationships depend on how comfortable the faculty-advisor (as a mentor) is with the graduate student mentee (Weil, 2001). There are instances where faculty members mentor their proteges to replicate a profession (Blackburn et al., 1981). In such situations, the mentor may disregard personal differences and mentor a protegee for professional community benefits. However, for the most part, GS and FA relations require some degree of compatibility between the parties involved. Researchers suggest that faculty members prefer to work with graduate students who agree with their advisory or mentorship styles, personalities, research foci, and professional interests (Cotten & Wilson, 2006; Protivnak & Foss, 2009). Perhaps this is obvious, but it ought not to be

assumed. On the contrary, doctoral students may withdraw from studies because of an awkward or non-fitting relationship with a faculty member (Golde, 2005). These instances suggest that GS and FAs' interests and preferences affect their relationships, positively or negatively.

Other factors such as time constraints, personal interest, or ambition, and having confidence, awareness, or motivation to seek help may shape students' willingness to interact with faculty members (Cotten & Wilson, 2006; Lechuga, 2011). Students' perceptions of supervisors' roles and responsibilities affect their interactions with faculty members (Brown & Krager, 1985; Fetzer, 2008; Lechuga, 2011). Doctorate and other graduate students pursue academic ventures and relationships with considerable career promises (Basalla & Debelius, 2014; Cotten & Wilson, 2006; Hinkle et al., 2014; Kim et al., 2018). The prospect of actualising promising outcomes from the GS-FA relationships may wain or strengthen throughout the engagement period. Institutional influences such as class sizes, departments' organisational structures and culture, facilities, and nature of programs may also affect the quality of faculty-student relations (Boyle & Boice, 1998; Cotten & Wilson, 2006; Golde, 2005). These factors, put together, determine the quality of time and energy that graduate students and faculty members invest in their relationships in ways that work together towards preferred and attendant results.

### **Effects of Graduate Student and Faculty-Advisor Relationships**

There are several potential effects of GS and FA relationships on both parties. For convenience, we broadly categorise these effects into positive and negative outcomes. Classifying GS and FA relationships into these broad categories can be problematic because what connotes a positive or satisfying experience with a faculty advisor may differ from what the student shows. Some academic supervisors might argue that being too lenient with students only hurts them in the long run. Graduate students may find ways to overcome adversity and succeed even when supervised by what they perceive as an overly demanding faculty advisor. Therefore, it is difficult to map all elements of a positive or negative faculty advisor and graduate student relations because both parties bring different expectations. In a study involving undergraduate students, Cotten and Wilson (2006) found that students' perceived benefits and costs of relating or interacting with faculty members were course-specific or career-related. Some researchers have challenged statistics connecting student achievements to teacher-student relationships (Kuh & Hu, 2001), while others have demanded explanations for the processes and patterns of these relationships (Pascarella & Terenzini, 1980). Moreover, GS-FA relations are likely qualitatively different from undergraduate-level design and work experiences. It is unknown how or what aspects of the relationship yield positive or negative outcomes for graduate students.

Albeit theoretically, positive mentoring GS and FA experiences indicate cordial relations that yield satisfying results (Schlosser et al., 2011a; Weil, 2001). Tillman (2001) argued that good mentor-protégé relationships benefit both the mentor and the protégé in publications, research partnerships, and career prospects. Through positive relationships, graduate students receive enhanced support from faculty. Such support might translate into knowledge gain, increased access to funding and other material support, completed studies and research, enhanced professional and career prospects, and sustained friendship and collaboration (Al Makhamreh & Kutsyuruba, 2021; Boyle & Boice, 1998; Cotten & Wilson, 2006; Fetzer, 2008; Kim et al., 2018). Meanwhile, faculty or supervisors become more knowledgeable in instructional

leadership and research, dissertation supervision, raising colleagues and growing professional networks, and relishing the fulfilment that comes from such experiences (Al Makhamreh & Kutsyuruba, 2021; Blackburn et al., 1981; Fetzer, 2008; Lechuga, 2011; Tillman, 2001; Weil, 2001).

In contrast, negative relationships may be awkward, unhealthy (emotionally laborious), and short on rewarding outcomes. Adverse outcomes affect both the graduate student and the faculty member. Such experiences may include faculty advisors' direct or indirect association with students' withdrawal from studies (attrition), together with post-engagement reflections on the waste of human and material resources and time, broken trust, costs associated with frustration and discouragement, and limited career prospects and networks (Al Makhamreh & Kutsyuruba, 2021; Fetzer, 2008; Golde, 2005; Kim et al., 2018; Tinto, 1987). Negative relationships can also affect supervisors by hurting their career progressions, slowing lab productivity, and disrupting mental health. These illustrations suggest that GS and FA relationships are a two-way street that may bring a spectrum of positive or negative outcomes to the faculty and graduate student dyad, despite the power differential that seems to favour faculty.

Determining who benefits more or bears the greater brunt of positive or negative outcomes may be challenging. Figure 1 below is a graphic presentation that captures some of the influences on GS-FA relations.

The theory of force field analysis, created by Lewin in 1951, emphasises the significance of driving and resisting forces when it comes to change. Driving forces, whether internal or external, promote positive change while resisting forces aim to maintain the status quo or prevent change from happening. In order to achieve success, it is crucial to ensure that the driving forces outweigh the resisting ones. This article uses force field analysis to map the relationships between graduate students and faculty advisors, demonstrating that any aspect on the chart can act as a driving force or inhibit progress. A successful relationship between graduate students and faculty advisors requires more than defined roles and expectations. Additional measures are necessary to ensure positive outcomes for both parties involved.

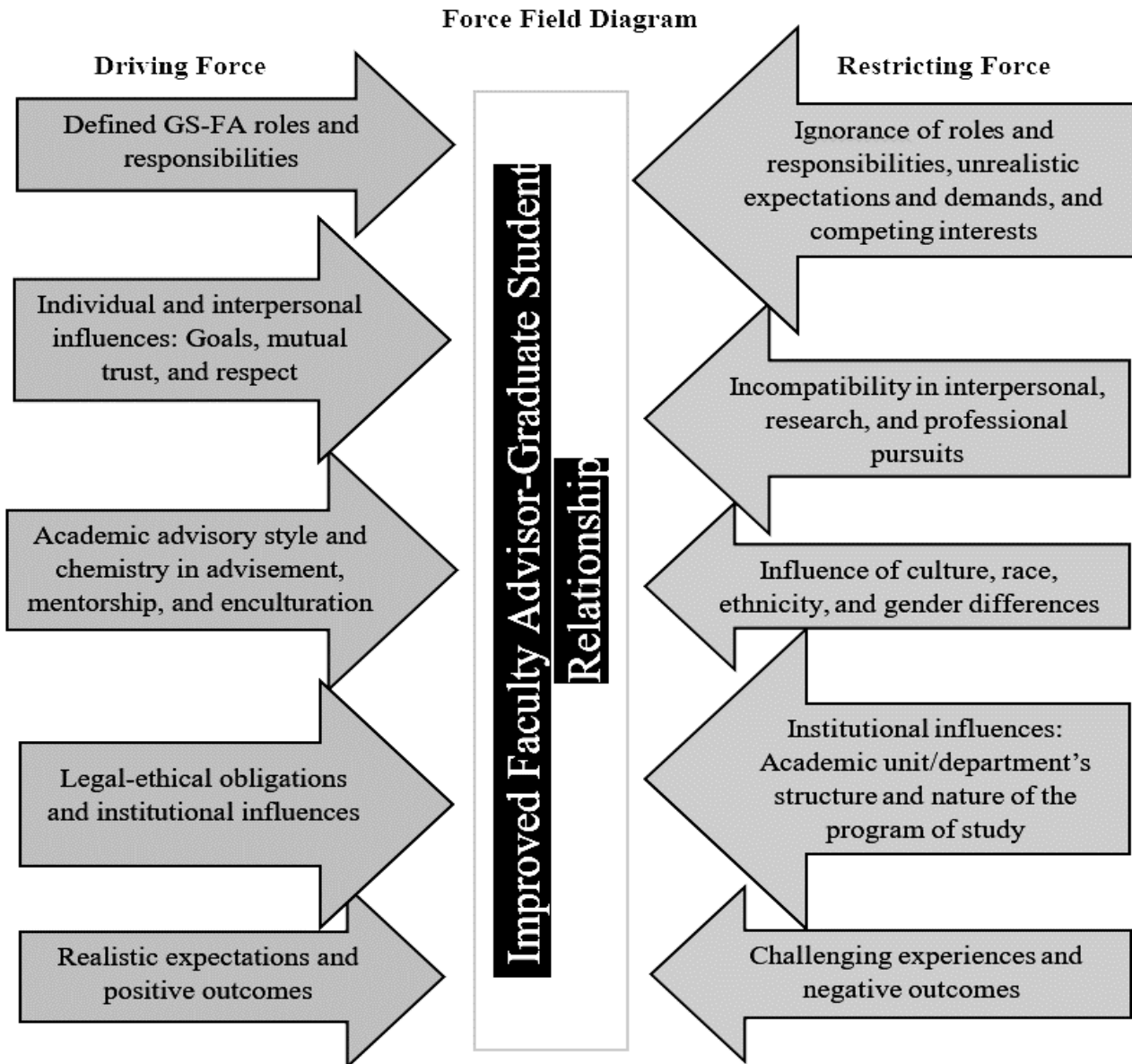
Sometimes, having problematic supervisors during graduate school can motivate students to find support elsewhere and still succeed. To better understand the dynamics between graduate students and faculty advisors, we created a force diagram that identifies potential driving and restraining factors based on the individuals and institutional context. By recognising the positive and negative influences on this relationship, institutions can promote positive outcomes and mitigate any adverse effects.

### **Summary and Concluding Thoughts**

The relationship between graduate students and their faculty advisors is complex and profoundly ingrained within universities and their graduate programs. We have identified various ways this relationship operates through a matrix of roles and responsibilities, highlighting the democratic but managed exchanges between the two parties. Depending on the situation, faculty advisors may take a more authoritarian approach by setting strict deadlines or research targets while rewarding hardworking students and ensuring satisfactory progress. Alternatively, some faculty



Figure 1. Lewin's Force Field Analysis in GS-FA Relationship



advisors may opt for a more collaborative approach, engaging in negotiations and reaching consensus with their students. They may also employ instructional and assessment strategies that allow students to contribute significantly to their learning and research experiences. We have found that expectations for student performance vary, with some faculty advisors being more lenient than others. While traditional faculty-led approaches can be practical, student-centred methods are generally considered ideal. This is because they promote student agency and mutual goal setting in the learning process. A student-centred teaching and relational method foster a sense of ownership and responsibility for learning among graduate students (Horsfall et al., 2012; Michell & Sackney, 2015; Nystrand & Gamoran, 1991). However, not all student-faculty relationships will yield positive results due to compatibility issues and external factors like health



and family commitments. Therefore, finding a relationship dynamic that works well for both parties and prioritising effective communication and goal setting is essential.

The connection between graduate students and their faculty advisors is built on several elements, including their respective roles, responsibilities, and communication. Establishing an open and pleasant relationship is crucial to cultivating a feeling of security and belonging for successful learning (Anderson & Carta-Falsa, 2002). Citing Abraham Maslow, Anderson and Carta-Falsa (2002) state that “true learning happens when an individual feels a sense of safety and association with others” (p.134). Professors should treat students as peers and collaborate with them to foster a positive educational atmosphere. Encouraging community spirit among graduate students and faculty advisors can help students seek support and overcome the challenges of graduate education. This community feeling, otherwise conceived as a sense of belonging, is critical to students’ persistence or retention (Tinto, 2015). An institutional or interpersonal culture that isolates graduate students can only create problems for learning and research and place faculty supervisors in challenging situations. A heightened community orientation might persuade faculty advisors to identify and support struggling students, barring instances where students refuse to belong and set themselves apart for untold reasons. Where it is the case, an inquiry from advisors to understand students’ withdrawals or expressions of indifference to supervisor-student relationships might be a good starting point towards boosting a sense of community in graduate education and meeting the unspoken or unheard needs of graduate students.

Efforts to develop a community spirit amongst graduate students and faculty advisors may encourage students to openly seek support and lessen any tendencies to withdraw or succumb to the often daunting challenges of graduate education. It is important to provide learning support for graduate students, especially those with inadequate preparation. Golde’s (2005) study found that some doctoral students withdraw from their programs due to a lack of awareness or preparation for the demands of graduate education or due to mismatched academic advisors. Studies suggest that attrition rates for US doctoral students can be as high as 40-50% across disciplines (Golde, 2005; Kim et al., 2018), although these numbers may vary across universities, other countries, and contexts. Addressing these conditions is crucial to reduce doctoral students’ attrition rates. To reduce risks and ensure success in the relationships between graduate students and their faculty advisors, universities should reconsider their approach. This includes examining all aspects of graduate education, such as management, mentoring, and informal relationships (Weil, 2001). We suggest the following practices based on Weil’s (2001) perspective and the ideas presented in this article.

- Inform prospective students about the demands of graduate education during recruitment and admissions and educate fresh graduate students about the complex roles and responsibilities embedded in their relations with advisors or supervisors through deliberate orientations and workshops.
- Equip current and aspiring faculty advisors on the dynamics of supervisor-student relationships, including historical and emergent trends.
- Embrace the socio-cultural dynamics of GS-FA relationships, such as ethnicity or race, gender differences, and other personal associations. Achieving this objective may entail

creating open spaces and encouraging GS-FA dyads to proactively discuss personal preferences and objections.

- Enrich policy documents, such as supervisor-student agreements, with relevant information to eliminate or reduce grey areas and explore ways to raise the GS-FA dyads' ethical consciousness.
- Institutionalise, audit, support, and acknowledge effective academic advisory with specific incentives such as awards and honours. This approach would more likely move GS-FA relations beyond academic advisory to mentorship and compensate for the added responsibilities it could bring to faculty advisors.
- Recognise emergent issues such as remote academic advisory or dissertation supervision, internet-related challenges, and well-being and mental health struggles in the post-COVID-19 era that may besiege present-day GS-FA relationships.

Improving the relationships between graduate students and their faculty advisors through certain practices shows excellent potential, but implementing them may be challenging due to the time, structural, and financial burdens it places on universities. However, prioritising healthy and productive relationships between graduate students and faculty advisors could greatly benefit graduate education. Values establish priorities, and if the healthy and productive relationships between graduate students and their faculty advisors contribute to graduate education's overall integrity and purposes, this might warrant attention and resources. These demands are surmountable for any institution prioritising student and faculty well-being and success.

University administrators and policymakers may choose to use this article to create comprehensive policies that move GS-FA relationships beyond academic advisory to mentoring models, which offer students potential career and social benefits. This article also provides valuable information for current and prospective faculty advisors and graduate students on the workings of GS-FA relationships in graduate education. Such knowledge could guide curricular development for supervisory training and newcomer orientation programs for faculty members and doctoral students about their roles and responsibilities related to supervisor-student relationships. These insights may also equip all other personnel supporting graduate students to offer services that manage supervisor-student relations better. These implications would remain theoretical without empirical research. A study that applies the principles outlined in this article, such as the role of trust, collegiality, and ethical and legal dimensions, may validate or disprove these concepts. Such studies could expand the research landscape in higher education that has neglected or played down these crucial aspects of GS-FA relationships and may help build new theories or contradict existing ones.

## References

- Al Makhamreh, M., & Kutsyuruba, B. (2021). The role of trust in doctoral student-supervisor relationships in Canadian universities: The students' lived experiences and perspectives. *Journal of Higher Education Theory and Practice*, 21(2), 124-138.
- American Psychological Association, Ethics Committee. (1992). Ethical principles of psychologists and code of conduct. *American Psychologist*, 47(12), 1597-1611. <https://doi.org/10.1037/0003-066X.47.12.1597>
- Anaya, G., & Cole, D. G. (2001). Latina/o student achievement: Exploring the influence of student-faculty interactions on college grades. *Journal of College Student Development*, 42(1), 3-14.
- Anderson, L. E., & Carta-Falsa, J. (2002). Factors that make faculty and student relationships effective. *College Teaching*, 50(4), 134-138. <https://doi.org/10.1080/87567550209595894>
- Athey, S., Avery, C., & Zemsky, P. (2000). Mentoring and diversity. *American Economic Review*, 90(4), 765-786. doi:10.1257/aer.90.4.765
- Bain, K. (2004). *What the best college teachers do*. Harvard University Press.
- Basalla, S., & Debelius, M. (2014). *So, what are you going to do with that? Finding careers outside academia*. University of Chicago Press.
- Bégin, C., & Géard, L. (2013). The role of supervisors in light of the experience of doctoral students. *Policy Futures in Education*, 11(3), 267-276. <https://doi.org/10.2304/pfie.2013.11.3.267>
- Bengtsen, S. S., & Jensen, G. S. (2015). Online supervision at the university: A comparative study of supervision on student assignments face-to-face and online. *Tidsskriftet Læring og Medier (LOM)*, 8(13), 1-23. <https://doi.org/10.7146/lom.v8i13.19381>
- Blackburn, R. T., Chapman, D. W., & Cameron, S. M. (1981). Cloning in academe: Mentorship and academic careers. *Research in Higher Education*, 15(4), 315-327. <http://dx.doi.org/10.1007/BF00973512>
- Boyle, P., & Boice, B. (1998). Best practices for enculturation: Collegiality, mentoring, and structure. In M. Anderson (Ed.), *The experience of being in graduate school: An exploration* (pp. 87-94). Jossey Bass Publishers.
- Brown, R. D., & Kager, L. (1985). Ethical issues in graduate education: Faculty and student responsibilities. *The Journal of Higher Education*, 56(4), 403-418. <https://doi.org/10.1080/00221546.1985.11780701>
- Cassuto, L., & Van Wyck, J. (2021). The PhD adviser-advisee relationship reimaged for the twenty-first century. In L. Horinko, J. Reed, & J. Van Wyck (Eds.), *The reimaged PhD: Navigating 21<sup>st</sup> century humanities education* (pp. 42-54). Rutgers University Press.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.
- Cotten, S. R., & Wilson, B. (2006). Student-faculty interactions: Dynamics and determinants. *Higher Education*, 51(4), 487-519. <https://doi.org/10.1007/s10734-004-1705-4>
- Deutscher, M., Walker, K., & Phillips, P. (2019). Conscience in public administration: More than just a chirping cricket? *Canadian Public Administration*, 62(2), 181-201. doi.org/10.1111/capa.12320

- Fetzer, J. (2008). Roles and responsibilities of graduate students and post-docs. *Analytical and Bioanalytical Chemistry*, 392(7-8), 1251-1252.  
<https://doi.org/10.1007/s00216-008-2393-1>
- Fiske, A. P. (1991). *Structures of social life: The four elementary forms of human relations: Communal sharing, authority ranking, equality matching, market pricing*. Free Press.
- Frankel, R., & Swanson, S. R. (2002). The impact of faculty-student interactions on teaching behavior: An investigation of perceived student encounter orientation, interactive confidence, and interactive practice. *Journal of Education for Business*, 78(2), 85-91.  
<https://doi.org/10.1080/08832320209599703>
- Furman, G. C. (1998). Postmodernism and community in schools: Unraveling the paradox. *Educational Administration Quarterly*, 34(3), 298-328.  
<https://doi.org/10.1177/0013161X98034003003>
- Gardner, S. K., & Gopaul, B. (2012). The part-time doctoral student experience. *International Journal of Doctoral Studies*, 7(12), 63-78. <https://doi.org/10.28945/1561>
- Golde, C. M. (2005). The role of the department and discipline in doctoral student attrition: Lessons from four departments. *The Journal of Higher Education*, 76(6), 669-700.  
<https://doi.org/10.1080/00221546.2005.11772304>
- Gray, M. A., & Crosta, L. (2019). New perspectives in online doctoral supervision: A systematic literature review. *Studies in Continuing Education*, 41(2), 173-190.  
<https://doi.org/10.1080/0158037X.2018.1532405>
- Gurr, G. M. (2001). Negotiating the 'Rackety Bridge' - A dynamic model for aligning supervisory style with research student development. *Higher Education Research & Development*, 20(1), 81-92. <https://doi.org/10.1080/07924360120043882>
- Hill, T. (2000). *Respect, pluralism, and justice: Kantian perspectives*. Oxford University Press.
- Hinkle, M., Iarussi, M. M., Schermer, T. W., & Yensel, J. F. (2014). Motivations to pursue the doctoral degree in counselor education and supervision. *The Journal of Counselor Preparation and Supervision*, 6(1), 1. <http://dx.doi.org/10.7729/61.1069>
- Horsfall, J., Cleary, M., & Hunt, G. E. (2012). Developing a pedagogy for nursing teaching-learning. *Nurse Education Today*, 32(8), 930-933.  
<https://doi.org/10.1016/j.nedt.2011.10.022>
- Ives, G., & Rowley, G. (2005). Supervisor selection or allocation and continuity of supervision: Ph.D. students' progress and outcomes. *Studies in Higher Education*, 30(5), 535-555.  
<https://doi.org/10.1080/03075070500249161>
- Jazvac-Martek, M. (2009). Oscillating role identities: The academic experiences of education doctoral students. *Innovations in Education and Teaching International*, 46(3), 253-264.  
<https://doi.org/10.1080/14703290903068862>
- Kim, Y. (2007). Difficulties in quality doctoral academic advising: Experiences of Korean students. *Journal of Research in International Education*, 6(2), 171-193.  
<https://doi.org/10.1177/1475240907078613>
- Kim, E., Benson, S., & Alhaddab, T. A. (2018). A career in academia? Determinants of academic career aspirations among PhD students in one research university in the US. *Asia Pacific Education Review*, 19(2), 273-283.  
<https://doi.org/10.1007/s12564-018-9537-6>
- Knox, S., Schlosser, L. Z., Pruitt, N. T., & Hill, C. E. (2006). A qualitative examination of graduate advising relationships: The advisor perspective. *The Counseling Psychologist*, 34(4), 489-518. <https://doi.org/10.1177/0011000006290249>

- Kuh, G. D. (2016). Making learning meaningful: Engaging students in ways that matter to them. *New Directions for Teaching and Learning*, 145, 49-56. <https://doi.org/10.1002/tl.20174>
- Kuh, G. & Hu, S. (2001). The effects of student–faculty interaction in the 1990s. *Review of Higher Education*, 24(3), 309–332. <https://doi.org/10.1353/rhe.2001.0005>
- Lechuga, V. M. (2011). Faculty-graduate student mentoring relationships: Mentors’ perceived roles and responsibilities. *Higher Education*, 62(6), 757-771. <https://doi.org/10.1007/s10734-011-9416-0>
- Lee, A. (2012). *Successful research supervision: Advising students doing research*. Routledge.
- Lewin, K. (1951). *Field theory in social science*. Harper.
- Michell, C., & Sackney, L. (2015). Rethinking schools as living systems. In D. Burgess & P. Newton (Eds.), *Educational administration and leadership: Theoretical foundations* (pp. 255-274). Routledge.
- Nasiri, F., & Mafakheri, F. (2015). Postgraduate research supervision at a distance: A review of challenges and strategies. *Studies in Higher Education*, 40(10), 1962-1969. <https://doi.org/10.1080/03075079.2014.914906>
- Nystrand, M., & Gamoran, A. (1991). Instructional discourse, student engagement, and literature achievement. *Research in the Teaching of English*, 25(3), 261–290.
- Pascarella, E. T., & Terenzini, P. T. (1980). Student-faculty and student-peer relationships as mediators of the structural effects of undergraduate residence arrangement. *The Journal of Educational Research*, 73(6), 344–353. <https://doi.org/10.1080/00220671.1980.10885264>
- Protivnak, J. J., & Foss, L. L. (2009). An exploration of themes that influence the counselor education doctoral student experience. *Counselor Education and Supervision*, 48(4), 239-256. <https://doi.org/10.1002/j.1556-6978.2009.tb00078.x>
- Robertson, M. J. (2017). Team modes and power: Supervision of doctoral students. *Higher Education Research & Development*, 36(2), 358-371. <https://doi.org/10.1080/07294360.2016.1208157>
- Sandler, J. C., & Russell, B. L. (2005). Faculty-student collaborations: Ethics and satisfaction in authorship credit. *Ethics & Behavior*, 15(1), 65-80. [https://doi.org/10.1207/s15327019eb1501\\_5](https://doi.org/10.1207/s15327019eb1501_5)
- Schlosser, L. Z., & Gelso, C. J. (2001). Measuring the working alliance in advisor–advisee relationships in graduate school. *Journal of Counseling Psychology*, 48(2), 157–167. <https://doi.org/10.1037/0022-0167.48.2.157>
- Schlosser, L. Z., Lyons, H. Z., Talleyrand, R. M., Kim, B. S., & Johnson, W. B. (2011a). Advisor-advisee relationships in graduate training programs. *Journal of Career Development*, 38(1), 3-18. <https://doi.org/10.1177/0894845309358887>
- Schlosser, L. Z., Talleyrand, R. M., Lyons, H. Z., Kim, B. S., & Johnson, W. B. (2011b). Multicultural issues in graduate advising relationships. *Journal of Career Development*, 38(1), 19-43. <https://doi.org/10.1177/0894845309359285>
- Solas, J. (2016). The banality of bad leadership and followership. *Society and Business Review*, 11(1), 12-23. <https://doi.org/10.1108/SBR-09-2015-0049>
- Solomon, P. (1992). Learning contracts in clinical education: Evaluation by clinical supervisors. *Medical Teacher*, 14(2-3), 205-210. <https://doi.org/10.3109/01421599209079489>
- Sullivan, L. E., & Ogloff, J. R. (1998). Appropriate supervisor-graduate student



- relationships. *Ethics & Behavior*, 8(3), 229-248.  
[https://doi.org/10.1207/s15327019eb0803\\_4](https://doi.org/10.1207/s15327019eb0803_4)
- Tengberg, L. G. W. (2015). The agile approach with doctoral dissertation supervision. *International Education Studies*, 8(11), 139-147.
- Tillman, L. C. (2001). Mentoring African American faculty in predominantly White institutions. *Research in Higher Education*, 42(3), 295-325.  
<https://doi.org/10.1023/A:1018822006485>
- Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. University of Chicago Press.
- Tinto, V. (2012). Enhancing student success: Taking the classroom success seriously. *The International Journal of the First Year in Higher Education*, 3(1), 1–8.  
<https://doi.org/10.5204/intjfyhe.v3i1.119>
- Tinto, V. (2015). Through the eyes of students. *Journal of College Student Retention: Research, Theory & Practice*, 19(3), 254-269. <https://doi.org/10.1177/1521025115621917>
- Vehviläinen, S., & Löfström, E. (2016). ‘I wish I had a crystal ball’: Discourses and potentials for developing academic supervising. *Studies in higher Education*, 41(3), 508-524.  
<https://doi.org/10.1080/03075079.2014.942272>
- Weil, V. (2001). Mentoring: Some ethical considerations. *Science and Engineering Ethics*, 7(4), 471-482. <https://doi.org/10.1007/s11948-001-0004-z>
- Whittington, K. & Barnes, S. (2021). The changing face of doctoral education. In A. Lee & R. Bongaardt (Eds.), *The future of doctoral research: Challenges and opportunities* (pp. 5-17). Routledge.
- Wisker, G., Robinson, G., Trafford, V., Creighton, E., & Warnes, M. (2003). Recognising and overcoming dissonance in postgraduate student research. *Studies in Higher Education*, 28(1), 91-105. <https://doi.org/10.1080/03075070309304>