

## Research in Brief

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# Role of Student–Faculty Interactions in Developing College Students' Academic Self-Concept, Motivation, and Achievement

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Student–faculty interactions can be crucial in developing students' academic self-concept and enhancing their motivation and achievement. Colleges and universities that actively foster close and frequent contact between their students and faculty members are more likely to reap a host of benefits from such initiatives. Faculty members taking an interest in their students' academic progress could potentially make significant contributions in increasing their intellectual and professional development (Anaya & Cole, 2001; Chickering, 1969; Chickering & Reisser, 1993; Cokley, 2000; Terenzini & Pascarella, 1980). There is evidence that students successful in knowing even one faculty member closely are likely to feel more satisfied with their college life and aspire to go further in their careers (Rosenthal et al., 2000). Although most interactions with faculty tend to occur within the formal classroom setting, students who experience informal interactions tend to be more motivated, engaged, and actively involved in the learning process (Thompson, 2001; Woodside, Wong, & Weist, 1999). Informal interaction between students and faculty has been identified as a primary agent of college culture, and has an important influence on the attitudes, interests, and values of college students (Chickering & Reisser, 1993; Lambert, Terinzini, &

Lattuca, 2007; Pascarella, 1980b; Pascarella & Terenzini, 1991, 2005; Thompson, 2001). However, although previous research has established that student–faculty interactions are important, we still need to identify which aspects of student–faculty interactions are helpful and how these could significantly influence students to stay in college, increase their desire to work hard, stimulate them to enjoy learning, and encourage them to strive toward high achievement standards (Bean, 1985). The current study addresses this gap in the literature by examining eight specific types of student–faculty interactions as predictors of academic self-concept and three types of academic motivation, as well as academic achievement in a sample of college students from a medium-sized, public university located in the Midwestern United States.

## TYPES OF STUDENT–FACULTY INTERACTIONS

In examining why some students might interact more with faculty members and why some faculty may seem more approachable to students, it is important to acknowledge that a need for belonging, for frequent positive interactions, and to feel cared for by others is a fundamental human need (Baumeister &

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Leary, 1995). Interactions between students and faculty members are inevitable and personal connections that emerge through advisement and mentoring are highly valued (Light, 2001). In responding to several implicit, unspoken, and nonverbal cues, students are more likely to interact with faculty members perceived to be sociable, intelligent, showing leadership, supportive, and objective (Babad, Avni-Babad, & Rosenthal, 2003; Furnham & Chamorro-Premuzic, 2005). Faculty members allowing students to use their first names are perceived as higher in warmth, approachability, and respect in comparison to faculty members who are addressed by formal titles (McDowell & Westman, 2005).

Student–faculty interactions can be formal or informal, occurring either inside or outside instructional settings, with both playing an important role in determining students’ academic success (Jacobi, 1991). The most frequent type of contact that students have with faculty members typically include situations in which they are asking for information about a course or visiting after class (Kuh & Hu, 2001). Faculty–student interactions could take on a more intense flavor in a tutorial-style classroom, where a faculty member may meet with two students at a time for an hour, eventually interacting closely with about five such pairs of students per week (Smallwood, 2002). Such close, intense, interaction seems to enhance student learning and intellectual stimulation, with both students and faculty valuing the opportunity to know each other at an informal and personal level. Cox and Orehovec (2007) identified four major types of student–faculty interactions with the most important, “functional interaction,” referring to academic-related interactions outside the classroom. The other three types include personal interactions about some personal issues unrelated to academics, incidental contact maintained by occasional greetings,

and finally disengagement, where there is minimal interaction with the faculty member inside the classroom and little or no interpersonal exchange.

However, all types of student–faculty interactions are not equally beneficial for the student (Ei & Bowen, 2002). Students report valuing interactions involving group activities and business relationships; at the same time, they consider sexual relationships, doing favors, and spending time alone as inappropriate. Further, student characteristics like gender and cultural background also influence the desire for and the type of interactions preferred. Researchers suggest that female rather than male students are likely to seek more interactions with faculty and also report having more positive interactions (Hagedorn, Maxwell, Rodriguez, Hocevar, & Fillpot, 2000; Ryan, Stiller, & Lynch, 1994). Regarding cultural background, students with Asian or South African backgrounds, relative to Australian backgrounds, tend to have more positive perceptions of teachers with a strict and admonishing style (Evans & Fisher, 2000). Further, satisfying relationships and frequent interactions with faculty members who encourage hard work seem to be the strongest predictors of learning for Asian/Pacific Islanders and Mexican American students relative to students from other ethnic backgrounds (Lundberg & Schreiner, 2004).

### INFLUENCE OF FACULTY INTERACTIONS ON MOTIVATION AND LEARNING

Even though faculty members may not always be aware of it, their interactions can have a far-reaching influence on their students. Faculty member–student relations are a strong motivator and indicator of learning (Christensen & Menzel, 1998). In particular, Decker, Dona, and Christenson

(2007) note that the student–faculty member relationship is more important in predicting students’ social–emotional functioning than their academic performance. This implies that there is a support-seeking dimension in student–faculty member relationships that can be carefully nurtured to shape positive outcomes for students.

Informal interactions with faculty members outside the classroom have been found to have an incremental effect on students’ motivation over and above the typical predictors of academic performance such as secondary school performance or academic aptitude (Pascarella & Terenzini, 2005; Pascarella, Terenzini, & Hibel, 1978). Informal discussions with faculty members about intellectual issues are associated with increases in students’ aspirations to achieve at a higher level than would be predicted by pre-enrollment characteristics. Initial interactions with faculty members are also very influential in increasing the value placed on high academic achievement and in compensating for the general student culture that does not typically value such achievement. Mentoring provided by faculty members as a sponsor, confidant, and protector seem to be relatively more important than even peer support, for students who are transitioning into college (Mann, 1992; Shore; 2003). Thus, faculty members seem to play an important role in the overall college experience for new and continuing students.

Adolescents who model themselves after their teachers rather than their friends report higher levels of school adjustment (Ryan et al., 1994). Informal faculty–student contacts play a particularly crucial role during the first year in college because they allow students to integrate their academic and extracurricular experiences (Goodman & Pascarella, 2006; Pascarella & Terenzini, 1977; Pascarella & Terenzini, 2005). Further, students reporting high and moderate levels of interactions with

faculty members (relative to low interactions) rate their academic program as being more interesting, exciting, and enjoyable, as well as more relevant and necessary for their career. Finally, substantive student–faculty interactions have been found to have a positive impact on students’ vocational preparation and intellectual development (Kuh & Hu, 2001). These findings suggest that student–faculty interactions have a multidimensional influence on the cognitive and emotional needs of students, thus validating the importance of faculty members as role models.

### INFLUENCE OF FACULTY INTERACTIONS ON ACADEMIC SELF-CONCEPT AND ACHIEVEMENT

Some researchers have found that students who spoke more frequently with faculty outside class and received advice about their educational program reported significantly higher academic self-confidence (Plecha, 2002). This finding is congruent with Endo and Harpel (1982) and Astin (1999)’s work showing that interacting frequently with faculty members is part of being academically engaged and students who are more involved do better in college. Similarly, Bjorkland, Parente, and Sathiyathan (2002) note that students who are in more frequent contact with faculty members and receive more feedback on their performance show remarkable improvement in communicating in a group, competence in their specific field, awareness about their future occupation, and general problem-solving skills. Other reported benefits of such student–faculty relationships include greater satisfaction with academic life, lesser likelihood of dropping out, and feeling more intellectually driven (Hazler & Carney, 1993). In support of Chickering’s (1969) model, recent data suggest that students

engaging in meaningful interactions with faculty members are more likely to have a sense of purpose and competence for succeeding in college (Martin, 2000). Further, students who perceive their faculty members to be caring and have positive informal interactions with them often report greater learning (Teven & McCroskey, 1997) as well as satisfaction with college and enhanced intellectual and personal development (Lampert, 1993).

## THE CURRENT STUDY

Although there is a substantial body of research documenting the importance of student–faculty interaction, most of the focus has been on the frequency of such interactions. There are few studies that have specifically and systematically examined specific dimensions of these interactions or how these aspects are valued by students, and the difference they make in students’ lives (Cox & Orehovec, 2007). The present study attempts to reduce this gap in the literature by examining eight different aspects of student–faculty interactions (respect, guidance, approachable, caring, interactions outside of class, connected, accessible, and negative experiences) as predictors of students’ academic self-concept, motivation, and academic achievement. Based on previous research we hypothesized that there would be a positive relationship between:

1. seven aspects of student–faculty interactions (respect, guidance, approachable, caring, interactions outside of class, connected, and accessible) and students’ academic self-concept, intrinsic motivation, extrinsic motivation, and achievement; and
2. one aspect of student–faculty interaction (negative experiences) and amotivation (lack of motivation).

## METHOD

### Participants

Respondents were 242 undergraduate students from a mid-size, Midwestern, public university where only first-year students are required to live in the residence halls. The respondents who participated for course credit were drawn from a class of 950 students enrolled in an introductory psychology course. This course enrolls approximately 900 to 1,000 students each semester, and students who take this course do so to fulfill the social science requirement of their core curriculum/general education requirement, within their first 2 years. They are representative of the approximately 2,000 new freshmen who arrive on campus each year. In this course, students have the option of participating in a variety of research studies and typically participate in studies that are offered at times that are available in their schedules. In this study, the survey was administered in small group sessions of about 10 participants each; the small group sessions were conducted across the semester. Every participant who signed up and arrived for the study completed the survey. A profile of the sample indicates that 54% of the respondents were female and 67% were European American. African Americans were the largest minority (24%), the average age was 19 years, a majority of the respondents were first- (62%) or second-year (25%) students, and their majors were represented across eight different colleges, including liberal arts (18%), education (20%), engineering (3%), mass communication (7%), agriculture (3%), business (12%), science (14%), applied science and arts (8%), and other (16%).

### Instruments

Table 1 provides an overview of all the scales, number of items, and estimates of reliability using Cronbach’s coefficient alpha values. The

TABLE 1.

Brief Descriptions and Coefficient Alpha Values for the Student–Professor Interaction Scale, Academic Motivation Subscales, and Academic Self–Concept Scale

Subscales	No. of Items	Alphas
Student–Professor Interaction Scale	40	
Career Guidance	4	.83
Off-Campus Interactions	3	.73
Approachability	4	.86
Accessibility	4	.87
Negative Experiences	4	.76
Respectful Interactions	7	.89
Caring Attitude	3	.85
Connectedness	3	.86
Academic Self-Concept	40	.92
Academic Motivation	28	
Intrinsic	12	.92
Extrinsic	12	.86
Amotivation	4	.78

40-item Student–Professor Interaction Scale is designed to assess various types of student–faculty interactions and the authors provide details on the development of the scale, which went through two iterations to establish the validity of the subscales and report internal consistency alpha values ranging from .73 to .87 (Cokley et al., 2004, 2007). The scale utilizes a 7-point Likert scale and response options range from strongly disagree (1) to strongly agree (7). There are nine subscales and a brief description of each follows along with the internal consistency Cronbach's alpha value for each subscale obtained in this study: Career Guidance (4 items; alpha = .83; sample items, At least one or more professors have provided me with guidance in developing my career goals, and My professors have encouraged me to succeed in achieving my academic dreams), Off-Campus Interactions (3 items; alpha = .73; sample item, I have a positive relationship with a professor outside

the classroom), Approachability (4 items; alpha = .86; sample item, I feel comfortable approaching professors to discuss my grades and class work), Validity Scale (3 items; alpha = .76; sample item, I work harder to succeed in a class if I know my professor genuinely cares about me), Accessibility (4 items; alpha = .87; sample item, Professors are available when I need guidance or assistance), Negative Experiences (4 items; alpha = .76; sample item, My professors seem distant and uninterested to me), Respectful Interactions (7 items; alpha = .89; sample item, Professors value my contributions and opinions, and When I interact with my professors I feel s/he truly listens to me), Caring Attitude (3 items; alpha = .85; sample item, I believe that there is at least one professor who cares about my well-being), and Connectedness (3 items; alpha = .86; sample item, I feel a bond with one or more faculty).

The 40-item Academic Self-Concept

scale (Reynolds, 1988) is designed to assess students' confidence in their academic skills and abilities and the author reports on its construct validity established by a positive correlation with general self-concept and grade point average (GPA). The internal consistency coefficient alpha value obtained in the current study is .78. A few sample items are: If I try hard enough, I will be able to get good grades; All in all, I feel I am a capable student; Most of my classmates do better in school than I do; and I have doubts that I will do well in my major (reverse scored).

The 28-item Academic Motivations Scale (Vallerand et al., 1992) is designed to assess responses to three subscales—*intrinsic*, *extrinsic*, and *amotivation*. The psychometric properties of this scale are well-established and it has been used frequently to assess students' motivation to attend college (Fairchild, Horst, Finney, & Barron, 2005; Vallerand et al., 1992). The number of items, the Cronbach's internal consistency coefficient value for each subscale obtained in this study, and sample items, are as follows: *intrinsic motivation*

(12 items; alpha = .92; sample item, For the pleasure that I experience in broadening my knowledge about subjects which appeal to me); *extrinsic motivation* (12 items; alpha = .86; sample item, In order to obtain a more prestigious job later on); and *amotivation* (4 items; alpha = .78; sample item, I once had good reasons for going to college; however, now I wonder whether I should continue). Finally, *academic achievement* was assessed by asking students to report their current college GPA.

Data were analyzed using correlation and regression analyses to examine the relationships between the eight types of student–faculty interactions as the predictors and each of the five outcome variables in the following sequence: *academic self-concept*, *intrinsic motivation*, *extrinsic motivation*, *amotivation*, and *GPA*. To reduce the likelihood of committing a type 1 error, the alpha level was set at the widely used and typically more conservative level of .05 or less. This would allow for at least a 95% probability that our conclusions regarding any significant differences were not due to chance.

TABLE 2.  
Correlations Between Subscales of the Student–Professor Interaction Scale, Academic Motivation Subscales, Academic Self-Concept, and GPA

	Student–Professor Interaction Subscales							
	Career	Off-Campus	Approachability	Accessibility	Negative	Respect	Caring	Connection
Academic Self-Concept	.24**	.25**	.31**	.29**	-.28**	.33**	.25**	.24**
Intrinsic Motivation	.31**	.30**	.13*	.17**	-.10	.27**	.26**	.31**
Extrinsic Motivation	.13*	.09	.06	.08	-.08	.18**	.12	.09
Amotivation	-.07	-.02	-.14*	-.20**	.24**	-.25**	-.13*	-.04
GPA	-.02	-.06	.19*	.06	-.05	.11	.09	.03

\**p* < .05. \*\**p* < .01.

TABLE 3.

Five Stepwise Multiple Regression Analyses With Student–Professor Interaction Subscales as the Predictors of Each of Five Outcome Variables: Academic Self-Concept, Intrinsic Motivation, Extrinsic Motivation, Amotivation, and GPA

Outcome	Step	Predictor	Beta	R <sup>2</sup>	Change in R <sup>2</sup>
Academic Self-Concept	1	Respect	.20**	.12	
	2	Approach	.21**		.04
	3	Off campus	.15*	.18	.02
Intrinsic Motivation	1	Career	.17*	.09	
	2	Respect	.16*		.03
	3	Off campus	.15*	.14	.02
Extrinsic Motivation	1	Respect	.16*	.03	
Amotivation	1	Respect	-.26**	.07	
GPA	1	Approach	.19*	.03	

\* $p < .05$ . \*\* $p < .01$ .

## RESULTS

### Correlation Analyses

To establish the relationships between different aspects of student–faculty interactions, academic self-concept, student motivation, and achievement (GPA), we conducted Pearson product moment correlation analyses (Table 2). The largest number of significant correlations was between several aspects of student–faculty interactions and academic self-concept. Specifically, academic self-concept was negatively associated with negative feelings ( $r = -.28$ ;  $p < .01$ ) and positively with the remaining seven aspects of student faculty interactions, career guidance ( $r = .24$ ;  $p < .01$ ), off-campus interactions ( $r = .25$ ;  $p < .01$ ), approachability ( $r = .31$ ;  $p < .01$ ), accessible ( $r = .29$ ;  $p < .01$ ), respect ( $r = .33$ ;  $p < .01$ ), caring ( $r = .25$ ;  $p < .01$ ), and connectedness ( $r = .24$ ;  $p < .01$ ).

Intrinsic motivation was significantly and positively correlated with several aspects of student–faculty interactions: career guidance ( $r = .31$ ;  $p < .01$ ), off-campus interactions ( $r = .30$ ;  $p < .01$ ), being approachable ( $r = .13$ ;

$p < .05$ ), accessible ( $r = .17$ ;  $p < .01$ ), respect ( $r = .27$ ;  $p < .01$ ), caring ( $r = .26$ ;  $p < .01$ ), and connected ( $r = .31$ ;  $p < .01$ ). Extrinsic motivation was positively associated with career guidance ( $r = .13$ ;  $p < .05$ ) and respect ( $r = .18$ ;  $p < .01$ ). Amotivation was negatively correlated with approachable ( $r = -.14$ ;  $p < .01$ ), accessible ( $r = -.20$ ;  $p < .01$ ), respect ( $r = -.25$ ;  $p < .01$ ), and caring ( $r = -.13$ ;  $p < .05$ ). There was also a positive relationship between amotivation and negative student–faculty interactions ( $r = .24$ ;  $p < .01$ ). Finally, GPA was positively associated with approachability ( $r = .19$ ;  $p < .05$ ).

### Regression Analyses

Because there were numerous significant correlations and not much previous research examining specific aspects of student–faculty interactions, we conducted stepwise multiple regression analyses to explore and identify a parsimonious set of predictors with the greatest explanatory power in predicting each of four outcome variables, academic self-concept, three types of motivation (intrinsic, extrinsic, amotivation), and GPA (Table 3).

Results from these regression analyses indicate that 18% of the variance in academic self-concept was explained by three aspects of student–professor interactions: feeling respected, being approachable, and off-campus contact,  $F(3, 233) = 16.73$ ;  $p < .001$ , adjusted  $R^2 = .17$ . Fourteen percent of the variance in students' intrinsic motivation, was explained by three aspects of student–faculty interactions (career guidance, respect, and off-campus interactions:  $F(3, 233) = 12.01$ ;  $p < .001$ ; adjusted  $R^2 = .12$ . In addition, 3% of the variance in students' extrinsic motivation was explained by respectful interactions:  $F(1, 235) = 6.47$ ;  $p < .001$ ; adjusted  $R^2 = .02$ . Further, 7% of the variance in amotivation was also explained by respectful interactions:  $F(1, 235) = 16.34$ ;  $p < .001$ ; adjusted  $R^2 = .06$ . Finally, 3% of the variance in GPA was explained by approachability of faculty members:  $F(1, 146) = 5.20$ ;  $p < .05$ , adjusted  $R^2 = .03$ .

## DISCUSSION

The results of our study offer strong empirical support for the notion that students' relationships with their faculty members are associated with important psychosocial and academic outcomes. Students who perceive their faculty members as being approachable, respectful, and available for frequent interactions outside the classroom are more likely to report being confident of their academic skills and being motivated, both intrinsically and extrinsically. Perhaps such interactions provide students with an opportunity to discuss their interest in their course work, get answers to their questions, and be exposed to their instructor's enthusiasm for their field of study. Students who are able to speak informally with faculty members also seem to be more likely to find the learning process to be enjoyable and stimulating and gain a better understanding of how their

college education could prepare them for the job market. In contrast, feeling alienated and distant from faculty members is associated with experiencing a lack of motivation. Students who perceive their faculty members as being less interested in them or in their learning seem to also report feeling discouraged and apathetic. These results are supported by previous research by Pascarella, Terenzini, and Hibel (1978), who note that student–faculty interactions are associated with increases in motivation, career aspirations, persistence (Pascarella, 1980a), and greater satisfaction with academic and nonacademic life (Pascarella & Terenzini, 2001).

Although frequency and quality of student–faculty interaction (such as being approachable and caring) have been consistently found to be important predictors of student motivation (Drew, 2001; Lampert, 1993; Shore, 2003; Teven & McCroskey, 1997; Thompson, 2001), feeling respected has not been explored as extensively. In our study, the perception of feeling respected during student–faculty interactions was repeatedly found to be a significant predictor of the variance in four outcome variables: academic self-concept, intrinsic motivation, extrinsic motivation, and amotivation. It is worth noting that students' perceptions of faculty members as being genuinely respectful toward them are associated with stronger student self-confidence and motivation. In particular, it seems likely that students who may be most vulnerable and “at risk”, that is, amotivated students, are most likely to perceive faculty members to be less respectful and less interested in their learning and progress. The importance of this interpersonal dimension of the classroom experience has been emphasized by Hammer (2005) and Keeley, Smith, and Buskist (2006) when describing an effective faculty member as one who is perceived by students to be understanding, respectful, encouraging, and accessible.

Besides the perception of feeling respected, students also seem to value the time that a faculty member may spend with them outside the classroom as well as any input they may provide regarding career development. While in college, students may see their faculty members as the experts in their field of study and may value their opinion, knowledge, and expertise. Whereas previously they may have relied on parents or other family members for professional guidance, they now have another resource they can draw on, their faculty members. This would be of particular relevance in the case of students who might be from first-generation, minority, or underprivileged backgrounds. Hence, students who perceive their faculty members as being approachable and are able to engage them in conversation outside the immediate classroom could likely benefit career-wise. Students could possibly come away feeling more confident, motivated, and interested in performing well. Some faculty members may not realize the extent to which their informal interactions with students could potentially be associated with students' self-confidence, motivation, and performance.

Even though the results of our study underscore the importance of various aspects of student–faculty interactions, we acknowledge some limitations that could potentially be addressed by future research. First, our study utilized cross-sectional rather than longitudinal data, making it difficult to draw causal conclusions. Second, because the study sample was relatively small, not completely random, and from one institution, the findings are limited in scope and generalizability; future researchers could obtain a larger, randomly selected sample of students from several educational institutions to address this issue. Third, like earlier researchers (Grzegorek, Slaney, Franze, & Rice, 2004) we utilized a self-report measure of GPA for assessing student

achievement. Despite research indicating that the association between self-report and objective reports of GPA is very strong (e.g., Nofle & Robbins, 2007 report this  $r = .89$ ), it is suggested that, when possible, gaining respondents' permission and gathering GPA data from school records may increase accuracy. Fourth, future research could also examine the influence of personality traits on students' motivation, whether or not they seek out interactions with faculty members, and how they might perceive these interactions. Finally, we examined student–faculty interactions from the perspective of students; it would be interesting to find out how faculty members view their interactions with students and what they find enjoyable and beneficial from such relationships.

To conclude, the results of our study make a significant contribution to the literature by emphasizing the importance of specific aspects (approachable, respectful, off-campus interactions, and career development) of student–faculty interactions in predicting students' self-confidence, motivation, and achievement. University and college administrators, student affairs personnel, residence hall staff, and faculty members who value these social psychological and interpersonal aspects of teaching and learning, could direct resources into programs such as living learning communities, mentoring programs, and study halls that foster informal student–professor interactions. Further, as student bodies increase in diversity, it is important that faculty members consciously reach out to ethnic minority students who may not find it easy to approach them. Training programs that sensitize faculty members to the importance of interacting and connecting with all types of students and being perceived as approachable, particularly to ethnic minority students, would be valuable for student development. These training programs could include role plays, sessions on

listening skills, and communication skills for interacting effortlessly with the current generation of college students. Similarly, orientation programs for new faculty members and graduate student instructors could include tips, such as frequently reminding students about office hours, communicating an interest in helping students, and offering mentoring to students who do approach them. In addition, institutions of higher learning could communicate their commitment to such

efforts by providing recognition, rewards, and incentives to faculty members who actively promote student–professor interactions, thus increasing the likelihood of enhancing students’ confidence, motivation, achievement, and graduation rates.

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