The Relationship Between Student–Parent Communication and First-Year Academic Performance

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*During a time of increasing parental engagement in the lives of college-going students, we examined how first-year students' perceived interaction with their parents predicted their academic performance. Data were collected from college students living in residential housing at a diverse and selective public research university in the western United States at two points in time (*N = *995). Results revealed the value of quality over quantity of communication on students' academic performance. Notably, students interacted differently with their mothers and fathers, suggesting that when designing programs, administrators should recognize the different ways mothers and fathers contribute to academic performance.*

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Student affairs administrators have reported that their work responsibilities no longer strictly focus on college student development because they also spend increased time troubleshooting concerns of parents (Kiyama & Harper, 2015; Wartman & Savage, 2008). Some parental involvement with undergraduates has been described as intervening in their roommate conflicts, proofreading and editing college papers, and influencing their student's choice of academic major (Hofer & Moore, 2010). Anecdotal reports of extreme parental hovering behaviors cast a pejorative image on the current generation of parents who have been labeled by the media and frequently referenced as *helicopter parents* (Cline & Fay, 1990; Haelle, 2016; Joyce, 2014; Selingo, 2018).

Parents' increased engagement in their student's college experience can be attributed to several economic and societal factors (Carney-Hall, 2008; Hofer & Moore, 2010; Sax & Wartman, 2010; Wartman & Savage, 2008). First, the rising cost of higher education increases the pressure for parents to finance their student's college education, often resulting in a sense of entitlement for information about their student's academic affairs (Baum & Steele, 2007; Johnstone, 2005). Second, the fraction of students with a college-educated parent continues to rise, altering the way parents interact with college administrators on campus (Howe & Strauss, 2003). Third, advancements in technology facilitate more frequent communication between students and parents (Hofer & Moore, 2010; Wolf, Sax, & Harper, 2009). Finally, many parents have grown accustomed to the K-12 message that parent involvement encourages academic success and continue to exert their influence even as their student transitions to college (Epstein, 2011).

We empirically examined the role that communication with parents, as perceived by students, plays in contributing to first-year students' academic performance. Defined herein as grade-point average (GPA), first-year academic success is strongly associated with students' persistence through the second year of college and to graduation (Nora, Barlow, & Crisp, 2005). Although research has consistently shown demographic characteristics (e.g., gender, race, and parental income), high school academic achievement, and campus experiences to predict first-year college grades (Krumrei-Mancuso, Newton, Kim, & Wilcox, 2013; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008), few studies have been published about the role that communication with parents plays in college students' academic performance (Kiyama and Harper, 2015). As campus personnel consider new approaches to working with students and their parents—while simultaneously promoting student independence (Menezes, 2005; Stack, 2003)—academic advisors benefit from information on students' perceptions of their interactions with parents during college and whether these communications contribute, positively or negatively, to students' academic performance.

Literature Review

Although higher education researchers have identified many aspects of the college experience associated with first-year academic performance, the parental role in student academic achievement remains ambiguous. The research on predictors of first-year academic performance, including the limited body of scholarship that presents the

relationship between parent involvement and academic performance, sets the stage for the research we conducted.

Factors Influencing First-Year Academic Performance

First-year academic performance is influenced by a wide range of pre-college characteristics, including gender, race, parent income, high school academic performance (e.g., GPAs and standardized test scores), parents' education, and amount of parents' financial contribution (Betts & Morell, 1999; Curs & Harper, 2012; Hamilton, 2013; Kuh et al., 2008). Several behavioral practices and environmental measures that students experience on the college campus predict college grades. In general, engagement in educationally purposeful activities that involve intellectual exchange with peers and faculty members promotes greater academic performance (Kuh et al., 2008; Toutkoushian & Smart, 2001). The effects of nonacademic engagement on grades are often mixed, such that activities that further embed students within campus life (e.g., participation in student organizations) tend to promote higher grades, while activities that create significant time challenges or focus students' energies off campus (such as working for pay) tend to predict lower grades (Astin, 1993b; Sax, 2008). Some behaviors, such as exercising, socializing, or use of online social networks, represent both diversions from academic life and engagement with peers, which may facilitate academic success (Delello, Reichard, & Mokhtari, 2016; Junco, 2012; Sax, 2008). Research also pointed to the academic benefits derived from students experiencing a sense of belonging in the college environment (feeling valued, respected, and accepted both in and out of the classroom [Hurtado & Carter, 1997; Strayhorn, 2012]).

Student–Parent Interactions and First-Year Academic Performance

Despite a relatively broad research base that describes the parental role in students' academic experiences, few past studies indicated that parents' engagement in their student's college experience predicts first-year academic performance in a way that differs from those related to students' background characteristics and college experiences (Cutrona, Cole, Colangelo, Assouline, & Russell, 1994; Harper, Sax, & Wolf, 2012; Strage & Brandt, 1999; Wintre & Yaffe, 2000). Such studies may define parental involvement in terms of financial investments (Hamilton, 2013), frequency or nature of communication (Harper et al., 2012; Pizzolato & Hicklen, 2011; Wolf et al., 2009), level of parental support and attachment (Cutrona et al., 1994; Strage & Brandt, 1999; Wintre & Yaffe, 2000), or perceived parental expectations and pressures (Furry & Sy, 2015).

Some studies suggested that certain forms of parental involvement may be associated with unintended negative consequences on students' grades and independence. Hamilton (2013) found that students who received relatively greater financial resources from their parents (a proxy for parental involvement) earned lower GPAs, even after controlling for students' background characteristics, prior academic ability, and institutional type. Furthermore, female students with a mother who parents with an authoritative style earned relatively low GPAs (Wintre & Yaffe, 2000). Some described the increase in student–parent communication as intrusive and a possible factor in student overdependence on parents for academic assistance (Hofer & Moore, 2010). In particular, as students get older, parental expectations may be perceived as intrusive, rather than supportive (Furry & Sy, 2015); these findings seemed particularly relevant for Latina and Asian American women (Furry & Sy, 2015).

In contrast, some research indicated that parental involvement showed a positive or neutral association with first-year academic performance. For instance, students with parents who responded to sharing academic interests and concerns with encouragement and reassurance performed relatively well in a diverse range of majors (Cutrona et al., 1994) and were motivated to challenge themselves academically (Strage & Brandt, 1999). In addition, parental involvement, as measured by the frequency and nature of the interaction with students and institutions, seems to support student academic development (Harper et al., 2012).

Overall, experienced advisors can attest that interactions between students and their parents have increased over the past two decades with students frequently seeking guidance from parents on academic matters (e.g., selection of courses and program of study) (Wartman & Savage, 2008; Wolf et al., 2009). According to Pizzolato and Hicklen (2012), students view their parents as generally supportive but not meddling in their affairs or making academic decisions for them. This finding suggests that students desire close interaction with their parental figures during

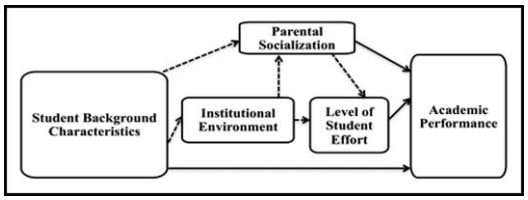
college for academic support and reassurance, but not with an expectation that parents will intervene in their academic experiences.

Recently, higher education scholars have attempted to quantify parental involvement by examining the frequency, nature, mode, and impact of students' interactions with their parents (Abar, Abar, Turrisi, & Beldon, 2013; Harper et al., 2012; Sarigiani, Trumbell, & Camarena, 2013; Wolf et al., 2009). For instance, in a recent study, we examined the type and amount of first-year students' communication with their mothers and fathers, and the results revealed that students communicated with both mothers and fathers most frequently by phone, followed by text messaging (Sax & Weintraub, 2014). Less frequently used forms of communication included e-mail or instant messaging, face-to-face interaction, video chat, online social networks, and postal mail. Overall levels of communication were significantly higher with mothers than with fathers. Furthermore, the study revealed the extent to which quality relationships with parents contributed to students' emotional well-being in college, especially with same-gender pairings (mothers-daughters and fathers-sons). Although it contributed to an important gap in the literature by examining the role of parents alongside other aspects of the college environment, the 2014 study did not address the contribution, if any, of student–parent communication behaviors to academic outcomes (Sax & Weintraub, 2014).

Conceptual Framework

Along with documentation on the behaviors and experiences that predict first-year college grades and identification of the opportunity to explore the parental role, college impact models can be used to isolate and organize the influences on student achievement by identifying the most significant factors affecting college student performance. For example, Reason (2009) used a college impact model to show the ways sociodemographic traits (e.g., parental income), pre-college experiences, organizational context, peer environment, and in- and out-of-class experiences are associated with student persistence. Most models of college impact only account for parents as a form of pre-college characteristic (e.g., parental income, education, or occupation); the exceptions include the following two examples, from Pascarella (1985) and Weidman (1989), that provided indirect ways to understand the way parents' increased involvement and presence in their college student's academic life (Sax & Wartman, 2010).

Figure 1. Assessing the effects of college environments on first-year academic performance



Note. Conceptual framework is based on models by Franklin (1995), Pascarella (1985), and Weidman (1989).

First, Pascarella's (1985) model of environmental influences featured five categories of student and institutional factors that contribute to learning and cognitive development: student background and pre-college characteristics, structural and organizational characteristics of institutions, institutional environments, interactions with agents of socialization, and quality of student effort. Although it did not explicitly acknowledge any direct parental role throughout the student college experience, the Pascarella model accounted for parents acting as agents of socialization by providing support through ongoing interactions with their college student.

Second, Weidman's (1989) model of undergraduate socialization directly acknowledged parents as a socializing influence during college. According to Weidman (1989), because higher education institutions are not insular environments, students maintain continued contact with parents during college. Furthermore, relationships with parents before and during college influence students' acclimation and socialization process (Weidman, 1989).

For this study, we integrated Pascarella's (1985) and Weidman's (1989) models to explore the way students' communication with their parents predicted first-year academic performance (Figure 1). Because this study was conducted at a single institution, certain measures from the original Pascarella and Weidman models were not included (e.g., structural and organizational characteristics of institutions) or were revised. Quality of student effort was more appropriately defined as the *level* of student effort, which we describe as engaging in purposeful and educational activities (e.g., discussing course content, interacting with faculty members, and engaging in

intellectual discussions). We identified measures of student–parent communication as *parental socialization*, as in Weidman (1989), because this term reflects a more specific consideration of parental influence during college, than does "interactions with agents of socialization" as described by Pascarella (1985). Proposing a parental role within the model acknowledged the changing role of parental figures during the college experience. Finally, in the analysis, we considered student background traits separately from pre-college experiences to isolate the high school indicator of academic performance. According to Pascarella's model, interactions with agents of socialization (defined in this study as parental socialization) can directly influence learning and cognitive development and indirectly influence academic performance as determined through measures of the quality of student performance. Thus, we examined the direct relationship between student–parent communication and academic performance, and we looked at the way academic achievement was facilitated by both student effort and communication with parents.

Purpose of the Study

To address gaps in the extant literature, we examined the ways students' frequency, mode, and perceived satisfaction and quality of communication with their parental figure(s) are associated with academic performance. We also attended to any differences in these interactions by parent gender and explored whether parents exerted a direct influence on grades or whether their role was manifested through encouraging student effort (e.g., discussing course content, encouraging intellectual exchange with peers, promoting studying, and recommending academic programs). Assessing students' self-reports of their interactions with their parental figures served as a first step in understanding parent involvement. Parents use multiple means of communication to deliver expectations, respond to student concerns, and identify opportunities to influence their children's higher education environment.

For this study, we addressed the following research questions:

RQ1. Does the frequency and mode of students' communication with their parental figure(s) during the first year of college differ by levels of student academic performance (as defined by college GPA)?

RQ2. Do students' levels of satisfaction with the amount of communication with their parental figure(s) during the first year of college differ by levels of student academic performance (as defined by college GPA)?

RQ3. What is the relationship between parental communication and first-year academic performance, when high school academic achievement, student demographic characteristics, and college experiences are controlled?

RQ4. Does level of student effort mediate the relationship between student–parent communication and academic performance?

For all of these research questions, we paid attention to the gender of the parental figure(s).

Method

Data Sources

For this study, we used three sources of survey data drawn from first-year students living in residential housing at a highly selective public research university in the western United States during the 2011–2012 academic year. First, students completed the *Cooperative Institutional Research Program* (*CIRP*) *Freshman Survey*, a nationwide study of entering college students, during their summer orientation in 2011 (Pryor, Hurtado, Sharkness, & Korn, 2007). The *CIRP Freshman Survey* included items about students' background characteristics and pre-college traits, including self-reported high school GPA and standardized test scores.

Second, the institution's residence life office administered an annual online survey (*RL Survey*) to all students living in campus housing in the spring of 2012. In addition to a set of questions gauging students' experiences with residential housing, the survey included a parent module with an additional set of 40 questions, informed by the literature, for assessing student–parent interactions during college. Students were asked to rate the frequency, mode, and nature of interactions with their parent(s); evaluate the quality of their interactions with parents; indicate their level of satisfaction with the amount of communication with parents; describe the subjects of these conversations; and assess the extent to which parents influenced their decision making during college (e.g., choice of classes,

extracurricular activities, and choice of friends). Unique to this survey, students described the frequency and nature of communication they had with as many as two parental figures by indicating the parent with whom the student interacted most and second-most often, defined as *Parent 1* and *Parent 2*, respectively. Finally, demographic characteristics (e.g., gender, race, and status as an international student) and the outcome measure (GPA) were obtained from the institution's analysis and statistics office.

Sample

The institution enrolled 5,825 first-year students in Fall 2011. From that population, 4,184 entering students completed the *CIRP Freshman Survey*. A total of 3,413 of the 10,000 students, across all academic years, living in the residence halls completed the *RL Survey* in Spring 2012 (34% response rate). After the *RL Survey* was linked to the *CIRP Freshman Survey* using a unique identifier, the sample was reduced to 1,331 respondents of whom 1,155 responded to the parent module.

We compared differences between responses about mother and father parental figures. Most participants named a mother and a father as their two primary parental figures (83%). An additional 7% indicated a combination of mother, stepmother, father, or stepfather as their family configuration. Fewer than 3% were raised by same-sex parents, adopted parents, or legal guardians, and approximately 7% identified a single parental figure (e.g., mother, father, stepparent, or legal guardian).

We restricted the data to those from the 995 first-year students who indicated a mother (or stepmother) and father (or stepfather) as the two primary parental figures. More students chose mothers (82.3%) than fathers (17.5%) as the parent with whom they communicate the most frequently (Parent 1). Stepmothers and stepfathers were considered in this study only if they were identified either as Parent 1 or Parent 2, which occurred in less than 2% of the cases. Because of the small sample of nonbiological parents, mothers were combined with stepmothers and fathers with stepfathers such that stepparents were retained in the sample. We compared the means of the outcome measure, GPA, for students listing stepparents with those of students who listed only biological parents, and no significant differences were found between the two groups.

The sample was predominantly female (63%), and the racial and ethnic distribution was skewed to Asian/Asian American (43.8%) and White (32.5%) students, with smaller representations from Latino/a (15.4%), international (foreign) (4.2%), unknown (2.0%), African American (1.5%), and American Indian or Alaskan Native (0.5%) students. First-generation college students represented 14.6% of the sample. The median family income for the sample was between $75,000.00 and $99,999.99.

Measures

The dependent variable was academic performance as measured by students' Spring 2012 college GPA (at the end of the first full year) obtained from the institution. A single-item measure is appropriately used when it descriptively or precisely assesses the outcome of interest.

The regression analysis placed independent variables in five temporally sequenced blocks based on a combination of Pascarella's (1985) and Weidman's (1989) college impact models:

Block 1. High school academic performance included standardized achievement test scores (SAT or ACT equivalents) and average high school grade as obtained from students' self-reported responses on the C*IRP Freshman Survey*. These 2 variables served as indicators of high school academic performance and an indirect pretest of the dependent variable, college GPA.

Block 2. Student background characteristics consisted of measures obtained from the CIRP or institutional records. In accordance with college impact models (Pascarella, 1985; Weidman, 1989), this group of 6 variables included gender, race, parent income, amount of parents' financial contributions, status as an international student, and first-generation status.

Block 3. Institutional environment consisted of 7 variables that describe college experiences. These measures included the formal and informal academic and social aspects of college, which indirectly influence students' academic performance: status as a STEM major (e.g., biological science, engineering, natural

or physical sciences), distance college is from permanent home, and sense of belonging to the institution (a factor determined by 6 items addressing students' feelings of connection to their institution). In addition, this block included engagement in the following academic and social activities: using online social networks for personal reasons, working for pay, participating in student organizations, socializing with friends, exercising, and volunteering. With the exception of status as a STEM major and distance college is from home, which were obtained from the CIRP, all other measures were included in the *RL Survey*.

Block 4. Level of student effort consisted of the following 5 measures included in the *RL Survey*: engaging in intellectual discussions with other students, discussing course content outside of class, interacting with faculty-in-residence, studying, and attending academic support programs during the academic year.

Block 5. Parental socialization consisted of 15 measures describing students' interactions with parental figures, all of which were part of the additional set of questions added onto the *RL Survey*. These variables included frequency of communication with [parent] by mode (via phone, text message, e-mail), students' perceptions of their parents during their interactions[1] (e.g., respectful, overly involved, helpful, intrusive) as a proxy for measuring perceived quality, and students' satisfaction with their level of communication with each parent, [parent] most often sought for social or emotional support, [parent] most often sought for academic support, and parental influence on decision making in college (3-item factor).

Appendix A presents the definitions and coding scheme for all variables.

Analysis Procedures

We analyzed missing values by examining frequency distributions. Mean replacement was performed on some measures missing 15% or fewer cases; variables missing more than 15% of cases were removed from the multivariate analysis (as per Agresti & Finlay, 2008). We used exploratory factor analysis, involving Varimax rotation to obtain loading scores greater than .3, to determine the compatibility of variables that were used to compute weighted variables representing the two factor constructs (e.g., sense of belonging and parental influence in decision making) (as per Agresti & Finlay, 2008). We determined the reliability score of each factor by analyzing Cronbach's alpha (acceptable at $\alpha = .65$ or greater) (as per DeVellis, 2003). These factors served as independent variables in the regression model (RQ 3). Appendix B presents descriptions of all items constituting each of the factor scales.

Next, to examine the frequency and quality of communication with parental figures, we performed an analysis of variance (ANOVA) with Scheffe's post hoc test to compare differences between GPA quartiles (RQ 1). Then, we conducted an ANOVA and performed paired samples *t* tests to examine differences in students' satisfaction with the amount of communication between mothers (or stepmothers) and fathers (or stepfathers) (RQ 2). Finally, we used stepwise linear regression to estimate the relationship between student–parent interactions and first-year academic achievement (RQ 3) while accounting for students' high school academic performance and their background characteristics and select college experiences (as per Astin, 1993a). Through these analyses, we investigated the way entry of the parent variables affected the predictive power of the variables on the level of student effort. A decline in the predictive power of student effort variables signifies that parents mediate the relationship between effort and academic performance (RQ 4).

Results

Frequency by Mode of Students' Communication With Their Parents

Table 1 shows differences in the frequency and mode of communication between the GPA quartiles. The only significant differences that emerged

[1] Students were given eight descriptor words (four positive and four negative) and told to choose up to three characterizing their interactions with their parental figure(s).

Table 1. Frequency and mode of students' communication with their mothers and fathers by differences in academic performance per quarter

	Mother or Stepmother								Father or Stepfather							
	Q1		Q2		Q3		Q4		Q1		Q2		Q3		Q4	
	$n = 247$		$n = 242$		$n = 249$		$n = 237$		$n = 247$		$n = 239$		$n = 248$		$n = 239$	
Mode	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
Phone	5.54	1.51	5.41	1.53	5.47	1.78	5.21	1.78	4.31	1.83	4.30	1.74	4.58	1.74	4.23	1.84
Text	4.57	2.59	4.29	2.57	4.51	2.51	4.83	2.53	3.41	2.24	3.17	2.17	3.53	2.24	3.65	2.19
Email/IM	2.70[4]	2.10	2.71[4]	2.06	2.99	2.05	3.39[1,2]	2.07	2.77[4]	1.84	2.59	1.98	2.51	1.83	2.99[1]	2.06
Face-to-face	3.11	1.62	2.95	1.60	2.78	1.58	2.82	6.38	3.08	1.62	2.92	1.67	3.90	10.60	3.39	8.91
Video chat	2.04	1.61	1.97	1.59	1.91[4]	1.47	2.34[3]	1.81	1.86	1.48	1.78	1.37	1.86	1.54	2.08	1.60
Online social network	1.90	1.74	1.72	1.65	1.81	1.55	1.79	1.62	1.48	1.35	1.48	1.36	1.57	1.46	1.38	1.23
Postal mail	1.46	0.98	1.46	0.98	1.50	1.02	1.66	1.01	1.36	1.05	1.33	1.00	1.31	0.98	1.50	1.28

Note. IM = instant messaging; Q = quarter. Scale: 1 = *Never*, 2 = *Less than once a month*, 3 = *Once a month*, 4 = *2–3 times a month*, 5 = *Once a week*, 6 = *More than once a week, but not every day*, 7 = *Once a day*, 8 = *2–3 times a day*, 9 = *4 or more times a day*
Analysis of variance conducted with Scheffe's post hoc test to compare differences between GPA quartiles; significant differences are indicated with superscripts that represent the compared quartile by parent ($p < .05$).

across quartiles were with respect to e-mail communication with both parents and video chat with mothers. Students in the highest GPA quartiles communicated with their mothers and fathers more frequently by e-mail than did those students in the lowest GPA quartile, but the differences were slight, ranging from less than once a month to a couple of times a month with mothers and less than once a month to once a month with fathers. In addition, differences in frequency and mode of communication by GPA quartile also varied with video chat. Students in the highest GPA quartile communicated with mothers via video chat more frequently than students with lower grades, but this communication mode was used more rarely than other modes.

Students' Satisfaction With the Amount of Communication With Their Parents

Table 2 presents the mean levels of students' satisfaction with the amount of communication with their mothers and fathers as compared across GPA quartiles. Overall, students were less satisfied with the amount of communication they had with their fathers than with their mothers (i.e., they desired more communication with fathers), a result similar to that of our previous study (Sax & Weintraub, 2016). However, our current study shows no significant differences in the communication satisfaction variable by GPA quartile. In other words, regardless of academic level, students' perceptions of the amount of communication with their respective parental figure remained equivalent.

The results of the ANOVA for these data showed no significant differences between GPA quartile and students' satisfaction with their parental communication. The paired *t* test revealed one statistically significant difference.

Regression Results

The results of the regression predicting the relationship between first-year students' communication with their parents and their academic performance are presented in Table 3. Of the 38 variables entered into the regression equation, 11 variables were found to be significant in the regression, and 10 of these variables remained significant in the final model. The final model explained 29% of the variance in academic performance.

The strongest predictors of college GPA were the two pre-college indicators of high school performance (standardized achievement test scores and average high school grades), each of which was positively associated with GPA and together explained 13% of the variance in academic performance. Among the demographic characteristics, receiving financial resources from the family and the distance of the college from one's home also predicted higher GPA. Majoring in a STEM field was the only measure of the college

Table 2. Student satisfaction with the amount of student–parent communication by students' academic performance ($N = 977$)

GPA Quartile	Desiring more communication with mother or stepmother, *M*	Desiring more communication with father or stepfather, *M*
1	−.19	−.47
2	−.16	−.49
3	−.19	−.41
4	−.16	−.45
Entire sample	−.18	−.45*

Note. −2 = *A LOT LESS than I would like*; −1 = *A LITTLE LESS than I would like*; 0 = *Just the right amount*; 1= *A LITTLE MORE than I would like*; 2 = *A LOT MORE than I would like*
The ANOVA showed no statistically significant differences.
*The higher value of the statistically significant result from a paired samples *t* test of differences

environment that predicted GPA, and the association was negative. Likewise, hours per week spent using online social networks also negatively predicted GPA and was the only significant variable among college behaviors and experiences. Two measures of student effort were found significant in the final model: hours per week studying (positive predictor) and frequency of interactions with a faculty-in-residence (negative predictor).

Three measures of student–parent interaction were found as significant predictors of first-year academic performance. One reflected students' interactions with their fathers, such that those who approached fathers for social and emotional support earned higher grades. The other two parent variables described students' interactions with their mothers: Frequency of communicating by phone was associated with lower college GPAs, while perceived quality of communication with mothers was associated with higher grades. When students' perceived quality of interaction with mothers was entered into the regression, one measure in the student effort block, hours per week studying, decreased in predictive power; that is, students with higher quality communication with mothers tended to spend more time studying. Both the perceived quality of communication with mothers and time spent studying shared the variance in predicting academic performance.

Although only accounting for a small portion of the variance (2%), the parent measures underscore the primacy of quality over quantity

Table 3. Regression predicting academic performance in the first college year ($N = 995$)

Block	*r*	Final *β*
Block 1: High school academic performance		
Standardized achievement test scores	.29*	.23*
Average high school grade	.27*	.21*
		($R^2 = .13$)
Block 2: Student background characteristics		
Financial resources/aid from family	.25*	.12*
Distance from home	.12*	.04
		($R^2 = .16$)
Block 3: Institutional environment		
Major: STEM	−.23*	−.29*
Hours/week: Online social network	−.08*	−.05*
		($R^2 = .24$)
Block 4: Level of student effort		
Hours/week: Studying	.17*	.13*
Frequency: Interact with a faculty-in-residence	−.12*	−.06*
		($R^2 = .27$)
Block 5: Parental socialization		
Frequency: Communicate with mother/stepmother by phone	−.09*	−.09*
Perception of interaction with mother/stepmother	.12*	.09*
Approaching father/stepfather for social and emotional support	.11*	.09*
		($R^2 = .29$)

Note. *$p < 0.05$.

when it comes to student–parent interactions. Students who had earned higher GPAs tended to receive more social and emotional support from their fathers (or stepfathers) and had higher quality interactions with their mothers. Alternatively, more frequent interaction with mothers (regardless of quality) correlated with lower grades for first-year students.

Discussion

This study sheds light on how students' frequency of and perceived satisfaction with parental interactions relate to their academic performance in the first year of college. A majority of students surveyed, regardless of academic performance, reported feeling satisfied with the amount of communication with their parental figures when classes were in session. Of those who reported dissatisfaction, most desired greater communication, particularly with their fathers. This finding aligns with those of previous studies, which revealed students' desire for greater interaction with their fathers (Hofer & Moore, 2010; Sarigiani et al., 2013; Sax & Weintraub, 2016). Despite the portrayal of parental involvement during college by the media and others, students did not suggest that they communicated too much with their parents. This finding supports previous research suggesting that students sought support from parents on academic matters but not with an expectation that their parents would intervene on their behalf (Pizzolato & Hicklen, 2011). We suggest further probing into the nature of these academic conversations to ascertain the content and nature of students' discussions with their parents about academic matters.

This study provides evidence that fathers and mothers may contribute differently to their student's academic success during college. Those students who reported approaching their fathers for social and emotional support tended to earn higher grades; however, coming to conclusions about the effects of communications with mothers proved more difficult because increased frequency of communication with mothers predicted lower GPAs while perceived high-quality interactions predicted higher GPAs. This result prompts the chicken–egg question: Do frequent communications interfere with students' ability to focus on their academics or do students experiencing academic difficulty seek support more frequently from their mothers? These same students reported communicating weekly and substantially more often with their mothers by phone than the few times a month in communication with fathers. Consistent with recent research by Sarigiani et al. (2013), these reported rates of interaction do not reflect the popular image of helicopter parents, who are perceived as overly involved in their children's college lives. Perhaps more parents meddle with their children at private universities or perhaps anecdotal reports do not represent the entire population of college students and their parents.

Despite some evidence of an indirect effect of quality of communication with mothers on GPA (as mediated by time spent studying), the timing of data collection did not permit us to determine whether more supportive interactions with mothers served to encourage students to study more or whether more academically engaged students simply reported more supportive communication with others. Hence, a deeper look into the content and timing of students' interactions with their parents and the way that they relate to student behavior is warranted.

Notwithstanding the complex findings on the quality of communication with mothers, interpreting directionality must be undertaken with caution because high quality and supportive interactions between students and their parents have been shown to relate to first-year academic success, but frequent interactions do not necessarily contribute to that success. Therefore, college policy should encourage quality interactions with parents guiding their students' decision making (Pizzolato & Hicklen, 2012) but caution against parents communicating too frequently with their college-going children (Wolf et al., 2009).

Limitations

We acknowledge a few key limitations to this study. First, the students in our sample earned very good grades (e.g., $M = 3.30$; median = 3.37; range = 1.08–4.00); a subsequent study on a wider cross section of academic achievement levels might help ensure that the results of this study apply to those students experiencing more difficulty in their studies. In addition, the underrepresentation of certain student populations within the campus at large prevented an analysis of differences based on race, gender, and income. Furthermore, although the *RL Survey* included items on family configurations other than the traditional two-parent structure (mother and father), insufficient numbers restricted the analysis to certain family constellations, namely one mother (or stepmother) and one father (or stepfather). Therefore, we were prevented

from including data from single parents, same-sex parents, and legal guardians in the sample. Aggregation of parent types into the limited number of parental options may have masked unique characteristics and differences, so we did not follow that path. As a result, the effects of nontraditional family structures on first-year academic performance remain unknown as do distinctions between the effects of biological parents and those of stepparents.

Moreover, although sampling students from a single institution may limit the generalizability of the results, this particular institution proved an interesting site to examine the topic of parental involvement because of the diversity of parents representing local, domestic, and international populations, which provided a wide gamut of interaction opportunities. Furthermore, in recent years, the institution allocated substantial resources to address student–parent interactions through increased staffing and programming.

Another limitation relates to the self-reported nature of the parental involvement measures. Documentation of interactions with parents requires recall of events that took place in the past, and the assessment of quality requires subjective interpretation. Furthermore, students may have interpreted the questions in ways that diverged from each other and may have offered responses based on criteria that also differed by individual. These inherent types of differences among individuals may have contributed to variation in responses. In addition, the survey instrument did not solicit input from parents, information about the party who initiated the communication, or a description of the content of the interaction.

Finally, causality between student–parent interaction and academic performance cannot be determined because of the data limitations. Measures of parental involvement (early Spring 2012) were collected within a few months of the data on the dependent variable (end of Spring 2012). Therefore, although the study featured a pretest (standardized achievement scores and average high school grades), changes in students' academic performance may have preceded communication with parents, or a high level of interaction with parents on particular topics may have had more or less effect on student motivation to perform academically. Although causality could not be determined, this study provided new understanding about the nature of the relations between and among the measures.

Implications for Practice and Research

At a time when administrators at colleges and universities are paying more attention to the ongoing role of parents (Henning, 2007; Sax & Wartman, 2010), this study provides information that may prove helpful in advising students and offers guidance to parents on the most beneficial role to play in their student's academic performance. Although we did not address the content of the discussions between students and their parents, the results extended those from prior research by suggesting that high quality and supportive interactions with parents are positively associated with students' academic performance. Despite the need of college advising administrators and practitioners to remain cognizant of the extent and frequency with which students consult with their parents about academics, the findings of the study align with previous research showing that students generally benefit from parental support and participation in academic decision making (Pizzolato & Hicklen, 2011; Wolf et al., 2009).

Mothers and fathers interact differently with their children, and the findings suggest variation of the influence of each on students' academic performances. The most frequently used mode of communication with both parents for student respondents in this study, according to the highest GPA quartile, was the phone. Academic advisors who remain mindful of students' close ties with parents, especially high-achieving students, can develop suggestions for ways students can manage parental communication about their academic experiences in beneficial ways.

Regardless of their general satisfaction with the frequency of interaction with their parents, many students in this study expressed desire for more interaction with fathers. Administrators can use orientation programming and academic advising sessions to educate students on strategies for including their parents, especially their fathers, in their academic experiences.

In fact, findings from this study potentially relate to several areas of programming for parents. Academic advisors can offer a workshop for parents and families during new student orientation on healthy ways that families can inquire about students' academic experiences, respond to comments and questions from students, and provide social and emotional support. When preparing such a session for parents and families, facilitators need to acknowledge that students' academic experiences and familial responses may differ according to the student's academic performance. For students

struggling academically, constant parental reminders about completing assignments may induce stress, self-doubt, and result in a negative feedback loop, whereas a similar interaction may give academically successful students an opportunity to discuss more challenging assignments (Cutrona et al., 1994). Offering a refresher workshop or hosting an academic advising open house for parents during family weekend might further engage parents after students have some college experiences. Finally, academic advisors should maintain a collaborative relationship with parent and family programming staff, who serve as important resources for information about the ways to support students, and in particular, for the types of resources that might benefit families with particular characteristics, such as those with nontraditional structures or unique challenges not addressed in this study.

Future research can extend or explain the findings from this study. For example, in response to the unanswered question of causality, longitudinal research with data collected at multiple time points can be used to track the timing of parent interactions with respect to milestones in the academic trajectory. Such research may reveal the dynamic and reciprocal nature of student–parent interactions and the ways parents influence college persistence and completion. In other words, because both student–parent interactions and amount of time studying predict higher grades, the interrelationship between parent support and level of student effort would add important understanding to the findings. Important questions include: Does parental advice to students on academic strategies improve grades? Alternatively, do discussions with parents increase students' interest in course content, which then contributes to improved academic performance? Furthermore, other statistical techniques, such as structural equation modeling, might help reveal whether parent support, interactions, and resources directly influence college grades or whether the influence of parents is mediated by the level of student effort.

Additional longitudinal and multiple time-point research projects may also help with the assessment of any nonlinear relationship between student–parent interaction and academic performance. For instance, what is the optimum level of interaction? Does it vary over time? That is, does communication exert more influence when a student is, for example, in the first quarter determining foundation requirements than when taking major classes in later semesters? A greater understanding of the party who initiates the interaction and the reason for it also would add to the discussion, even as they likely vary across different situations, such as students needing advice or money or parents reporting on a family situation. Furthermore, these differences likely reflect students' demographic characteristics such that the impact of each differs by area of student development. Understanding the answers to these aspects of student–parent interactions might further disentangle the conflicting findings, such as those from this study and Hamilton's (2013) finding that increases in parental financial contribution to higher education was associated with lower student GPAs.

Furthermore, an important issue that remains unresolved in this study regards the effects of parental involvement across different student populations. Forms of parental involvement beneficial to some students might be less helpful to others, and this may depend on background factors such as gender, race and ethnicity, or socioeconomic class (Sax & Wartman, 2010). For example, some research has suggested that the moderating effects of students' communication patterns with their parents predict differences in students' cognitive and social outcomes on the basis of gender (Samuolis, Layburn, & Schiaffino, 2001; Sax & Weintraub, 2014; Wolf et al., 2009), race (Barnett, 2004; Torres, 2004), and socioeconomic class (Cabrera & La Nasa, 2000; Hossler, Schmit, & Vesper, 1999).

Finally, while the survey used in this study revealed diverse family configurations, ultimately, the analyses were restricted to the predominant and traditional family structure of mother and father. As an increasing number of college students spend a majority of their childhood years raised by unmarried partners, same-sex parents, grandparents, or legal guardians (e.g., who adopt or serve as foster parents), researchers need to sample students with these experiences intentionally (Daniel, Evans, & Scott, 2001). Improved survey methodology would enrich future quantitative studies, and qualitative research may illuminate the way nontraditional family structures shape students' adjustment to college.

Conclusion

The media portrays college parents as helicopters hovering over their children's daily existence and intervening with campus officials in ways that may disrupt students' academic growth. Although we could not draw causal conclusions from this

study, the results counter the images of the overinvolved parent and suggest that parents can play an important role in their college students' academic performance. Colleges can foster effective parent–student interactions through outreach efforts to parents such as orientations and social media campaigns. In a notable contribution of this study to the literature, communication patterns emerged for students interacting with their mothers that differed from those for students interacting with their fathers. College administrators can use the results of this study to improve academic advising strategies and design programs that encourage productive parent engagement.

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Appendix A. Variable definitions and coding schemes

Dependent Variable	**Coding Scheme**
College GPA	Continuous variable: from 1.08 to 4.00
Independent Variables	**Coding Scheme**
Block 1: High school academic performance	
Average high school grade	Categorical variable: from 1 = *D* to 8 = *A* or *A+*
Standardized achievement scores (SAT or ACT equivalent)	Continuous variable: 400–1,600
Block 2: Student background characteristics	
White/Caucasian (omitted)	Dichotomous variable: 1 = *not marked*; 2 = *marked*
African American/Black	Dichotomous variable: 1 = *not marked*; 2 = *marked*
Asian American	Dichotomous variable: 1 = *not marked*; 2 = *marked*
Latino/a American	Dichotomous variable: 1 = *not marked*; 2 = *marked*
First-generation status	Dichotomous variable: 1 = *no*; 2= *yes*
Gender	Dichotomous variable: 1 = *male*; 2 = *female*
International student	Dichotomous variable: 1 = *no*; 2= *yes*
Resources: Family aid	6-point scale: from 1 = *none* to 6 = *$10,000+*
Parent income	14-point scale: from 1 = *less than $10,000* to 14 = *$250,000 or more*
Block 3: Institutional environment	
Major (STEM)	Dichotomous variable: 1 = *no*; 2 = *yes*
Distance from home (miles)	From 1 = *5 or less* to 6 = *over 500*
Sense of belonging	6-item factor (See Appendix B for items)
Using online social networks for personal reasons (hours/week)	8-point scale: from 1 = *none* to 8 = *over 20 hours*
Working for pay (hours/week)	8-point scale: from 1 = *none* to 8 = *over 20 hours*
Exercising/sports (hours/week)	8-point scale: from 1 = *none* to 8 = *over 20 hours*
In student clubs/groups (hours/week)	8-point scale: from 1 = *none* to 8 = *over 20 hours*
Socializing with friends (hours/week)	8-point scale: from 1 = *none* to 8 = *over 20 hours*
Block 4: Level of student effort	
Engagement in intellectual discussions with other residents.	Categorical variable: from 1 = *strongly disagree* to 5 = *strongly agree*
Discuss course content outside of class (for those living on campus).	Categorical variable: from 1 = *never* to 3 = *frequently*
Studying (hours/week)	8-point scale: from 1 = *none* to 8 = *over 20 hours*
Number of academic support programs attended	5-point scale: from 1= *none* to 5 = *four or more*
Interact with a faculty-in-residence (frequency)	7-point scale: from 1 = *never* to 7 = *once a day*

Appendix A. Variable definitions and coding schemes (cont.)

Dependent Variable	Coding Scheme
Block 5: Parental socialization	
Frequency of interaction with [parent] (phone, text messaging, email/instant messaging)	9-point scale: from 1 = *never* to 9 = *4 or more times a day*
Desiring more communication with [parent] (reverse coded)	Categorical variable: 2 = *A LOT MORE than I would like*, 1 = A *LITTLE MORE than I would like*, 0 = *Just the right amount*, −1= *A LITTLE LESS than I would like*, and −2 = *A LOT LESS than I would like* Regression coding: from 1 = *A LOT MORE than I would like* to 5 = *A LOT LESS than I would like*
Student's perceptions of interaction with [parent]	Sum of (respectful + helpful + interested + supportive) minus (overly involved + intrusive + uninterested + overly critical)
[parent] most often for social or emotional support	Dichotomous variable: 0 = *not marked*; 1 = *marked*
[parent] most often for academic support	Dichotomous variable: 0 = *not marked*; 1 = *marked*
Parental influence on decision making in college	3-item factor (See Appendix B for items)

Appendix B. Items constituting factor scales

Factor	Loading
Sense of belonging (α = 0.85; all items on 5-point scale from 1 = *strongly agree* to 4 = *strongly disagree*)	
I feel a sense of belonging to this campus	0.81
Living on campus has helped me feel a part of (name of campus)	0.75
Knowing what I know now I would still choose to enroll at (name of campus)	0.71
I have formed meaningful friendships in my community	0.67
I feel that this campus welcomes diversity and promotes tolerance	0.67
I am proud to be a (name of campus mascot)	0.58
Parental influence on decision-making in college (α= 0.71; all items on a 4-point scale from 1 = *not at all* to 4 = *extensively*)	
Influenced your choice of friends	0.85
Influenced your choice of extra-curricular activities	0.65
Influenced your choice of classes	0.63