

A Cross-Cultural Examination of the Mediating Role of Family Support and Parental Advice Quality on the Relationship Between Family Communication Patterns and First-Year College Student Adjustment in the United States and Belgium

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Elizabeth Dorrance Hall¹, Jenna McNallie²,
Kathleen Custers³, Elisabeth Timmermans³,
Steven R. Wilson⁴, and Jan Van den Bulck⁵

Abstract

This study examines how college students' family communication environments influence their adjustment during the first year of college in two distinct cultures: Belgium ($n = 513$) and the United States ($n = 431$). Three structural equation models were tested to determine the mediating effects of (a) perceived family support, (b) quality of academic advice from parents, and (c) quality of social advice from parents on associations between family communication patterns (FCPs) and student adjustment. Although most relationships are more complicated than predicted based on FCP theory and research, several patterns occur across models and populations. Conversation orientation tends to foster positive adjustment for both cultures.

¹Utah State University, Logan, UT, USA

²Augsburg College, Minneapolis, MN, USA

³Leuven School for Mass Communication Research, Belgium

⁴Purdue University, West Lafayette, IN, USA

⁵University of Michigan, Ann Arbor, MI, USA

Corresponding Author:

Elizabeth Dorrance Hall, Department of Languages, Philosophy, and Communication Studies, Utah State University, 0720 Old Main Hill, Logan, UT 84322, USA.

Email: Elizabeth.dorrance@gmail.com

while conformity orientation promotes negative adjustment for Belgian students. In addition, perceived family support and advice quality mediate several relationships between FCP and academic self-efficacy, college stress, and loneliness. Differences between the two cultures, theoretical implications for FCP, and practical implications for academic counselors are discussed along with avenues for future research.

Keywords

family communication, student adjustment, support, advice, culture

Of the 21 million undergraduates enrolled in universities in the United States (U.S. Department of Education, National Center for Education Statistics, 2013), 45% will not graduate within 6 years (National Center for Higher Education Management Systems, 2015) due in part to the stress of transitions in emerging adulthood (Aquilino, 2006; Arnett, 2000; Whiteman, McHale, & Crouter, 2011). This drop-out rate burdens academic institutions with recruitment pressures and complex enrollment processes, and also reinforces the idea that college is not worth the money (Raisman, 2013). Factors that contribute to student retention are often related to one of three areas: (a) feeling confident about being able to complete tasks necessary to succeed in the college environment (i.e., academic self-efficacy), (b) facing lower as opposed to higher levels of college-related stress, and (c) adjusting socially so as to avoid chronic feelings of loneliness. Students are more likely to stay in college when they feel more academically confident and less stressed (e.g., Mangold, Bean, Adams, Schwab, & Lynch, 2003; Padgett & Reid, 2003) and are socially adjusted (e.g., Gerdes & Mallinckrodt, 1994).

Student adjustment likely is influenced by whether and how students engage in conversations with parents about school, and the nature of those conversations may depend on family communication patterns (FCPs). Drawing on FCP theory, this study aims to understand the pathways through which college students' family communication environments may influence their adjustment during the first year of college. We propose that FCP will predict perceptions of family support as well as the quality of advice received from parents during this transition, which in turn should promote student adjustment. In addition, we examine adjustment in two cultures with different academic systems and potentials for family influence during college: the United States and Belgium (i.e., Flanders). Very little research has compared FCPs cross-culturally (see Rose, Bush, & Kahle, 1998; Shearman & Dumiao, 2008, for exceptions), and this is the first study that compares college students from the United States with students from a Western European nation. Comparing these countries will clarify to what extent associations between family communication and adjustment to university life can be generalized across cultures.

To explore these relationships, three structural models are proposed and tested (see Figure 1). Below, relationships between perceived social support, advice quality, and college adjustment are proposed. Then, we use FCP theory to frame predictions about

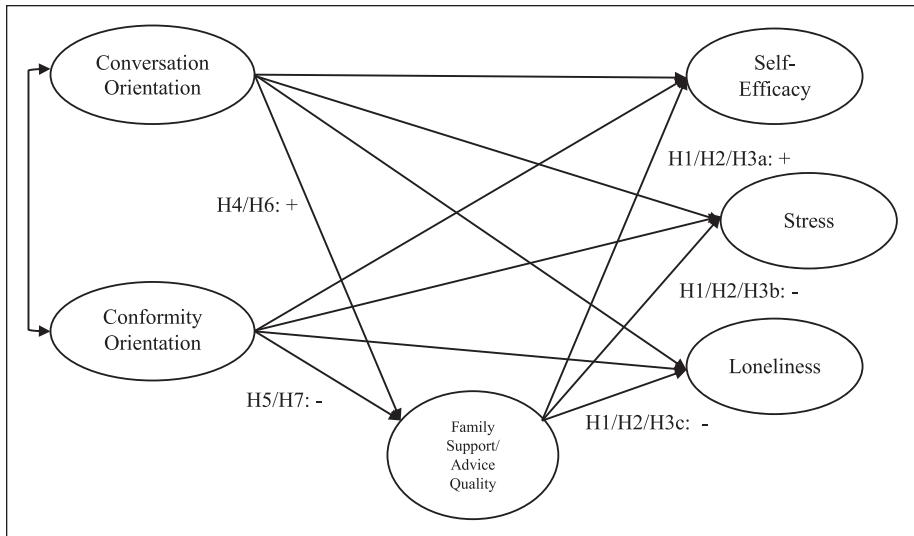


Figure 1. Proposed model.

Note. H8 and H9 are not pictured but predict mediation between FCPs and adjustment outcomes. H1-H9 = Hypothesis 1 to Hypothesis 9; FCP = family communication pattern.

whether FCPs are indirectly associated with college adjustment because of the influence they exert on perceptions of support and advice quality. Finally, we describe cultural differences between Belgian and U.S. families and university systems. Before presenting our hypotheses and research questions, we review research on college student adjustment.

Student Adjustment in the Transition to College

In this study, adjustment to college is conceptualized in terms of three components: (a) self-efficacy beliefs, (b) college stress, and (c) loneliness. These three factors capture a range of cognitive and emotional states that can facilitate or impede the successful transition to college for first-year students. Academic self-efficacy, or the self-confidence one has in one's ability to comprehend difficult material, do well on exams, and get help from instructors when needed, has been associated with higher classroom performance in college (Chemers, Hu, & Garcia, 2001; Zajacova, Lynch, & Espenshade, 2005), higher overall grade point average (GPA; Feldman & Kubota, 2015; Komarraju & Nadler, 2013), as well as both intrinsic (i.e., learning engagement for personal gains such as curiosity) and extrinsic (i.e., learning for external factors such as recognition) academic motivation (McGeown et al., 2014).

Stress refers to a relationship “between the person and the environment that is appraised as taxing or exceeding his/her resources” (Lazarus & Folkman, 1984, p. 19). Common stressors for college students include writing papers, having multiple exams in the same

week, and balancing school and work (Zajacova et al., 2005). First-year students may be more vulnerable to college stress (e.g., due to grade pressure to get into desired majors and mastery of content in short amounts of time) and exhibit heightened reactions to stress compared with juniors and seniors (Abouserie, 1994; Misra & McKean, 2000). Abouserie found that 88% of first-year students experienced moderate or serious stress. These numbers raise concern because stress promotes poor academic performance (Akgun & Ciarrochi, 2003) and lowers immune function (Jemmott et al., 1983).

Finally, young adults may experience loneliness during the transition to college as they move away from home and are faced with forming new relationships. Longitudinal studies have shown that many college students feel especially lonely in their first semester (Cutrona, 1982), and loneliness has been linked to decreased social adjustment, lower roommate rapport, and higher drop-out rates (Anderson, 1987; Hawkin, Duran, & Kelly, 1991; Mounts, Valentiner, Anderson, & Boswell, 2006). Indeed, nearly half of the first-year student population rated their emotional well-being as below average compared with peers (Eagan et al., 2015).

Family Interaction and Student Adjustment

Social Support and Student Adjustment

Perceptions of social support from family are likely associated with student adjustment. Perceived social support is the awareness that adequate social support is available if needed (MacGeorge, Feng, & Burleson, 2011). Perceived support is essential for college adjustment because supportive communication fosters psychological and physical well-being and enables coping in stressful situations (MacGeorge et al., 2011; Tinto, 1993). Students who perceive support is available from family likely have more confidence in their academic abilities because they know others are there for them and believe in them. They might also experience less loneliness because they perceive others are available if they need to talk to someone. Consistent with this thinking, Malecki and Demaray (2003) found that perceived emotional (i.e., trust and love) and informational (i.e., advice and guidance; House, 1981) support from parents contributed to college students' personal adjustment. Research has found that students who felt more supported by family have lower levels of psychological distress (Solberg & Viliarreal, 1997) and academic stress (Rayle & Chung, 2007) compared with those who felt less supported. Perceived social support also plays a role in academic persistence (Gloria & Robinson Kurpius, 2001; Nicpon et al., 2006) and academic self-efficacy (Torres & Solberg, 2001). We predict that perceptions of family support will be associated with college adjustment including higher (a) academic self-efficacy, and lower (b) college stress and (c) loneliness (Hypothesis 1 [H1]).

Advice Quality and College Adjustment

While perceived social support is a global indicator of whether a person views support as available, receiving advice is a specific form of enacted support (MacGeorge et al.,

2011). In a study of 130 college students, Carlson (2014) found that the majority of students sought advice from parents about academic and social concerns. Receiving advice from parents might help students cope with college stressors (e.g., what do I do if I don't understand course material or got a bad grade on an early assignment; what do I do if I feel lonely and feel like I don't fit in?). Advice from parents may be more or less beneficial depending on whether advice is perceived as helpful (MacGeorge et al., 2011). For example, previous research suggests that advice can be detrimental to relationships if it is seen as low quality (e.g., not satisfactory; MacGeorge, Feng, & Thompson, 2008). High quality advice could increase students' sense of agency to solve their academic and social challenges, thereby increasing academic self-efficacy and deterring feelings of loneliness. In addition, receiving high quality advice from a parent who clearly listened and cares might induce feelings of closeness with that parent, thereby decreasing loneliness.

Beyond general perceptions of family support, perceived advice quality (i.e., whether students perceive that their parents' advice is helpful and supportive) has the capacity to clarify the contribution of specific interaction features to student adjustment. Although not focused specifically on college adjustment, prior research has shown that students rate advice from close others as higher quality when they perceive the advised actions actually would address their problem, is something they could do, would not create new problems, and is consistent with their current plans (Feng & MacGeorge, 2010). Advice also tends to be rated as higher in quality (e.g., less face-threatening) when it is solicited rather than unsolicited (Goldsmith, 2000). Carlson (2016) found that the perceived quality of parental advice about college stressors was an important predictor of whether students planned to implement the advice, yet little is known about how advice quality impacts student adjustment more generally. Based on the reasoning that the perceived quality, and not just the availability, of advice matters, we predict that perceptions of quality of academic (Hypothesis 2 [H2]) and social (Hypothesis 3 [H3]) advice from parents will be associated with college adjustment including (a) higher self-efficacy, and lower (b) stress and (c) loneliness.

Family Communication Patterns

First-year students' perceptions of family support and advice quality during the transition to college may depend, in part, on their FCPs (see Figure 1). According to FCP theory, families must achieve some level of co-orientation (i.e., a shared view of reality) in order to function. Families create shared realities through two processes labeled conversation and conformity orientation (Koerner & Fitzpatrick, 2002a). These orientations represent central beliefs that predict how families communicate.

Conversation orientation, or the degree to which a family encourages open communication about a variety of topics, results in family members sharing thoughts and feelings with each other freely. Conformity orientation, or the degree to which a family "stresses a climate of homogeneity of attitudes, values, and beliefs," emphasizes adherence to parental views, interdependence, and harmony among family members (Koerner & Fitzpatrick, 2002a, p. 85). Crossing the two dimensions results in four

family types (i.e., consensual, pluralistic, protective, and laissez-faire). Previous research and theorizing suggests that (a) families from multiple cultures vary along the two FCP dimensions and (b) both dimensions influence family satisfaction and social adjustment (Koerner & Schrodt, 2014; Schrodt, Witt, & Messersmith, 2008). Rather than creating four family types, this study focuses on FCP dimensions both to maintain the continuous nature of conversation and conformity orientation, and because the levels at which one might split participants into four family types may well vary across culture.

FCPs and Social Support

FCPs likely influence perceptions of social support from family. Student reports of conversation orientation are positively associated with how frequently they discuss sensitive topics (e.g., alcohol use, sexual activity) with their parents (Booth-Butterfield & Sidelinger, 1998) as well as how motivated they are to seek support from family and friends when they experience problems (High & Scharp, 2015). By creating an environment in which students feel comfortable asking for help and talking openly with their parents even about difficult topics, conversation orientation should predict perceptions of support from family. If students are expected to adhere to their parents' beliefs and values even when they disagree, then perceived support may diminish. Put differently, if family communication is focused on rules and obedience even during the transition to college, then it may be perceived as less socially supportive. Corroborating this reasoning, Koerner and Maki (2004) found that conversation orientation was associated with higher perceived family social support while conformity orientation was associated with less perceived support. Thus, we predict conversation orientation will be positively associated (Hypothesis 4 [H4]) and conformity orientation inversely associated (Hypothesis 5 [H5]) with perceived family support.

FCPs and Advice Quality

Open and frequent conversations (a marker of conversation orientation), as well as a strong desire for homogeneity of attitudes in the family (a marker of conformity orientation), both may lead parents to offer advice, especially in the context of the transition to college. FCPs also may explain differences in how students perceive the quality of parental advice they receive about academic and social issues. Previous literature has not yet established a link between FCPs and perceptions of advice characteristics. However, conversation orientation may influence the likelihood that parents would allow their children to speak their minds and listen before offering advice. Feng (2009) found that advice is perceived as higher quality if the advice giver asks questions to learn about the problem and offers emotional support before giving the advice, which suggests that conversation orientation might predict advice quality. Conformity orientation may influence the perception that emerging adults are expected to follow any advice offered by their parents even if it does not seem relevant or feasible, which may in turn undermine perceptions of advice quality. Thus, we predict that conversation

orientation will be positively (Hypothesis 6 [H6]) and conformity orientation will be inversely (Hypothesis 7 [H7]) associated with perceptions of the quality of advice from parents about (a) grades or (b) relationships.

Linking FCPs and College Adjustment Through Support and Advice Quality

Recent research has moved from establishing associations between FCPs and outcomes (Schrodt et al., 2008) to investigating potential mediators including parental communication behaviors (e.g., confirmation; Schrodt, Ledbetter, & Ohrt, 2007) and support seeking motivation (High & Scharp, 2015). This study explores whether perceptions of social support from family along with the quality of advice from parents about grades and social challenges may mediate associations between FCPs and student adjustment.

As described above, FCPs likely shape ongoing perceptions of whether parents or other family members can be relied on for support and useful advice, which in turn should facilitate college adjustment. This suggests that perceived family support and advice quality will function as mediators. Based on this reasoning, we propose that the association between conversation (Hypothesis 8 [H8]) and conformity orientation (Hypothesis 9 [H9]) and college adjustment including academic efficacy, college stress, and loneliness will be mediated by (a) perceived social support from family, (b) academic advice quality, and (c) social advice quality.

Besides influencing college adjustment through mediators such as perceptions of support and advice quality, FCPs might also have direct effects on college adjustment. How individuals are socialized to communicate within their families has some effect on their interpersonal interactions as emerging adults (Koerner & Fitzpatrick, 2002b), which in turn likely influences their adjustment to college. Students rely on communication skills and relational perceptions developed through childhood and adolescence as they enter college and form new relationships. In a college student sample, Ledbetter (2009) found that conversation orientation was positively associated with the degree to which students engaged in both face-to-face and online relational maintenance behaviors with a same-sex friend, which suggests that conversation orientation might predict lower loneliness for reasons beyond ongoing interactions with family. Past research has consistently found that conversation orientation promotes social skill, which explains why people from high conversation families engage in frequent and appropriate maintenance behaviors in their relationships (Ledbetter, 2009).

Although we predict support and advice quality will mediate the relationship between FCPs and adjustment, we also ask whether FCPs have a direct path to adjustment.

Research Question 1 (RQ1): Do conversation and conformity orientation exhibit direct effects above and beyond indirect effects (via support and advice quality) on college self-efficacy, stress, and loneliness?

Cultural Differences Between Student Populations

Cultural differences also may exist in the relationship between FCPs and student adjustment. According to Vanden Abeele and Roe (2011), the U.S. and Belgian cultures differ in at least three relevant respects: (a) college environment, (b) family environment (e.g., distance and amount of contact with family), and (c) general cultural values such as levels of individualism and uncertainty avoidance (Hofstede, 2001).

First, Belgian universities are organized according to Western European social-democracy principles (e.g., they receive large amounts of governmental funding; Vanden Abeele & Roe, 2011). As a result, enrollment fees for college students are much lower than in the United States. As such, universities in the U.S. are under pressure to retain students and the financial consequences of not finishing their degree are greater for students and their families in the U.S. Also, all students who successfully finish high school in Belgium are allowed to enroll initially in college without any specific application procedures.¹ The two cultures are perceived to be similar, however, in the quality of college education and degrees awarded (Vanden Abeele & Roe, 2011).

A second difference that could affect adjustment to college is geographical distance between the family home and university (Vanden Abeele & Roe, 2011). Compared with the United States, Belgium's surface area (13.52 square km) is much smaller. As such, colleges are fairly close to each other and to students' family homes. A significant portion of students commute to university from their family home each day in Belgium. Most Flemish first-year students who do not live at home full time live on campus or in the university town during the week but at home on weekends. In the U.S., the geographical distance between the family home and campus is generally so large that most first-year students at residential universities visit home only a few times a year. As a result, Flemish students are likely to have face-to-face conversations with parents on a regular basis whether they are emotionally close to their parents or not, while students in the United States may vary more in how much they talk with their parents while at college.

Lastly, differing cultural values between the United States and Flanders might influence social and academic adjustment to college. The U.S. has a highly individualistic culture and scores below average on the uncertainty avoidance index (Hofstede, 2001), meaning that Americans are generally open to new experiences and have higher subjective well-being in such situations. Higher scores on individualism and lower scores on uncertainty avoidance may imply that first-year students in the United States are more likely to have the necessary coping skills to adapt to university life. Alternatively, the Flemish culture tends to emphasize autonomy and self-reliance to a lesser extent than U.S. culture. Flemish society has one of the highest scores on the uncertainty avoidance index (Hofstede, 2001). As a result, Belgian people tend to resist change and prefer clear rules and familiar situations. A new situation such as the transition to college life may cause more stress in Flemish students, resulting in challenges for student adjustment.

Theorizing on FCPs suggests that despite these differences, families from all cultures need to construct a shared view of reality. As such, both FCP dimensions should be present in any culture, and some research has found cross-cultural parallels on

associations between FCP dimensions and psycho-social outcomes (see Koerner & Schrot, 2014). However, the degree to which a given family type functions well depends on context (Koerner & Fitzpatrick, 2004). For example, in countries where traditional family structures associated with conformity orientation are more normative, families may attach positive meanings to conformity orientation and it may not be associated with negative outcomes. In countries where conformity is less normative, it may be associated with negative outcomes (e.g., emerging adults may interpret conformity orientation as controlling rather than protective). Based on the research reviewed above and the potential differences between cultures, a research question is posed:

Research Question 2 (RQ2): Are there significant differences between the U.S. and Belgian samples for all direct and indirect associations between FCPs and college (a) efficacy, (b) stress, and (c) loneliness.

Method

Participants and Procedures

Participants included first-year college students from a large Mid-western research university in the United States ($n = 431$) and a research university in Flanders, the Dutch-speaking part of Belgium ($n = 513$). The two samples were comparable in terms of age and male-to-female ratio. Table 1 contains additional demographic information about each sample. The study received approval from the research ethics boards at both universities. Data for both universities were collected by 30- to 60-minute online surveys hosted on Qualtrics. The surveys were translated into Dutch for the Flemish students by a native speaker on the research team.

Participants in the United States were recruited from undergraduate communication courses required for first-year students from virtually all majors at the university at 2 times during the school year: (a) after mid-term examinations but before the end of the fall semester and (b) at the start of the spring semester. About half the sample came from each time period. A true response rate cannot be calculated as it is impossible to know how many students viewed the call for participation. Participants were compensated with course credit.

Participants from the Belgian university were recruited from a database of all first-year students studying at the university ($N = 5,081$) at 2 times during the school year: (a) after they had received their practice examination grades in the fall (comparable with mid-term exams in the U.S.) but before final exams and (b) at the start of the spring semester. Again, about half the sample came from each time period. A random sample of 4,134 first-year students received an email inviting them to participate. A total of 1,077 students started the survey, resulting in a response rate of 26%. Due to incomplete surveys, 768 participants (71%) remained in the sample. To produce a sample size comparable with the U.S. sample, 67% of the Flemish respondents ($n = 513$) were randomly selected for this study so that each culture's sample would contribute similarly to the overall models.

Table 1. Demographic Information Including Means (Standard Deviations) for the Belgian and U.S. Samples.

	Belgium	United States
<i>n</i>	513	431
Age	18.43 (2.06)	18.57 (.94)
Sex	40% male	51.5% male
Ethnicity	Belgian (92.6%), Dutch (3.9%), Other (i.e., "Flemish"; 3.1%), did not disclose (0.4%)	White (65.2%), Asian/Pacific Islander (18.3%; e.g., born in China, South Korea, India), Asian American (6%), African American (3.2%), Hispanic (2.8%), Asian American (0.6%), American Indian (0.5%), did not disclose (3.0%)
Area of study	Engineering (21.4%), law (14.1%), arts (13.3%), medicine (11.6%), business (9.8%), sciences (8.2%), psychology and pedagogy (8.4%), social sciences (5.0%), kinesiology (4.6%), pharmacy (2.4%), philosophy (1.2%), theology (0.2%)	Engineering (37.4%), liberal arts (17.4%), technology (7.9%), health and human sciences (9.5%), undecided (7.4%), business (7.7%), agriculture (7.4%), education (1.2%), pharmacy (1.6%), science (2.3%)
Distance from parents	44.89 (141.73) km Week Different province (57.5%) Lives with parents (24.4%) Same province, other village (16%) Different country (2.1%) Weekends Lives with parents (97.7%) Different country (1.0%) Same province, other village (0.8%) Different province (0.6%)	1,828.24 (5,460.79) miles Same state, different cities (38.5%) Different state (30.4%) Different country (16.2%) Lives with family (14.8%)
Visits home	Lives with family (35.3%) Almost every day (2.1%) 2-3 times a week (24.8%) Once a week (30.2%) 2-3 times a month (4.3%) Once a month (0.8%) Less than once a month (0.2%) I haven't visited in the last 2 months (0.2%)	Lives with family (2.3%) Almost every day (0.2%) 2-3 times a week (0.9%) Once a week (2.8%) 2-3 times a month (13.7%) Once a month (25.3%) Less than once a month (31.6%) I haven't visited in the last 2 months (23.2%)

Measures

For every scale containing four or more items, confirmatory factor analyses (CFAs) were conducted using AMOS 22 with Belgian students as one group and U.S. students as the second group to test the form, or overall model fit, of the measure across

populations while allowing individual item loadings to be freely estimated. This process provides one overall model fit and two sets of item weights. To assess model fit, three fit indices were utilized: (a) the model chi-square and degrees of freedom, (b) the root mean square error of approximation (RMSEA), and (c) the comparative fit index (CFI). Good model fit was determined when the chi-square value was non-significant, the RMSEA was below .10, and the CFI values were above .90 (Bollen, 1989). Good fit indicates that the measurement model works well for both populations. When model fits were poor, items were iteratively deleted based on low beta weights and low R^2 values. Table 2 contains descriptives and t -test results comparing the Belgian and U.S. samples.

Family Communication Patterns. Students' perceptions of their families' communication environment were measured using a short-form version of the Revised Family Communication Patterns Scale (RFCP-SF; Wilson, Chernichky, Wilkum, & Owlett, 2014). Conversation orientation was measured using Items 8, 10, 12, 13, 15, and 24 from the original RFCP, whereas conformity orientation was measured using Items 9, 11, 17, 20, 22, and 23 (Ritchie & Fitzpatrick, 1990). Example conversation orientation items include "I can tell my parents almost anything," and "In our family we often talk about feelings and emotions." Example conformity orientation items include "In our home, my parents usually have the last word," and "My parents often say something like 'my ideas are right and you should not question them.'" Prior research has documented strong associations between RFCP-SF and total RFCP measures of conversation orientation ($r = .92$) and conformity orientation ($r = .85$; Wilson et al., 2014). The 12 items were measured using a 7-point Likert-type scale ranging from *strongly disagree* to *strongly agree*. Good model fit was achieved when Conversation and Conformity scales were reduced to four items each (Conversation: $\chi^2(4, 944) = 17.341, p = .002$, CFI = .991, RMSEA = .060; Conformity: $\chi^2(4, 944) = 4.466, p = .347$, CFI = .999, RMSEA = .011).² Conversation orientation had acceptable internal consistency in both the Belgian ($\alpha = .863$) and U.S. populations ($\alpha = .845$). Cronbach's alphas for conformity orientation were likewise acceptable for the Belgian ($\alpha = .781$) and U.S. samples ($\alpha = .752$).

College stress and academic self-efficacy. College stress and self-efficacy were measured using the "Academic Performance in Class" (four items), "Academic Performance Out of Class" (eight items), "Interactions at School" (seven items), and "Managing Work, Life, and School" (four items) subscales from Zajacova et al.'s (2005) self-efficacy and perceived stress measures. Participants responded to the same set of items once for stress and a second time for self-efficacy. For the former, participants were asked to rate how stressful a series of tasks were for them on a 5-point scale ranging from *not at all stressful* to *extremely stressful*. In-class example items included "doing well on exams" and "getting the grades I want," while out-of-class items were "studying" and "keeping up with the required readings." Examples of interactions at school items were "talking to my professors" and "participating in class discussions." Examples of work-life tasks were "managing both school and work" and "finding time to

Table 2. Means (SDs) and Independent Samples t-Test Results Comparing the U.S. and Belgian Student Populations.

	Belgium		United States		t	df	d
	M	SD	M	SD			
FCP conformity	3.29	1.16	3.90	1.23	-7.62***	894	.510
FCP conversation	4.32	1.35	4.80	1.37	-5.29***	894	.354
Family support	5.52	1.19	5.54	1.32	-0.18	862.84	.012
Advice quality academic	5.31	1.00	5.85	1.14	-5.35***	400.27	.534
Advice quality social	5.19	1.08	5.79	1.20	-4.36***	291	.511
Academic SE	3.19	0.58	3.42	0.64	-5.55***	864	.377
SE interactions at school	3.53	0.74	3.62	0.81	-1.83	874	.116
SE performance out of class	3.21	0.71	3.38	0.74	-3.40**	879	.234
SE performance in class	2.72	0.84	3.06	0.87	-5.95***	879	.398
SE managing work-life school	3.31	0.68	3.61	0.70	-6.31***	877	.435
College stress (CS)	3.29	0.63	3.33	0.62	-0.91	900	.064
CS interactions at school	2.76	0.82	2.73	0.90	0.52	862	.035
CS performance out of class	3.33	0.79	3.43	0.76	-1.86	895	.129
CS performance in class	4.09	0.75	4.16	0.79	-1.35	900	.091
CS managing work-life school	2.95	0.78	3.00	0.79	-1.03	885	.032
Loneliness	2.45	0.67	2.69	0.75	-4.98***	858.82	.340

Note. FCP = family communication pattern; SE = self-efficacy.

Two-tailed significance levels * $p < .05$. ** $p < .01$. *** $p < .001$; "† $p < .10$ (trend level).

study." CFA results confirmed the four-item factor structure for stress about performance in class. Stress about performance out of class was reduced from eight items to five. The Stress About Interactions at School subscale was reduced from seven items to five and confirmed the four-item structure for stress about managing work, life, and school. A higher order latent construct of "academic stress" consisting of the four subscales was tested and had adequate fit, $\chi^2(4, 944) = 33.54$, $p = .000$, CFI = .975, RMSEA = .091). Internal consistency of the higher order academic stress factor was high (Belgium, $\alpha = .882$; United States, $\alpha = .844$).

To measure self-efficacy, participants responded to the same list of tasks, stating how confident they were on a 5-point scale ranging from *not at all confident* to *extremely confident* that they could complete the tasks. As with academic stress, CFA results supported the four items for academic performance in-class self-efficacy and reduced academic performance out-of-class self-efficacy from eight to five items. CFA results supported the four items for managing work, life, and school self-efficacy, but interactions at school self-efficacy was reduced from seven to four items. Likewise, a higher order self-efficacy latent construct had adequate model fit, $\chi^2(4, 944) = 15.22$, $p = .004$, CFI = .992, RMSEA = .056, and good internal consistency in both the Belgian ($\alpha = .879$) and U.S. ($\alpha = .900$) samples.

Loneliness. Loneliness was measured with four items originally from the revised University of California Loneliness Scale (Russell, Peplau, & Cutrona, 1980). The items (e.g., “No one really knows me well” and “I feel in tune with people around me [R]”) were measured on a 5-point Likert-type scale ranging from *never* to *all the time*. One of the items was removed based on poor component fit in the CFA. Because only three items were left, CFA could no longer be run but the three-item scale was internally consistent (Belgium, $\alpha = .684$; U.S., $\alpha = .717$).

Family support. Support was measured with the Family Support subscale of Zimet, Dahlem, Zimet, and Farley’s (1988) perceived Social Support Scale. Participants were asked how much they agreed with four items based on a 7-point Likert-type scale ranging from *strongly disagree* to *strongly agree*. One of the items was removed based on poor component fit in the CFA. Example items included “my family really tries to help me” and “I can talk about my problems with my family.” Because only three items were left, CFA could no longer be run but the three-item scale was internally consistent (Belgium, $\alpha = .891$; U.S., $\alpha = .897$).

Advice quality. Participants could only rate advice quality if they had actually received advice from their parents. Participants initially were asked whether they had talked with their parents about their grades (yes/no) as well as social challenges in adjusting to college (yes/no); those who indicated “yes” in each area were then asked whether they had received advice from their parents (yes/no). Regarding grades, slightly more than half of the participants in both cultures indicated that “yes,” they had received advice from their parents (Belgium, $n = 270$ of 457, or 59%; U.S., $n = 204$ of 396, or 52%). Regarding social challenges, 40% of Belgian students ($n = 135/359$) and 59% of U.S. students ($n = 169/300$) who had talked with parents about their social life reported they received advice. Thus, analyses of advice quality were conducted with these sub-samples.³ Because some students received advice from their parents about academic but not social challenges (or vice versa), separate advice quality models were tested for these two types of college stressors.⁴

Advice quality was measured with Goldsmith and MacGeorge’s (2000) six-item, 7-point semantic differential scale, which included items asking how “unhelpful-helpful,” “unsupportive-supportive,” and “unsatisfying-satisfying” students perceived advice messages. Three other items were removed due to low CFA component fit. Both sets of advice quality items were internally consistent (academic Belgium, $\alpha = .750$; United States, $\alpha = .847$; social Belgium, $\alpha = .797$; U.S., $\alpha = .878$).

Results

To test the proposed models, data were analyzed using AMOS 22 software for structural equation modeling (SEM). SEM allows for the simultaneous testing of multiple independent and dependent variables. Proposed models exhibit good fit (described above) if they represent the relationships present in the collected data. Again, overall model fit

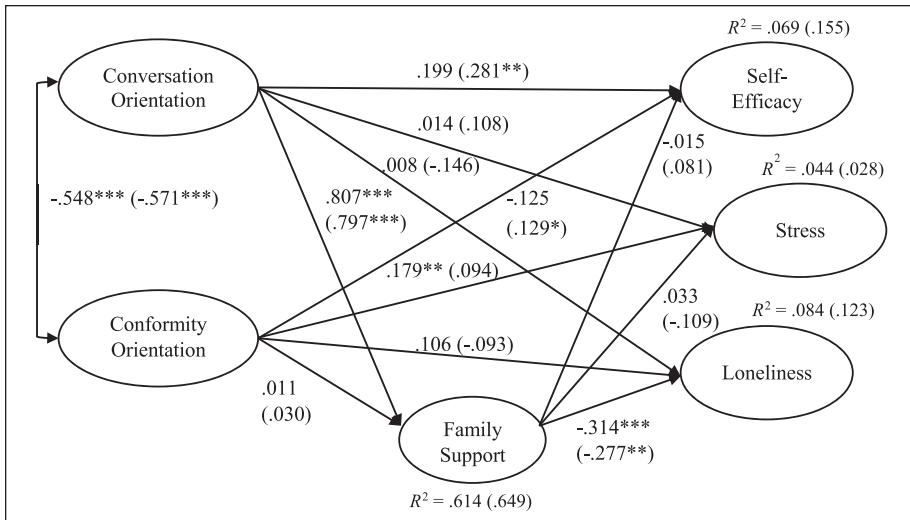


Figure 2. College adjustment and family support model.

Note. Regression weights are presented as Flemish sample (U.S. sample); n (adjusted for missing data) = 476 (428); model fit: $\chi^2(308) = 843.376$, $p < .001$, CFI = .941, RMSEA = .044. CFI = comparative fit index; RMSEA = root mean square error of approximation.

* $p < .05$. ** $p < .01$. *** $p < .001$.

across populations was computed. All models had acceptable fit (Figures 2-4).⁵ Bootstrapping was used to calculate the significance of indirect paths.

Results from each model are reported separately below starting with direct effects of mediators on dependent variables and independent variables on mediators in the Belgian sample, followed by the direct effects in the U.S. sample, the indirect effects, and finally direct effects of FCPs above and beyond the indirect effects (RQ1). At the end of the support and advice quality sections, a brief results summary is offered. The last section describes phantom model testing results concerning cultural differences (RQ2).

Students on average experienced moderate to high levels of both college self-efficacy and college stress (see Table 2). U.S. students tended to experience significantly higher self-efficacy (on three of the four subscales with small-to-moderate effect sizes) than Belgian students. College stress levels did not significantly differ between cultures, indicating that students from both cultures experienced moderate to high levels of stress about college. U.S. students reported significantly higher levels of loneliness than Belgian students (small-moderate effect).

Family Support Model

Perceived family support was negatively associated with loneliness in both U.S. and Belgian cultures so that higher perceived family support was related to experiencing lower loneliness, but had no other significant relationships with adjustment outcomes (i.e., college self-efficacy and college stress). H1 was partially supported. The direct

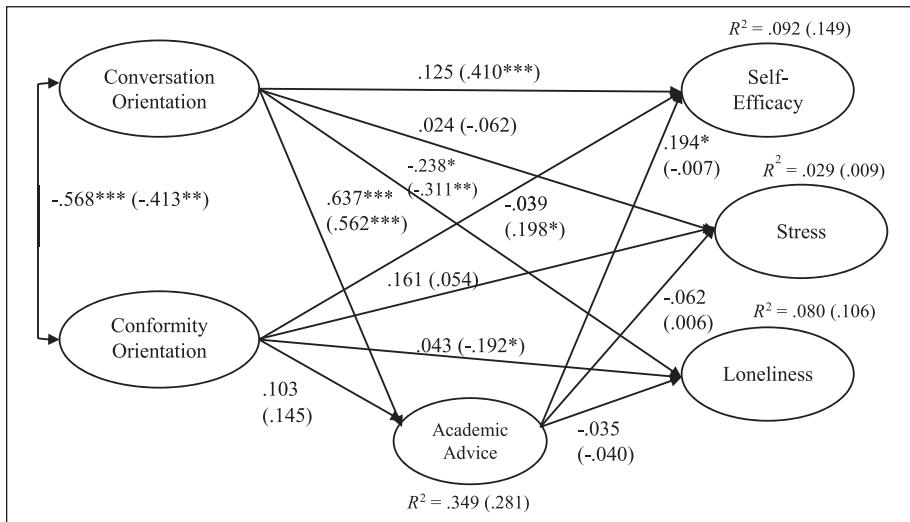


Figure 3. College adjustment and quality of advice about grades model.

Note. Regression weights are presented as Flemish sample (U.S. sample); n (adjusted for missing data) = 270 (204); model fit: $\chi^2(308) = 559.561$, $p < .001$, CFI = .935, RMSEA = .043. CFI = comparative fit index; RMSEA = root mean square error of approximation.

* $p < .05$. ** $p < .01$. *** $p < .001$.

effects of conversation orientation (H4) and conformity orientation (H5) on perceived family support were mixed (Figure 2). Conversation orientation was directly associated with higher perceived family support for first-year students in the United States and Belgium (supporting H4). Conformity orientation was not significantly associated with perceived family support in either culture (H5 was not supported).

Family support was proposed to mediate the relationship between the FCPs and the college adjustment variables. Bootstrapping analyses of the indirect effects revealed that there was one significantly mediated relationship of conversation orientation to loneliness for Belgian students (H8a was partially supported; loneliness: $b = -.202$, $SE = .663$, $p > .05$), but no other academic outcomes (Belgian college stress: $b = -.016$, $SE = .333$, $p > .05$; self-efficacy: $b = -.010$, $SE = .192$, $p > .05$; and U.S. college stress: $b = .018$, $SE = .136$, $p > .05$; self-efficacy: $b = -.005$, $SE = .119$, $p > .05$; loneliness: $b = -.095$, $SE = .369$, $p > .05$). Conformity orientation did not exert any significant indirect effects via perceived support on college stress, self-efficacy, or loneliness (H9a was not supported) in the Belgian (stress: $b = -.004$, $SE = .257$, $p > .05$; self-efficacy: $b = -.002$, $SE = .149$, $p > .05$; loneliness: $b = -.047$, $SE = .492$, $p > .05$) or the U.S. samples (stress: $b = .004$, $SE = .089$, $p > .05$; self-efficacy: $b = -.001$, $SE = .070$, $p > .05$; loneliness: $b = -.021$, $SE = .182$, $p > .05$).

For the Belgian student sample, conversation orientation did not have any significant direct effects on the college adjustment outcomes when the perceived family support mediator was included in the model (RQ1). Conformity orientation, however, was positively associated with college stress. For the U.S. sample, both conversation

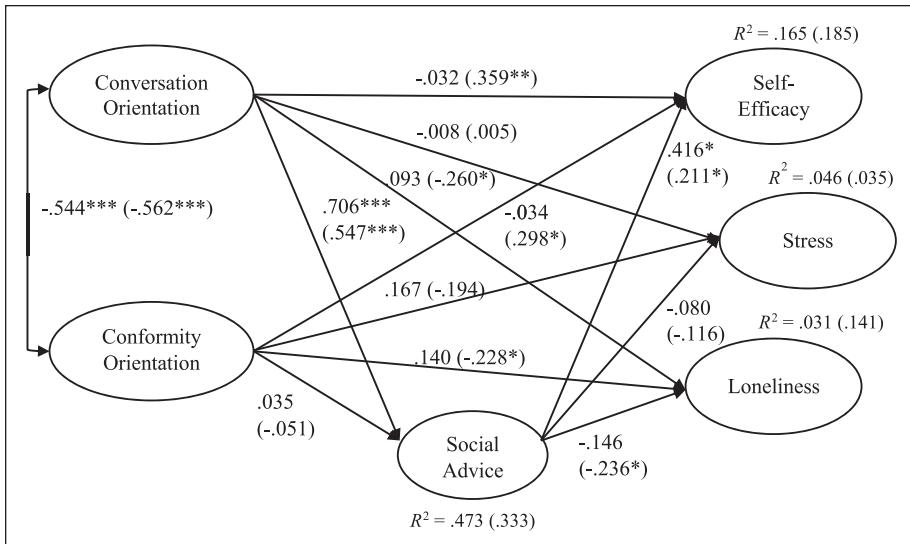


Figure 4. College adjustment and quality of advice about relationships model.

Note. Regression weights are presented as Flemish sample (U.S. sample); n (adjusted for missing data) = 135 (169); model fit: $\chi^2(308) = 504.915$, $p < .001$, CFI = .925, RMSEA = .047; $p < .05$. CFI = comparative fit index; RMSEA = root mean square error of approximation.

** $p < .01$. *** $p < .001$.

and conformity orientation were positively associated with college self-efficacy but not with other adjustment outcomes.

In sum, perceived family support contributed to lower feelings of loneliness for students in both cultures. In addition, conversation orientation, through its influence on perceived family support, lowered loneliness for Belgian students. Conversation orientation contributed to higher perceived family support in both cultures. Conformity orientation actually was positively associated with academic self-efficacy for U.S. students, whereas it was associated with greater college stress for Belgian students. Perceived family support did not predict either college self-efficacy or stress in either culture and hence did not mediate relationships between FCPs and these outcomes. Overall, conversation orientation was a strong predictor of perceived family support in both cultures. The perceived support model as a whole explained a small-to-moderate percentage of the variance in academic self-efficacy and loneliness but only a small percentage of variance in college stress in both cultures.

Quality of Advice About Academics Model

The model exploring academic advice quality was conducted with the approximately 50% to 60% of Belgian and U.S. students who reported that their parents had given

them advice about grades. Academic advice quality was positively associated with college self-efficacy in the Belgium sample so that higher academic advice quality was related to experiencing higher self-efficacy, but had no other significant relationships with the adjustment outcomes (i.e., college stress and loneliness; H2 was partially supported). Advice quality about grades was not directly related to any of the adjustment outcomes for the U.S. sample. As in the perceived family support model, conversation orientation was directly associated with higher perceived academic advice quality for first-year students in the United States and Belgium (supporting H6a). Conformity orientation was not significantly associated with academic advice quality in either culture (H7a was not supported).

Quality of advice about grades with parents was proposed to mediate the relationship between the FCP and college adjustment. Bootstrapping analyses of the indirect effects revealed that in the Belgian sample, conversation orientation (H8b) was significantly associated with college self-efficacy via academic advice quality ($b = .029$, $SE = .017$, $p < .05$), but not with stress ($b = -.011$, $SE = .021$, $p > .05$) or loneliness ($b = -.011$, $SE = .027$, $p > .05$). Therefore, H8b was partially supported in the Belgian sample. In the U.S. sample, H8b was not supported as conversation orientation (H8b) was not indirectly related to college stress ($b = .001$, $SE = .020$, $p > .05$), self-efficacy ($b = -.001$, $SE = .018$, $p > .05$), or loneliness ($b = -.011$, $SE = .027$, $p > .05$) via advice. Thus, conversation orientation exerted a direct effect on college self-efficacy for U.S. students, whereas it exerted an indirect effect via advice quality on self-efficacy for Belgian students. The mediated relationship between conformity orientation and college adjustment via advice quality (H9b) was not significant in either the Belgian (college stress: $b = -.003$, $SE = .008$, $p > .05$; self-efficacy: $b = .007$, $SE = .009$, $p > .05$; loneliness: $b = -.003$, $SE = .013$, $p > .05$) or the U.S. samples (college stress: $b = .000$, $SE = .013$, $p > .05$; self-efficacy: $b = -.001$, $SE = .011$, $p > .05$; loneliness: $b = -.005$, $SE = .017$, $p > .05$). H9b was not supported.

For the Belgian student sample, conversation orientation was associated with lower loneliness when the academic advice quality mediator was included in the model (RQ1). Conformity orientation did not have any significant direct effects on the college adjustment outcomes. Again, for the U.S. sample, both conversation and conformity orientation were positively associated with college self-efficacy. In addition, higher conversation and conformity orientation were associated with lower loneliness.

In sum, high quality academic advice was related to higher college self-efficacy for Belgian students. Conversation and conformity orientation had positive adjustment associations for U.S. students (lower loneliness and higher self-efficacy). High conversation orientation was associated with lower loneliness for Belgian students, and higher academic advice quality for both cultures. Conversation orientation exerted influence on academic self-efficacy for Belgian students through its relationship with advice quality. The academic advice quality model explained a small-to-moderate percentage of the variance in academic self-efficacy and loneliness but less of the variance in college stress in both cultures.

Quality of Advice About Social Relationships Model

The model exploring social advice quality was conducted with the approximately 40% of Belgian and 55% of U.S. students who reported that their parents had given them advice about social matters. As seen in Figure 4, social advice quality was positively associated with college self-efficacy for U.S. and Belgium students, so that higher social advice quality was related to experiencing higher self-efficacy (H3a was supported). Social advice quality had no other significant relationships with the adjustment outcomes (i.e., college stress and loneliness) for the Belgian students. Social advice quality did share an inverse relationship with loneliness for U.S. students (H3c), but was not associated with stress for the U.S. students (H3b was not supported). Conversation orientation was again directly associated with higher perceived social advice quality for first-year students in the United States and Belgium (H6b was supported). Conformity orientation was not significantly associated with academic advice quality in either culture (H7b was not supported).

Quality of advice about social relationships was proposed to mediate the relationship between the FCP and college adjustment. Bootstrapping analyses of the indirect effects revealed that H8c was partially supported. In the Belgian sample, conversation orientation was significantly associated with college self-efficacy via social advice quality ($b = .081, SE = .112, p < .05$), but not with stress ($b = -.020, SE = .180, p > .05$) or loneliness ($b = -.060, SE = .255, p > .05$). In the U.S. sample, the same association (conversation to self-efficacy via advice quality) was significant at a trend level ($b = .037, SE = .022, p = .059$; H8a). Conversation orientation was also indirectly related to loneliness via social advice ($b = -.077, SE = .042, p < .05$; H8c) but not college stress ($b = -.018, SE = .021, p > .05$; no support for H8b) for U.S. students. The mediated relationship between conformity orientation and college adjustment via advice quality (H9c) was not significant in either the Belgian (college stress: $b = -.001, SE = .091, p > .05$; self-efficacy: $b = .005, SE = .059, p > .05$; loneliness: $b = -.004, SE = .138, p > .05$) or the U.S. samples (college stress: $b = .003, SE = .011, p > .05$; self-efficacy: $b = -.006, SE = .019, p > .05$; loneliness: $b = .012, SE = .037, p > .05$). H9c was not supported.

For the Belgian student sample, neither conversation orientation nor conformity orientation was directly associated with the college adjustment outcome when the social advice quality mediator was included in the model (RQ1). Again, for the U.S. sample, both conversation and conformity orientation were positively associated with college self-efficacy. In addition, conversation and conformity orientation both were associated with lower loneliness.

In sum, high quality social advice was related to higher college self-efficacy for both cultures, and lower loneliness for U.S. students only. Conversation and conformity orientation had positive adjustment associations for U.S. students (lower loneliness and higher self-efficacy). High conversation orientation was associated with lower loneliness for Belgian students, and higher social advice quality for both cultures. In addition, conversation orientation exerted influence on college self-efficacy for both cultures and on loneliness for U.S. students through its relationship with

social advice quality. Once again, the social advice quality model explained a small-to-moderate percentage of the variance in academic self-efficacy and loneliness but only a small percentage of variance for college stress.

Cultural Differences

Our second research question explored differences in direct and indirect paths between the Belgian and U.S. samples. To explore whether the populations were significantly different, a series of planned contrasts were conducted using phantom modeling (see Macho & Ledermann, 2011, for details).⁶ The relationship is significantly different for the two populations if the planned contrast phantom model paths are significant.

When analyzing college self-efficacy (RQ2a), phantom modeling indicated the direct path of conversation orientation to self-efficacy was significantly different in the academic advice model ($b = -.092$, $SE = .046$, $p = .042$) and was significant at trend level in the social advice model ($b = -.123$, $SE = .127$, $p = .090$). In addition, the direct path between conformity orientation and self-efficacy was significantly different at trend level in both advice models (academic: $b = -.117$, $SE = .076$, $p = .065$; social: $b = -.177$, $SE = .130$, $p = .09$). In all cases, the phantom model results indicated that the direct effects of conversation and conformity orientations were stronger for U.S. students than for Belgian students (see Figures 3 and 4). No other direct or indirect paths to self-efficacy were significantly different in any model.

In assessing college stress (RQ2b), no cultural differences were found for any direct or indirect paths. One direct effect between conformity orientation and loneliness (RQ2c) was found to be significant at trend level in both advice models (academic: $b = .194$, $SE = .128$, $p = .094$; social: $b = .349$, $SE = .264$, $p = .090$). Like self-efficacy, the direct effect of conformity was a better predictor of loneliness for U.S. students than for Belgian students in that the U.S. coefficient was negative and higher (see Figures 3 and 4). All other direct and indirect differences to loneliness were not significant.

Discussion

This study explored how FCPs, social support, and advice quality are associated with student adjustment outcomes during the first year of college in two cultures. Three models were tested to determine the mediating effects of (a) perceptions of family support and (b) quality of advice from parents on relationships between FCPs and college adjustment outcomes in the United States and Belgium.

Hypothesis testing revealed not only partial support for most predictions but also that many relationships were more complicated than previous literature suggested. Several patterns were identified across models and populations. First, conversation orientation tended to promote adjustment to college (e.g., higher academic self-efficacy, lower loneliness) for students in both cultures. Second, different mediators were important for different adjustment outcomes. For example, perceived family support was a stronger predictor of loneliness than of academic self-efficacy and college stress

and played an indirect role in the relationship between FCPs and loneliness for Belgian students. Advice quality (academic and social) played a role in indirect relationships between FCPs and self-efficacy. Third, differences between the two cultures also emerged. For example, conversation orientation tended to exert direct effects on adjustment outcomes for U.S. students but indirect effects via support or advice quality for Belgian students. Surprisingly, conformity orientation was associated with higher self-efficacy and less loneliness for U.S. students, whereas conformity orientation led to higher college stress for Belgian students. Implications of these findings are discussed followed by the strengths and limitations of this study and avenues for future research.

Theoretical Contribution: Family Communication Patterns

This study assessed FCPs and college student adjustment across two cultures. Patterns of findings regarding conversation and conformity orientation contribute to FCP theory in two ways: (a) cross-culturally and (b) by examining social support and advice quality as mediators within the student adjustment context. For both Belgian and U.S. students, conversation and conformity orientations were inversely related. On average, U.S. students rated their families as higher on both conversation and conformity orientation than Belgian students, but family environments were more conversation than conformity oriented in both cultures (see Table 2). Keeping this context in mind, we explore the implications of our findings for each FCP dimension.

Conversation orientation. Conversation orientation was associated with positive adjustment outcomes in both cultures (i.e., promoted higher academic self-efficacy for U.S. and Belgian students either directly or indirectly with few exceptions). Conversation orientation also promoted higher perceptions of support and advice quality across all models and cultures. Beyond these similarities, two differences in the findings for Belgian and U.S. students merit note. First, the effects of conversation orientation on college adjustment were entirely indirect for Flemish students, whereas both direct and indirect effects occurred for U.S. students. In the family support model, conversation orientation was associated with lower loneliness for Belgian students indirectly through family support. This means that for Flemish students, perceptions of family support were important for reaping the rewards (i.e., lower loneliness) associated with growing up in a high conversation orientation family. Likewise, conversation orientation was associated with higher self-efficacy for Belgian students indirectly through the perceived quality of academic and social advice. In contrast, the effects of conversation orientation on adjustment outcomes tended to be direct for U.S. students. Having said this, the perceived quality of social advice did indirectly explain how conversation orientation resulted in higher self-efficacy and less loneliness for U.S. students. Of all three mediators explored in this study, the degree to which parents offered high quality advice about social relationships was the most important mediator across cultures. Because indirect effects occurred more often for Belgian students, it makes sense that the direct influence of conversation orientation on self-efficacy was stronger for U.S. than Belgian students.

A second finding is that perceived support mediated the relationship between conversation orientation and loneliness for Belgian students, whereas perceived social advice quality mediated the same relationship for U.S. students. Ledbetter (2009) found that college students from high conversation orientation families have closer friendships due to their ability to maintain those relationships, thereby increasing social well-being. Our findings indicate that perceived family support is another mechanism by which conversation orientation reduces loneliness during the first year of college for Belgian students, and that high quality social advice provides a similar benefit for U.S. students. Perhaps the difference in mediators here (i.e., perceived support for Belgian students, advice quality for U.S. students) reflects differences in the typical living arrangements of students in the two samples. Belgian students tend to either commute to college from home or live away but visit their family most weekends, which may increase the salience of perceived family support (or lack thereof) in terms of feeling lonely. U.S. students in this study attended a residential university that, on average, was much farther from their family of origin's home. Hence, the perceived quality of parents' advice about how to interact with instructors and form new relationships with peers may matter more in terms of reducing loneliness when living at a distance from one's family.

Overall, the role of conversation orientation in first-year college students' adjustment differs by culture: The effects were relatively straightforward for U.S. participants but more complex for Flemish participants. Conversation orientation did not play a significant role in predicting college stress in either culture.

Conformity orientation. High conformity orientation was generally not healthy for Belgian students as it promoted college stress in the perceived family support model. Although the same effect was not statistically significant in the advice models, the direction and size of the standardized coefficients were virtually identical in all three models and, hence, this may reflect that statistical power was stronger in the support model (which included all participants). Conformity might be less normative in Belgian culture than in the United States (see the mean scores in Table 2), so negative outcomes might be heightened.

Although these findings suggest that conformity orientation might be a risk factor for first-year Belgian students' adjustment to college, the same finding did not occur for U.S. students. Indeed, conformity actually was positively associated with college self-efficacy for U.S. students in every model, and inversely associated with loneliness in the advice models, findings that ran counter to what was predicted. Perhaps U.S. students from high conformity orientation families have higher academic self-efficacy because they are able to transfer their experience of conforming to the beliefs and attitudes of parents to following the expectations and philosophies of professors and other authority figures (something that might serve them well early in college). These students are practiced in respecting authority, understanding hierarchy, and following directives set by others, which may amplify the confidence they have in being able to do things such as "keeping up with required readings" and "talking with my professors." The inverse association with loneliness is harder to explain, but perhaps

first-year students who genuinely do adhere to their parents' beliefs and values feel that someone in their lives truly knows them even after they move away to college.

These unexpected yet consistent findings suggest that the effects of conformity orientation, which sometimes has been painted as globally negative or maladaptive in previous research (e.g., Ledbetter, 2009; Schrodt & Ledbetter, 2007; Schrodt et al., 2007), may depend to some extent on context (Koerner & Fitzpatrick, 2004; Wilson et al., 2014). Consistent with prior research (Schrodt et al., 2008), though, conversation orientation predicted college adjustment outcomes more strongly than conformity orientation in both cultures.

Although a strong negative correlation between conversation and conformity orientations existed in both samples, the differences in average reported levels of conversation and especially conformity orientation between cultures suggest that the orientations may mean something different, and operate in different ways, for Flemish families than families in the United States. For example, Flemish students tend to have much more face-to-face contact with their parents than U.S. students. It is possible that conformity orientation may be perceived as overbearing (causing stress) to students who interact with their parents face-to-face on a weekly basis rather than once or twice a semester. Future research should explore whether there are differences in the effects of conformity orientation for U.S. students who live at home with their parents versus those who live away from home to determine the influence of parental proximity.

Second, Belgians tend to score high on uncertainty avoidance, meaning that Flemish students may be less comfortable in new and unfamiliar situations. For students who already are stressed by new situations, difficulties with adjustment may be magnified by conformity orientation as students from high conformity families experience an additional pressure to uphold strict parental expectations. Future research should explore interactions between FCPs and cultural values in predicting student adjustment. Finally, because high conformity orientation tended to indicate a lower conversation orientation in both populations, it is possible that the effects of higher conformity for Belgian students were amplified by the lower average levels of conversation orientation that they reported.

Practical Contribution: Student Adjustment

In terms of practical implications, our findings indicate that academic counselors and others interested in student retention should tailor their recommendations based on cultural differences and the specific social or academic challenges students are experiencing. In general, students from high conversation orientation families reported perceiving more family support and higher quality advice from parents in both countries; however, the influence of this on college adjustment varied somewhat across cultures.

Conversation orientation. High conversation orientation was generally a benefit for U.S. students (directly and indirectly), but conversation orientation also had positive indirect effects on adjustment outcomes for Belgian students. This means that families low in conversation orientation may need coaching to display behaviors that facilitate

student adjustment (e.g., communicating that they are there if the student needs support, giving advice by listening and offering emotional support before offering a recommendation about what the student should do). Research on giving and receiving advice has identified several factors that influence how advice is perceived including the content (e.g., whether the advised action is seen as feasible or might create new problems), sequential placement (i.e., whether the advice recipient asked for advice), and perceived advice giver goals and politeness strategies used (Feng & MacGeorge, 2010; Goldsmith, 2000; Goldsmith & MacGeorge, 2000; Guntzviller & MacGeorge, 2013). University orientation programs often offer sessions for parents and other family members. Coaching in support and advice giving could occur at these sessions, before the students make the transition to college. To further our understanding of quality advice, future research should explore which specific features of advice (e.g., response efficacy, feasibility, absence of limitations, politeness, solicitation) have the most influence on perceptions of advice quality in this context and whether this varies across cultures.

Conformity orientation. Conformity orientation was important for U.S. and Belgian students, in very different ways. Based on the findings presented here, Belgian students who come from high conformity orientation families may need more help in navigating the transition to school due to the association of conformity orientation with college stress. These students could be identified early in their collegiate careers and assigned a peer mentor to connect them to sources of support as they may have difficulty turning to their families for support and advice. Alternatively, U.S. students who came from high conformity orientation reported higher self-efficacy and lower loneliness. For these students, high conformity orientation seemed to function as a protective rather than risk factor in their adjustment. Given that this runs contrary to prior research (Schrodt et al., 2008), more research is needed before advice can be given about conformity orientation and the transition to college in the U.S. context.

Strengths and Limitations

Strengths of this study include collecting large samples of comparable data from two cultures on a shared phenomenon: adjustment to college. There is a strong need for cross-cultural FCP research. To our knowledge, this is only the third study to date that reports comparative data on FCPs and associated constructs in two cultures. Indeed, the total number of FCP studies with non-U.S. samples is quite small (see Koerner & Schrodt, 2014) despite the fact that FCP theory offers the best known typology of family communication environments in the communication discipline. In addition, this study explored multiple measures of adjustment to college (i.e., self-efficacy, stress, and loneliness) and assessed both direct and indirect relationships from FCPs to adjustment outcomes.

Limitations of this study point to opportunities for future research. For example, our models do a better job of explaining academic self-efficacy than college stress. Conformity orientation is the only variable that predicts stress (and only for Belgian

students). Despite this, stress is still an important factor in student adjustment and does not seem to be culturally bound (i.e., there is no significant difference in stress between cultures; see Table 2). Future research should work to uncover other direct and indirect factors that explain variation in college stress. Second, our study treats each sub-sample as homogeneous, yet we recognize that there are variations within cultures, for example, the 34.8% non-White students in the U.S. sample. Future research should examine the unique stressors likely experienced by minority, international, and first-generation students. A complementary study to this one might oversample international students studying in the United States to compare the adjustment experiences of domestic and international students in U.S. universities.

Third, our study asked students whether they had received advice about grades, but there are other academic issues students might seek advice about (e.g., study habits). Future research should explore the impact of advice on a variety of academic issues on college adjustment. In addition, future research might directly assess tangible outcomes such as grades and retention, although a good deal of prior research shows that academic self-efficacy and measures of social adjustment do predict such outcomes (Chemers et al., 2001; Nicpon et al., 2006; Zajacova et al., 2005). Finally, the data were cross-sectional, so we cannot say for sure whether family support and high quality advice led to adjustment or vice versa. Future research should follow first-year students over time so as to better assess causal relationships.

Conclusion

This study identified relationships between first-year students' FCPs and college adjustment in the United States and Belgium. Findings advance our understanding of FCPs in at least two ways: (a) identifying new mediators—family support and advice quality—that explain the effect of conversation orientation on different types of college adjustment outcomes and (b) identifying cultural differences in the associations between FCPs and college adjustment (e.g., the positive influence of conformity orientation for U.S. students vs. the negative influence for Belgian students). Our findings begin to address a need for more comparative research on FCPs across culture. This study also highlights the need for additional research on FCPs and adjustment to college that employs longitudinal designs and includes assessments of tangible outcomes such as grades and student retention.

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Notes

1. Medical sciences are an exception. They require an entrance exam and have a “*numerus clausus*” (i.e., a limited number of available slots).
2. Students in both cultures on average scored above the scale midpoint (4) on conversation orientation. Students in the United States reported higher levels overall than Belgians on both conversation and conformity with moderate effect sizes (as with all variables measured here except for social stress and family support; see Table 2). Even if the two cultures differ in mean levels on a variable, they may still be similar in how that variable correlates with other variables. The structural models test the latter.
3. While the Belgian and U.S. students differed in how likely parents were to offer advice about academic ($\chi^2(df = 1) = 4.92, p < .05, V = .076, p < .05$) and social issues ($\chi^2(df = 1) = 17.395, p < .001, V = .165, p < .001$), Cramer’s V , a measure of association that adjusts for sample size and numbers of rows and columns, revealed a weak relationship for academic advice and a moderate relationship for social advice. Belgian parents offered more academic than social advice to their children and offered more academic advice than U.S. parents. U.S. parents offered more social than academic advice to their children and offered more social advice than Belgian parents. Even with these differences, however, both groups of students may perceive their parents’ advice as higher or lower in quality.
4. Separate covariance matrices were created to test each of the three models. For the support model, the first covariance matrix contained the entire sample of Belgian and U.S. students as most students answered questions about perceptions of family support. The second and third covariance matrices contained only those students reported receiving either advice about grades or advice about social challenges, respectively. We did this to ensure our models were estimating relationships between the participants who actually received advice without accounting for “missing” data that were not missing at random (i.e., data were missing because participants did not receive advice).
5. Because the initial model fit indices were unacceptable, modification indices were used to improve model fit. First, the subscales for measures consisting of higher order latent factors were parceled (i.e., averaged) to help compensate for the smaller sample size (Little, Cunningham, Shahar, & Widaman, 2002). These parcels were based on the confirmatory factor analysis (CFA) results. Second, measurement effects, such as similarity in wording and placement in the survey, can cause correlated error terms and influence model fit (e.g., Tomas & Oliver, 1999). As such, measurement error terms for similarly worded indicator items that were measured side-by-side in the survey (i.e., the stress and self-efficacy scales) were correlated. For instance, measurement error for how stressful “studying” is for a person was correlated with the measurement error for how confident a person is in his or her ability to complete “studying.”
6. Conducting power analyses for mediation effects in structural equation models that have complex structures and interactions is complicated (e.g., Miles, 2003; Thoemmes, MacKinnon, & Reiser, 2010). The power issues associated with mediation analyses’ can also apply to the phantom modeling process used here to determine group differences because the size of the direct and indirect effects can influence the power available to detect significant differences. According to Fritz and MacKinnon (2007), when using bias-corrected bootstrapping to calculate the confidence intervals, as was done here, the needed sample varies from 34 to 462 depending on the size of the path weights involved. Given the smaller weights of the indirect and direct paths found at times in both samples, the phantom models may be underpowered, thus, trend-level results are reported.

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Author Biographies

Elizabeth Dorrance Hall (PhD, Purdue University) is an assistant professor of communication in the Department of Languages, Philosophy, and Communication Studies at Utah State University and director of the Family Communication and Relationships Lab. Her research examines interdependent family communication processes including how family relationships evolve over time.

Jenna McNallie (PhD, Purdue University) is an assistant professor in the Communication Studies Department at Augsburg College. Her research is situated at the intersections of interpersonal and mass communication, and focuses on the role of media in the formation of relationship beliefs and expectations.

Kathleen Custers (PhD, KU Leuven) is a research consultant at GfK in Leuven, Belgium.

Elisabeth Timmermans is currently a PhD student of communication at the KU Leuven, Belgium. Her research interests include media-effects, personality, and the hook-up culture. In her dissertation she examines the interplay between electronic media use (i.e., television, Tinder, and social media) and attitudes towards and engagement in casual sexual relationships and experiences.

Steven R. Wilson (PhD, Purdue University) is a professor in the Brian Lamb School of Communication and a faculty affiliate with the Military Family Research Institute at Purdue University. His research explores processes of influence and identity management in close relationships.

Jan Van den Bulck (PhD, KU Leuven, 1996) is a professor at the Department of Communication Studies of the University of Michigan. His research interests include the role of the media in the social construction of reality, cognitive approaches to media effects, and fiction effects (e.g., cultivation theory).