First-Generation College Students' Information Seeking: Their Personality Traits and Source Use Behavior in Coursework-Related Context

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ABSTRACT

This study examines first-generation college (FGC) students' information seeking in coursework-related situations and the relationship between personality and source use behavior. A web survey was used to collect data. Four-hundred and fifty FGC students participated in the study. A two-step cluster analysis was used to identify three subgroups of personality profiles from the sample. Multivariate analyses of variance (MANOVA) and multiple regression analyses were used to analyze the data. Results show that extroverts used human sources more frequently across all coursework-related situations and tended to consult peers in the same course in their information seeking processes. Conscientious students tended to consult professors and advisors in their coursework-related information seeking processes. Calm and open-minded extroverts consulted human sources (both experts and non-experts) more often and used more diverse sources than nervous and close-minded introverts. The study enriches FGC student literature in information behavior and further incorporates personality traits as predictors of information use. The study also implies that universities and academic libraries should support orientation programs and organizations that can help FGC students, especially introverts, develop their social networks and have an easy transition into college.

Keywords

Information use, source selection, first-generation college students, personality.

INTRODUCTION

According to the National Center for Education Statistics (NCES, 2011), 30% to 50% of the undergraduate students in colleges and universities across the United States are first-generation college students. With the growing number of first-generation college students, many studies in education have been investigating the motivation, adjustment, and academic performance of the students. Among these studies, some focused on psychological characteristics (Acker-Ball, 2007; Bartels, 1997; den Brok, van Tartwijk, Wubbles, & Veldman, 2010; Donatelli, 2010) while others discussed the challenges FGC students face in college, such as high drop-out rates (Choy, 2001; HERI, 2007; NCES, 2005; Nuñez & Cuccaro-Alamin, 1998; Tyckoson, 2000). While many of these studies focused on social networks and social support for FGC students' college life, especially for their adjustments, very few investigated FGC students' information behavior (e.g., Torres, et al., 2006). Focusing on FGC students, this study examines their information behavior, especially the selection and use of information sources (including humans used as sources of information) in course-related situations. Research questions of this study include:

1. How do personality traits associate with the frequency of information sources (e.g., course materials, websites, etc.) and human sources (e.g., peers, professors, parents, etc.) used by FGC students?
2. How do personality traits associate with the students' use of official/unofficial information sources and experts/non-experts? And how do those personality traits predict students' information seeking patterns?
3. Are there distinct subgroups in the FGC students characterized by personality traits? And how differently do they use information and human sources in terms of the frequency of use and source diversity?

BACKGROUND

The college years represent a time of transition for students as they leave their friends and family to enter a new environment. Adjusting to the new environment is crucial to their success. Studies suggest that personal

characteristics might influence such adjustment. In terms of gender, female students tend to feel more stress (Ying & Han, 2006). Regarding age, younger students tend to experience more satisfaction and better socio-cultural adjustment than older ones (Poyrazli, Arbona, Bullington, & Pisecco, 2001; Ye, 2006). Personality traits also play an important role in acculturation, as they affect the ways in which people interact with a particular environment (John, Naumann, & Soto, 2008). Research shows that personality traits such as extraversion and neuroticism are significant predictors of individual's psychological, sociocultural, and academic adjustments (Ryder, Alden, & Paulhus, 2000; Ward, Leong, & Low, 2004).

Apparently, having social networks has positive impacts on adjustment (Ward, Bochner, & Furnham, 2001; Zhang & Goodson, 2011), and Internet communication can help reinforce social support. Internet use for social purpose seems to be positively associated with college adjustment, especially among male students (Lanthier & Windham, 2004). Ye (2006) found that perceived support from online communities was related to a lower level of social difficulties.

METHOD
A web survey was employed to collect data. An email briefly describing this study was sent to all undergraduate students to recruit FGC students at a public university. This study adopted the definition of FGC students which is used by most research universities – students whose parents did not graduate from a four-year institution (Amaki, 2010; CPRE, 2007; Davis, 2010; Stephens, 2011). FGC students were self-identified and participated in the survey voluntarily because parents' education level is confidential information that cannot be obtained directly from the university.

Participants
Four hundred and fifty FGC students participated in the study. A majority of the students were female (70%, n = 313), and the rest were male. Participants were from all different class levels: freshmen (27.6%), sophomores (15.7%), juniors (26.2%), and seniors (25.1%). Related to their parents' education, 48.4% (n = 218) of the participants had parents with no education beyond high school, and the rest had parents with some college education.

Data Collection
The questionnaire used in this study included questions about participants' demographics and source use behavior based on literature about FGC students (e.g., Acker-Ball, 2007; Choy, 2001; den Brok, van Tartwijk, Wubbles, & Veldman, 2010; Donatelli, 2010) and information behavior (Sonnenwald, 1999, 2001; Kari & Savolainen, 2004). It was pilot-tested and finalized. The questionnaire was mainly framed with five different coursework-related situations, including: course content, course logistics, course selection, program, and moral support. Under each situation, four sets of questions were asked: the frequency of using information

sources (e.g., catalogs, websites) vs. human sources (e.g., peers, professors), the typical steps of using information sources vs. human sources. In addition, a 44-item Big Five Inventory (BFI) was used (John, Donahue, & Kentle, 1991). BFI is a well-established instrument which measures individuals' personality in five dimensions, namely, extraversion (extrovert/introvert), agreeableness (agreeable/disagreeable), conscientiousness (conscientious/ unconscientious), neuroticism (nervous/calm), and openness (open-minded/close-minded) (John, Naumann, & Soto, 2008). Extraversion and agreeableness are used to measure the intensity and nature of an individual's interpersonal relationships. While conscientiousness measures the control of impulses, neuroticism measures the inclination of feeling negative emotions. Openness, on the other hand, measures the eagerness to seek out new experiences (Rolland, 2002).

FINDINGS

Personality Traits and Frequency of Source Use
Multiple regression analysis was used to test which user characteristics could predict FGC students' use of information and human sources. Results showed that extraversion (β = .22, p < .001) explained a significant portion of variance in the frequency of human source use (R^2 = .12, $F(1,437)$ = 14.20, p < .001), while openness (β= .15, p < .001) and neuroticism (β= .12, p < .001) explained a significant portion of the variance in the frequency of information source use (R^2 = .09, $F(1,435)$ = 5.56, p < .001).

Personality Traits and Steps Taken in Seeking Coursework-Related Information
Multiple regression analysis was used to test if the personality traits could predict the steps FGC students took in their coursework-related information seeking. Results are presented in Table 1.

Results indicated that extroverts tended to use human sources (β = .18, p < .001) rather than information sources (β = -.22, p < .001) as one of the first three steps in their information seeking processes. For specific human sources, extroverts tended to consult peers in the same course (β = .14, p < .01) but less likely to consult their pre-college friends (β = -.11, p < .05). Conscientious students tended to consult "experts": more likely to consult professors (β = .09, p < .05) and advisors (β = .11, p < .05) in coursework-related information seeking processes. This reaffirmed findings from other studies on personality and information behavior. According to Heinstrom (2010), extroverts frequently find information through discussion with others, such as friends, family, peers, superiors or teachers, while conscientious persons tend to find relevant, precise and high-quality information sources. In this current study, extroverts frequently consulted more human sources than information sources, and conscientious students tended to consult people with authority, such as professors and advisors.

Table 1. The Big Five personality and information use of FGC students (*N* = 450).

Personality	More frequently used sources	Typically included in the first three steps
Extraversion	Human sources	Human sources > Information sources; Peers (same course) > Pre-college friends
Agreeableness	N/A	Human sources
Conscientiousness	N/A	Professors; Advisors
Neuroticism	Information sources	N/A
Openness	Information sources	Information sources

Personality Profiles and Information Source Use

A two-step cluster analysis was used to identify three homogeneous personality subgroups within the sample. Cluster 1 includes calm and open-minded extroverts, Cluster 2 includes unconscientious and disagreeable students, and Cluster 3 includes nervous and close-minded introverts (Figure 1). One-way multivariate analyses of variance (MANOVA) were then used to compare the means of source diversity (Table 3) and frequencies of various sources used by the three subgroups of the FGC students (Table 2).
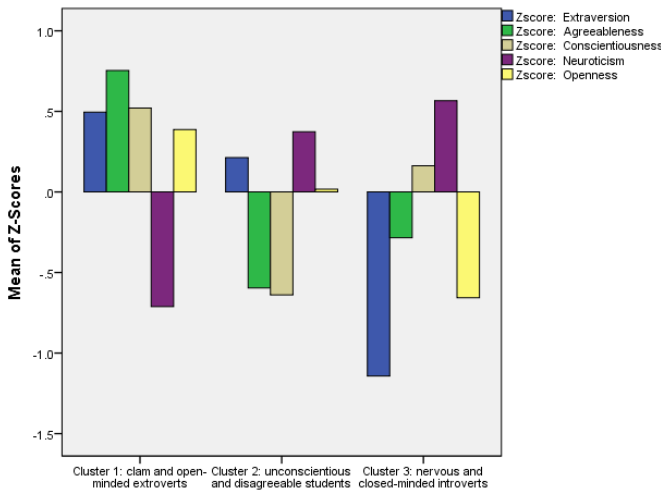

Figure 1. Two-step cluster subgroups based on FGC students' personality traits.

Table 2 shows that the frequencies of source use by the three personality subgroups are significantly different (*Pillai's Trace* = .14, *F*(2, 444) = 2.724, *p* < .001). Post hoc analyses using LSD criterion for significance revealed that the calm and open-mined extroverts consulted human sources more frequently (*p*<.001), including both experts (*p*<.001) and non-experts (*p* <.01) across all situations.

Unconscientious and disagreeable students used unofficial sources more frequently (*p* <.05). This is similar to Vancouver & Morrison's (1995) findings that unconscientious individuals tend to consult peers rather than experts.

Table 2. The personality profiles and frequency of source use.

Frequency of use	Cluster 1 M (SD)	Cluster 2 M (SD)	Cluster 3 M (SD)
Human sources***	2.26 (.40)	2.27 (.57)	2.03 (.47)
Experts***	2.74 (.71)	2.77 (.80)	2.35 (.68)
Non-experts**	2.17 (.48)	2.18 (.58)	1.97 (.48)
Unofficial information sources*	1.93 (.54)	2.06 (.64)	1.87 (.49)

Note 1. Mean scores based on scale: 1= Never; 5= Very Frequently.
Note 2. Significant levels (* *p* < .05, ** *p* < .01, *** *p* < .001) for differences between clusters 1 and 3, and clusters 2 and 3.

Table 3 shows that the source diversity of the three different personality subgroups is significantly different (*Pillai's Trace* = .058, *F*(2, 447) = 2.661, *p* < .01). Specifically, nervous and close-minded introverts used significantly less diverse information sources (*p* < .01) and human sources (*p* < .001). Nervous and close-minded introverts used significantly less diverse human sources than calm and open-minded extroverts (*p* < .001).

Table 3. The personality profiles and source diversity.

Source diversity	Cluster 1 M (SD)	Cluster 2 M (SD)	Cluster 3 M (SD)
Human sources***	28.96 (10.20)	30.49 (13.77)	24.20 (10.68)
Information sources*	13.43 (3.48)	14.08 (4.39)	12.83 (3.51)
All sources***	42.39 (12.64)	44.57 (17.29)	37.03 (12.90)

Note 1. Source diversity refers to the total number of different sources used in the five coursework-related situations.
Note 2. Significant levels (* *p* < .05, ** *p* < .01, *** *p* < .001) for differences between clusters 2 and 3.

CONCLUSION

The preliminary findings indicate that students with different personality traits tend to use different information and human sources. Extroverts use human sources (both experts and non-experts) more frequently than introverts. Conscientious students tend to consult official sources, as expected. Calm and open-minded extroverts use more diverse sources than nervous and close-minded introverts. To help FGC students better utilize quality sources, such as

official sources and experts, universities and academic libraries might want to support orientation programs and organizations for FGC students. For instance, the orientation program can clarify that individuals with different personality might prefer accessing information in different ways; and guide the students to learn options to access resources suitable to their preferences. This would be especially helpful for introverts and unconscientious students to develop their social networks and have an easy transition into the college experience.

Future studies may include other psychological variables, such as locus of control, in addition to demographic characteristics and personality traits in order to test if all the above factors increase the explanatory power to the current regression models.

Overall, this study enriches FGC student literature in information behavior and further incorporates personality traits as predictors of information use. The study also provides suggestions for universities to help FGC students better adjust to college life.

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