

Frequent Major Changing: Extrinsic and Intrinsic Factors

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Twenty undergraduates participated in individual, semi-structured interviews concerning their decisions to change majors. We found three common extrinsic and three intrinsic factors related to their decisions. Extrinsic factors included parents who were supportive but not meaningfully directive, lack of familial external guidance, and lack of knowledge concerning chosen majors and future careers. Intrinsic factors included students' difficulty making long-term decisions, desires for a major that meshed well with their personal interests, and satisfaction with majors that met those requirements.

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Relative emphasis: research, practice, theory

Changing majors is a common practice among many college students. Some change their majors only once, others do so frequently, and some students never change their majors. For example, Kramer, Higley, and Olsen (1994) found that between 1980 and 1985, 10% of Brigham Young University (BYU) students changed their majors four or more times, and only 15% of BYU students never changed their majors. They found that between 1980 and 1988, freshmen who changed their majors one time increased from 46 to 69%. During the same time span, those who had changed twice or more increased from 8 to 25%, and those who never changed decreased from 46 to 6%.

Despite the prevalence of this phenomenon, relatively few researchers have published articles on this topic, as evidenced by database entries in repositories such as ERIC, Education Full Text, PsychInfo, EBSCO, and Education Research Complete. Moreover, very few researchers have attempted to determine the etiologies of major-changing behavior. The majority of the research relating to major changes addresses undecided students. Anderson, Creamer, and Cross (1989) defined undecided students as people who, although enrolled full-time at a college or university, have not chosen a major field of study. Gaffner and Hazler (2002) found that some individuals with particular Myers-Briggs Type Indicator types (Myers & McCaulley, 1985) are more likely to be undecided with respect

to their choices of majors. They also found that some students could be considered vocationally immature and not ready to begin planning for a career due to lack of knowledge regarding themselves and the work world. That is, the literature addresses both factors that are inherent to students' personal characteristics and also factors that are external to them. Intrinsic factors include career-maturity attitudes, personality, and self-efficacy. The two extrinsic factors addressed in the research literature include parental influences and student grade-point averages (GPAs).

Hardin and Leong (2004) found that decision-making style was associated with career-maturity attitudes. They examined types of information analysis as components of decision-making style and career indecision because they considered the types to be outgrowths of career-maturity attitudes. Students with an external information-analyzing style were found to have lower career-maturity scores than those with an internal information-analyzing style. Individuals possessing higher external scores also showed less willingness to relinquish their wishes to conform to reality (i.e., their goals were unrealistic or incompatible with their skills). Students with dominant external-information analyzing styles were more likely to rely on others when making career decisions, inhibiting their ability to make these decisions if the input of others was unavailable.

Personality is a second intrinsic factor related to the career decision process. Tango and Dziuban (1984) studied the relationship between personality characteristics measured by the *Millon Multiaxial Clinical Inventory* (Millon, Millon, Davis, & Grossman, 2008), vocational interests, and career indecision in 149 undecided students. Results indicated that career indecision for study participants was tied to underlying personality issues that resulted in impossible objectives that interfered with the career-decision process.

In a study of 217 college students, Leong and Chervinko (1996) found an association between career indecision and negative personality traits. For example, fear of commitment was a strong positive predictor of career indecision. They also found socially prescribed perfectionism to be a positive predictor, with self-oriented perfectionism to be a

negative predictor of career indecision. This led the researchers to hypothesize that some students may remain undecided due to a variety of fears involving potential negative consequences of their choices. These fears may include failure, success, or losing the opportunities available through other options.

A third intrinsic factor relates to students' perceived control over their lives and decision-making abilities. Guay, Senecal, Gauthier, and Fernet (2003) conducted a study linking career indecision to low self-efficacy and autonomy. The study indicated that peers' controlling behaviors created low self-efficacy and autonomy in individuals. This type of peer influence discouraged the type of independent decision making required for choosing a career. The study also indicated that peer relationships in which autonomy was encouraged boosted students' self-confidence in their decision-making abilities. Consequently, students who were encouraged to be independent and were not dominated by peers found making necessary career-related decisions easier than those who were easily swayed by peers.

Researchers have also addressed extrinsic factors that relate to difficulties in career choices. Parental relationships play roles in career indecision. Tokar, Withrow, Hall, and Moradi (2003) found that psychological paternal separation is associated with less vocational self-concept crystallization and greater career indecision. The same study indicated that maternal separation is associated with higher levels of vocational self-concept crystallization and less career indecision.

Grades are a second extrinsic factor that influences decision making. Elias and Loomis (2000) studied the relationship between GPA, changes of major, and self-efficacy in a large, western American university. They found that higher self-efficacy is positively correlated with higher GPAs and negatively correlated with the number of times students changed their majors.

Third, for some students—particularly those in business-related fields—interest in the subject matter is the most salient reason for changing majors (Malgwi, Howe, & Burnaby, 2005). Secondary factors that business majors consider include potential for career advancement and level of compensation in the field. Kim, Markham, and Cangelosi (2002), Mauldin, Crain, and Mounce (2000), and Pritchard, Potter, and Saccucci (2004) essentially concur with the findings of Malgwi et al. as they relate specifically to business majors.

To summarize, previous researchers have primarily focused on undecided students. That is, as

a whole, little attention has been directed specifically toward the reasons or manner about which students change their college majors. Intrinsic and extrinsic factors likely play some role, but few particulars are known at this time. Because of the prevalence of major changing among undergraduates and the lack of research addressing the phenomenon, we addressed potential contributing factors. In particular, we looked at the lives of students who changed their majors multiple times to determine whether the underlying reason could be characterized by impulsive decision making. Changing majors involves added expense to the college experience, can delay entering the job market by years, and may prohibit students from some professional majors where cohorts are formed among freshman classes (e.g., architecture, pharmacy, nursing, engineering, etc.).

Because little is known from the research literature regarding the major-changing population, our research design was exploratory in nature. We selected a phenomenological, qualitative method because it can be used to best address exploratory types of research issues (Johnson & Christensen, 2004). We explored the percepts of students who changed their majors multiple times, assessing their thoughts and reflections about the decision-making process. The research question guiding this study was the following: How do frequent major changers understand the process that led to their decisions? We provide some tenable conclusions, grounded in data provided by students, which will be heuristically valuable for future researchers exploring this subject via both qualitative and quantitative means.

Method

Sample

Our sample consisted of 20 undergraduates in a private, religious, selective, comprehensive, mid-western university. Each had changed his or her major three or more times. The total annual cost of attending the institution was \$22,000. We include this information because changing majors at this school can be an expensive choice. The Registrar's Office provided us with a list of students who met the criterion of interest. The students were contacted via E-mail and invited to a series of personal interviews about their college experience as it related to changing majors. Twenty-two individuals confirmed that they had formally completed three changes of majors. Twenty of the students agreed to participate in the study. The sample consisted of 15 seniors and 5 juniors; one half were

female. Two of the participants were African American; the remainder were Caucasian. All except two were full-time residential-campus students. Students' ages ranged from 19 to 27 years. Students' majors included accounting, Bible, broadcast journalism, business, communications, computer science, criminal justice, education, engineering, English, graphic design, international missions, multimedia technology, music, philosophy, political science, pre-law, pre-medicine, pre-seminary, psychology, public administration, social work, Spanish, and youth ministry (some sought double majors). Pseudonyms used in this article, added for easier reading, do not reveal student identities.

Procedure

We conducted the study using a qualitative, phenomenological research method, employing in-depth interviews as the primary data collection protocol as per Flick (2002). These were tape recorded and later transcribed verbatim. Using a semi-structured format, we had the freedom to inquire further in response to particularly informative replies, to allow interviewees to tell their stories fully, for interviewees to take the discussion in directions they believed were useful, or to move away from questions that the students had difficulty answering (Seidman, 2006). The interviews were conducted following Firmin's (2006b) protocol of interview waves with participants (multiple interviews with selected participants, particularly key informants). This best enabled us to constantly compare the data being collected and thus assess potential themes as additional interviews were collected. Following field method recommendations by Guest, Bunce, and Johnson (2006), we believe that our sample size was sufficient for the intended purposes as saturation (Creswell, 2007) was achieved in the data collection and coding process. That is, adding additional individuals to the sample was unlikely to provide substantial amounts of new data (Charmaz, 2006).

We used Johnson and Christensen's (2004) description of phenomenological assumptions and methodology for crafting the present research design and protocol. We wanted to provide an understanding of changing majors from the vantage points of the students enrolled at the university. As an integral part of the data collection process, participants were allowed to share their perspectives in an open-ended manner and to tell their stories as is consistent with the qualitative research-method design (Maxwell, 2005). Participant observation or ethnographic methods did not seem appropriate

to the research objectives in the study. Member checks (Merriam, 2002) showed that participants were in principal agreement with the findings, and peer review (Slayton & Llosa, 2005) of the coded transcripts lent added support to the internal validity of the study. In addition, we strengthened the study by generating a data trail for each of the key findings (as per Daytner, 2006) and by utilizing the assistance of a third independent researcher who appraised our protocol (as per Hesse-Biber & Leavy, 2006).

By intention, we conducted the study inductively. We fully understand the debate among contemporary qualitative researchers regarding the role of theory in the phenomenological and grounded theory paradigms (Raffanti, 2006). Some believe that theory should be used to develop qualitative interview constructs (Mason, 2002) or to interpret the findings (Strauss & Corbin, 1998). More traditional qualitative methods, however, encourage researchers to use disciplined restraint, holding theory at bay, to present findings as completely inductive as humanly possible (Glaser & Strauss, 1967). Lundberg and Young (2005) argue that modifying the objective stance of the researchers by infusing theory into the qualitative findings could compromise the significant contribution that the qualitative method offers to the research process.

Philosophically, we are committed to the traditional paradigm, believing that applying theory is the role of the article's reader, and thus we do not superimpose theory on the reader (Glaser, 1992). Rather than using a preestablished theory to superimpose on the data collection and interpretation, we allow the participants' words to comprise constructs of their own accord (Bogdan & Biklen, 2007). Therefore, lack of theory in the discussion section of this article is deliberate rather than an oversight.

The research protocol of Banister, Burman, Parker, Taylor, and Tindall (1994) guided our coding process. This is an inductive method whereby categories are developed based on recurring constructs found in the interview transcripts. We believed that this approach was most germane to the overarching objective of accomplishing exploratory research. As such, we assessed the transcripts not only for recurring words but also (and more particularly) for constructs. Categories were generated and, at times, collapsed or discarded when insufficient data could not support a notion that initially appeared substantial (Berg, 2001). We used cross-checks (as per Perakyla, 2004) among our

selves to ensure that consistent rubrics were applied in data analysis. We held regular meetings to double-check, independently of one another, that the findings aptly reflected the transcript interview. Themes were eventually established that we believe aptly reflect a general consensus of findings among the participants.

Results

Data analysis of factors that influenced the students' decisions to change their majors yielded two basic findings: extrinsic and intrinsic factors. The extrinsic factors involved a general lack of input from sources outside the students. These elements included a lack of directive counsel from the students' parents, a lack of or dismissal of extrafamilial counsel, and a lack of information about majors prior to declaring them. The intrinsic factors indicated attempts by the students to make life decisions that coincided with the students' self-concepts. They included a fear of making long-term decisions, a desire for majors that fit the students' self-concepts, and satisfaction with majors that the students perceived as coinciding with their self-concepts.

Extrinsic Factors

Students expressed three common extrinsic factors that influenced their decision to change majors. First, they indicated that their parents encouraged them to attend and finish college. While they supported their children in academic choices, participants' parents did not provide meaningful direction in the decision-making process for a major. The students viewed their parents as very affirming, open to change, and willing to discuss the students' decisions, but most did not indicate a preference for the major the student should choose. Luke illustrated this point when asked to describe the role his parents played in his decisions to change his major: "Ah, not really a role other than they've always just been very supportive and encouraging, and me finding, um, both something that I find significance in.... So they've just always been encouraging."

Ben described his experience in much the same way:

Um, I called home each time, and I talked to my parents about it, and um, they were, they were happy for me each time. They said just as long as I was doing what I felt that I wanted and needed to do; so they supported me.

James added that he had a connection with his

parents, but it was only brief and unhelpful in the decision-making process:

At first, they actually had a lot to do with it. I chose to talk to them about a lot of different things when I was first changing.... After that I didn't talk to them very much at all, which is probably why I changed my major so many extra times. I always told them I was going to before I did and asked them if they thought it was a good idea, but it was no more than probably a 10 or 15 minute conversation.

Second, the students indicated that they received little guidance from sources outside the family. Sixteen of the 20 participated in some form of career inventory testing, but the majority either viewed the tests as unhelpful or did not initially incorporate the results into their decision making. Matt described his experience with such inventories as follows:

Not really at all helpful. They told me exactly what people had told me all of my life. I mean like when I did the Career Direct, it just pretty much said you are a communicator, and you, you deal well with people, you have good leadership skills, which I had been told my whole life, so it wasn't like a big shock to me, like "Ooh wow, that's what I should be doing."

The students communicated that they did not discuss their major choices with their high school guidance counselors. Some even said that they did not recall having guidance counseling available to them. Megan, when asked about her advising experiences in high school stated: "I don't really think we had a guidance counselor.... It [the school] was very small...." Others simply chose not to discuss their career interests and choices with their guidance counselors or they discounted the advice they received. Liz said: "No. I didn't like my guidance counselor. So I talked to my parents instead." Marie demonstrated her disregard of her counselor's advice by going into a major against the advisor's suggestion:

It's really interesting. I had an odd high school guidance counselor, and I told her that I wanted to go into social work, and she told me not to because they would never make money. But that's not why I eventually changed out of social work.

The third extrinsic factor relating to major changing was students' basic lack of knowledge about the specific requirements of their chosen majors and the

majors available to them. Information was available to students from multiple sources, such as college catalogs, the university career center, the university counseling center, on-line sites, and the like. However, students in our sample chose not to tap into sources that potentially could have assisted them with their decisions of selecting majors. James illustrated the sentiments of most students in this regard:

Not getting all the facts kind of led to me changing a couple times. One of the things that is probably the most annoying is that when I finally found out what I wanted to do, I didn't even know that that major even existed. So I mean, because I'm electronic media and multimedia technology, I had no idea it existed when I came in, but if I had, I think I would have strongly considered it because I did a lot of that kind of stuff in high school. I just didn't even know it existed.

This lack of information often led to expectations that were inconsistent with characteristics of the originally chosen majors and the career options associated with them. That is, students indicated if they had conducted further self-investigation prior to entering college, then they likely would not have selected their initial major. Wendy illustrated this common reason for frustrated plans when sharing:

Um, well, I know the reason that I switched the first time was during freshman welcome week or whatever they have, I remember talking to [my advisor]. They divide us up by majors and they'd have us talk to profs from that major and I remember listening to my advisor in pre-law talking about what the major held and what the pre-reqs were to go to law school and what it would be like afterwards, and I remember thinking that's not what I thought it was going to be like.

In sum, we found that students who changed their majors multiple times were influenced by factors outside of themselves. These were elements over which participants seemingly exercised little control, such as limited input from parents and school guidance counselors regarding their decisions. In addition, we found participants also described some intrinsic factors—elements over which they seemingly could influence to a great degree—that led to their multiple changes in majors.

Intrinsic Factors

In addition to the extrinsic factors described above, most of the students in our sample also indi-

cated experiencing three common intrinsic factors that seemed to primarily affect changing their majors multiple times. Students in our sample indicated experiencing difficulty in making decisions relating to circumstances that have potentially long-term effects. These long-term or “big” decisions were described as the most difficult to make and included dating relationships and marriage. These factors impact students' postgraduation lives and to some degree set their compasses for the next few decades of life. Julie stated that she had difficulty with “big things. Anything big, I am indecisive about...the decisions that nobody else can make for me.” Fear of making a permanent decision with potential undesirable effects seemed to dissuade students from staying with a particular major. The students lacked confidence in their abilities to make appropriate long-term decisions. Amy illustrated this in terms of her religious constructs:

I'm always scared to take a step because it might be the wrong step. You know, you try to pray about it and you're not always clear. You know, you wish God would just come tell you. But it doesn't work like that, and so um, it [indecision] plays out very much in my life in general because I'm scared to move forward sometimes because I'm scared to make the wrong decision.

Our participants expressed a particular desire to find a major that was a good fit for them. Indicators of a good fit included a major that the student enjoys, that encompasses the student's interests, and about which the student feels passionate or excited. For example, when asked about his reasons for changing his major, Ken commented:

Just when I got here, I just thought engineering was, it was interesting in a certain level, but in another level I just thought it would be like a ton of work. And just, I think I would have, more or less, stressed out if I would have stayed in there, and I don't think it would have been fun, and I want to do something that I enjoy. So that's what motivated me to find another major.

Most indicated that part of the difficulty they faced was a lack of awareness regarding their own interests, and they often dismissed observations from friends and family who shared their insights with them. Overall, we concluded that the individuals in our sample were not highly self-aware and they did not generally pick up on the subtleties and cautions that others shared with them regarding the particular majors they were considering. Mark

illustrated this lack of awareness:

I think a lot of it [reasons for changing his major] really deals with the fact that I never went with what, [I never] started out with what I was interested in. And I had friends in high school that told me that, like, I was always interested in [this career field], which is what my wife and I are looking at for the future, and I had friends in high school that would say they'd think I'd be fine, that I'd be a great [in my current major] and I never really took them seriously....

Despite their previous difficulties staying with a major, 16 of the students stated that they were confident in their present major and would not change again if given the opportunity. They indicated that they enjoyed and were excited about their present majors. When asked, all indicated that they perceived themselves to be in a major that was a good fit for them. James expressed his confidence in his current major by saying: "I finally feel like I fit in the major that I have chosen. I enjoy it and it's also something that I can use in the future. So, I'm actually making use of what I learn now, which has never really happened before, so that's kind of cool."

Paul stated the same sentiment, adding his heightened enthusiasm:

I feel very settled and very confident in [my] major. I'm very excited also. That's, that's the difference, probably, but I'm very excited about...working with youth, and learning how to teach.... I never really pictured myself in any kind of career with the other majors, so I guess that this one, yeah, I'm a lot more settled, confident, and excited and I was none of those things.

In sum, participants described three common internal factors that affected their decisions to change majors frequently. These included global difficulties with making big decisions, struggles with finding best-fit majors, and lack of personal self-awareness. In contrast to the external factors mentioned previously, these elements are ones over which students presumably have greater degrees of influence or potential control.

Discussion

These factors suggest that the students, due to their difficulties making major life decisions, may need more intensive guidance from those who are able to help them learn about their interests and abil-

ities and find appropriate majors that combine these two factors. By reinforcing the importance of such guidance and providing additional practical assistance, university personnel may help students place more value on the resources available to them. With the substantial tuition increases imposed by most universities in recent years, frequent changing of majors has significant financial implications for students and the debt loads with which many will graduate.

While major changing may have less financial impacts in schools where tuition is not particularly high, such as community colleges or state universities, it is an extremely weighty factor at private universities with expensive tuition, such as the one where we conducted this study. Student debt increases have a significant impact on students' postcollege lives, future options, and quality of lifestyle.

Additionally, frequent major changing may have less impact in some fields of study, such as the humanities, where course flexibility typically is greater than it is among professional majors. For example, majors such as nursing, engineering, education, social work, pharmacy, and many others tend to be governed by accreditation scope-and-sequence requirements. Missing even one key course can literally require an additional year of college in some situations. Consequently, for students in expensive, private institutions who major in professional programs the results from the present study are particularly cogent. Identifying the apt major early and avoiding unnecessary changes can save valuable time and energy that cannot be regained later in the student's life.

Because negative impacts on retention and financial considerations are substantial considerations relative to the present research findings, we suggest that university students who change their majors more than twice during their college experience be routinely flagged for a consultation with a university delegate (e.g., academic advisor, retention counselor, personnel from the registrar's office, etc.). Addressing some of the issues raised in the present study, such as lack of information, insufficient career exploration, parents' lack of awareness about the student's internal struggles, and so forth, might help facilitate students' decision making and potentially streamline the stress and costs involved with frequent major changing.

Parents who do not make children's decisions are acting appropriately with regard to the development stage of most college students. However, students who have difficulty making significant life

and career decisions may need extra guidance from their parents. This is not to say that parents should make the decisions for their college-age children; rather, they can help their children learn to acquire sound decision-making strategies. For example, according to research cited by Tango and Dziubam (1984) and Leong and Chervinko (1996), parents might pick up on particular personality characteristics that could predispose their children toward career indecision and frequent major changing. Likewise, parents should consider becoming personally involved with their children's high school counselors. They can help to ensure that the guidance function is adequately addressed and that their children are taking advantage of the valuable services and information available.

Students may need to be encouraged in exploring majors more extensively before making a decision to change. Talking to professors regarding the types of typical jobs in particular fields and the type of course work they can expect may help the students to make decisions grounded in factual information about their majors of interest rather than decisions based on faulty assumptions. Professors should exercise caution when presenting their fields of study. In particular, they should discuss both possible positive and negative issues in the field to assist interested students in making informed and practical decisions. Exposure to those who are currently working of the field of interest may also assist the students in developing realistic ideas of the career options available and how their abilities match those options.

Expressions of fear regarding making long-term decisions suggest that students are afraid of irreversible decisions and being forced to live with undesirable circumstances brought about by such decisions. This proclivity may follow the pattern of the undecided students who feared commitment in the study by Leong and Chervinko (1996). Students expressing these fears may benefit from reassurance that few decisions are unchangeable. However, without increased understanding of the probable outcomes of their decisions, they are likely to repeatedly make choices with which they are unsatisfied, thus reinforcing their fear that they will make poor decisions.

A careful read of the students' interviews shows that they did not look back on their frequent major changing as positive experiences. That is, they did not describe their episodes as enhancing life development or as contributing positively to their ultimate vocational maturity. Consequently, academic advisors may need to help students see the benefit of

learning from all of life's successes and mistakes. An essential component of growing in wisdom involves gleaned life lessons from all choices and developing future prudence when faced with future, similar decisions. We believe that academic advisors potentially can play a critical role in this regard, helping students see change as being potentially beneficial and learning life lessons that will help them positively in the future.

In spite of their fears, all participants in the study eventually chose a major that brought them enjoyment, excitement, and confidence that the major was right for them. This could be an indication of a learning and maturity process that students undergo during college. Students may begin college with a lack of knowledge about job options and career fields and have unclear constructs regarding their own identity. Throughout their years in college, students may learn more about the workplace, themselves, and how to integrate their interests into a career.

Limitations and Future Research

While we were able to capture data from all available students at one university, clearly the present study needs expansion. Assessing the phenomenological views of students with multiple major changes across a variety of college campuses is warranted. Because external validity in qualitative, phenomenological research methods is established via replication across multiple contexts (Firmin, 2006a), a replication completed this way will help establish the potential robustness of our present findings. Our sample was highly homogenous, so greater diversity, ethnicity, and cultural representativeness are warranted. The university from which our sample was drawn enrolled nearly 3,000 students and offered 63 majors at the time of our study.

The present phenomenological study was designed to tap students' perceptions of their frequent major changing. We did not utilize triangulation of sources, which indicates that some student perceptions might be inaccurate. Future researchers should give attention to this fact and check student records to see how well students made accurate judgment calls regarding the factors that impacted their decisions. Student retention data should also be checked. That is, additional research should be conducted with frequent-major-change students by comparing their graduation rates with the rates of those who do not change their majors and those who change them less frequently. Issues of attrition cannot be ignored by administrators.

Future researchers will want to expand the study across institutions, such as liberal arts colleges, research universities, and specialized or professional colleges. An additional study where tuition is relatively inexpensive may show different implications for students than our study conducted at an expensive institution. Longitudinal research should be considered by future researchers, tracking students as they make multiple major changes. This would enhance the present research design that used only retrospective methods of assessing why students made their previous decisions.

Future researchers also should employ quantitative methods. While true experimentation would not be appropriate on ethical grounds (e.g., randomly placing undecided students in groups that might adversely affect their vocational futures), survey data may be useful in better understanding student perceptions of changing majors. In addition, personality assessment may yield interesting information.

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