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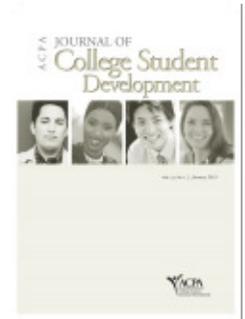
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Self-Authorship and Women's Career Decision Making

Elizabeth G. Creamer Anne Laughlin

Current career literature provides little insight into how women interpret career-relevant experiences, advice, or information, particularly when it is contradictory. This paper uses findings from interviews with 40 college women to provide empirical confirmation for the link between self-authorship and career decision making. Findings underscore the role of interconnectivity in women's decision making, particularly involving parents, and distinguish ways that this can reflect self-authorship. Self-authorship provides the theoretical framework to understand how students respond to career advice and suggests that students may reject career advice when it requires the cognitive complexity to engage diverse viewpoints. Findings endorse educational activities that require students to juggle competing knowledge claims to make complex decisions.

Leaders of programs and activities that promote gender equity frequently point to the instrumental role parents and educators play in promoting young women's interest in careers in science, technology, engineering, and math (STEM). Authors taking this stance suggest that women who choose nontraditional majors are more likely to report positive interactions with faculty, advisors, and peers and support in the form of encouragement and role modeling from parents, particularly fathers and male peers, than are women choosing majors in more traditional fields in the humanities and social sciences (Fitzpatrick

& Silverman, 1989; Sax, 1994). Other authors advance the flip side of this argument. That is, that negative encounters with teachers, advisors, and peers are a reason why young women depart from majors in STEM fields at rates far greater than their male counterparts performing at a comparable or lower level (Seymour & Hewitt, 1997). Proponents of this perspective contend that counselors, teachers, advisors, and other educators may unwittingly bear some of the responsibility for the under enrollment of women in STEM fields by promoting sex-stereotypical views about careers (Women's Educational Equity Act Resource Center, 2002).

Neither of these perspectives frame women as agentic or take into account that students process the information and feedback they receive. Both arguments address students as passive objects of the advice they receive from parents and other authority figures. Neither perspective can account for women who chose sex-typical careers despite having access to positive role models in STEM fields. Nor do they account for students who persist and flourish in a major in a STEM field despite overt discouragement from peers and educators.

How students make meaning of academic and career advice can be understood through the lens of a developmental construct called self-authorship. First named by Robert Kegan (1994), but brought to life in the research

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literature by Marcia Baxter Magolda's ongoing reporting of the personal and educational decisions of a group of college students (1998; 1999; 2001; 2004a; Baxter Magolda & King, 2004), self-authorship is central to adult decision making, including career decision making (Baxter Magolda, 2002). Baxter Magolda makes the link between self-authorship and decision making explicit in her definition: self-authorship is "the ability to collect, interpret, and analyze information and reflect on one's own beliefs in order to form judgments" (Baxter Magolda, 1998, p. 143). Self-authorship plays a role in career decision making because it influences how students make meaning of the advice they receive from others; how susceptible they are to negative feedback, including from peers; and the extent to which the reasoning they employ to make a decision reflects an internally grounded sense of self. Self-authorship differs from agency because it is not about behavior; it differs from self-efficacy because it is not about self-confidence. Self-authorship is about the cognitive process people use to make meaning.

While others conceptually have supported the claim for the link between self-authorship and career decision making (see, for example, Bock, 1999), there has been little empirical support for it outside of the research conducted by Baxter Magolda. We set out to explain how young women's career decision making can be understood within the theoretical framework of self-authorship. Addressed to an audience of academic and career advisors and to researchers seeking to advance the theoretical understanding of self-authorship, we used mixed methods to determine who college women turn to for career advice and what criteria they utilize to evaluate advice they receive. Findings document that parents and other members of the immediate family continue to be a large influence in the lives

of college women and the decisions they make. One of our challenges as researchers was to reframe our individualistic perspective to recognize that these relationships are not necessarily dependent ones.

This research was completed as part of a project funded by the Program for Gender Equity in Science, Mathematics, Engineering, and Technology (PGE) in the National Science Foundation to explore women's interest in STEM fields, particularly information technology. Our focus on women is in no way meant to suggest that self-authorship does not play a comparable role in men's career decision making.

LITERATURE REVIEW

After two decades of intense scrutiny, research evidence continues to mount that women's career choices, including in STEM fields, are considerably more difficult to predict than are men's. There is empirical support that an array of factors influence women's career choices that have considerably less predictive power for men, including self-efficacy, consideration of the needs of others (Betz, 1994), and attachment to parents (O'Brien, Friedman, Tipton, & Linn, 2000). The literature suggests that support from a range of sources, including teachers and advisors, is particularly instrumental in women's choice of nontraditional majors in STEM fields.

Research on the role of significant others in career decision making documents that others impact decisions, but why or how they are influential is not clear. Young women are more likely than young men to consult others about career decisions and are more influenced by the opinions of others (Seymour & Hewitt, 1997) and often consider the needs of others when making career decisions (Betz, 1994; Cook, 1993; O'Brien et al., 2000). The

literature suggests that women who choose nontraditional careers in sciences and engineering report more support from external sources, particularly male sources, than do women who choose more traditional fields in the humanities and the social sciences (Fitzpatrick & Silverman, 1989).

People considered to be influential to career choice appear to vary by undergraduate major. Positive interaction with faculty and advisors is strongly associated with students' choice and persistence in science and engineering (Sax, 1994) and information technology related majors (Turner, Bernt, & Pecora, 2002). High school teachers seem to be particularly influential to girls' choice of majors in science and engineering, probably because these are majors that generally require a commitment prior to college entry (Fitzpatrick & Silverman, 1989). Women receiving support from both teachers and advisors are more likely to persist in science after graduation, than are those who received positive encouragement from a single source (Rayman & Brett, 1995).

Multiple studies have shown parental support for technical education and careers to be very influential for girls (Manitoba Department of Education and Training, 2000; O'Brien et al., 2000; Paa & McWhirter, 2000; Shashaani, 1997). Mother and father's support of career choice has been shown to be higher for women who choose STEM fields as opposed to more traditional career fields. The effect appears to be additive in that support from both parents is an even stronger predictor of STEM choice than is encouragement from a single parent (Rayman & Brett, 1995). Conversely, the influence of parents with sex-stereotypical views may discourage girls from considering these careers. High school students have reported that their parents have sex-stereotyped views of computers, with boys

more likely to report encouragement from parents regarding computer use and ability (Shashaani, 1994). Female students who perceived that their parents considered computers more of a male domain were less interested in computers for themselves and had less confidence in their computer ability than other females in the same academic program (Shashaani, 1997).

The influence of peers in women's choice of careers in science, engineering, and information technology has not received sustained attention in the research literature. However, a peer group that values science is critical to sustaining women's interest in science (Sax, 2001). Students in an environment where there were many same-sex peers were much more likely to persist than those who had few same-sex peers. Cross-sex peers also have an impact on persistence. Seymour and Hewitt (1997) vividly recount qualitative data about the impact of the negative attitudes and behavior of male peers on women's persistence in STEM fields, particularly in engineering.

Individual Differences in Decision Making

Agency and self-efficacy are two constructs that have been frequently applied in research on women's career-relevant behavior. Self-confidence, efficacy, or esteem is positively associated with women's choice and persistence in STEM fields (Kinzie, Delcourt, & Powers, 1994). In this context, agency refers to actions that create or advance educational or career development (Betz & Hackett, 1987; Hackett, Betz, & Doty, 1985). Self-efficacy describes individuals' confidence in their ability to successfully accomplish specific tasks or behaviors (Bandura, 1977). In studies involving women, self-efficacy has been shown to predict the breadth of careers considered

(Rotberg, Brown, & Ware, 1987), interest in nontraditional career fields (Betz & Hackett, 1981; Lent, Brown, & Larkin, 1986), and choice of a nontraditional academic major (Hackett, 1985).

Researchers studying agency and self-efficacy in relation to career development have emphasized the need to understand the way in which individuals make meaning of their experiences (Lent, Brown, & Hackett, 2000; Vondracek, Lerner, & Schulenberg, 1986). The impact of environmental factors (Astin, 1984; Vondracek et al., 1986) and factors such as agency and self-efficacy depend on the way individuals appraise and respond to their experiences (Lent et al., 2000; Vondracek et al., 1986). As other researchers have noted, “supports, opportunities, and barriers—like beauty—lie at least partly in the eye of the beholder” (Lent, Brown, & Hackett, 1994, p. 106). In their analysis of career literature related to supports and barriers, Lent et al. (2000, p. 37, 47) encourage career development theorists to consider “how individuals make sense of, and respond to, what their environment provides.”

Current career literature and theory provide little insight into how women interpret career-relevant experiences, advice, or information. Given that women’s interpretation of these factors directly impacts their career-relevant choices and behaviors, it is important to explore meaning making in the context of women’s career development. Our study applies Baxter Magolda’s theory of self-authorship (1998; 1999; 2001; 2004a; 2004c) to this purpose.

The Constructive-Developmental Perspective

A constructive-developmental perspective of human development strives to understand the organizing principles that individuals use to

interpret and make meaning of their experiences (Kegan, 1994). This view is characterized by studies that document the evolution of increasingly complex ways of organizing experience. Studies conducted by multiple researchers using multiple methods over a period of more than 30 years have shown a pattern of adult development characterized by the shift from near total reliance on authority figures as the source of knowledge to a place where individuals can consider multiple views to make their own decisions about knowledge claims (Baxter Magolda, 1992; Belenky, Clinchy, Goldberger, & Tarule, 1986; Kegan, 1994; King & Kitchener, 1994; Perry, 1970).

The theory of self-authorship provides a way of understanding the process that people use to make meaning of experiences. Named by Kegan (1994), self-authorship was further developed as a theoretical framework by Marcia Baxter Magolda in her work with college students (1998; 1999; 2001; 2004a; Baxter Magolda & King, 2004). It integrates epistemological, intrapersonal, and interpersonal development to conceptualize the way people interpret and analyze what happens to them and draw conclusions about what experiences mean to them (Baxter Magolda, 2004a). Self-authorship is simultaneously an ability to construct and evaluate knowledge claims in context, an ability to construct an internal identity separate from but sensitive to external factors, and an ability to genuinely consider others’ perspectives without being consumed by them (Baxter Magolda, 1999). The journey towards self-authorship starts with a reliance on external formulas, progresses through a developmental crossroads, and leads to epistemological, intrapersonal, and interpersonal maturity (Baxter Magolda, 2001, 2004a, 2004c).

Baxter Magolda presents succinct descriptions, as well as extensive narrative illustra-

tions, of the stages of development of self-authorship in a recent book (Baxter Magolda, 2004c). The beginning of the journey towards self-authorship is characterized by a reliance on external formulas. At this place, individuals' lack of awareness of their own values and identity, combined with a need for others' approval, leads to an externally defined identity that is easily influenced by external factors. Viewing knowledge as certain, and lacking an internal basis for evaluating knowledge, these individuals rely on authority figures to provide the right answers. Participation in relationships often involves doing whatever gains significant others' approval.

Individuals at the developmental crossroads have an evolving awareness of their own values and are beginning the self-exploration needed to create an identity that is distinct from others' perceptions. There is a shift from simple acceptance of information provided by authorities toward a growing sense of responsibility to evaluate knowledge claims and choose beliefs. An evolving acceptance of the uncertainty of knowledge is accompanied by recognition of the limitations of dependent relationships.

The full development of self-authorship involves an internally generated sense of self that guides interpretation of experience and choices, accompanied by the ability to evaluate and interpret knowledge claims in light of the available evidence, and the capacity to genuinely consider others' perspectives without being overshadowed by them (Baxter Magolda, 2004c). Self-authorship goes beyond skills such as critical thinking or analytical problem solving (Baxter Magolda, 1999) and emphasizes that mature internal decision making relies on complex ways of seeing oneself and one's relations with others (Baxter Magolda, 2004a).

METHODS

We used a mixed methods approach for this research project that combines analyses of quantitative data from a questionnaire with qualitative data from interviews. The questionnaire gathered information about participants' computer-related attitudes, career influencers, and career decisions and was distributed during spring 2002 to students in 10 high schools, 2 community colleges, and 4 universities in rural and urban locations in Virginia. Three hundred forty-six women ($n = 346$; 74.1%) and 121 men ($n = 121$; 25.9%) returned usable questionnaires for a 62% response rate (467 of 750). Of the female respondents, 117 were enrolled in one of four universities. Almost half ($n = 55$, 47%) of the 116 college women responding to the questionnaire item about race, identified themselves as a racial or ethnic minority. For the analysis presented in this paper, information from the questionnaire was only used for one purpose. That was for the purpose of triangulating an individual's interview and questionnaire responses.

During fall 2002 and spring 2003, we completed one-on-one telephone interviews with 46 high school, 33 community college, and 40 college women who had responded to our questionnaire. We also interviewed the parents of 25 high school women. This paper only provides an analysis of the interviews completed with the 40 college women, a subset of the 117 women who completed the questionnaire.

While we originally planned a fairly systematic approach to identify members of the interview sample, we ultimately used what amounted to a convenience sample. These were all participants we could contact successfully through telephone, e-mail, or written communications and who agreed to

participate in a telephone interview. Each interview was recorded and transcribed verbatim.

The original coding scheme for the interview transcripts was developed in a deductive manner and grounded in the research literature. The initial codes reflected factors addressed in the questionnaire. New codes were added to reflect variables that were not anticipated by the research literature. During the early parts of the project, the project PIs coded select transcripts until inter-rater reliability consistently reached the rate of .80 or better.

We did not code the transcripts with the intent of creating a single label with an individual's level of self-authorship. Instead, we merely coded passages as "self-authorship" when any dimension of self-authorship was reflected. It was not necessary, therefore, for the co-authors or other coders involved in the project to reconcile differences in interpretation of level of self-authorship. Before coding each transcript, we gained a wider context to interpret the transcript by reviewing the participant's replies to key questions on the questionnaire. Other than its use as context to interpret individual replies to our interview questions, findings from the questionnaire are not reported in this paper.

FINDINGS

Using an interview protocol we designed in consultation with Marcia Baxter Magolda, we asked participants a set of questions related to how they make career decisions. The analysis presented in this paper focuses on four questions from our interview protocol:

Q1: Are there people who have had a significant influence on your career interests? Who are these people and how have they influenced you?

Q2: Why are these peoples' opinions important to you?

Q3: If these people had different views about what you should do for a career, how would you handle these different viewpoints?

Q4: Can you tell me about a situation where you had to make a difficult decision? Would you tell me the story about what happened, including how you handled the decision and how others helped you or hindered you in dealing with it?

Each of these questions was designed to assess a different dimension of self-authorship. The question about who influences career choice relates most directly to the interpersonal dimension of self-authorship. Answers reflect expectations of parents, advisors, and others in authority. Students' reasons for valuing someone's opinion, reflected in the second question, is a reflection of their views about knowledge and the criteria they use to judge knowledge claims, the epistemological dimension of self-authorship. The third question about how students resolve competing knowledge claims offers insight into students' view of their own role in decision making, the intrapersonal dimension of self-authorship. The last question that invites students to describe a situation where they had to make a difficult decision integrates the three dimension of self-authorship and creates a window to gauge how it affects behavior. These questions and logic were the basis of a 2004 ACPA conference presentation (Creamer, Magolda, Meszaros, & Burger, 2004).

In the discussion of self-authorship that follows, we have adopted Baxter Magolda's use of the metaphor of development as a journey and the framework of three stages (external formulas, crossroads, and self-authorship),

rather than four stages of knowing that was the focus of her earlier work (2001; 2004a; 2004b). This metaphor reflects a view of developmental stages as a continuum, rather than as a series of discrete one-directional steps. The intent of our analysis was not to try to determine a participant's developmental stage, but to use their replies to illustrate the role self-authorship plays in career decision making. In the next section, we use the language of the stages to interpret replies, without the concomitant suggestion that the label applies to the individual or to all the replies she provided to interview questions.

Question 1: The Interpersonal Dimension—Who Influences Women's Career Choice?

During the interviews, we asked participants to identify people who had a significant influence on their career interests. As shown in Table 1, participants responded to this question in a remarkably uniform way.

Of the 40 college women we interviewed, nearly all ($n = 39, 98\%$) identified one or both parents in response to our question about who had been influential in their career choices. Other family members, particularly siblings, were identified next most frequently ($n = 13, 32.5\%$), followed by a teacher or professor ($n = 8, 20\%$). Only 3 of 40 participants (7.5%) identified an advisor or counselor as someone who had a significant impact on her career interests. Students' reliance on personal experience and a narrow circle of personal acquaintances for career advice can be understood theoretically as a reflection of their self-authorship. Students in the earliest stages of the development of self-authorship are dependent on relationships with similar others as a source of affirmation and identity. Students further along on the journey to self-authorship are more aware of the limitations

of dependent relationships and more able to engage others with a different perspective.

Others have attested to the implications of the tendency of college students to rely on personal experience with little critical reflection to make career choices (Bock, 1999). We, too, are struck by the implications of relying on such a circumscribed circle of acquaintances for career information, a finding that surprises us given that our participants are college women attending large research universities, some in the metropolitan areas outside of our nation's capital. Career choices that are made primarily based on personal experience or exposure with little self-reflection can contribute to our understanding about why so few women opt for careers in non-traditional fields that are outside of their experience or the experience of people in their immediate environment.

TABLE 1.

Responses to Question: "Who are the people who have had a significant influence on your career interests?"

Influencers	Number of Responses (N = 40)
Parents ^a	26
Mother	8
Father	5
Other Family Member (i.e., Sibling or Relative)	13
Teacher or Professor	8
Counselor or Advisor	3

Note. Responses do not total 40 because some students named multiple influencers.

^a Responses such as "parents" or "family" were counted under this general category when no further clarifying information was given.

Question 2: The Epistemological Dimension—Judging Knowledge Claims

The epistemological dimension of self-authorship relates to views about the nature of knowledge and the criteria that are used to judge the credibility of information. We interpreted the reasons participants offered for why someone's opinions are important to them to provide insight into the epistemological dimension of self-authorship because it is a way of assessing the criteria used to make judgments. A trust in authorities to provide answers about careers characterizes students in the earliest stages of self-authorship. Students at later stages of development of self-authorship recognize the viability of multiple career options and that their choice requires a careful personal inventory. For students in this phase of development, educators and family members may aid the process of introspection, but are not the final authority on what the choice should be.

The majority of participants' responses to our second question fell into one of two categories, both of which we interpret to reflect the reliance on authority that marks the earliest stage of the journey to self-authorship. These two categories were: (a) a need for approval, and (b) trust or respect for authority.

External Formulas: A Need for Approval. Some students replied to our interview questions in a way that reflected a need for approval that is a central feature of the initial stage of the journey to self-authorship. While some of our participants were circumspect in their reply, others were quite straightforward in acknowledging their need for approval. One student's candidness about why her parents' and friends' opinions were important to her was not atypical from what we heard from others:

I guess my parent's opinions are important to me and, maybe, my close friends because they're the people I interact with the most. So, if they had negative attitudes and didn't approve of my job, I think that would bother me. . . . I care about them and I would like them to approve of what I do and the choices that I make.

This response is quite different from a response that someone at the crossroads might make who has grown wary of external influence and, yet, has no internalized criteria by which to make judgments.

External Formulas: Trust or Respect for Authority. Regardless of whether participants were referring to a parent, friend, teacher, or advisor, most of the college women who participated in our study said they valued someone's advice because they trusted them to keep their best interests in mind. This sentiment was often expressed in statements like, "I trust them because they have always supported me." This is the sentiment reflected in a college woman's reply when she was asked why her parents' opinions had been important to her career choice:

Because with my parents, I look up to them and I feel they only want the best for me. So, if they realize that something is not going to be the best, they would tell me.

This woman's confidence that her parents will keep her best interests in mind reflects a trust of authority and an acceptance of their view of her identity. This unquestioning acceptance is not evident in students more advanced on the continuum of self-authorship who, while still maintaining a sense of attachment, recognize that their parents are not in the best position to make the final decision.

Moving Away from External Formulas. A small number of participants responded to our interview questions in a way that suggested that they had moved beyond external formulas. Most of these students managed to convey a sense of interdependence without necessarily suggesting that they would allow these connections to dictate a course of action that was incompatible with their personal interests and values. This is our interpretation of this student's reply:

I mean I'd probably like to hear what a close friend might have to say or what my parents have to say or an older friend might have to say. I'd probably be interested in their opinions of it, but I don't know that I'd actually let it sway what I am going to do. I'd like to hear everyone's thoughts and come to a conclusion on my own.

This student's interest in the input of others with whom she has a personal relationship suggests she has the cognitive complexity to deal with conflicting viewpoints. In this context, her plan to come to a conclusion on her own after weighing the input of others suggests movement toward self-authorship.

Question 3: The Intrapersonal Dimension—Responding to Conflicting Advice

The third career-related question in our interview protocol asked participants to consider how they would react if someone important to them had different views about their career choice. We expected responses to this question to give us some idea of the students' idea of their own role in decision making, the intrapersonal dimension of self-authorship. Because they have a more fully developed sense of self to use as a compass, a fully self-authored student is in a better position than one who is earlier in the journey

to be able to accommodate conflicting viewpoints without experiencing them as confusing or unsettling.

Responses to the third career-related question were not what we expected. A significant number of the women we interviewed answered this question in a way that we came to categorize as "unreceptive." They either explicitly stated that they would not listen to conflicting advice or they stated that they would "listen" but only to be polite. Examples of statements made by students in this group include: "I would have to go on my personal basis and not listen to them because it's my job"; "I would say that's a very nice idea, but it's not what I want to do. I want to do what I want to do"; "I mean, I just know that that's what I want to do and I'd sit down and explain that, no, I need to do what makes me happy and just try to act calmly about it." The amount of formulaic language in these replies (e.g., "it's *my* job"; "I have to do something that makes me happy") is a clear indication of a reliance on external formulas.

Quite a number of college women responded to the idea that they might receive advice that was conflicting in ways that suggested that they were ill equipped to deal with different viewpoints. The hint of antagonism we detected in the replies suggests that many participants would not find this a comfortable situation. The indecisiveness in one student's reply makes it clear that she had virtually no experience in dealing with multiple perspectives:

I guess, I don't know, I've never come across that, but I don't know, I guess, I'd argue that it's obviously a good job and I don't know, I don't really let other people's negative opinions affect me that much. I really don't think that I would try to change their view, I wouldn't really listen either. I wouldn't do anything.

TABLE 2.
Translating Self-authorship to Career Advising:
Interview Questions and Most Frequent Replies

Interview Question	Dimension of Self-Authorship	Student's Reply (External Formulas)	What is Reflected About Self-Authorship
Q1: Who influences college women's career choice?	Interpersonal	First and foremost, my parents.	Dependent on relationships with similar others.
Q2: Reasons given to value the opinions of others.	Epistemological	I trust their [parents] judgment because they know me best.	Unquestioning acceptance of the recommendations of authority.
Q3: Response to conflicting advice.	Intrapersonal	I would not listen.	Ill equipped to judge competing knowledge claims. Little idea of their own role in decision making.

Another student said she would find such an exchange upsetting. She stated:

I mean, all you can do is listen, even if I get like upset in my way. I mean I'll listen. I'm not one to push people out and not listen to them. I'll listen and then be like, ok, this is how I feel. If you want to argue the point with me then, I'll argue.

This student does not seem equipped to deal with different viewpoints. Her words suggest that not only does she find the idea of being presented with different viewpoints as stressful, she interprets it as a contest about who is "right." This connects to her views about knowledge and the epistemological dimension of self-authorship. We interpret these kinds of statements we have just quoted to reflect that many college students are not prepared to make complex decisions in situations where there are no clear answers. While our analysis is focused on career decision making, it is unlikely that this limitation applies only to that domain.

Students with a fully developed sense of self-authorship value the contribution of different viewpoints, rather than finding them confusing, troubling, or threatening. We hear a more self-authored perspective in the response another college woman supplied to our third career-related question:

I think I would try and understand where both people were coming from and try and figure out what option that best fits me would be, rather than going on their decision. I'd see where I fit into the whole spectrum that they thought I should do.

Summary of Our Interview Data and the Three Dimensions of Self-Authorship

Our discussion up to this point has teased out the three dimensions of self-authorship and treated them separately for purposes of understanding how as a theoretical construct, self-authorship can help explain our findings. Table 2 provides a summary of the most frequent reply we received to each of the first

three interview questions and, secondly, what we interpret that reply to reflect about the student's self-authorship. The fourth interview question is discussed in the next section. It is not included in Table 2 because it is an integrative question, requiring an answer that spans all three dimensions of self-authorship and because no single theme dominated the replies. We summarize the most common reply to each of the first three interview questions in order to facilitate discussion about the link between self-authorship and educational practice.

The replies to our career-related interview questions clearly place the majority of our participants in the first stage of the journey to self-authorship (external formulas). This is an important context for making meaning of the replies to the fourth interview question that integrates the three dimensions of self-authorship by asking participants to recount an experience dealing with a difficult situation.

Question 4: The Three Dimensions Integrated—Experiences with Difficult Decisions

The importance of positive experiences with making judgments in the development of self-authorship emerged as one of our key conclusions after we analyzed participants' responses to our request to describe an experience where they had to make a difficult decision. We thought that this question would provide a way to assess all three dimensions of self-authorship because it reflects the criteria used to judge knowledge claims (epistemological dimension), their views of their own role in decision making (the intrapersonal dimension), and their expectation of the roles of others, particularly those perceived as authorities, in making a decision (the interpersonal dimension). An important methodological implication of our work is that

we found that students were considerably more articulate about the process they use to reach a decision when we asked them to describe it in the context of a specific decision, rather than in the abstract with no specification about domain (e.g., "What do you do when the opinions you receive are conflicting?").

Two college women offered very different accounts of experiences with decision making, both involving parents and grounded in experiences they had as high school students. The first student's account deals with the decision to attend college. She appears to resent her parents' refusal to help her make the decision.

It was, I guess, my mom freaking out because she didn't know how we were going to pay for college. Then she was, like, well, you know if you get all these loans, you will have to pay all of them. It was, like, ok, if you feel like being \$24,000 in debt when you graduate or are you going to stay here and be a bum. So, I went and took the \$24,000.

This student emerged from the experience with an aversion to making decisions. When we asked her what she learned from the experience, she said:

What did I learn? I'm still having to make the final decision because she [her mother] wasn't going to do it. I just had to make the decision. I don't like making decisions. I'm a very indecisive person. I don't like making decision, but I just had to make a decision. I don't like that I had to.

This student's parent's refusal to make a decision was clearly not an experience that empowered this student to feel confident about her ability to make a decision.

A second student offered an account of making a difficult decision that had a much more positive outcome. Looking back on the

decision to attend a gifted school during high school, this student described a process where she weighed the input of her parents and teachers to make the decision:

Basically, my parents and teachers both told me what they'd like me to do and I thought about it and decided to go to a gifted school. Then, when I didn't like it and my parents and teachers still encouraged me to stay, I left anyway.

When asked who had been helpful to her decision, this student identified her parents, but acknowledged at the same time that she recognized the importance of her role: "I mean my parents helped me mostly, I guess, to make the decision. But, at the same time, it was what was important to me that was the ultimate basis of the decision."

The second account offers an example of how authority figures can model mature interdependent relationships, while promoting self-authorship at the same time. In the second example, parents and teachers offered their opinions, but made it clear that the decision was one she had to make based on her own interests and needs. These stories challenge educators to create settings where there are no "right" and "wrong" answers and students receive positive reinforcement for weighing competing knowledge claims and considering their own values and beliefs to reach a reasoned judgment.

CONCLUSIONS

Our work makes several contributions to the theoretical development of the construct of self-authorship. First, it provides support for the argument that self-authorship impacts decision making by grounding it in the context of a specific type of decision related to career choice. Secondly, it introduces parents as key players in the development of

approaches to decision making and self-authorship. Our focus, following the shift Baxter Magolda (2004a) traces, is not to identify and label a student's stage of development, but to explore how the developmental construct of self-authorship can help better understand the process students use to make decisions, including career decisions. It clearly is not our intent to suggest that women, or men for that matter, who chose careers in sex-atypical fields are more or less self-authored than those who do not. It is our conclusion, however, that it is necessary for students to exhibit self-authorship in order to make informed choices about careers that are not within their own personal experience or the experience of trusted others in their immediate environment.

Baxter Magolda's (1992) original interview protocol focused on students' expectations of teachers and of themselves as learners in a classroom setting. The role of parents and other family members in decision making is not something Baxter Magolda discussed with the members of her longitudinal sample of interview participants (personal conversation, April 23, 2004). The findings from our research suggest that many college women turn to parents for advice, if not direction, about career choices. The trust placed on parents to know "what is best" seemed to override the authority of others, like advisors and/or faculty members, who may be better acquainted with a wide range of career options but are less trusted because they do not know a student personally.

Our research leads us to question the assertion that those at the beginning of the journey to self-authorship (those relying on external formulas) "tend to view their career advisor as the authority on all things related to career and the world of work" (Bock, 1999, p. 37). Instead, we surmise from our data that

many college women may not view their academic or career advisor as an authority and that they are often not in a position developmentally to process information, such as career advice, when it is at odds with recommendations made by trusted others. A key conclusion that we put forward is that some students may reject well-intentioned advice, not because they have genuinely considered it, but because they have not developed the cognitive complexity to negotiate diverse viewpoints.

Self-authorship and agency, generally defined as self-directed behavior, are often confused. Partly because of the word “self” in self-authorship, behavior that appears on the surface as agentic is frequently, but erroneously, characterized as self-authored. A woman who refuses to accept a recommendation from an advisor or teacher to pursue a gender stereotypical career, for example, may appear on the surface to be acting in a self-directed way. However, self-authorship is a process of thinking to reach judgments, not a behavior or the outcome of a particular judgment. By the same token, a woman whose career choice is based on consideration of the needs of others who are important in her life, may be perceived as not being agentic, but could well be making a self-authored decision if that choice is grounded in a clear sense of self. Additional theoretical contributions of this paper suggest that (a) self-authorship can provide the theoretical framework to understand student resistance to career advice, and (b) to underscore not only the importance of interconnectivity to women’s decision making, but also to show that some interdependent relationships can reflect self-authorship.

Researchers utilizing self-authorship and other developmental constructs as a theoretical framework for understanding student behavior

can readily be criticized for taking an individualistic perspective that places responsibility for women’s under enrollment in STEM fields squarely on the shoulders of women and the choices they make. The approach we have taken, however, emphasizes the interpersonal dimension of self-authorship by looking at how women say they respond to the advice they receive. This dimension of self-authorship has received less attention than the intrapersonal dimension that involves identity or the epistemological dimension that was the principal focus of Baxter Magolda’s early work (1992). The interpersonal dimension of self-authorship emphasizes the role of interconnectivity and community in learning and decision making. It expands an individualistic focus to one that includes consideration of the influence of people in a woman’s environment. It is with this expanded focus that teachers, advisors, and counselors become more important players in women’s career choices, particularly in STEM fields.

Implications for Practice

Our findings add support to Baxter Magolda’s argument about the value of using self-authorship as a way to structure educational interventions (Baxter Magolda, 1999, 2001; Baxter Magolda & King, 2004). These interventions can be grounded in a constructive-developmental perspective without requiring that advisors, counselors, and teachers develop the expertise to gauge an individual’s level of self-authorship.

Baxter Magolda identified three key principles that educators can apply to foster self-authorship by using a constructive-developmental perspective: (a) validating learners’ capacity to know, (b) situating learning in learners’ experience, and (c) defining learning as mutually constructed meaning (1999; 2001; 2004b). By applying these

principles, educators can support students by joining them where they are in the developmental journey and challenging them to move towards more self-authored beliefs, identities, and relationships. Internship, co-op, and service learning programs generally provide contexts that expose students to ill-defined problems and multiple perspectives. These challenges can be shaped into opportunities for growth through journaling assignments that encourage reflection or engaging in discussions that encourage students to juggle competing knowledge claims to make complex decisions.

By fostering self-authorship, educators may encourage women to explore a wide range of career options, including in fields where women traditionally have been under represented, such as STEM fields. When students are just starting on the journey towards self-authorship, advisors can model more complex ways of knowing by helping students to consider the limits of relying exclusively on people in their immediate environment. For example, students could be asked to note career fields in which they or their family have first-hand knowledge, then discuss areas in

which they feel they have access to reliable information. In this way, students are encouraged to bring their own ideas into the decision process and to make judgments about knowledge claims by considering the context and limits of other's perspectives.

In a recent article, Baxter Magolda (2004a) described the paradigm shift she experienced when she moved from thinking of self-authorship as an individual characteristic to a quality shaped by the environment. Her research led her to conclude that the failure to find many college students who are fully self-authored is not a failure in the student, but a reflection of an educational system that rewards a reliance on authority and the quest for the "right" answer (2004a). A testament to the relationship between self-authorship and conditions in the environment is that many of the participants in Baxter Magolda's longitudinal study changed rapidly when faced with complex decisions after they entered the workforce.

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