What Are They Thinking? Students' Affective Reasoning and Attitudes about Course Withdrawal

Ethel R. Wheland, The University of Akron
Kevin A. Butler, The University of Akron
Helen Qammar, The University of Akron
Karyn Bobkoff Katz, The University of Akron
Rose Harris, The University of Akron

In this mixed-methods study we identify situations that impact students' decisions to withdraw from a course and examine their affective reasoning and attitudes toward course withdrawal. Exploring students' decision-making processes through the lens of self-authorship, we show that students frequently seek information from people with whom they have a personal rather than academic relationship, make decisions with little awareness of academic consequences, and often experience a feeling of dissonance when withdrawing from courses, even describing themselves as "quitters." Our results lead to recommendations that can assist academic advisors in developing meaningful interventions that advance students' decision-making abilities and intellectual development.

KEY WORDS: advisor role, course advising, decision making, self-authorship, student attrition, student educational objectives

In an academic and administrative climate of increasing accountability, information about student decisions to withdraw from individual college courses is surprisingly sparse. University personnel may view dropping a course differently than withdrawing from a course. The student generally drops a course in the first few weeks of the academic term and no record of it appears on the student transcript; the student generally withdraws after the initial schedule change period and some notation, such as a *W* or *WD* (representing the withdrawal), shows up on the transcript. Traditionally, university policies have allowed course withdrawals to accommodate extenuating circumstances as well as students' need for flexibility in meeting academic goals. While many acknowledge that course withdrawal helps students manage academic difficulties, little is known about how students make such decisions and the true impact on their academic progress.

Course withdrawals lower the overall success of the higher education system, decrease the availability of seats in high-demand introductory or foundational courses, and confound the meaning and interpretation of the academic grade-point average (GPA) (Florida Postsecondary Education Planning Commission, 1996). Students shoulder increased costs as well as potentially longer time to degree completion, which affects financial aid eligibility. Interestingly, the Florida Postsecondary Education Planning Commission even questioned "whether the availability and utilization of withdrawal policies contributes in some way to a student's lack of academic discipline and achievement" (p. ii).

Because of the obvious negative effects of withdrawing from courses, some believe that students responsibly and thoughtfully follow prescribed course-withdrawal procedures designed to contribute to a student's future success. However, a cursory exploration reveals an array of policies that impact students in different ways. Many institutions offer formulaic policies that hold no one accountable (The University of Akron, 2009). In some cases, through mandated review of grade distributions, the course instructors bear responsibility for excessive course withdrawals (Santa Monica College, 2010). Other policies appear to hold the student completely responsible by restricting the total number of courses or credit hours from which a student may withdraw (State of Texas, 2007). Yet, according to Bandura (1986) student behavior is not "automatically shaped and controlled by external stimuli" such as course withdrawal rules or policies (p. 18). Thus, reliance on a policy to guide students appears inadequate for helping students to make well thought-out choices with a view toward improving future behaviors.

Purpose of the Study

One step in guiding students involves identifying the situations that influence their decisions to withdraw from a course and to discover their affective reasoning and attitudes toward course withdrawal. In this paper, we draw on data from student surveys and interviews to examine stu-

dents' decision-making processes and the opportunities for meaningful advising interventions that lead to greater student success. With a view toward enhancing students' intellectual development, we present our results through the conceptual framework of self-authorship, which offers the potential to advance students' academic maturity, decision-making processes, and evaluation of the long-term impacts of their choices.

Background on Course Withdrawal

Researchers began to consider possible negative consequences of individual course withdrawal and its connections to indicators of academic success by extending previous work on institutional departure (Astin, 1975; Pascarella & Terenzini, 1980; Tinto, 1975, 1988; Tinto & Pusser, 2006). Using a probit model analysis, Adams and Becker (1990) found that students who have withdrawn from a course are likely to withdraw again. A limited review of transcripts at Florida State University (Florida Postsecondary Education Planning Commission, 1996) revealed a negative relationship between the number of times a student has withdrawn from courses and performance during the first two semesters. In *The Toolbox Revisited*, Adelman (2006) reported that "one of the most degree crippling features of undergraduate histories is an excessive volume of courses from which the student withdrew without penalty and those the student repeated" (p. xxii). He found that when the ratio of courses uncompleted to courses attempted is greater than 20%, the probability that the student completes a degree is reduced by one half. He stated that the majority of students with the 20% ratio started the withdrawal pattern in their first year of college.

In addition to the impact of withdrawing from courses, researchers have also investigated, through the use of survey instruments, the reasons students give for course withdrawal. Reed (1981) performed discriminate analyses of a questionnaire and found three dimensions differentiating courses from which students withdrew versus those in which they continued through the term: satisfaction with course performance, feeling motivated because of the relevance of the course, and impressions about the likability and helpfulness of the instructor.

In another quantitative study, Swager, Campbell, and Orlowski (1995) looked at course and college withdrawal patterns. They found the most common reason for withdrawal was conflict with students' work schedule. Two other studies (Dunwoody & Frank, 1995; Hall, Smith, Broeckman, Ramachandra, & Jasin, 2003) showed that respondents attributed the primary reason for course withdrawal as dissatisfaction with course grades. In these studies, the items on survey instruments emphasized extenuating circumstances and course attributes rather than factors associated with student behaviors or attitudes.

Context of the Study

We conducted a study during the 2008-2009 academic year at a large (approximately 24,000 enrollments) research-intensive urban university located in the Midwest. With an open-admissions policy and a mission of inclusive excellence, the institution attracts a culturally, ethnically, and racially diverse student body including a large number of first-generation college students. To enhance academic success, placement protocols for freshman courses are carefully followed and are frequently evaluated for reliability (as per Donovan & Wheland, 2008, 2009; Wheland, Konet, & Butler, 2003). In addition, each new student attends an individualized academic-advising session to enroll in first semester courses.

During the 2007-2008 academic year, over 11,000 course withdrawals, representing approximately 8% of all final grades, were processed by more than 7,000 students (30% of the undergraduate body). Thirty-five percent of first-year students withdrew from at least one course even though they had received intensive, thorough academic advising and been appropriately placed in courses for which they met prerequisites. By the end of their sophomore year, over 54% of students had withdrawn from at least one course. These data suggest that rather than just a means of assisting students who face extraordinary circumstances, course withdrawal has evolved into a frequently used choice with little student awareness or consideration for academic repercussions. A first step in changing this culture and assisting students in learning from a course withdrawal experience is to understand the reasons and means by which they decide to withdraw from a course.

Methods

Survey

We employed a survey consisting of 23 listed logistical or affective situations that may have influenced a student's decision to withdraw (see Table 1). In extending previous research (e.g., Dunwoody & Frank, 1995; Hall et al., 2003) on the reasons for course withdrawal, we chose survey statements that represent situations in which

students typically find themselves. We designed survey response categories that allow students to specify whether they experienced a particular situation and the degree to which it influenced their decision. Students responded to each situation by indicating that they either withdrew from a course upon facing a specific challenge, considered withdrawing but remained enrolled, never considered withdrawing, or never experienced the situation.

We arranged for the administration of the surveys during the 11th or 12th week of the fall semester to students in 39 classrooms representing 16 different courses with a total enrollment of 1,447 (see Table 2). This sample includes courses with either high rates or high numbers of withdrawals. Information from courses attended by a high percentage of freshmen and sophomores capture early behaviors and attitudes regarding course withdrawal. However, we did not select courses typically taken during the first semester of college because students would not have had an opportunity to formulate opinions regarding course withdrawal. Because the respondents remained anonymous, individual demographic data are unavailable. In total, 959 surveys were returned, yielding a 66.2% response rate. After data cleaning (i.e., for identical responses for each item, blank surveys, or incomplete responses), we analyzed information from 730 surveys.

Interview

We arranged follow-up interviews to discover students' affective reasoning and attitudes toward course withdrawal and to examine their decision-making processes. We gave all students completing the initial survey an incentive to volunteer for

Table 1. Logistical and affective situations impacting course withdrawal decisions

	Student Who Experienced Situation:			
Situation	**Withdrew from Course**	**Considered Withdrawing but Stayed**	**Never Considered Withdrawing**	**Probability of Withdrawing (%)**
At risk of failing the course	148	147	76	39.9
Disliked how the instructor taught	102	169	242	19.9
Course was very difficult	89	173	209	18.9
Personal issues interfered with ability to attend class or study	87	117	166	23.5
Disliked the way the instructor interacted with the students	79	115	181	21.1
Disliked the way the instructor managed the classroom	76	115	188	20.1
Registered for so many courses that it was difficult to keep up	72	112	157	21.1
Course required a lot of time	61	111	325	12.3
Studied less than should have	59	139	315	11.5
Course met at a bad time	53	65	122	22.1
Course required more background knowledge	53	88	122	20.2
Work issues interfered with ability to attend class or study	51	90	176	16.1
Course was different than expected	50	89	292	11.6
Disliked the way course work was graded	50	123	229	12.4
Instructor seemed unprepared for class	46	102	170	14.5
Changed major	43	42	99	23.4
Mistakenly advised to take the course	38	48	52	27.5
Regularly missed class	37	49	87	21.4
Course was boring	29	91	344	6.3
Neglected to do the homework	21	47	175	8.6
Had problems with transportation	11	22	93	8.7
Course was so easy that it was a waste of time	10	56	195	3.8
Felt uncomfortable with the other students in the course	7	28	79	6.1

Table 2. Categories of courses surveyed

Courses Surveyed
General Education Required
English Comp II
Humanities in Western Tradition I
General Education Elective
Cultural Anthropology
Death and Dying
Human Relations
Introduction to Women's Studies
Principles of Macroeconomics
World Civilizations: China
Mathematics
Basic Math II
Calculus II
College Algebra
Concepts of Calculus
Pre-calculus
Major Foundational Courses
Physics II
Principles of Microbiology Lab
Regulations in Mass Media

follow-up interviews by offering a $10 gift card. Believing that students might be more comfortable discussing affective issues with peers, we chose graduate students to conduct interviews the semester following the administration of the survey. Fifteen interviews, scheduled at the convenience of the interviewees, were conducted individually in a private location. The interviewer employed a structured approach using a script and a standard set of prompts. Interviews were digitally recorded with permission of the student.

Because of the dearth of literature supporting the connection between students' affective domains and their decision to withdraw from a course, we employed a grounded theory method to describe students' feelings and their processes related to course withdrawal. With the aim of developing an outline to identify and organize the students' frequently expressed feelings and actions, each of us took extensive notes while repeatedly listening to each interview. To mediate any individual bias, we jointly compared notes and after several iterations reached consensus on the final outline of results. Three themes emerged: students' sources of information, their decision-making process, and their resulting feelings. Because these components are closely linked to the three aspects of self-authorship described by Laughlin and Creamer (2007) we utilized their terminology in our analysis (see also Baxter Magolda, 1998).

Limitations

We conducted this research at a metropolitan campus with liberal academic standards for admission and thus findings may not be directly applicable to other campus settings. We selected the survey items based on previous research, and students did not have the opportunity to comment on situations unique to them. However, we added comments and statements to the final survey from undergraduates who participated in a pilot study. The large number of students reporting that they had experienced the situations listed on the survey suggests that the list of situations reasonably captured the life experiences of the student body under study.

Because the surveys were administered during the 11th or 12th week of the semester, students who had withdrawn or stopped attending class were not included in the sample. To mitigate this limitation, the survey instructions asked students to respond based on their entire academic experience.

Strengths

The study included 16 different courses that covered a broad range of disciplines and topics (see Table 2), and the response rate was relatively high (based on the assumption that the classes were attended by all possible students on the days of survey administration). Nearly one third of the students completing the survey volunteered for a follow-up interview. The grounded theory methodology improves the likelihood that the students' affective reasoning and attitudes toward course withdrawal are made explicit.

Results

Survey

We designed the survey to identify those affective and logistical situations that potentially influence students' decisions to withdraw from a course. Survey items were grouped into one of four thematic domains: situations outside of the student's control, student preparedness for college, and situations specific to a course or related to the instructor. Because the survey consisted of discrete logistical or affective situations, we did not expect strong inter-item correlations within the domains. To verify our assumption, we calculated an ordinal version of internal consistency (i.e., coefficient α) developed by Zumbo, Gadermann, and Zeisser (2007) for each of the four domains. The following ordinal α coefficients were determined for each domain: situations outside the student's control (.484), student preparedness for college (.626),

situations specific to a course (.648), and situations related to the instructor (.870). As expected, the coefficient α values for three of four domains were below the widely accepted cut-off of .70. Not intended to constitute separate scales, the four domains were constructed to ensure breadth of logistical or affective situations.

The survey showed the top five situations resulting in the decision to withdraw: Students a) were at risk of failing the course, b) disliked how the instructor taught the course, c) felt that the course was very difficult, d) experienced personal issues that interfered with their ability to attend class or study, or e) disliked the way in which the instructor interacted with students (see Table 1). To examine content validity, we offered the survey to the 22 university college academic advisors. Based on advisee statements, the 20 responding advisors ranked the top five situations contributing to course withdrawal as follows: Students

- were at risk of failing the course,
- experienced work issues that interfered with their ability to attend class or study,
- experienced personal issues that interfered with their ability to attend class or study,
- disliked how the instructor taught the class, and
- regularly missed class.

The agreement from advisors on three out of the top five situations listed on the survey supports the content validity of the instrument.

To determine the probability that the situations listed in the survey would lead to a course withdrawal, we divided the number of students for whom each situation led to a course withdrawal by the total number of students who experienced that situation (Table 1), expecting that the highest percentage of withdrawal would correspond to the frequency of student experiences. Examining the top five situations that led to course withdrawal, we found that 40% of students at risk of failing the course withdrew from it, which is consistent with the studies of Dunwoody and Frank (1995) and Hall et al. (2003). Nearly 20% of students who disliked how the instructor taught the course and 21% of those who did not like the way teachers interacted with students withdrew from the course. Nearly 19% of students who found the course very difficult withdrew. Moreover, we found that 24% of students whose personal issues interfered with their ability to attend class or study withdrew from the course.

Another result emanating from the study reflected the frequency with which students experienced each situation listed, regardless of whether it led to a withdrawal. Students most frequently cited the following experiences: disliking how instructor taught the course (70%), studying less than they should have (70%), expending a lot of time on the course (69%), and finding the course very difficult (65%). Conversely, fewer students indicated that they felt uncomfortable with other students in the course (16%), experienced transportation problems (18%), were advised incorrectly (19%), or regularly missed class (24%). The high frequency of cited reasons or situations from the survey indicates that students experience multiple situations that contribute to course withdrawal. In the cross tabulations constructed to identify pairs of situations, we found that students indicated six pairs with relatively high frequencies:

1. Disliked how the instructor taught paired with disliked how instructor interacted with students (n = 69).
2. Disliked how instructor taught paired with disliked classroom management (n = 69).
3. Disliked classroom management paired with disliked how instructor interacted with students (n = 64).
4. Risk of failing paired with a dislike of how the instructor taught (n = 63).
5. Risk of failing paired with did not study enough (n = 49).
6. Risk of failing along with a dislike of how instructor interacted with students (n = 49).

These cross tabulations show that in only one of these pairings did students connect a consequence of withdrawal with a behavior clearly under their control: study practices. More typically, students linked an outcome expectation with their dislike of some practices of the instructor.

Interview

In asking students to express their reasoning and attitudes related to course withdrawal we found that students who faced academic distress demonstrated a low internal locus of control. These students felt that "not getting along" with their instructor or not liking the way the instructor taught placed an insurmountable barrier to success in the class; they expressed a somewhat fatalistic view that course withdrawal remained their only option. When considering whether to withdraw, students indicated that they valued the advice of their peers and parents over the advice of their instructors and advisors. Although students expressed the belief that withdrawing from a course is a benign deci-

sion with minimal negative academic impact, they talked about hating to withdraw and feeling like quitters when they do.

In reviewing the interviews with the aim of discovering how students make their course withdrawal decisions, we found that students engaged in an elementary decision-making process. Based on the iterative analysis, we organized the students' comments about their decision process via three components of self-authorship outlined by Laughlin and Creamer (2007): students' sources of information when considering a decision, the management of this information in their decision-making process, and the affective and behavioral impact of the resulting decision.

Self-authorship: student information sources. Students consistently indicated that they consulted with their parents, with whom they indicated strong relationships and reliance as authoritative sources, during the information-gathering stage of their decision-making process. Their attachment to parents appears to more strongly influence their academic decision making than the authority of instructors or advisors. For example, one student reported, "My mom didn't want me to withdraw. She thought that I was panicking because I wasn't getting an A." When asked about her information sources, another student seemed surprised at the question and quickly replied "my parents."

Respondents also mentioned peers as sources of information. One student reported, "I talked to the other classmates mainly to see how they were doing. If they were having the same amount of trouble then maybe there would be a curve and I wouldn't have to worry, but if they were doing pretty well there was pretty much no chance for me."

Justified or not, students see themselves as an important source of information, confident in their academic ability as well as their knowledge of the elements needed to be successful in a course. A student stated, "I had taken a Calc I class in high school and then took the Calc I again the first semester, so I thought with a pretty good understanding of the first Calc I'd be okay." Another student said, "It had been a while since I had taken Calc I. So, I was like 'okay, I'm sure I'll struggle a little bit,' but I didn't think that it would be as tough as it was."

Students rarely mentioned academic advisors as sources of information, seeing them as unrelated to immediate decisions but as consultants for future direction. In general, neither did students consult with their instructors—people with vital information on their course performance. When asked if she had taken any steps to make the instructor aware of her consideration to withdraw, one student said, "No, I wasn't like on a super personal level with my professor."

Self-authorship: management of information in the decision process. An important component of self-authorship involves students' management or interpretation of the information they gather. The interviews revealed that many students engaged in an information-based decision-making process and wanted to avoid, as they put it, a "rash" decision. However, their skill at managing and interpreting information varied greatly. One who sought out many sources of information described the process: "I went to an advisor and asked which would look better for a grad school application—a WD or a C and a retake for an A." Then, he spoke with his wife "because it [course withdrawal] was a joint financial decision" and with his professor "to see whether I could make it through the class or not." The student engaged different points of view but ultimately based his decision on whether he could explain away a course withdrawal and absorb the economic impact of repeating it or if he could struggle through the course. He did not describe academic success as one of the long-term consequences of his decision.

Consistent with survey results, grades greatly influenced many students' decision-making processes but not always in the way we had expected. We did not anticipate that students with passing grades would consider course withdrawal, but this comment from a student shows otherwise: "I think I had a C at that point, which would have been fine for my major, but I wanted an A." In fact, several students indicated that course withdrawal was preferable to receiving undesirable, albeit passing, grades. They implied that getting marks other than an A or a B would be perceived as failure by their primary information sources (e.g., parents and peers), which was unacceptable to them. These students engaged in a decision-making process, but their need to get a high grade overshadowed the long-term consequences of their choices.

In a common theme emerging from the interviews, students frequently used affective reasoning in deliberations about withdrawing from a course. Specifically, their feelings about their instructor, course content, and classroom management influenced their decision-making process. In commenting upon the circumstances that led to a course withdrawal decision, students voiced mixed emotions about their instructors and classroom manage-

ment styles: "He was a nice guy but he wasn't a very good teacher—for that class at least." "The teacher was a nice guy, but it just didn't translate into the test." "I don't like the structure; I don't like how they're teaching."

Self-authorship: affective and behavioral outcomes of the decision. According to Laughlin and Creamer's (2007) application of self-authorship, the individual is "reflecting on the outcome of the decision and changing or reaffirming future decision making processes through learning or development" (p. 44). The students we interviewed had reflected on the outcome of their decision to withdraw from a course, voicing predominantly negative affective outcomes. For example, one student stated, "I don't like to do it. I hate withdrawing from classes. It's a step backwards. It's not anything you get a good feeling from." Similarly another student indicated, "It makes you feel down when you have to withdraw." A student declared, "It makes you look like a quitter or that you think you can't handle it." However, not all emotions were negative. For instance, one student commented, "I felt relieved when I withdrew from the course because I was able to put more attention into my other classes."

The withdrawal decision and reflections on that decision resulted in some modification of academic behaviors. One student mentioned, "I decided to spend more time on school and schoolwork even if school and schoolwork were not my primary foci." Moreover, a second student admitted, "I work only on the weekends now so that I have more time to get everything else done." While students frequently recognized that some modifications of academic behaviors were necessary, they often expressed unwillingness to make the change. For instance, one student declared, "Ten hours a week studying? That's like a part-time job!" In addition, another student confessed, "If I were to stay I would have had to work my butt off to get a good grade."

Some students gave evidence that their reflections guided them toward a path of learning and development that positively informed their decision-making process. As one student stated, "I hate that I have to take the course again but I learned from my mistakes."

Discussion and Conclusions

As Clark (2005) noted, "When students are presented with a challenge [course withdrawal decisions] they do not always do what we think they are supposed to do; they do what they feel they have to do in order to truly succeed" (p. 314). Students will undoubtedly come to their own conclusions about the actions to take, but advisors must discuss course withdrawal decisions in a way that fosters academic maturity and an increased level of self-authorship in information gathering, management, and utilization.

Based on the findings of this study, we offer four recommendations. First, as an important bridge between the academic and administrative units of the university, advisors should educate their campus community about the extent and consequences of course withdrawal. Our study suggests that while advisors demonstrate awareness of the student-culture components associated with and patterns of course withdrawal, the wider campus community is not so well-informed. The campus culture, widely understood and experienced by students, strongly influences course withdrawal decisions even to the extent of overshadowing the professional advice of an academic advisor or instructor. Advisors are uniquely prepared to share with students, administrators, and instructors an expansive list of the determinants and impacts of course withdrawal as well as the interrelated roles of those involved, including parents and peers.

Second, advisors should firmly inform students that course withdrawal patterns are reliable indicators of present or future academic distress. We examined the population of freshmen with a GPA in the 2.2 to 2.8 range who had withdrawn from courses in their first semester. Sixty-six percent of those freshmen who continued to withdraw from courses their second semester and sophomore year saw their GPAs decrease. However, 75% of freshmen who did not withdraw from any more courses after their first semester saw their GPAs increase. While not suggesting a causal relationship between course withdrawal and GPA, we see the pattern of course withdrawal as an indicator that the student might be experiencing such problems as immaturity, an underdeveloped decision-making process, or a general lack of academic, social, and economic readiness for college—factors known to influence GPA (Hoyt, 1999). When working with students who view each course withdrawal as a discrete event, advisors can guide an examination of their pattern of course withdrawal to see if it indicates concealed problems that need to be identified and addressed.

Third, advisors should facilitate a broader understanding of the important role they play in the development of students' decision-making skills. Our interviewees mentioned parents and peers as

their primary sources of information concerning academic matters. They viewed advisors as having primarily administrative and procedural roles rather than recognizing them as academically oriented and objective information sources. According to Laughlin and Creamer (2007), "The criteria the students used for considering someone's advice [was] the nature of the personal relationship they had with that person rather than any judgment about the person's knowledge or expertise" (p. 47). Advisors know, probably more than most parents and almost certainly more than a peer, how a sole focus on the affective domain can impede a student's decision-making and academic success. Therefore, an advisor's expertise proves crucial in helping students develop sophisticated thinking that extends beyond preference as the primary basis for making important decisions and recognizing the degree to which the affective domain can influence decision making.

Finally, advisors can capitalize on moments of affective dissonance caused by course withdrawal and guide students through learning and development processes that positively inform their decision-making processes. In focus groups and in other conversations, university college advisors repeatedly stated that students who feel as if they are not allowed to fail (or have had few opportunities to do so) experience fear, anxiety, and inadequacy, thus inhibiting their ability to learn from new situations in college. The students we interviewed indicated the decision to withdraw from a course as a benign choice, but then they expressed negative feelings about acting upon this belief, describing themselves as quitters and failures. The disequilibrium associated with course withdrawal provides an advising opportunity for meaningful intervention and student development. While our recommendation is not new (see Hemwall & Trachte, 2005, p. 81), it is particularly cogent to the course withdrawal situation.

Using suggestions presented herein, advisors can guide students toward a more effective decision-making process than achieved by merely following formulaic policies. Self-authorship provides a framework to advance students' academic maturity, their decision-making processes, and their evaluation of the long-term impacts of decisions. Specifically, advisors can facilitate the development of decision-making skills by pointing out that withdrawal patterns often predict academic success and by utilizing dissonance associated with course withdrawal as an opportunity for intervention leading to intellectual development.

References

Adams, J., & Becker, W. (1990). Course withdrawals: A probit model and policy recommendations. *Research in Higher Education, 31*(6), 519–38.

Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college.* Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education.

Astin, A. W. (1975). *Preventing students from dropping out.* San Francisco, CA: Jossey-Bass.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice Hall.

Baxter Magolda, M. B. (1998). Developing self-authorship in young adult life. *Journal of College Student Development, 39*(2), 143–56.

Clark, M. (2005). Negotiating the freshman year: Challenges and strategies among first-year college students. *Journal of College Student Development, 46*(3), 296–316.

Donovan, W. J., & Wheland, E. R. (2008). Placement tools in developmental and bridge-up mathematics courses. *Journal of Developmental Education, 32*(2), 2–11.

Donovan, W. J., & Wheland, E. R. (2009). Mathematics and chemistry: Does a college-level mathematics prerequisite affect success in freshman chemistry? *School Science and Mathematics, 109*(7), 369–80.

Dunwoody, P., & Frank, M. (1995). Why students withdraw from classes. *Journal of Psychology, 129*(5), 553–58.

Florida Postsecondary Education Planning Commission (1996). *Course withdrawal and forgiveness policies: Report and recommendations.* Retrieved from ERIC database. (ED394374)

Hall, M., Smith, K., Broeckman, D., Ramachandra, V., & Jasin, J. (2003, October). *Why do students withdraw from courses?* Paper presented at the 2003 Southern Association for Institutional Research, San Antonio, TX.

Hemwall, M., & Trachte, K. (2005). Academic advising as learning: 10 organizing principles. *NACADA Journal, 25*(2), 74–83.

Hoyt, J. E. (1999). Remedial education and student attrition. *Community College Review, 27*(2), 51–73.

Laughlin, A., & Creamer, E. (2007). Engaging differences: Self-authorship and the decision making process. *New Directions for Teaching and Learning, 2007*(109), 43–51.

Pascarella, E. T., & Terenzini, P. T. (1980). Predict-

ing freshman persistence and voluntary drop-out decisions from theoretical model. *Journal of Higher Education, 51*(1), 60–75.

Reed, J. (1981). Dropping a college course: Factors influencing students' withdrawal decisions. *Journal of Educational Psychology, 73*(3), 376–85.

Santa Monica College (2010). *Grade distribution reports.* Retrieved May 19, 2010, from http://www.smc.edu/apps/Pub.asp?Q=1481

State of Texas (2007). *SB 1231.* Retrieved from http://www.capitol.state.tx.us/tlodocs/80R/billtext/pdf/SB01231F.pdf

Swager, S. S., Campbell, J. W., & Orlowski, M. A. (1995). *An analysis of student motivations for withdrawal in a community college.* Retrieved from ERIC database. (ED 387000)

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*(1), 89–125.

Tinto, V. (1988). Stages of student departure: Reflections on the longitudinal character of student leaving. *Journal of Higher Education, 59*(4), 438–55.

Tinto, V., & Pusser, B. (2006). *Moving from theory to action: Building a model of institutional action for student success.* Washington DC: U.S. Department of Education, National Postsecondary Education Cooperative.

The University of Akron (2009). *Undergraduate bulletin.* Retrieved from http://www.uakron.edu/academics_majors/undergraduate-bulletin/

Wheland, E., Konet, R. M., & Butler, K. (2003). Perceived inhibitors to mathematics success. *Journal of Developmental Education, 26*(3), 18–27.

Zumbo, B. D., Gadermann, A. M., & Zeisser, C. (2007). Ordinal versions of coefficients alpha and theta for Likert rating scales. *Journal of Modern Applied Statistical Methods, 6*(1), 21–29.

Authors' Notes

Ethel Wheland is associate professor in the Department of Mathematics at the The University of Akron in Ohio. Contact her at wheland@uakron.edu.

Kevin Butler is Senior Lecturer and Manager of GIS Research (retired),Department of Geography and Planning, at The University of Akron.

Helen Qammar is an associate professor in the Department of Chemical & Biomolecular Engineering and has served as the Director of the Institute for Teaching and Learning since 2007 at The University of Akron.

Karyn Bobkoff Katz, professor emeritus of Speech/Language Pathology and Audiology, served as Associate Dean of the Honor's College at The University of Akron. She completed several community engagement projects prior to her retirement.

Rose Harris is the director of a group home for children in the foster care system in St. Petersburg, Florida. She earned her master's degree in Marriage & Family Therapy from The University of Akron while working as a graduate research assistant in the Institute for Teaching and Learning.