

BRIEF: Assessing Graduation Rates at UB: Which Students Get Their Degrees on Time?

Executive Summary

With many institutional policymakers considering whether additional university resources – and which resources - should be brought to bear on the issue of improving four and six-year graduation rates, it seems useful to question whether appropriate interventions might depend upon the characteristics of various student groups that do not graduate in a timely fashion. We therefore tracked 2,433 freshmen entering in Fall 1998 through the current Spring 2005 semester to determine which entering student characteristics were associated with graduation and with time to degree. Entering student data were culled from our Summer Orientation Questionnaire, which was administered during new-student sessions in July 1998 and which explored student backgrounds, personal strengths and weaknesses, college choice considerations, college expectations, and future goals.

Our analysis suggests that UB's more successful students – those who graduate, and in particular those who do so within four years – are capable of drawing on a variety of personal and environmental resources:

- **Graduates can be characterized as more academically oriented, more engaged with the University community, better supported financially, and more oriented toward their postgraduate futures.**
- **Different financial resources are important to different students. Financial aid, especially scholarship support, is particularly valuable in attracting and graduating students entering from Selectivity Group 1, as UB tends not to be their first choice school. Significant changes in financial aid policy are likely to affect the yield from Selectivity Group 1 the most.**
- **Group 2 students tend to view UB as their first-choice institution and expect less institutional aid. Strong financial support from parents and UB's low tuition are instrumental in graduating these students.**

Students graduating within four years, in their fifth year, and in their sixth year of study also display dramatically different profiles:

- **Of all students, four-year graduates are the most academically geared, best engaged, most financially comfortable, and surest of their goals.**
- **Fifth-year graduates have fewer academic or social resources but succeed primarily by focusing on their most immediate issues and by relying on their innate resilience. Their most important barriers to graduation are their lack of integration and finances.**
- **Sixth-year graduates are comparatively lacking in academic skills, engagement, and direction. Finances are critical to their success.**

Among students who do not graduate, three important subgroups are apparent – those who perform poorly (e.g., QPA below 2.0) at UB and leave by the end of their fourth year (“low-performing early dropouts”), those who do well academically (e.g., QPA of 2.5 or better) and still leave early (“high-performing early dropouts”), and those who persist as seniors past their sixth year of study (“continuing seniors”):

- **Low-performing early dropouts lack any of the resources associated with graduation and often face significant competing demands (e.g., off-campus or full-time work). Graduating a significantly higher proportion of these students is unlikely and would require intensive interventions.**
- **High-performing early dropouts have considerable academic talent and some financial resources. They are, however, averse to becoming socially engaged and strongly predisposed to transfer. Unless we can improve their satisfaction with key elements of the University, we are likely to lose these students to other institutions despite our efforts to secure them scholarship funds.**
- **Continuing seniors are academically skilled and financially secure, but they lack engagement and direction. Most critically, they often undergo an unusual number of major changes. Interventions by academic advisors and other institutional personnel are necessary to ensure that continuing seniors eventually graduate.**

Introduction: Graduation Rates and Educational Policy

Graduation rates have become one of the most important indicators of institutional productivity at four-year universities. These rates simply and clearly communicate to prospective undergraduates, parents, and policymakers the probability that a new freshman at an institution of higher education will efficiently obtain the baccalaureate degree that increasingly serves as a passport to the American middle class. The perception of institutional accountability for on-time graduation has been underscored with the passage of the 1990 Student Right to Know Act, which established the six-year graduation rate as a standard educational outcome measure for policymakers, and with the use of the six-year rate in many institutional ranking formulas.

The four-year graduation rate has more recently been drawing attention at public institutions such as the University at Buffalo¹. As state governments grapple with deficits by freezing or cutting institutional funding and tuitions continue to rise, financial considerations loom larger for both students and university administrators. Four-year graduations provide a means for both groups to more efficiently use – or save – their resources.

Admittedly, considerable disagreement exists among policymakers and institutional researchers regarding the validity of graduation rates as measures of institutional productivity. In this report, however, we intend not to debate the relative merits of graduation rates but rather to acknowledge their importance to students, parents, external evaluators (e.g., *US News and World Report*) and many higher education administrators. The following analysis provides a starting point for discussions of institutional policies relevant to four and six-year graduation rates by outlining the student and institutional factors that differentiate four-year graduates, five or six-year graduates, and students who do not graduate within six years.

The 1998 Summer Orientation Questionnaire

In July 1998, the University's Office of Institutional Analysis administered its Summer Orientation Questionnaire (SOQ) to 2,433 freshmen attending new-student orientation sessions. These respondents represented 87.3% of the 2,787 incoming freshmen. The SOQ was a paper-and-pencil survey that probed the new students' demographics, academic backgrounds, self-perceptions, college choice considerations, expectations for college, and longer-term goals. Most items permitted students to rate their views and expectations on a Likert scale (e.g., to indicate a greater or lesser expectation of changing one's career choice or the level of importance of financial aid to choosing UB).

SOQ responses were linked to institutional data on student demographics, admissions, academic performance at UB, and degrees. All relevant institutional data collected through the third week of the Spring 2005 semester were included.

Our analysis of the composite data sought first to determine which students are most likely to graduate within six years. Factors predisposing students toward shorter-term graduation were of particular interest. In addition, we wished to describe subgroups of students who did not graduate within six years: those who dropped out of UB within the first four years, and those who continued past the six-year mark as seniors without earning a degree. We reasoned that any relationships between SOQ responses and graduation trends would underscore Astin's observation that "more than half of the variance in institutional retention rates can be attributed directly to differences in the kinds of students who initially enroll, rather than to any differential institutional effect."² Nonetheless such relationships might also suggest policy initiatives to reinforce positive student attributes and to ameliorate potentially problematic entering characteristics.

Predictors of Six-Year Graduation

Within the Fall 1998 freshman cohort, students who have received their baccalaureates by the end of Spring 2004 are more likely to be female and less likely to be underrepresented minorities. This group can be described as more academically oriented, more engaged with the University community, better supported financially, and better oriented toward their postgraduate futures.

Academic Orientation

Astin's Cooperative Institutional Research Program studies have repeatedly demonstrated that better high school grades and standardized test scores are the most potent predictors of graduation^{2,3}. Other student characteristics, similarly reflecting academic talents and interests, are associated with six-year graduation at UB. These include:

- Placement in a higher selectivity group, especially Group 1
- Previous college-level credits from other institutions or equivalency courses
- More hours per week studying during high school
- Expectations of earning a higher academic degree
- Higher self-ratings in the areas of overall academic ability, mathematical ability, and writing ability
- Higher self-ratings of drive to achieve
- Greater importance of gaining a general education, learning more about interest areas, or improving reading or study skills in choosing to attend college
- Lesser importance of proving oneself successful in choosing to attend college
- Greater importance of honors program in choosing UB
- Increased expectations of graduating with honors or being elected to an honor society

Student Engagement

Engagement with the university community during students' undergraduate years is also an important facilitator of persistence and graduation⁴. Those students who interact effectively with classmates and faculty and participate in campus activities usually find themselves happily meshing with the fabric of the university and finding additional support for their success. Students who remain disengaged from campus life often find themselves dissatisfied with their institution and prone to dropping out. A student's level of engagement often reflects that individual's social orientation on campus, but it can also be impacted by competing demands off campus (e.g., work and family responsibilities).

Among UB freshmen, the following markers of student engagement are associated with graduation:

- Attending orientation and completing the SOQ
- Higher self-ratings in cooperativeness and popularity
- Moderate (i.e., 3-20 hours per week) time spent socializing during high school
- Greater importance of becoming more cultured in choosing to attend college
- Increased expectations of joining a fraternity, sorority, or other club
- Increased expectations of being elected to a student office
- Decreased expectations of working off-campus or full-time
- Decreased expectations of playing varsity athletics
- Decreased expectations of getting married during college
- Decreased expectations of transferring away from UB
- Greater interest in influencing political structures, becoming a community leader, and keeping up with politics

Financial Resources

Parental income and other indicators of socioeconomic status (e.g., parental educational achievement) strongly predict graduation across institutions. The impact of financial aid, however, varies according to the institution under evaluation and is insignificant in many studies⁵. The reasons for this variation may be twofold. First, financial aid appears to exert an indirect effect on graduation rates by providing additional resources to students who probably would not persist without such support. Second, not all types of financial aid provide

similar support or incentives for graduation. Scholarships appear more effective in this regard than loans and work-study programs.

SOQ respondents' records are consistent with the above observations, as the following characteristics are related to higher graduation rates at UB:

- Expectations of greater financial support from parents
- Expectations of less loan support
- Expectations of less financial support from off-campus or full-time work
- Less concern about the ability to pay for college
- Greater importance of financial aid considerations or low tuition in choosing UB
- Lesser importance of EOP program in choosing UB

Financial resources show varying impacts for students entering from different selectivity groups. The following financial variables characterize graduates entering from Selectivity Groups 1, 2, and 3:

Table 1. Financial resources differ by selectivity group

Selectivity Group		
Group 1	Group 2	Group 3
<ul style="list-style-type: none"> • Expectations of some financial support from parents • Expectations that no financial support will come from off-campus or full-time work • Expectations of \$1500 or more in yearly scholarship support • Expectations of less than \$3000 in yearly loan support • Greater importance of financial aid and low tuition in choosing UB 	<ul style="list-style-type: none"> • Expectations of \$3000 or more in yearly financial support from parents • Expectations that no financial support will come from any work • Expectations of no scholarship or loan support • Greater importance of low tuition in choosing UB 	<ul style="list-style-type: none"> • Any financial support from parents • Expectations of some financial support from part-time, on-campus work • Expectations that no financial support will come from off-campus or full-time work • Expectations of no scholarship support • Expectations of \$1500-3000 in yearly loan support • Greater importance of financial aid in choosing UB

The constellation of financial support variables describing Group 1 graduates tends to be found in those Group 1 students for whom UB was not the first-choice institution. Our financial aid policies appear instrumental in attracting and graduating highly talented students who might otherwise attend a competing institution. In addition, our honors program is a much stronger draw for Group 1 students who do not list UB as a first choice.

Financial resources are less critical in graduating Group 2 students. In Group 2, students who expect a high level of support from parents and little from institutional aid or work are more likely to graduate. Considering their stronger resources and greater tendency to list UB as a first choice, it is not surprising that low tuition is more critical to their progress through the University than the availability of aid.

Future Orientation

Four items associated with higher graduation rates among UB students reflect a pragmatic approach to postgraduate life:

- Greater interest in raising a family
- Greater interest in being successful in one's own business
- Greater importance of alumni getting good job in choosing UB
- Greater importance of alumni gaining admission to top graduate programs in choosing UB

Students Who Graduate: Predictors of Time to Degree

Indicators found more often in UB students graduating within four years tend to be those associated with graduation in general (see Table 2). Relative to students graduating in their fifth or sixth year, four-year graduates are more academically inclined, better engaged, more financially secure, and clearer about their long-term goals.

UB's fifth-year graduates are typically not among the top students admitted, nor do they rate their academic or social skills as highly as four-year graduates. They focus less on their futures than they do on the more immediate issues relevant to their success. Nonetheless, fifth-year graduates possess the emotional and physical resilience and creativity to succeed at UB despite some disadvantages. With some effort to help these students better integrate into the University community and finance their education, UB might well transform them into four-year graduates.

Sixth-year graduates lack many of the academic and social strengths that characterize four-year graduates. They have little insight into their goals and the means for achieving them (e.g., their pre-matriculation certainty that career plans would not change is inconsistent with the actual frequency with which they switch majors). Finances are critical to their success, both in terms of their availability for financing their education and the importance of financial security as a motivating factor.

Table 2. Profiles of students graduating in the first four years, in the fifth year, and in the sixth year of undergraduate study

	Time to Degree		
	<i>Within 4 Years</i>	<i>5th Year</i>	<i>6th Year</i>
<i>Demographics and Personal Attributes</i>	<ul style="list-style-type: none"> • Being female • Not being an underrepresented minority 	<ul style="list-style-type: none"> • Higher self-rating of emotional health • Higher self-rating of physical health 	<ul style="list-style-type: none"> • Being an underrepresented minority • Permanent residence in Western New York • Lower self-rating of self-understanding
<i>Academic Orientation</i>	<ul style="list-style-type: none"> • Placement in a higher selectivity group • Previous college-level credits • More hours per week studying during high school • Expect higher degree • Higher self-rating of academic ability and writing ability • Higher self-rating of drive to achieve • Greater importance of academic reputation in choosing UB • Greater importance of honors program in choosing UB • Higher QPA at UB 	<ul style="list-style-type: none"> • Placement in selective group 2 • Special admit • Lesser importance of academic reputation in choosing UB • Lesser importance of honors program in choosing UB • Not expect election to honor society • Higher self-rating of creativity 	<ul style="list-style-type: none"> • Lesser importance of proving oneself successful in choosing to attend college • Lower self-rating of creativity

Table 2 (continued). Profiles of students graduating in the first four years, in the fifth year, and in the sixth year of undergraduate study

	Time to Degree		
	<i>Within 4 Years</i>	<i>5th Year</i>	<i>6th Year</i>
<i>Student Engagement</i>	<ul style="list-style-type: none"> • Higher self-ratings of cooperativeness, leadership, popularity, and social self-confidences • At least 3 hours per week participating in student organizations during high school • Less than 3 hours per week working for pay or doing housework during high school • Greater importance of social reputation in choosing UB • Increased expectations of election to student office • Increased expectations of joining a fraternity, sorority, or club • Increased expectations of community service during college • Decreased expectations of getting married during college • Decreased expectations of playing varsity athletics • Greater importance of helping others in difficulty • Greater importance of community action and of becoming a community leader • Greater importance of keeping up with politics 	<ul style="list-style-type: none"> • Less than 3 hours per week participating in student organizations during high school • Lesser importance of social reputation in choosing UB • Decreased expectations of election to student office • Lesser importance of recognition from professional colleagues • Lesser importance of becoming a community leader 	<ul style="list-style-type: none"> • Lower self-ratings of cooperativeness, leadership, and understanding of others • At least 3 hours per week working for pay or doing housework during high school • Decreased expectations of community service during college
<i>Financial Resources</i>	<ul style="list-style-type: none"> • More \$ from parents • No on or off campus work • No loans • Less financial concern • Chose UB for financial aid or low tuition • Expect not to get job to help pay expenses 	<ul style="list-style-type: none"> • No scholarship • Some \$ from FT job 	<ul style="list-style-type: none"> • Less than \$3000 from parents • Any scholarship • Less than \$3000 in loans • Chose UB for financial aid • Expect to get job to help pay expenses
<i>Future Orientation</i>	<ul style="list-style-type: none"> • Greater importance of alumni getting good jobs in choosing UB • Greater importance of alumni being admitted to top grad schools in choosing UB • Increased expectations of changing career choice • Greater importance of recognition from professional colleagues or achieving administrative responsibility • Greater importance of developing a meaningful life philosophy 	<ul style="list-style-type: none"> • Greater importance of raising a family • More changes of current and active major at UB 	<ul style="list-style-type: none"> • Decreased expectations of changing career choice • Greater importance of being financially well off • More changes of current and active major at UB

Students Who Do Not Graduate

Our interest in students who did not graduate focused on those who left the University by the end of their fourth year (“early dropouts”) and those who achieved senior status yet persisted past their sixth year (“continuing seniors”). We further split the early dropout group according to academic performance at UB and examined students with QPAs either below 2.0 (“low-performing”) or with QPAs of 2.5 and better (“high-performing”).

The largest cluster of students who do not graduate is that of low-performing early dropouts. Not surprisingly, this subgroup is characterized mainly by its lack of the attributes associated with graduation (see Table 3). In particular, low-performing early dropouts have poor financial resources and an unusual number of them must balance school, work, and family responsibilities. It is unlikely that different financial aid policies can greatly improve their chances of graduation. Unlike fifth and sixth-year graduates, these students have no prominent resources that might help them persist in their undergraduate careers other than a vague interest in financial success.

Table 3. Profiles of students who do not graduate UB within six years

	Student Group		
	Low-Performing Early Dropouts	High-Performing Early Dropouts	Continuing Seniors
<i>Demographics and Personal Attributes</i>	<ul style="list-style-type: none"> • Being male • Being an underrepresented minority • Lower self-ratings of physical and emotional health 	<ul style="list-style-type: none"> • Being female • Not being an underrepresented minority 	<ul style="list-style-type: none"> • Being male • Being an underrepresented minority • Permanent residence in Western New York • Permanent residence outside of New York State • Higher self ratings of emotional health and self-understanding
<i>Academic Orientation</i>	<ul style="list-style-type: none"> • Placement in a lower selectivity group • No previous college-level credits • Expect lower status academic degree • Lower self ratings of academic ability, mathematical ability, writing ability, and drive to achieve • Less than 3 hours per week studying during high school • Lesser importance of learning about interests and improving study skills in choosing to attend college • Greater importance of proving self successful important in choosing to attend college • Lesser importance of honors program in choosing UB • Decreased expectations of changing career choice • Decreased expectations of graduating with honors or being elected to an honor society • Lower QPA at UB 	<ul style="list-style-type: none"> • Placement in a higher selectivity group • Previous college-level credits • Higher self ratings of academic ability and drive to achieve • Lower self ratings of creativity • Less than 3 hours per week studying during high school • Lesser importance of learning about interests and improving study skills in choosing to attend college • Lesser importance of proving self successful in choosing to attend college • Lesser importance of academic reputation in choosing UB • Increased expectations of changing career choice • Increased expectations of graduating with honors or being elected to an honor society • Higher QPA at UB 	<ul style="list-style-type: none"> • No previous college-level credits • Expectations of earning doctorate • Higher self ratings of academic ability, mathematical ability, writing ability, and drive to achieve • Lower self ratings of creativity • At least 3 hours per week studying during high school • Greater importance of honors program in choosing UB • Lesser importance of academic reputation in choosing UB • Increased expectations of changing career choice • Increased expectations of needing extra time to graduate

Table 3 (continued). Profiles of students who do not graduate UB within six years

	Student Group		
	Low-Performing Early Dropouts	High-Performing Early Dropouts	Continuing Seniors
Student Engagement	<ul style="list-style-type: none"> • Did not attend orientation and take SOQ • Lower self ratings of cooperativeness • Over 20 hours per week socializing during high school • Over 10 hours per week partying during high school • Over 20 hours per week working for pay during high school • Over 10 hours per week doing housework during high school • Increased expectations of getting a job to help pay expenses and of working full-time • Increased expectations of playing varsity athletics • Increased expectations of getting married during college • Decreased expectations of being elected to student office, of joining a fraternity, sorority, or club, or of participating in community service • Lesser importance of influencing social values 	<ul style="list-style-type: none"> • Lower self-ratings of leadership ability, popularity, and social self-confidence • Less than 10 hours per week partying during high school • At least 10 hours per week participating in student organizations during high school • Lesser importance of institutional size in choosing UB • Increased expectations of transferring away from UB • Decreased expectations of being elected to student office or of joining a fraternity, sorority, or club • Increased expectations of participating in community service • Greater importance of influencing social values • Lesser importance of influencing political structures 	<ul style="list-style-type: none"> • Lower self ratings of cooperativeness • Less than 10 hours per week socializing or partying during high school • At least 3 hours per week exercising during high school • Less than 3 hours per week participating in student organizations during high school • Less than 3 hours per week doing housework during high school • Greater importance of social reputation in choosing UB • Lesser importance of institutional size in choosing UB • Increased expectations of being elected to student office or playing varsity athletics • Increased expectations of getting married during college • Decreased expectations of transferring away from UB • Decreased expectations of getting a job to help pay expenses • Lesser importance of Influencing political structures and social values • Lesser importance of keeping up with politics
Financial Resources	<ul style="list-style-type: none"> • Expectations of less than \$1500 in financial support from parents • Expectations of some financial support from off-campus or full-time work • Expectations of less than \$1500 in financial support from scholarships • Expectations of some financial support from loans • Some financial concern • Greater importance of EOP program in choosing UB • Lesser importance of financial aid and low tuition in choosing UB 	<ul style="list-style-type: none"> • Expectations of some financial support from part-time work on campus • Expectations that no financial support will come from off-campus or full-time work • Expectations of at least \$1500 in scholarship support • Expectations of less than \$3000 in loan support • No financial concern • Greater importance of financial aid in choosing UB • Lesser importance of EOP program in choosing UB 	<ul style="list-style-type: none"> • Expectations of less than \$3000 in financial support from parents • Expectations that no financial support will come from part-time work on campus • Expectations of at least \$1500 in financial support from part-time work off campus • Expectations that no financial support will come from full-time work • Expectations of at least \$1500 in scholarship support • Expectations that no financial support will come from loans • No financial concern

Table 3 (continued). Profiles of students who do not graduate UB within six years

	Student Group		
	Low-Performing Early Dropouts	High-Performing Early Dropouts	Continuing Seniors
Future Orientation	<ul style="list-style-type: none"> • Lesser importance of alumni being admitted to top grad schools in choosing UB • Fewer changes of active and current major at UB • Greater importance of being very well off financially and being successful in own business • Greater importance of developing a meaningful life philosophy 	<ul style="list-style-type: none"> • Lesser importance of getting a better job or making more money in choosing to attend college • Lesser importance of alumni being admitted to top grad schools or getting good jobs in choosing UB • Lesser importance of achieving administrative responsibility, being well off financially, or being successful in own business 	<ul style="list-style-type: none"> • Lesser importance of making more money in choosing to attend college • Greater importance of alumni being admitted to top grad schools in choosing UB • Lesser importance of obtaining recognition from professional colleagues • Lesser importance of achieving administrative responsibility or being well off financially • Lesser importance of developing a meaningful life philosophy • More changes of active and current major at UB

High-performing early dropouts have strong academic skills, some ambition, and good financial support, which often is augmented by scholarship money. Nonetheless, their overwhelming focus on immediate goals, to the exclusion of longer-term ones, works against attempts to motivate themselves for success at UB. More importantly, high-performing early dropouts are relatively uninterested in becoming integrated into the University community, in part because they lack social skills and confidence and in part because UB tends not to be their first choice. Although the aforementioned scholarships may bring these students to UB, financial support is not enough to outweigh an early predisposition to transfer and a lack of enthusiasm for the culture of a large institution. High-performing early dropouts show a similar profile to graduates from Selectivity Group 1 – and similarly high QPAs - but are distinguished by their social disengagement. When the University awards scholarships to promising students but does not attend to their goals and their predispositions toward happiness or discontent in our social climate, it risks losing a significant proportion of scholarship recipients to other schools. Some opportunities might exist to improve satisfaction with important aspects of UB among students predisposed to become high-performing early dropouts, but they require strongly directed institutional interventions (e.g. early student advisement).

Continuing seniors also show sufficient academic strengths to often earn scholarships, but they are not as talented as the high-performing early dropouts and cannot as easily translate those aptitudes into success when they lack direction. Although they also remain disengaged from the University community, they have never been driven to pursue their education elsewhere. In fact, continuing seniors seem both uninterested in social engagement and unambitious. Because continuing seniors tend to be secure financially, they can afford to drift within the University from one major to another and from one interest area to another and in fact they do so far more than any other group in the Fall 1998 cohort. It is as convenient to characterize these students as one step away from dropping out as it is to see them as one step away from graduation. An institutional intervention to help continuing seniors find their niches may well be the difference between these two outcomes.

Conclusion

Clearly the University at Buffalo has opportunities to promote more timely graduation in all of these groups except the early dropouts. Institutional administrators, however, may need to prioritize the use of university resources for this purpose when finances, personnel, and time are limited. Should UB attempt an increase in four-year graduation rates by providing more scholarships and strongly funding honors coursework for Group 1 admits? Or should we award smaller amounts to Group 2 students who are more likely to consider

UB a top choice but probably will take longer to graduate? What about funding for academic advisement services for students whose undergraduate careers are lengthened by a lack of focus and engagement?

University policymakers will likely consider the relative benefits of each option in terms of both increased productivity (i.e., more and quicker graduations) and financial expenditures. Study of these outcomes will require further predictive modeling based primarily on student and institutional inputs. In particular, an assessment of the relative influence of each input on graduations and expenditures will be an important next step in ensuring the continued efficiency of UB's undergraduate program.

- Lauren Young, Office of Institutional Analysis, March 31, 2005

¹ Arnone, M. (2004, February 6). Please leave, already. Chronicle of Higher Education, 50 (22), A20-21.

² Astin, A. (2004, October 22). To use graduation rates to measure excellence, you have to do your homework. Chronicle of Higher Education, 51 (9), B20.

³ Astin, A. (1993). What Matters in College. San Francisco: Jossey Bass.

⁴ Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. Review of Educational Research, 45, 89-125.

⁵ Bresciani, M. & Carson, L. (2002, Fall). A study of undergraduate persistence by unmet need and percentage of gift aid. NASPA Journal, 40 (1), 104-123.