

A Passion for Learning:

The Theory and Practice of Optimal Match at the University of Washington

Kathleen D. Noble
Sarah A. Childers
University of Washington

Early entrance from secondary school to university is a rare but highly effective educational strategy for many gifted students. The University of Washington (UW) is a leading proponent of this practice, offering two unique early entrance options for gifted adolescents through the Robinson Center for Young Scholars (Robinson Center): the Early Entrance Program (EEP), created in 1977 for students prior to age 15; and the UW Academy for Young Scholars (Academy), created conjointly with the UW Honors Program (Honors) in 2001 for students after Grade 10. The EEP consists of a yearlong preparatory Transition School (TS) and ongoing, specialized advising and social programs during students' first 2 years to help them make the most of their university experience. The Academy includes a 12-week Bridge Program, regular academic advising, social events, and collaboration with other UW programs with the same goal in mind. Programmatic components of the EEP and the Academy are discussed at length later in this article.

Early university entrance is rooted theoretically in the areas of learning and achievement motivation, which hold that "learning is optimized, as is growth in achievement motivation, when the

Summary

Early entrance from secondary school to university, based on the principle of optimal match, is a rare but highly effective educational strategy for many gifted students. The University of Washington offers two early entrance options for gifted adolescents: the Early Entrance Program for students prior to age 15, and the UW Academy for Young Scholars for students after Grade 10. This study assessed the elements of optimal match that are best suited to different age groups. Four cohorts of Early Entrance Program and UW Academy students were surveyed on various themes, including their assessment of the transition and support services available to them, their satisfaction with the degree to which they had accelerated their education, their experience with family and friends, and their assessment of their own talents and abilities. Results suggested that similarities and differences in accelerative components exist for students of different ages. All early entrants need a period of intellectual preparation in a supportive and rigorous environment; a peer group; a home-base; communication with parents; a faculty and staff who enjoy teaching, advising, and mentoring gifted young scholars; and a welcoming university or college environment. However, programs for younger students need to provide more intensive academic transitioning during the first year, and programs for older students must balance students' competing needs for independence and guidance. Adequate preparation of parents and the institutional environment also are important to the success of early entrants, regardless of age.

individual is presented with tasks that match or slightly exceed capabilities" (Benbow & Stanley, 1996, p. 274). This pedagogy allows gifted students to proceed through curricula at a pace consistent with their intellectual abilities rather than their chronological age, thereby minimizing boredom, increasing self-efficacy, and possibly enhancing "creativity, achievement, and higher-order thinking skills" (p. 275). It also offers students an opportunity to grow socially and emotionally within a community of intellectual peers among whom they need not downplay their intellectual abilities in order to be accepted or make friends.

In 1977, Halbert Robinson, a professor of developmental psychology, welcomed the first two early entrants to the UW. Drawing on the pioneering work of Stanley at Johns Hopkins University (Stanley, Keating, & Fox, 1974), Robinson believed that an optimal match could and should exist between a student and his or her learning situation. "A radical acceleration program for the student who is radically different from his or her peers, it is founded on the assumption that, for a substantial proportion of students, priority should be given to the match between learner and the intellectual challenge" (Robinson & Robinson, 1982, p. 80). Optimal match at the UW was initially conceived and implemented along academic lines with less emphasis placed on transitional, support, social, and emotional elements. These latter have assumed increasing importance as the practice of early entrance has evolved at the UW.

At the time of this study, 353 students had participated in EEP and 202 in the Academy, with retention rates of 88% and 99%, respectively. In 2006, with four cohorts of Early Entrance and Academy students (EEPers and ACADs, respectively) enrolled at UW, we undertook a study to understand more fully how the theory and practice of optimal match affected students in these different programs. Since its inception, the Robinson Center has been committed to conducting research to better understand and provide for students' intellectual, academic, social, and emotional well-being, as well as to guide program development. Early entrance students have often served as research assistants for these studies and have received coauthorship in

the resulting publications. Prior to this present investigation, 13 studies had investigated multiple aspects of early university entrance from both students' and parents' perspectives, using both quantitative and qualitative methodologies. These studies span the earliest years of the EEP to the present and collectively yielded a large number of findings that contributed to this current investigation.

Research About Early Entrance Programs

The social and emotional fitness of early university entrance for participants in the EEP in its earliest days (1977–1989) was explored through the first five studies conducted at the Robinson Center. These included a comparison of the academic performance of EEPers with classmates who had entered UW at the traditional age of 18 (Janos & Robinson, 1985); an examination of the incidence and causes of underachievement among a small group of EEP students (Janos, Sanfilippo, & Robinson, 1986); students' social and psychological adjustment to academic acceleration (Robinson & Janos, 1986); patterns of friendship among early entrants (Janos, Robinson, Carter, & Chapel, 1988); and a multiyear comparison of EEPers' academic performance and psychological adjustment as compared with traditional-aged UW students, traditional-aged National Merit Scholarship awardees at UW, and students who had been accepted to EEP but had chosen to attend high school instead (Janos, Robinson, & Lunneborg, 1989). These studies demonstrated that the large majority of EEPers experienced a viable social life with intimates and a circle of friends, and that there was no association between early entrance and psychological or social impairment. The small number of EEPers ($n = 12$) who were described as “underachievers” because of poor academic performance relative to other EEPers showed no significant differences with “achievers” on any measure, leading the authors of that study to conclude that there were no underlying or common causes of their underachievement.

In the early years of the EEP, researchers were most concerned with measuring students' academic achievement, psychosocial adjustment, and social relationships, and demonstrating the intellectual and psychological viability of early university entrance for academically advanced students. After 1990, research attention shifted to students' self-perceptions of the intellectual, social, and emotional aspects of early university entrance and longitudinal studies about the program's impact on EEP graduates over time. One reason for this change in emphasis was to address the enduring myths and misconceptions about the affective aspects of radical educational acceleration. Three qualitative studies examined students' perceptions of the benefits and challenges of early entrance (Noble & Drummond, 1992), the role of gender in students' choice and experience of early entrance (Noble & Smyth, 1995), and students' perceptions of the social and emotional effects of early entrance of their own development (Noble, Arndt, NicholSEN, Sletten, & Zamora, 1999). The results of the first of these studies suggested that the negative perceptions of other people were more often related to students' dissatisfaction with early entrance than were their own experiences. Results from the second study indicated that gender was not a factor in most female respondents' decision to accelerate their education, but that young women reported a number of benefits of early entrance, including increased confidence in their intellectual and social skills and the encouragement to perform as well as their capabilities allowed. Finally, participants in the third study reported that among other benefits, early entrance enabled them to become more mature than they otherwise would have been. Additionally, most considered themselves confident, independent, and comfortable in their social environments.

Two longitudinal, follow-up studies of early entrance graduates also have been conducted. The first (Noble, Robinson, & Gunderson, 1993) compared students who had entered EEP between 1977–1986 with two groups of students who had participated in two earlier studies, National Merit Awardees and students who had elected to attend high school rather than EEP. This study found more similarities than differences among these

three groups of gifted young people, although graduates of EEP tended to hold higher educational aspirations and entered graduate school in significantly higher numbers than did either of the other groups. All three groups indicated similar degrees of happiness with multiple aspects of their lives. The second (Noble et al., 2007) focused solely on EEP graduates (1977–2003) and assessed the impact of significant programmatic changes in the evolution of the EEP on respondents' patterns of work, education, and social affiliation, and on their evaluation of multiple aspects of their early entrance experience. One important finding was that the addition of a preparatory year known as Transition School (TS) significantly enhanced EEPers' adjustment to and success as early university entrants. Another finding was that relative to female respondents, males reported a significantly lower level of satisfaction in finding romantic relationships and happiness within those relationships. Females reported earning significantly less income than did their male counterparts, although the authors were uncertain whether this difference was due to the large number of female respondents who were still enrolled in graduate or professional school. Noble et al. concluded that most EEP graduates did not fit the stereotype of the socially isolated, unhappy "nerd." Respondents highly valued intelligence, and they sought a high degree of intellectual satisfaction and challenge in all aspects of their lives, both personal and professional. Overall, they revealed themselves to be well-rounded, balanced individuals on whom the EEP continued to exert a profound and overwhelmingly positive influence.

With the inception of the Academy in 2001 as a second gateway for early entrance to UW, new questions presented themselves for investigation and resulted in three additional studies. How did ACADs experience their early university entrance? Were they making the most of their university experience? How did their experience compare with EEPers? What were parents' perceptions of the impact of early entrance on their children who entered the UW via the EEP or the Academy?

In Spring 2003 and 2004, a series of focus groups was conducted with ACADs in the first 2 years of the program.

Participants were invited to reflect on their academic and social experiences in the Academy (Noble, Vaughan, Chan, Federow, & Hughes, 2005). Overall, participants reported mostly positive experiences as UW undergraduates. Although many spoke at length about the high level of stress involved in their academic transition to the university, they enjoyed the fact that they were learning in their classes, as well as participating in academic discourse, and they especially appreciated the intellectual challenge without having to do the mundane academic tasks and rote learning that they described as “high school busy work.” The majority also appreciated having a cohort of equally committed and intellectually oriented peers with whom to form friendships and participate in a wide variety of social experiences.

Childers (2006) looked specifically at ACADs’ experiences at the UW from a talent development perspective. The sample for this study comprised 70 ACADs (40 females and 30 males), ranging in undergraduate class from freshman to seniors. The study explored three talent development variables (self-identified academic and nonacademic talent areas, extracurricular participation in university-affiliated activities, and future plans and aspirations), as well as the influence of gender. Childers found that many ACADs possessed multifaceted talent and interest profiles. Narratives provided by respondents suggested a complicated relationship among ability, interest, and talent development behavior.

Finally, Noble, Childers, and Vaughan (in press) conducted a comparative assessment of the impact of early university entrance from parents’ points of view. The purpose was to better understand parents’ reasons for choosing early entrance, their satisfaction with their students’ program, their perceptions of the advantages and disadvantages of early entrance, and their assessment of the effect of early entrance on family relationships. The majority of respondents were very satisfied with their children’s programs, with EEP parents expressing a slightly higher degree of satisfaction with the various aspects of the program than did Academy parents. Overall, respondents’ initial concerns that their children’s younger age might be a social hindrance, or that their

children might have more difficulty navigating the UW system or making career and life goals proved to be unfounded.

Studies conducted by the Robinson Center are not the only source of information about early entrance. Currently there are 18 early entrance programs in the United States, including the EEP and the Academy, that differ in significant ways (Brody, Muratori, & Stanley, 2004). Although very few have reported research, three studies contribute to the growing literature about early university entrance.

Sethna, Wickstrom, Boothe, and Stanley (2001) reported on the first 4 years of the Advanced Academy of Georgia (AAG) at the University of West Georgia, describing program goals and structures, including the admissions process, residential component, and enrichment and leadership elements. Student outcomes were investigated in terms of cognitive and noncognitive dimensions of academic success and adjustment. The researchers also collected anecdotal evidence from students' instructors. Their study concluded that the majority of AAG students did not differ significantly from traditional-aged university students with respect to academic performance or noncognitive predictors of academic success, and that they were largely appreciated by their professors. No qualitative data were collected from students; thus it is unclear how students experienced various elements of the AAG.

Muratori, Colangelo, and Assouline (2003) investigated the adjustment to college of the first cohort of students in the National Academy of Arts, Science, and Engineering (NAASE) at the University of Iowa after their first semester, seeking, in part, to evaluate NAASE through the perspectives of students. Multiple methods of data collection included interviews, behavioral observations, and surveys of students and parents. The researchers described the admissions process and first-year support structure and investigated students' perceptions of and satisfaction with NAASE. Muratori et al. found that

three broad, interrelated components of satisfaction . . . appeared to influence the students' perceptions of their

experiences: (a) how the students experienced their transition of college, (b) the quality of the students' relationships both at home and at college, and (c) the quality of the students' learning experiences. (p. 233)

This cohort of NAASE students experienced a high attrition rate, which the authors discussed in the context of meeting the diverse needs of students while maintaining program continuity. They also reflected on the difficulty of measuring the success of an early entrance program given the competing definitions of the term "early entrance program."

Finally, the influence of self-concept and perceived family environment on the psychological adjustment of 181 early entrance students after their first semester at the Texas Academy of Mathematics and Science of the University of North Texas was explored by Caplan, Henderson, Henderson, and Fleming (2002). This study found that "family cohesion, organization, control, conflict, and overall self-concept were found to predict academic achievement as measured by first-semester grade-point average" (p. 132). Another predictor of adjustment to college was overall self-concept.

This present study was designed to assess and compare the academic and social experiences of two different groups of UW early entrants and to further develop the theory of optimal match that was the basis for the creation of the EEP. The presence of four cohorts of EEPers and ACADs in residence at UW made it possible for the first time to compare two groups of early entrance students who entered the same institution through different programs and at different ages across a variety of dimensions. Specifically, we wanted to explore several important questions identified in the literature: What transitional and support services best facilitated early entrance to college or university for different age groups? What family issues did students need to navigate? What elements contributed most to students' success? Did any clear patterns of underachievement emerge? When students were unhappy with early entrance, why was this so? Did we see similar patterns of unhappiness in current male EEP and

Academy students as were found in the 2004 follow-up survey of EEP graduates? Did early entrants actively engage in social and extracurricular activities that are part of a rich undergraduate life? What hypotheses and directions for future research, both ethnographic and program-specific, might emerge from this study?

Brief descriptions of the current structures of the EEP and the Academy follow to contextualize the current study.

About the EEP and the Academy

EEP and Academy students share key personnel, including an academic counselor and a licensed psychologist (also the Robinson Center Director) who are available to counsel students, as well as coordinate social events, lounge space, and a seminar for first-year students taught by Robinson Center faculty and staff. New parents from both programs are welcomed at separate orientation events where they are introduced to university policies and procedures, the Robinson Center's advising philosophy, and the social and emotional issues that they and their children might encounter during the first year. Parents from both programs are encouraged to connect with one another, although only the EEP has a formal parent association. The EEP and the Academy differ on admission processes and transition programs.

Admission

EEP. Applicants to the EEP submit ACT scores along with grades from their 2 most recent years of schooling. For those who are academically prepared for early entrance, in-depth references are discussed with two or three of each applicant's current teachers, preferably one from language arts/social studies and the other from math/science. Each applicant and her or his parent(s) spend a full day attending the preparatory Transition School (TS) on campus and visiting with current TS and EEP students. At the end of that day, interviews are held with parent(s)

and student, separately and together. Each year approximately 25% of applicants are accepted to TS, which limits its class size to 16.

Academy. Applicants to the Academy submit a standard UW Freshman application; the ACT college entrance examination; two confidential, written teacher recommendations; their mid-year sophomore high school transcript; and an essay required for Honors consideration. During the first year of the Academy all applicants were interviewed prior to acceptance to the program; however, for the second and subsequent years a decision was made to drop the interview because it did not yield the most useful information. A composite ranking is constructed based on each applicant's cumulative high school grade point average at the conclusion of first semester, sophomore year; the ACT composite score; teacher recommendation scores; an index of the intensity of each student's secondary curriculum; and an essay score. The 35 top-ranked applicants are then invited to enroll in the Academy. All prospective Academy students are encouraged to spend a day at UW shadowing ACADs from previous years prior to accepting an offer of admission. Each year approximately 30% of applicants are offered admission.

Transition Programming

EEP. Before enrolling in the UW as freshmen, EEPers participate in TS. Most of secondary school is compressed into three academic quarters in TS, which follows the UW academic calendar. For their first two quarters in the program, students take five courses: English (writing and literature), history (medieval and modern Western civilization and U.S. history), physics, precalculus, and ethics. In the second quarter, students add UW 101, a seminar that introduces them to the resources of the UW and assists them in selecting their spring quarter UW course. During the third TS quarter, physics and ethics are replaced by a five-credit university course of their choice so that students can take this class while still under the protective umbrella of TS fac-

ulty and staff. There is a clearly defined policy for dismissal from TS to ensure students' readiness for university-level work. When students graduate from TS at the end of the year, they become full-time UW undergraduates and known to the community as EEPers.

Academy. Because ACADs, unlike EEPers, enter UW after having completed 2 years of high school, they do not need the full year of academic preparation offered by TS. Still, some preparation to help them transition smoothly into the academic and social life of the UW is necessary. For this reason, a bridge program was created. The Academy Bridge (Bridge) has changed over the 5 years of the Academy's existence, fueled in part by ongoing program evaluation based on student focus groups. The Bridge currently comprises a 2-day orientation known as "Academy Camp" and two courses during ACADs' first quarter, which include an Honors seminar and a linked writing composition course. Other components of ACADs' transition to the UW include regular academic advising appointments with the academic counselor, the availability of psychological counseling (also available to EEPers), social events, and collaboration with UW Honors and First Year Programs for summer orientation. A first year seminar (Academy 198) is offered to both ACADs and EEPers. This course helps students to explore in depth their individual preferences, interests, values, and ambitions; craft a plan to choose majors; test the plan using a framework based on the scientific method; reflect on the results of that test; and imagine reformulations of the plan.

Funding

Both the EEP and the Academy are self-sustaining programs supported through a contract with the Washington State Office of the Superintendent of Public Instruction (OSPI), which directs students' basic education funds to the UW rather than to the secondary schools they otherwise would have attended. These funds are used to provide special academic and support

services available to EEPers and ACADs through the Robinson Center. Neither EEPers nor ACADs are dual-enrolled in secondary school nor do they earn high school diplomas. Because a diploma is not required to enroll at the UW, EEPers and ACADs are given special admissions status until all their high school equivalencies are completed, usually by the end of their first year, at which point they become fully matriculated UW undergraduates.

Method

Participants

In May 2006 all current EEP ($n = 56$) and Academy students ($n = 125$) were invited to participate anonymously in this study. A letter and e-mail describing the study and requesting participation were sent to 181 individuals, of whom 52% ($n_{EEP} = 32$, $n_{ACADs} = 70$) returned completed questionnaires. This response rate was achieved by two subsequent requests for participation via e-mail over a 1-month period of time. Given the anonymous nature of this study, more direct methods of recruiting participants were not possible.

Instrument

The authors designed a questionnaire that focused on four main areas: personal and family information (10 items), educational experiences previous to EEP or the Academy (5 items), experiences in the EEP or the Academy (30 items), relationships and values (10 items), and future aspirations (3 items). Roughly half of the items focused on participants' experiences in the EEP or the Academy. In this section, participants were asked to assess their transition experiences upon first entering the EEP or the Academy and to indicate the effects of participation in early entrance on their friendships, family relationships, and social lives. In addition, participants were asked to self-report whether

they identified with a selection of academic and nonacademic talent domains and to indicate their UW-affiliated extracurricular participation. Items focusing on relationships and values were drawn from the questionnaire administered to participants in the Robinson Center's second 10-year follow-up study of graduates from the EEP. Participants were asked a variety of open-ended and Likert-scaled questions. The latter used a 4-point scale to discourage neutral responses. Although a questionnaire and self-addressed, stamped envelope were sent to all prospective participants, a secure, anonymous, electronic version also was made available via the Internet. Students were advised that they did not have to answer every question.

Data Analysis

Quantitative data were summarized using descriptive statistics and cross-tabulations. Qualitative data were reviewed for themes. Because open-ended responses were extremely varied and defied categorization, they were reviewed by the authors and selected by consensus to illustrate statistical findings. In the interest of space, only a few are included herein.

Results

After presenting demographic information and data about respondents, we organize the results around three principal categories of inquiry:

1. Why did respondents choose to enter university early? What were their primary motivations? Were there differences between respondents in the two groups?
2. How did students assess the transition and support services available to them in their respective programs? What distinguished students who were satisfied from those who were not?

3. What academic and extracurricular activities did students engage in as undergraduates? How did they describe their own talents and abilities?

Demographic Information

Respondents included 57 females ($n_{EEP} = 17$, $n_{ACAD} = 40$) and 45 males ($n_{EEP} = 15$, $n_{ACAD} = 30$) who ranged in age from 16 to 20 (mean $_{EEP} = 17.4$, mean $_{ACAD} = 18.04$). Most respondents (81%, $n_{EEP} = 25$, $n_{ACAD} = 56$) were born in the United States, but 16% ($n_{EEP} = 6$, $n_{ACAD} = 10$) were born in countries that include China, Taiwan, India, and Russia. No ethnic data were collected in order to preserve students' anonymity. The majority of students' parents were well educated, with more than 70% having earned at least a 4-year degree. At the time of this survey, 60% of participants ($n_{EEP} = 23$, $n_{ACAD} = 37$) were living at home with parents; 28% ($n_{EEP} = 8$, $n_{ACAD} = 20$) were living in apartments or rental homes, and 9% lived in university housing ($n_{ACAD} = 9$). The majority of respondents (88%, $n_{EEP} = 25$, $n_{ACAD} = 64$) had attended a public school prior to entering EEP or the Academy. Only 8% ($n_{EEP} = 4$, $n_{ACAD} = 4$) had attended a private school and 4% ($n_{EEP} = 2$, $n_{ACAD} = 2$) had been home-schooled. Sixty percent ($n_{EEP} = 22$, $n_{ACAD} = 39$) came from suburban school districts, with a sizeable minority (38%, $n_{EEP} = 8$, $n_{ACAD} = 29$) coming from urban schools. Only 2% ($n_{EEP} = 1$, $n_{ACAD} = 1$) had attended rural schools.

Principal Questions

1. Why did respondents choose to enter university early? What were their primary motivations? Were there differences between respondents in the two groups?

Excitement to learn was the principal motivator for both groups. Fifty percent ($n_{EEP} = 19$, $n_{ACAD} = 32$) said this was *very important* and 38% ($n_{EEP} = 9$, $n_{ACAD} = 28$) said it was

Table 1

Importance of Factors to Students' Decision
to Join the EEP or Academy

	<i>Very Important</i>	<i>Important</i>	<i>Somewhat Important</i>	<i>Not Important</i>
Disappointment academically and intellectually in previous schooling				
EEP Students	14 (45%)	9 (29%)	6 (19%)	2 (6%)
Academy Students	29 (41%)	21 (30%)	16 (23%)	4 (6%)
Unhappy socially in previous schooling				
EEP Students	7 (23%)	10 (32%)	6 (19%)	8 (26%)
Academy Students	12 (17%)	17 (24%)	20 (29%)	21 (30%)
Parental Pressure				
EEP Students	2 (6%)	2 (6%)	6 (19%)	21 (68%)
Academy Students	3 (4%)	9 (13%)	23 (33%)	35 (50%)
Excitement to Learn				
EEP Students	19 (61%)	9 (29%)	3 (10%)	0
Academy Students	32 (46%)	28 (40%)	8 (11%)	2 (3%)
Sought Peer Group				
EEP Students	5 (16%)	8 (26%)	8 (26%)	10 (32%)
Academy Students	9 (13%)	14 (20%)	22 (32%)	24 (35%)

important. As Table 1 indicates, this reason was followed closely by disappointment with their previous schooling. Social reasons were less salient as was pressure from their parents. Respondents elaborated on their reasons in an open-ended question that asked them about their primary motivation. Once again, many described their passion for learning and the intellectual challenges afforded by early university entrance. As two students said:

I was bored with the classes I was taking in high school, and socially it wasn't very satisfying either. Although I didn't have a specific major in mind or even a focus for

my studies, I wanted to be able to have the freedom to choose the classes that would interest me . . .

Being an EEPer has opened up a world of opportunity, both socially and academically. . . . Entering the university early has exposed me to radically different people—thousands of them—each with their own unique backgrounds, ideas, and personalities.

Students' passion for learning found expression in their academic performance. Their average first year GPA was 3.65, earned while taking 48 credits. This standard of performance was consistent with that of freshmen participating in the UW Honors Program (GPA = 3.65; credits completed = 45) and higher than that earned by traditional UW freshman (GPA = 3.2; credits completed = 42). The majority of students earned places on the Dean's List each quarter for high academic performance, and students from both programs have won a disproportionately high number of top scholarships (e.g., Rhodes, Marshall, and Goldwater) and honors (e.g., Deans' Medals for high achievement in the Natural Sciences, Humanities, Social Sciences, and Engineering). Their passion also was reflected in students' educational and professional aspirations. Respondents were asked to select all the higher degrees that they hoped to earn. Forty-two percent ($n_{EEP} = 12$, $n_{ACAD} = 31$) planned to earn doctoral degrees, 19% ($n_{EEP} = 8$, $n_{ACAD} = 11$) aspired to medical degrees, 12% ($n_{EEP} = 5$, $n_{ACAD} = 7$) expected to attain law degrees, and 36% ($n_{EEP} = 9$, $n_{ACAD} = 27$) intended to achieve master's degrees.

These early entrants tended to demand much of themselves. Because many people worry that gifted students are pressured by external forces to enter university early, we asked participants whether they experienced an uncomfortable level of pressure to succeed academically from a variety of different sources. Sixty percent ($n_{EEP} = 18$, $n_{ACAD} = 42$) said they experienced this only from themselves. By contrast, 25% ($n_{EEP} = 6$, $n_{ACAD} = 19$) experienced this from parents. We also asked students

whether they were satisfied with the degree to which they had accelerated their education. Seventy-four percent ($n_{EEP} = 24$, $n_{ACAD} = 50$) reported that they were satisfied, although 13% ($n_{EEP} = 4$, $n_{ACAD} = 9$) wished that they had accelerated more. Eleven percent ($n_{EEP} = 2$, $n_{ACAD} = 9$) wished they had accelerated less.

2. How did students assess the transition and support services available to them in their respective programs? What distinguished students who were satisfied from those who were not?

The UW is a premier research university comprising more than 50,000 faculty, staff, and students, with 20 colleges and schools, 3 campuses, and approximately 200 major areas of study. It offers students a vast array of academic, social, and extracurricular resources that can be difficult to navigate. All students must learn to make good choices among these resources in order to maximize their undergraduate education, a task that can be especially daunting for early entrants. To this end, transition support is critical, particularly during students' first year. Support can come from program and university staff as well as from the EEP and Academy peer groups.

Seventy-three percent of EEPers ($n = 20$) and 51% of ACADs ($n = 34$) found their program *helpful* or *very helpful* in preparing them to navigate the departments, support services, and academic requirements at UW. Sixty-one percent of EEPers ($n = 19$) and 47% of ACADs ($n = 33$) said that their peer groups were *very helpful* or *helpful* to their academic transition, and 58% of EEPers ($n = 18$) and 69% of ACADs ($n = 48$) found their peer groups *helpful* or *very helpful* to their social transition to university. Only 5 respondents, all ACADs, felt that they had not been nurtured intellectually by their program. Respondents also rated their satisfaction with various program components, including advising, transition programming, social support, and psychological support. Results are presented in Table 2. Notably, 100% of EEPers ($n = 30$) and 76% of ACADs ($n = 48$) reported being *satisfied*

Table 2

Student’s Satisfaction With Aspects of the EEP or Academy

	<i>Very Satisfied</i>	<i>Satisfied</i>	<i>Somewhat Satisfied</i>	<i>Not Satisfied</i>
Transition Programs				
EEP Students	22 (17%)	9 (29%)	0	0
Academy Students	18 (33%)	23 (43%)	9 (17%)	4 (7%)
Academic Advising				
EEP Students	12 (39%)	9 (29%)	9 (29%)	1 (3%)
Academy Students	8 (13%)	23 (37%)	22 (35%)	9 (14%)
Psychological Support				
EEP Students	14 (45%)	12 (39%)	4 (13%)	1 (3%)
Academy Students	5 (8%)	25 (41%)	22 (36%)	9 (15%)
Social Support				
EEP Students	19 (61%)	8 (26%)	4 (13%)	0
Academy Students	14 (23%)	22 (37%)	16 (27%)	8 (13%)

or *very satisfied* with their overall experience in their respective programs. A small number of respondents, principally ACADs, were not satisfied with either the academic advising (17%, $n_{EEP} = 1$, $n_{ACAD} = 9$) or the psychological support (18%, $n_{EEP} = 1$, $n_{ACAD} = 9$) available to them, nor were they satisfied with the social support provided by their program (13%, $n_{ACAD} = 8$).

Another aspect to transition is helping early entrants manage their relatively younger age in academic and social settings. We asked respondents how they presented themselves as university students, how important participation in EEP or the Academy was to their identities, and whether they emphasized or downplayed their standing. Although being an early entrant was an important component of many respondents’ identities, only 19% ($n_{EEP} = 7$, $n_{ACAD} = 12$) said that they emphasized their early entrance status. The majority (63%, $n_{EEP} = 19$, $n_{ACAD} = 44$) said they downplayed it. Not surprisingly, most respondents emphatically did not want to be singled out for being younger. They wanted to be seen as “normal” students by peers and professors, and to be viewed and accepted as equals in

the university environment. They did not want to feel at a social disadvantage, nor did they want to appear intellectually or personally superior. Many respondents commented that identifying as an early entrant was especially helpful when applying for jobs, scholarships, competitive graduate and undergraduate academic programs, and undergraduate research. And for some it was also a source of pride, confidence, and self-efficacy. But many also discussed the difficulty they had explaining the EEP or the Academy to others, particularly to people who were skeptical about educational acceleration and early university entrance, or dealing with traditional-aged students' age prejudices.

I cannot avoid that being an Academy student is important to my identity; it has drastically changed the way I live (in the sense that I skipped from high school to college 2 years early and am younger—sometimes noticeably [younger] than almost everyone else here), but I prefer to feel and be treated like a “regular” college student most of the time.

In general, I probably downplay the fact that I'm an EEP student in regular, everyday life. I'm not ashamed of it, but I don't really want other people in my classes (other “normal” students) to know because from my experience they treat you differently if they know you “skipped” high school. . . . They stop relating to me on a normal, social level even if they did before I told them. Especially members of the opposite sex, they definitely back off when they find out I'm younger.

Family dynamics also were affected by early entrance. Although the majority of respondents (44%, $n_{EEP} = 14$, $n_{ACAD} = 30$) reported no change in their relationships with their parents as a result of their participation in the EEP or the Academy, 41% ($n_{EEP} = 10$, $n_{ACAD} = 31$) said their relationships had improved and 15% ($n_{EEP} = 7$, $n_{ACAD} = 8$) said they had declined. Transitions bring change to every family, whether

students accelerate their education or not. For some families, educational acceleration can bring issues to the surface several years earlier than they might otherwise have occurred. When we asked students to identify the most challenging aspect of their participation in EEP or in the Academy within their families, a number of issues were identified: conflicts over students' increased independence, shifting roles within the family, students wanting parents to be less involved with their education than parents wanted to be or were used to being, earlier decisions about whether and when to move out from the family home, and changing relationships with siblings.

The biggest question: Am I an "adult?" I am in college—but I'm 17. I live on my own—but I'm 17. et cetera: There is a disconnect. What defines an adult? Age? Responsibility? How much I "feel" like an adult? These questions are hard-fought.

[My mother] says she wants me to be successful, but also wants me to be happy. Success, for me, is irrelevant to my happiness. She has a different view than I do of what being in the Academy means to me; for her, it is some sort of indication of my professional motivations, for me it is just something that makes me an interesting person.

Despite the challenging intellectual, social, emotional, and familial transitions that EEPers and ACADs had to negotiate, most respondents said they were *happy* or *very happy* with their lives on a variety of dimensions, including intellectual development (81%, $n_{EEP} = 26$, $n_{ACAD} = 56$), friendships (73%, $n_{EEP} = 25$, $n_{ACAD} = 48$), families (72%, $n_{EEP} = 22$, $n_{ACAD} = 50$), and academic performance (60%, $n_{EEP} = 19$, $n_{ACAD} = 41$). However, 19% ($n_{EEP} = 8$, $n_{ACAD} = 11$) said they were very unhappy with their romantic lives and 61% ($n_{EEP} = 14$, $n_{ACAD} = 38$) felt that their participation in the EEP or the Academy had

Table 3

Students Self-Identifying as Having an Ability
or Interest in Talent Domains

Talent Domain	EEP Students (%)	Academy Students (%)
Humanities	69	51
Natural Sciences	44	46
Social Sciences	34	48
Life Sciences	31	23
Computer Science	25	24
Engineering	13	17
Interpersonal	66	60
Intrapersonal	69	56
Writing	66	50
Music	44	88
Games	50	51
Leadership	44	40
Visual Arts	34	41
Athletics	28	16
Verbal Arts	31	31
Building or Fixing	22	26
Performing Arts	25	20

negatively affected their ability to find satisfying romantic relationships at the UW.

3. What academic and extracurricular activities did students engage in as undergraduates? How did they describe their own talents and abilities?

In order to gain a well-rounded portrait of students, we asked them to complete a grid listing 17 broad talent areas, including both academic and nonacademic domains. Results are shown in Table 3.

Understanding early entrants' self-identified talents and interests is critical to effective advising and transition programming. Participants could choose more than one broad talent domain and specify multiple abilities and interests within each area. The language of the survey specified interest and ability rather than gift or talent because we have found students to be more receptive to this language. Students often are sensitive to the stigma that can surround the words "gifts and talents" and many reported their desire to "pass as normal" and not appear to be arrogant or to brag. As one Academy student commented, "P.S. I don't like trying to explain why I think I'm talented because it seems like I'm full of it. I don't actually walk around thinking, 'Hey, I'm good at lots of stuff!'"

These respondents showed clear evidence of multipotentiality. For example, of the 74 respondents who completed the qualitative portion of the grid, 83% ($n_{EEP} = 16$, $n_{ACAD} = 38$) identified one or two academic talent domains and then listed multiple specific interests and subdomains; 17% ($n_{EEP} = 2$, $n_{ACAD} = 9$) identified three or more academic areas. Forty-six percent of respondents ($n_{EEP} = 6$, $n_{ACAD} = 26$) identified one or two nonacademic talent domains, 27% ($n_{EEP} = 8$, $n_{ACAD} = 11$) identified three or four, and 27% ($n_{EEP} = 6$, $n_{ACAD} = 13$) identified five or more. It was not surprising, then, that 48% of respondents ($n_{EEP} = 12$, $n_{ACAD} = 36$) had declared or were intending to declare two or more majors. Our data indicated that respondents in both programs were a multifaceted group of individuals as evidenced by the number and diversity of interests that they described in both academic and nonacademic realms. One student's open-ended response was illustrative of this population.

In the humanities, I'm interested in the ways people express themselves. I'm pretty good at analyzing literature and philosophy. For the social sciences, I'm fascinated by the ways social institutions are created and shape those within them. Things like issues of injustice, inequality, and prejudices really riled me up. As for

athletics, I've been doing martial arts for about 5 years (kickboxing, boxing, and karate). I think I'm pretty good at them. Not as strong as some of the guys I train with, but I can hold my own and it gives me confidence. I've also played many instruments over the years. Music is like air for me; I love to get lost in it. I don't think I have a special ability in visual arts, but I'm interested in the experience. I've been told that I write very well if I'm motivated to do so.

As engaged as respondents were in the academic enterprise, most still found time to participate in a wide variety of extracurricular university activities. A sizeable number (40%, $n_{EEP} = 13$, $n_{ACAD} = 27$) reported having a job during the academic year, 39% ($n_{EEP} = 11$, $n_{ACAD} = 28$) participated in a registered student organization, and 37% ($n_{EEP} = 11$, $n_{ACAD} = 26$) engaged in undergraduate research. Many (34%, $n_{EEP} = 11$, $n_{ACAD} = 23$) also were involved in university recreational sports clubs.

Discussion

Optimal match for early university entrance students was initially conceived as a pairing of ability and academic challenge. Our data indicate that while the theory is sound, the practice requires more. This study found that the majority of students, both EEPers and ACADs, chose early entrance because they were excited to learn and wanted more intellectual challenge than was available to them in their secondary schools. This finding is congruent with data reported in earlier studies. Further, all the EEP respondents and the majority of Academy respondents said they were satisfied with the support they receive from their respective programs, including transition programming, advising, psychological support, interactions with faculty and staff, and the availability of a large and supportive peer group. In the words of one student, "having the entire Robinson Center staff

to help you out, advise and counsel you, and generally back you up” was a clear advantage. Another student reported being

much better prepared for college than the average UW freshman age peers who are also intellectual peers, [and having] less pressure to graduate quickly and more opportunities to experiment academically, and access to intellectual challenges. You have a chance to work alongside people of equal intelligence to your own. Even though I have been in this program for only a short time, its intellectual benefits have been tremendous. In high school, I learned very little even though I had straight A's. Now, I am learning a lot more and, more importantly, the knowledge which I am gaining has purpose.

Still another student praised the mentorship of faculty at the UW.

I have been blessed with many mentors at the UW. They have involved me in their research projects, helped me identify my own interests, answered endless questions, and supported me both when I was floundering and when I was flourishing.

Like EEPers in previous follow-up studies, the majority also said they were happy in multiple aspects of their lives and were pleased with the degree to which they had accelerated their education. Notably, neither male EEPers nor male ACADs reported the degree of unhappiness in their personal lives as did male EEPers in the 2004 study.

Yet many respondents also told us that their experience as early university entrants was complex. As a group, these students tend to be highly intelligent, intense, ambitious, and competitive; they also made enormous demands on themselves. In this study, 13 respondents, including 4 EEPers, wished they had accelerated their educations *more* than they had. The majority indicated that they put more pressure on themselves to achieve academically than did any other source, and that this pressure was a mixed

blessing. It might lead some students to excel academically and hold higher career aspirations, but it also can lead others to feel that they can never live up to their own or others' expectations. As two students reported,

I feel like there's no way I could ever accomplish all that is being asked of me. I want to graduate and be successful, but it seems like no matter what I do, I'll never be all the way caught up.

At first, I felt overwhelmed by my unexpressed feelings. Later, I felt overwhelmed by the fact that I really am responsible for my life. Now, I am overwhelmed by the seemingly limitless interests I discover I have.

Many respondents also said they struggle with balancing their intellectual, aesthetic, and social needs as gifted individuals with the values of a culture that prizes athletics more than academics. Another issue that can be problematic for early entrants is blending in with a traditional-aged student population. Many respondents reported that although they were proud of their accomplishments, they did not want to be seen as underage by traditional university students, nor did they want to appear to be smarter than or superior to other students. Despite the fact that they want and need more intellectual challenge than less able peers, most said they downplayed their accelerative status in order to be seen as "normal." This finding also is consistent with student experiences reported in earlier studies.

Social lives are an important part of adolescence. Thus, it was disturbing to us that 61% of respondents ($n_{EEP} = 14$, $n_{ACAD} = 38$) felt that early entrance had negatively influenced their ability to find satisfying romantic relationships at the university. Interestingly, only 19% ($n_{EEP} = 8$, $n_{ACAD} = 11$) said that they were unhappy in this aspect of their lives. In open-ended comments, some students reported missing out on some high school extracurricular activities or opportunities to meet and date a larger number of same-aged peers. We do not know how

to improve EEPers and ACADs' romantic possibilities, but these data remind us that early entrance students find personal satisfaction in many different spheres, and that intellectual engagement is only one of those spheres.

Families also can be a site of unhappiness for many adolescents, whether or not they are early university entrants. In this study, only 7 respondents reported being unhappy in their families ($n_{EEP} = 2$, $n_{ACAD} = 5$), but 25% ($n_{EEP} = 6$, $n_{ACAD} = 19$) said they felt an uncomfortable level of pressure from parents to succeed academically. Even students who were happy in their families spoke about the occasional stress they experienced when they wanted more independence than their parents were willing to give them, stress also experienced by their parents (Noble et al., in press). For some respondents, conflict with parents arose when they expressed their desire to move out of home, pursue careers other than those parents deemed appropriate, spend more time at school, or study abroad in countries that parents disapprove. As one student said,

They can't accept that I'm not quite like other kids my age, that I'm taught to have a critical mind... so I don't always believe in things I used to believe in (i.e., religion). They can't tolerate the idea of me hanging out with guys . . . ridiculous really. They are resistant to my independence.

In addition, some early entrants have to wrestle with parental marital discord, illness, addiction, or death and this can take a severe toll on their social and emotional well-being. It also can compromise their ability to focus on their academic progress and performance and thus diminish their career aspirations and opportunities for achievement.

Another site of unhappiness can be the academic environment of the university. Although only 4 respondents ($n_{EEP} = 1$, $n_{ACAD} = 3$) said they were unhappy intellectually (e.g., with their choice of major), 12 ($n_{EEP} = 4$, $n_{ACAD} = 8$) said they were unhappy academically (e.g., with their grades and performance). Eleven respondents ($n_{EEP} = 2$, $n_{ACAD} = 9$) wished they had

accelerated less. In open-ended comments, some respondents' said they felt intimidated by the high level of intelligence and ambition expressed by their peers, something they had not experienced in secondary school. Others remarked on the distinct differences in the intellectual expectations of secondary school teachers and university professors. Some students might have entered EEP or the Academy because they were highly competent middle or high school students who never had to study or compete for high grades, only to find that university success demanded more from them academically and intellectually than they were prepared to give. Although all students are admitted to the EEP or the Academy based on test scores, grades, teacher recommendations, and motivation for intellectual challenge, the reality of early entrance is not something that students can fully comprehend until they are immersed in the experience.

Their choice of university also might have been a factor in some respondents' unhappiness. The UW is a large, public, liberal arts institution, and all students must take general education courses in disciplines outside their majors or areas of competence. Students who wanted to focus on certain subjects to the exclusion of others (e.g., math, science, or music) or who had hoped to attend a private college or university might have regretted their decision to enter UW early. As one student remarked,

Often I feel I won't "make it" as a musician so as to satisfy my ambitions, that I will feel unfulfilled. And often I feel trapped in a less serious music school. I would prefer to attend a conservatory or a more prestigious school of music, but my mother will only support me attending a university close to home.

In discussing the possibilities of early university entrance, Robinson and Robinson (1982) cautioned that "any program of this kind must be flexible and experimental" (p. 92). The evolution of both the EEP and the Academy bears out the truth of this observation. The EEP, now in its 30th year, has changed significantly since its first two students were admitted in 1977,

and students in its mature cohort reported significantly higher satisfaction with all aspects of their early entrance experience than did students in either of the two earlier cohorts (Noble et al., 2007). Now in its sixth year, the Academy has undergone a similar evolution. One finding of this study was that ACADs as a group were less satisfied with their transition experiences than were EEPers. This might reflect the maturity of the EEP, as well as a number of challenges faced by the Academy since its birth, not least of which was the presence of four different academic counselors in its first 4 years. The Bridge program also was reconfigured annually during this time. In the first year, Bridge included five Academy courses but this changed to two courses in the second year and three in subsequent years. Our original conclusion that we needed to offer fewer Academy courses in the second year was based on student complaints in the first; however, it resulted in dissatisfaction among many second-year students and led us to reconsider our initial decision. Therefore, in the third year we introduced Academy 198, a course that has also matured based on student evaluations.

Since these data were collected, we have changed our advising philosophy, most notably intensifying first year preadvising and instituting regular advising sessions for all first and second year EEPers and ACADs. We also have increased intergenerational contact among ACADs by following the EEP framework of using older students as teaching assistants for Bridge and promoting peer mentoring. Students' input is regularly solicited for policies and procedures governing shared community space, and a number of social activities designed to foster interaction between the EEP and Academy communities have been initiated. The next follow-up survey will assess and compare both EEP and Academy graduates. We hope to find then that ACADs' satisfaction is equal to that of EEPers.

In future studies we also plan to collaborate with the UW Honors Program to compare EEPers' and ACADs' undergraduate trajectories and experiences with those of traditional-aged Honors students. Additionally, we will conduct ethnographic research to explore in more depth the complexity of such issues

as underachievement, multipotentiality, and biculturalism for these gifted undergraduates. We also hope it will be possible to collaborate with other early entrance programs to compare students' experiences across programs and to develop a more comprehensive profile of students for whom early entrance is—or is not—the most optimal match.

Limitations

Several limitations are important to keep in mind when considering the findings of this study. Although we were pleased that the response rate was more than 50%, we wished that it were higher. However, the anonymous nature of the study precluded telephone contact or more active encouragement than two follow-up emails. The survey was long and response fatigue may have been a factor in students' choice not to participate. Respondents might be overrepresentative of students who were either more identified with or disaffected from the EEP or the Academy. Generalizability is limited because early entrance programs are rare and unique. These findings may not be salient for programs organized differently or geared to different student populations. Finally, the authors have been working with these students and programs for many years, which could bias data interpretation.

Implications

This study demonstrates that three constituents must be well-prepared if early university entrance is to be successful. These constituents are students, parents, and the institution.

Students. All early entrants need a period of intellectual preparation in a supportive and rigorous environment; a peer group that is large enough for them to find same-age friends; a home base in which to congregate, study, and/or socialize; communication with parents; a faculty and staff who enjoy teaching, advising, and mentoring gifted young scholars; and a welcom-

ing university or college environment. However, programs for younger students, like the EEP, need to provide more intensive academic transitioning during the first year, and programs for older students, like the Academy, must balance students' competing needs for independence and guidance.

Academic advising that is tailored to this population is critical. Our data clearly reveal the multipotentiality of these two groups of early entrants, a dynamic that can pose a significant challenge to students' decision-making and advising needs. EEPers and ACADs rise to the challenge of multipotentiality in different ways and at different times. Some feel paralyzed by having to choose between equally prized interests; some get stalled and confused. Some have a flying start only to change their minds partway through their undergraduate careers. Others stay focused on their original interest and may or may not take the risk to explore other options. EEPers and ACADs are accustomed to receiving the highest possible grades in the primary and secondary environment, often with little or no effort, and they have to adjust their expectations, study habits, time management, and organizational skills as university undergraduates.

Students' social lives also change as they transition to traditional-aged peer groups and primary relationships take on increasing importance. Further, early entrants are not immune from events that can traumatize adolescents, such as changes in family lives and parental configurations, the emergence of psychological disorders, and increasing exposure to a complex world. The availability of psychological counseling, both formal and informal, from individuals who understand these gifted students is thus of great importance.

Parents. The early entrance experience presents parents with a number of issues and challenges that are discussed at length in another study (Noble et al., in press). Parents benefit greatly from information and advice about the social, emotional, and academic challenges that they and their children may encounter during the first year. Comprehensive parent orientation activities at the start of the academic year give parents a bet-

ter idea about what to expect from the EEP or the Academy, and about the complexities of the university environment that their children will be entering. Opportunities for them to speak with parents of earlier cohorts of early entrants and to support each other during their own transition are invaluable. Finally, channels of communication with program staff must remain open, especially during students' first undergraduate year. The communication needs to be more intense and more regular for younger students.

Institution. Institutional support will vary depending on the size and location of the college or university that early entrants attend. At the UW, we have found that active collaboration with officers and services that are important to students' lives assists EEPers and ACADs to access these services when they need them. A few with whom we communicate regularly are admissions officers, departmental advisors (to help early entrants' transition to their major department[s]), Honors program staff, and staff from undergraduate support services (e.g., student housing, financial aid, student health, and counseling). Students who are minors also will need institutional and parental permission to engage in some research opportunities, internships, service learning projects, or foreign study programs until they reach the age of majority, authorization which program staff help to facilitate. Regular interaction with faculty and central administrators also helps to sustain a welcoming climate in which early entrants feel at home.

Conclusion

Although early entrance has proven to be an optimal educational match for many gifted students at the UW, some—perhaps all—have doubts from time to time. They wonder if they have made the right decision to enter university early or at all, if they should have experienced high school graduation, if and when to move out of the family home, or whether to major in

one subject or more. We are not alarmed by students' questions. It is the nature of intelligence to have doubts about one's choices, to question one's meaning and purpose in life, to make agonizing decisions about directions that are equally prized but unequally attainable. Early university entrance programs that are carefully designed can offer gifted young scholars a rich and nurturing milieu in which their questions, interests, passions, and dreams can deepen and mature.

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