Article

An Examination of Self-Determination Within Alumni of an Early College Entrance Program

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Abstract

This article describes outcomes from a subpopulation of a larger study (The Alumni Study) of early college entrance alumni through the lens of self-determination theory. The Alumni Study used mixed methods, was implemented in two sequential phases, and included alumni from two different early college entrance programs (Early Entrance Program and UW Academy). The focus of this article is on the qualitative interviews of 26 UW Academy early entrants who fully matriculated into college as Honors Students after 10th grade. Results indicated that early college entrance (a) provided a more challenging and autonomous environment than high school, (b) provided higher personal control over academic and social choices, and (c) met students' strong need for relatedness as well as for autonomy and competence. The early entrance to college program gave students a cohort where they could interact with same-age peers who had demonstrated similar academic competence and interests to achieve. However, some participants reported that being younger than their college peers may have inhibited the development of relationships with older college students.

Keywords
self-determination, autonomy, competence, relatedness, early college entrance

Academic acceleration has been an effective intervention that opens pathways for students to have challenging, stimulating, and relevant learning experiences (Assouline,

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Colangelo, VanTassel-Baska, & Lupkowski-Shoplik, 2015). Early college entrance is one of many accelerative options available for high-achieving students. Students who are ready for the demands of advanced coursework in a college environment and have the self-regulation necessary to handle the demands of college expectations may enter their careers earlier than their same-age peers. In this article, we report on a subset of the Alumni Study (Hertzog & Chung, 2015) where we investigated outcomes related to academic, social, and emotional impacts of attending college early.

Background of the Study

Researchers have reported numerous positive benefits of educational acceleration on students' academic performance and long-term careers (Brody & Stanley, 1991; Olszewski-Kubilius, 2002; Park, Lubinski, & Benbow, 2013). However, few of these studies on acceleration have included early college entrance programs due to the rarity of these programs, and fewer still have empirically investigated the academic and social-emotional outcomes of these students. Only a handful of universities in the United States have a cohort-based early entrance program. Gross (2004) found that radical accelerants (those accelerating 3 or more years ahead of their age-peers) had high to exceptional levels of academic outcomes and professional careers. Boazman and Sayler (2011) explored life satisfaction and personal well-being of gifted students who were accelerated into an early college entrance program through analysis of their experiences and psychological traits. These early college entrants reported greater levels of satisfaction in their achievements, personal safety, and future security than did age peers. For gifted students, early college entrance represents a specialized educational intervention that provides many opportunities for focusing on one or more interest and talent development areas and has access to talent-specific learning (Sayler, Boazman, Natesan, & Periathiruvadi, 2015).

Unlike academic adjustment and performance, social and emotional well-being of students who enter college early has been a great concern for parents and prospective students (Noble et al., 2007). A common misconception is that radical acceleration leads students to become unhappy and socially maladjusted (Richardson & Benbow, 1990). On the contrary, as synthesized in a meta-analysis of Steenbergen-Hu and Moon (2011), research thus far has generally demonstrated positive or neutral social-emotional outcomes, and few, if any, social and emotional difficulties. For example, Gross (2004) found that radically accelerated students are better able to socialize and have less social or emotional maladjustment compared with their nonaccelerated equally able peers. Hoogeveen, van Hell, and Verhoeven (2012) compared social-emotional characteristics (i.e., self-concept, social relationships, and behavioral characteristics) of accelerated children who were identified as gifted with those who were identified gifted and not accelerated. The results showed that acceleration does not harm gifted students socially and emotionally, even in the case of radical acceleration. If anything, there was a subtle suggestion in this study that the accelerated students were more socially competent than their nonaccelerated peers. Similarly, a number of studies conducted with early college entrants have reported that radical acceleration

not only positively affected students' intellectual growth but also benefited their social and emotional development (Boazman & Sayler, 2011; Brody, Muratori, & Stanley, 2004; Dai & Steenbergen-Hu, 2011; Noble, Arndt, Nicholsen, Sletten, & Zamora, 1999; Noble & Drummond, 1992; Noble, Robinson, & Gunderson, 1993; Noble & Smyth, 1995; Noble et al., 2007; Sayler, 2015).

As shown in the data from the alumni study (Hertzog & Chung, 2015), students chose early entrance programs to seek a more challenging educational environment. They may have believed that the program would help them develop their personal and intellectual strengths and facilitate their future career choices. These short- and long-term goals and attainments reflect a set of concepts that are deeply associated with psychological needs. Therefore, early entrants' perspectives of their experiences during and after college provide a strong rationale for exploring their psychological needs in relation to self-determination theory (SDT; Deci & Ryan, 2000).

SDT

SDT conceptualizes three "innate psychological needs" (Ryan & Deci, 2000, p. 68) necessary for motivation and positive human development: autonomy, competence, and relatedness. According to SDT, student autonomy is critical. Individuals need to internally control their behaviors and make their own choices. Competence refers to the need for students to explore and attempt mastery of skills. Relatedness refers to the need to feel safe and securely related to others (Ryan & Deci, 2000). SDT has generated a considerable amount of research and appears rather pertinent for the field of education (e.g., Deci & Ryan, 1985; Deci, Vallerand, Pelletier, & Ryan, 1991; Ryan & Deci, 2000). Two important conclusions that can be drawn from several decades of empirical work on the utility of applying SDT to educational settings are that self-determined students thrive in an academic environment, and they benefit when receiving support from others (Reeve, 2002).

The basic psychological needs in SDT are critical for personal well-being, which is reliant on both cognitive and social-emotional functioning across the life span (Bornstein, Davidson, Keyes, & Moore, 2003). A person's success in self-determination results in more meaningful, enjoyable, and productive activities. Therefore, students' personal motivation and emotional maturity should be taken into account while making decisions about early entrance. When students are appropriately placed in accelerated environments, they tend to be more self-reliant, autonomous, competent, and happy (Gross, 2004), and are less likely to have social adjustment issues (Gagné & Gagnier, 2004). Careful selection of students for early entrance programs and ongoing provision of academic and social-emotional support can facilitate social adjustments of young college students.

Adolescence and emerging adulthood is a critical period in which identity formation is believed to occur (Arnett, 2000; Santrock, 2014). Research on brain development indicates that the prefrontal cortex, a vital brain structure related to executive functions including planning and decision-making, is still developing throughout this period of emerging adulthood (Santrock, 2014). The imposed and anticipated roles

placed on individuals during this stage may lead to stress and psychological difficulties (Eccles et al., 1993). Early entrants may experience more tensions and pressure due to their younger age and heightened academic expectations from others. Students entering college early typically graduate while they are in the transitional period between adolescence and emerging adulthood. To be able to function as healthy, self-determining adults, young students should experience positive psychological and social growth during their college years. The basic psychological needs central to SDT are assumed to be innate and universal across cultures (Ryan & Deci, 2000). Although these needs remain present throughout the life span, people's innate and inherent tendencies may change over time. As children grow older, different relational and competency contexts offer unique opportunities for development of these needs. Various aspects of the social environment, such as stable connection to the group an individual is a part of, affect people's self-determination and, in turn, the quality of their performance (Deci et al., 1991). Because early college entrants make the transition from high school to postsecondary life 1 or more years earlier than their age-peers, it is crucial to understand whether the college environment and early entrance program allow satisfaction of the three basic psychological needs for autonomy, competence, and relatedness. Therefore, we sought to explore the question, "What did the interview data of our Honors accelerated students in the UW Academy (ACAD) reveal as to their own development of self-determination?"

Method

This article presents part of The Alumni Study that looked at how participation in two different early college entrance programs (Early Entrance Program [EEP] and ACAD) impacted alumni's personal, academic, and professional lives (Hertzog & Chung, 2015). To explore how early college experience and its motivational underpinnings relate to self-determination and success outcomes, we analyzed the outcome data through the lens of SDT. We explored both current and retrospective experiences of the early entrance program alumni. The analysis of their experiences of self-determination was extended from their college lives to professional careers.

Only the outcome data from ACAD were analyzed for this article. ACAD, founded in 2001 in partnership with the University of Washington's Honors program, offers highly advanced students the opportunity to enter the university as freshmen after their 10th grade of high school. Each year, 35 students are selected for the cohort based on a holistic review of their application to the university, which includes SAT or ACT test scores, high school transcripts, personal statements, and teacher recommendations. In addition to the criteria for entrance into the university, students also submit an essay about why they want to join either early entrance program and attend college early. ACAD has a comprehensive and proactive academic advising program, support through a summer Bridge Program that helps students to build camaraderie within the cohort, and provides ongoing support throughout their time at the university. Both early entrance programs are a commuter program with an administrative center located in a building on campus where early entrance students have access to a kitchen and

Table 1. Demographic Characteristics of Participants.

	Phase 1		Phase 2	
	n	%	*n*	%
Gender				
Male	23	31.5	17	33.6
Female	48	65.8	9	65.4
Other	2	2.7	0	0
Race/ethnicity				
Caucasian	39	53.4	14	53.8
Asian	27	37.0	10	38.5
Hispanic/Latino	1	1.4	1	3.9
Other	5	6.8	1	3.9
Missing data	1	1.4	0	0

lounge to prepare their lunches and snacks, socialize between classes, and drop in for academic advising, as needed.

Participants and Procedure

ACAD alumni entered the University of Washington as fully matriculated freshmen and Honors Students after their 10th grade year of high school. The Alumni Study was the first to include ACAD participants in research. Seventy-three alumni from ACAD responded to a questionnaire in Phase 1. Of those respondents, 26 alumni (36%) were involved in the semi-structured interviews. They were both randomly (by gender) and purposefully (choosing those from an immigrant family background) selected from among all alumni who were interested in being interviewed. The demographics of the participant population can be found in Table 1. Notable are the high percentages of female (66%) and Asian American participants (37%) in this sample. Also, due to the age of the program, the alumni were young (mean age was 24 years), many still in graduate school at the time of the interview, which means their responses do not reflect long-term impact or final career choices.

The Alumni Study was a mixed-methods study conducted in two phases: quantitative (Phase 1) and qualitative (Phase 2). At its most fundamental level, mixed-methods design involves collecting, analyzing, integrating, and/or interpreting quantitative and qualitative data at one or more stages of the research process (Creswell, Plano Clark, Gutmann, & Hanson, 2003). This design is most useful when "mixing" of the two approaches results in stronger inferences, opportunities to present more diversity of perspectives, and a better comprehensive understanding of the research problem than would a single methodological approach alone (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2003).

The 81-item questionnaire in Phase 1 was comprised of seven sections that included a variety of Likert-type scaled and open-ended questions. These sections were program impact, educational outcomes, employment outcomes, participant values,

personal relationships, other/miscellaneous, and demographics. Several different sources were used to adapt and develop the questionnaire, including a 15- and 25-year alumni follow-up survey by Noble et al. (1993) and Noble et al. (2007), respectively; a 35-year follow-up of Study of Mathematically Precocious Youth (SMPY) graduates by Lubinski and Benbow (2006); and alumni surveys of university alumni (McGhee, 2009). A more detailed explanation of the instrument may be found in Hertzog and Chung (2015).

Phase 2 included semi-structured follow-up interviews with the alumni who participated in Phase 1. The interview questions were developed based on the analyses of data gathered from the questionnaire responses. The interviews were conducted by phone, Internet (e.g., Skype), or in-person, and lasted approximately 1 hr. All interviews were recorded with consent of interviewees and subsequently transcribed by a professional company. A sample of the interview protocol may be found in Appendix A in Supplemental Material. This article presents a secondary analysis of the interview data. We are only referring to data from the questionnaires as a triangulation point for the interview data.

Data Analysis

We examined the interview data in relation to the responses on the questionnaire that indicated a need for self-determination. For example, we were interested in seeing whether the reasons in participants' decisions on early college entrance and coming to the ACAD were associated with seeking more autonomy, competence, or relatedness. The interview data were coded by examining emerging themes related to SDT. Data from the semi-structured interviews were categorized according to three psychological needs of SDT: autonomy, competence, and relatedness. Each code was analyzed regarding the relevance of its content to these categories. Relevance here means either a direct appropriateness of selected quotes with regard to the SDT categories or an indirect relationship to the inherent components of our framework as the sources of explanation (e.g., the role of perceived *parental expectation* in the inhibition of *autonomy*). Sample excerpts are provided to present the SDT coding themes of Autonomy, Competence, and Relatedness (see Appendices B, C, and D in Supplemental Material). The constant comparative method was used to constantly compare and contrast data from within or across data sources to examine patterns and make meaning (Glaser & Strauss, 1967; Merriam, 2009). Trustworthiness of the results was achieved by using between-methods triangulation, with data from the quantitative phase and the recorded semi-structured interviews.

Findings

The interviews of ACAD alumni reiterated how overwhelmingly positive they were about their decision to enter college early and their freedom to make choices in college. The interviews were explicit about how they sought psychological well-being by coming to college early. Findings will be presented in the three themes of SDT.

Table 2. Reasons in Participants' Decisions to Come to the UW Academy.

	N	Very Unimportant 1 n (%)	Unimportant 2 n (%)	Important 3 n (%)	Very Important 4 n (%)	M	SD
Needed a challenge	73	1 (1.4)	4 (5.5)	23 (31.5)	45 (61.6)	3.53	0.66
Excited to learn	73	1 (1.4)	6 (8.2)	17 (23.3)	49 (67.1)	3.56	0.70
Liked UW Academy peer group	73	31 (42.5)	30 (41.1)	10 (13.7)	2 (2.7)	1.76	0.78
Fast track to profession	73	20 (27.4)	26 (35.6)	19 (26.0)	8 (11.0)	2.20	0.97
Unhappy socially	73	28 (38.4)	21 (28.8)	16 (21.9)	8 (11.0)	2.05	1.02
Parental pressure	73	44 (60.3)	14 (19.2)	13 (17.8)	2 (2.7)	1.62	0.87
Disappointed with previous schooling	73	6 (8.2)	19 (26.0)	30 (41.1)	18 (24.7)	2.82	0.90

Autonomy

Alumni's autonomy seeking was revealed in different ways, including how they made their decisions to come to ACAD, the desire to select more curricular choices, and ways in which they sought independence from their parents. The analysis of interviews suggested agreement with the questionnaire (see Table 2) that the primary reasons for coming to ACAD were that (a) the participants were bored in high school, (b) they wanted a challenge that they never had in high school, and (c) they had an opportunity to choose the classes that they wanted to take. In other words, they expected that ACAD would provide a more challenging and intellectually autonomous environment for them to excel. The interviewees explained as follows:

> I really wanted more of a challenge and it seemed like coming to [this university] at an early age would give that to me and I wasn't really getting that in high school. (Participant A, June 19, 2014)

> It just seemed like a great opportunity for me to get to choose the classes that I wanted to take and things like that a little sooner. (Participant B, July 21, 2014)

> I did not like high school, or I just felt like I was not learning, and it was nice to get another opportunity to, I am always someone who wants to find something new, and I get bored [really] easily. (Participant C, July 11, 2014)

> I think the main reason was just that I was getting bored in high school. My high school didn't have the best program set up for handling honor students at that point and the—they had a few really not very challenged [inaudible], so I was excited about the fact that there were potentially more interesting classes and more academic challenges that I could have. (Participant D, June 17, 2014)

> I think that was part of why high school bothered me so much because I had the interests that I was really into and I really wanted to pursue and there was absolutely no outlet to pursue it in high school, like none at all. (Participant E, May 5, 2014)

Most of the alumni indicated that it was their decision to enter the early college entrance program. Some of the alumni reported they made efforts before and during their college years to protect their personal autonomy. However, parents still played a very important role in most of the alumni's transition processes from high school to college. One interviewee explained, "I'm very proud of my parents because they left it up to me to decide and so I did a whole day visitation thing where you know, sit in the classroom." (Participant F, June 3, 2014). Another interviewee said, "My mom was really supportive . . . She—sort of—stepped back and was like I'm not going to make this decision for you, but if it were me I would jump on it" (Participant G, June 27, 2014).

Six interviewees reported excessive parental pressure or high parental expectations for their educational and career attainments. The majority of alumni, however, indicated that parental expectations were communicated well and did not inhibit their autonomy. These expectations were more likely to align with parental support. One alumna expressed parental support in this way:

> So parents' expectations definitely [were] just do, like don't go overboard, just really do what you like to do, but don't like underachieve either. Like do your best and be good at it, and if it's okay, if it's a B, that's okay. (Participant C, July 11, 2014)

Parental influence and support was noted frequently during the interviews. The early entrants tended to be self-motivated individuals who sought advancement and challenge throughout their academic and career lives. Therefore, the comments on parental support reflected a constellation of parenting behaviors that can be characterized as autonomy granting, rather than intrusiveness or demanding. For example, one alumna said as follows:

> They [parents] did not push me to do it at all. Actually, they said "are you sure you want to do this," and I said "yeah I think so" and they said "okay, well you know we are here if you have any questions or if you want any support," I guess, but they were pretty hands off about the whole thing. (Participant H, July 29, 2014)

An increase in children's sense of autonomy during adolescence is an important factor that instigates changes in their relationships with parents (Dubas & Petersen, 1996). Parental expectations, if not communicated clearly, may lead to inhibition of autonomy in children (Kenyon & Koerner, 2009). Parental expectations seemed to shift over time, as well as student's reactions to their parents naturally changed as they grew older. Some students reported internalizing the expectations of their parents, and others reported that as they got older, parental expectations for their educational aspirations and attainments became less important than their personal expectations. Therefore, it is quite natural to see the students' perspectives shift over time. One student explained this growth in this way: "I think it's more shifting from doing what other people tell you, doing what the society tells you, to just doing what you like to do. I think . . . it is just kind of growing up" (Participant C, July 11, 2014).

Seeking autonomy is part of the natural growth process. Especially during adolescence, it often causes stress and turmoil in parent and child relationships. With the alumni, their explicit reasons for wanting autonomy were academic focused, needing to find challenge, and wanting to pursue their interests. Knowing that most of them would still be living at home because they would be too young to move into the dormitories, they did not express reasons to come to college early to get away from their parents, or the structures that parents enforced on their daily lives. Rather, they sought autonomy to escape their academic environment, which implies they were seeking opportunities to grow in knowledge and skills. This relates to their need to achieve competence.

Competence

Environment is an important factor that fosters self-determination (Deci & Ryan, 2000). A primary concern of the interviewees was that they were not appropriately challenged in high school, even if they were in a gifted/highly capable program. As the interviewees left high school and entered the less restricted environment of college, they strengthened their personal control over their academic choices naturally occurring in the university environment. Their responses to the interviews indicated their desire to accomplish more in a university setting than they had the opportunity to do in high school. The majority of interviewees shared that they were self-motivated and goal-oriented learners. They were intrinsically motivated in academic pursuits, because they believed that they were competent. In addition, they sought opportunities to learn more about the topics in which they were interested. Consistent with the quantitative results, the interview findings further revealed that high level of intellectual challenge was among the most important goals for both academic and job career paths of the alumni. The interviewees said as follows:

> I feel like I've always held myself to a pretty high standard of doing well academically and yeah so I think I've held myself to higher expectations and everyone else in my life has really never tried to hold me in. (Participant I, July 21, 2014)

> I really think being able to start college early and start learning calculus and advanced chemistry at the time when I didn't have those opportunities available to me in high school was probably very important to help me figure out what's going--what I should be doing or what I like to do and what I should be pursuing. (Participant F, June 3, 2014)

Qualitative findings were consistent with results on the Phase 1 questionnaire. On the questionnaire, 97.3% of the respondents believed that the early entrance nurtured them intellectually (see Table 3). Interviewees' comments about the academic and career outcomes of early entrance centered around the sense of accomplishment. The alumni were satisfied with their career choices and the opportunity to start their career earlier than most of their counterparts. One respondent summed up her accomplishments this way: "I am proud of what I am doing. I am proud of what I will do" (Participant B, July 21, 2014).

Table 3. .Effects of the UW Academy on Academic and Social-Emotional Lives.

	N	Strong negative influence 1 n (%)	Somewhat negative influence 2 n (%)	Somewhat positive influence 3 n (%)	Strong positive influence 4 n (%)	M	SD
Nurtured intellectually	73	0 (0.0)	2 (2.7)	30 (41.1)	41 (56.2)	3.53	0.55
Provided rich social environment	73	10 (13.7)	17 (23.3)	36 (49.3)	10 (13.7)	2.63	0.88
Prepared for current environment	73	3 (4.1)	10 (13.7)	45 (61.6)	15 (20.5)	2.98	0.71
Prepared to find satisfying friendships	73	6 (8.2)	23 (31.5)	31 (42.5)	13 (17.8)	2.69	0.86

Relatedness

When surrounded by their high-achieving peers, the environment was an intrinsic motivator for the early entrants. Interviewees repeatedly underscored the importance of being with other learners who shared similar learning characteristics and dispositions in their academic growth. For some alumni, this need was a strong motivator for coming to ACAD.

> High school was intellectually boring and I was going to run out of classes and I didn't have a lot in common with my peer group, so those were two primary—well probably the only real motivation. (Participant J, July 13, 2014)

Findings show that the need for being with like-minded people extended beyond the early college years of the interviewees to include career motivators.

> Probably like a year and a half to two years when I started the grad degree, the Master's degree was a really good way to meet people and I met friends through that and kind of like the like-minded and the people are there to meet other people. (Participant K, July 17, 2014)

Results from descriptive analysis suggested that the social outcomes for ACAD alumni were positive too, even though the mean scores and percentages were lower than those related to academic outcomes. Forty-six percent of the respondents reported that the early entrance provided a rich social environment (in a 4-point Likert-type scale: $M = 2.63$, $SD = 0.88$), and 44% reported that it prepared them to find satisfying friendships after college ($M = 2.69$, $SD = 0.86$). These results were consistent with the interviewee's comments on the importance of being with students who have similar interests.

The satisfaction of self-determination needs is an important precursor for overall well-being (Bornstein et al., 2003). Therefore, these needs can be thought of as overlapping in some significant experiences. For some early entrants, the need for

competence or autonomy was intertwined with their desire to relate to others. For example, academic success might be viewed as an important factor for early entrants to be able to connect and interact with others.

> I really had built my identity around achievement; that was where my self-worth came from, right, achievement that other people could recognize and acknowledge. (Participant L, June 4, 2014)

Although the primary motivations for early entrance to college were explicitly related to the needs for competence and intellectual autonomy, several participants shared that they were concerned about leaving high school friends prior to joining the program.

> I felt like kind of bad that I was like leaving all my friends and I was like not really sure. (Participant M, July 20, 2014)

> At first, I was kind of apprehensive about it, about leaving all my high school friends and then basically starting over, but then you know that was—that was the main reason why I was kind of anxious to—to apply and to accept. It took me a while to decide whether to accept or not because of that. (Participant N, male, June 20, 2014)

Most of the interviewees' concerns about their early entrance experiences were related to fulfillment of the fundamental need of relatedness. Although the alumni were satisfied with their relationships with other early entrance program students, as they found them like-minded, in a broad social-environmental context, they questioned their ability to fit in with other college students outside of ACAD.

> I tell myself that maybe two more years of high school would have given me this kind of pressure-free experience to pass these social boundaries and I would have been more comfortable with myself, and maybe that was something that ACAD didn't explicitly give me because I was so comfortable with my cohort. (Participant F, male, June 3, 2014)

> I think maybe if I had gone the traditional path and started college when I was 18 I would feel more comfortable and more that I like belonged there and that people weren't looking at me like some outsider. (Participant M, female, July 20, 2014)

Nine alumni shared that they had concerns about being younger than their college peers outside of ACAD. Being called *smart* or *gifted* was a stereotype that the early entrants experienced.

> I would say that there is a bit of a stigma that kind of follows you about like oh yeah you're the youngest, and people would kind of forget for a while that you're not the same age as them and they'll be like, oh yeah you're two years younger than I am. (Participant G, June 27, 2014)

> It was embarrassing because now like it barely comes up in conversation and when it comes up people are like, oh how interesting, but when you're 16 other college people are

like eh? So in that way it was detrimental and I did make really good friends from my
year, but I would assume that I would have a wider group or a different group or whatever
if I had gone into like a normal stream. (Participant K, July 17, 2014)

Although the coping responses of the early entrants to stressors resulting from their
stigmatization were not elaborated with the follow-up interview questions, several
participants indicated that they were actively coping with the negative effects of stigma
by hiding their age or denying their "differentness." All early entrance students were
fully matriculated college students and shared classes with students of all ages.

I definitely have developed a kind of behavior of very not revealing my age and it helps
if I have a beard and stuff, so it kind of helps me look older which is nice because most
people assume that like you know I'm 24–30 kind of, but I definitely had to lie about my
age and conceal it and stuff like that. (Participant I, July 21, 2014)

I don't want people to think like oh she did this crazy program, because people look at
you differently and I'm not that different; I'm not a genius [laughs] I just decided to go to
college 2 years early. (Participant M, July 20, 2014)

To summarize, both quantitative and qualitative findings support the substantial
contribution of early college entrance to the fulfillment of alumni's autonomy and
competence needs. Most of the reasons to enter the college early were related to the
lack of supportive school environment that fulfills these two psychological needs.
Needing a challenge, being excited to learn, and disappointment with previous school-
ing were strong impetuses to apply for ACAD. Early college experience has the poten-
tial to meet these needs by providing more challenging and autonomous environment
for bright adolescents than high school. Findings of this study suggest that the less
restricted nature of the university environment provided more autonomy and higher
personal control over academic choices through guided mastery experiences naturally
occurring in this type of environment. All academic aspects of the university environ-
ment seem to be compatible with their expectations and needs. Social and emotional
maturity, however, remains as a central question to be ascertained before making con-
cluding remarks. We discuss this aspect in detail in the subsequent section.

Discussion

The present study contributes to the discussion regarding the role of early college
entrance in highly capable adolescents' academic and social-emotional experiences.
Adolescence is a critical time for the development and expression of self-determination
(Field, Hoffman, & Posch, 1997). As young adolescents experience a transition period
from dependent childhood to independent or interdependent adulthood, the nurturance
of self-determination becomes highly necessary for their healthy growth. Adolescents
who enter college early at 15 or 16 years of age may face multiple confounding factors
during this period. They must deal with social relationship issues and possible stigma

resulting from their age and the question of whether their performance suffers due to skill gaps as a result of skipping 2 or more years of high school. The descriptive statistics and qualitative findings indicate that, in general, participants were satisfied with their academic experiences during college. These positive findings are supported by previous follow-up studies on early college entrants at this university (Noble & Childers, 2009; Noble et al., 1993; Noble et al., 2007). Few participants, if any, reported concerns about the skill gaps due to skipping 2 years of high school. On the contrary, most of them went to college early to learn more skills and subjects they could not access in high school, and demonstrated the desire to gain more competencies than what were offered through a high school curriculum. Secondary educators, in particular, should take away the finding that learning environments not only need to be more challenging but they also need to allow students to make more choices, and engage in opportunities to form social relationships with other students seeking challenging learning environments.

These results suggest that participants had a strong perception of competence—in other words, a belief about their capabilities of successful performance during college. Perception of competence is necessary for intrinsic motivation (Harter & Jackson, 1992), but not sufficient. According to Deci and Ryan (2000), perceived competence should be accompanied by perceived autonomy. Empirical studies have reported that persons' strivings for competence are most effective when they work or study in an autonomy-supportive environment (Levesque, Zuehlke, Stanek, & Ryan, 2004), in which they are given choices to act on their own interests. When competence and autonomy needs are strongly satisfied, positive academic and career outcomes are likely to result (Baard, Deci, & Ryan, 2004; Deci & Ryan, 1987). The findings indicated that the participation in ACAD was beneficial in the area of academic achievement, suggesting that the participants were provided with an autonomous environment where they were also able to feel competent.

An important question that may arise about the psychological needs of early entrants is, "Do these highly capable people who tend to be achievement-oriented still have the same need for relatedness as for autonomy and competence?" Strikingly, from the SDT perspective, the answer is *yes*. Highly achievement-oriented people have the same need for relatedness, despite orienting their lives more toward competence or autonomy (Sheldon & Schüler, 2011). The present study findings supported this contention. It remains important to most of the participants to have strong relationships with their friends and families. The findings suggest that, in general, the participants had satisfying and positive relationships with other early entrants. They, however, reported less success in establishing high-quality interpersonal experiences outside the early entrace program including developing romantic relationships, a finding also supported in a previous follow-up study of early entrants from the University of Washington (Noble et al., 2007). Participants reported that their strong cohort may have limited their need to develop relationships with older college students. Although the participants shared some hypothetical experiences from their social-environmental contexts, there was no strong evidence of the presence of stigma about their younger age or their perceived label of giftedness. However, normal social interactions are

more likely to be distorted if individuals believe stigma is present, even if its presence is not evidenced (Coleman & Cross, 1988).

Participants frequently underscored the role of parental support at different points in their lives from making decision about entering college early to working toward their career goals. This finding is consistent with the previous research, suggesting that early entrants usually have families who are interested and supportive (Olszewski-Kubilius, 2002) and that parental expectations can be influential on career decision-making for early college entrants (Mun & Hertzog, 2018). Parental support for their child's autonomy and relatedness is crucial especially during adolescence. In this stage, autonomy tends to increase and relatedness tends to decrease in relationships with parents (Buhl, 2008; Galambos, Barker, & Tilton-Weaver, 2003). The dialectic relationship between autonomy and relatedness and the ways that parents tend to respond to their children's strivings for these two psychological needs have important implications for helping early entrants develop their self-determination.

Some participants explicitly shared that they rebelled against parental expectations. In other words, they were striving to protect their personal autonomy. Parents should respect these efforts and aim at enhancing the autonomy of their children. Note that autonomy in this study is not conceptualized from a developmental perspective as a completely independent functioning, which is opposed to reliance on others (see Van Petegem, Beyers, Vansteenkiste, & Soenens, 2012). Therefore, it does not mean that parents should let their children make decisions by themselves. Research has suggested that independent decision-making may relate to psychosocial functioning both positively and negatively depending on the conditions under which decisions are made (Van Petegem et al., 2012). For example, entering college early is not a private issue that falls under adolescents' personal jurisdiction. Parental involvement is critical in this example, but it should be a joint decision-making, not a dependent functioning. Children should have psychological freedom in making that decision without feeling any obligation to meet parental demands. In the present study, participants received only support and some sort of advice from their parents when they were in the decision-making process about early college entrance, but there were some important examples of parental pressures/expectations that did not seem to support volitional functioning.

Although both autonomy and relatedness are important for adolescents' psychological adjustment, research has shown that having satisfying relationships with significant others is more influential for person's psychological well-being than the sense of autonomy (Inguglia, Ingoglia, Liga, Lo Coco, & Lo Cricchio, 2015). Early entrants who are able to successfully accomplish these developmental tasks are more likely to have a successful transition from high school to college and a progress toward adulthood (Hui & Tsang, 2012).

Finally, it is important to note the role of ACAD on alumni's self-determination and success outcomes. The early entrance program allows these students to relate to other early entrants who have similar interests. If this environment is welcoming, the early entrants will be able to develop their competence and relatedness. In general, research on well-being of college students underscores the importance of college sense of

belonging for social adjustment (Bowman, 2010). Because most of these students are living away from home for the first time, peer support becomes critical for college transitions, socializing, and other aspects of their lives. The need for challenge was the highest priority reason for the participants to attend ACAD. Students with such strong competence needs were more likely to have high expectations of the academic program they attended. Both the quantitative results and the qualitative findings indicated that the participants were satisfied with their academic and career outcomes.

Limitations

The current article has several limitations. First, the Alumni Study was not designed based on the SDT framework. We interpreted the outcomes from that larger study through the lens of SDT after the data were gathered. Therefore, we should acknowledge that the participants shared their experiences in terms of their general accomplishments, relationships, and concerns, rather than utilizing the term *self-determination* that we purposefully added to the current analysis. In addition, we did not use any follow-up questions to elicit more information about alumni's experiences related to autonomy, competence, and relatedness. Second, we did not conduct member checking following the data analysis to solicit feedback from interviewees. This may represent another limitation of the article. Last, we do not know whether the gender/ethnic makeup of the sample mirrors the overall demographics of all alumni from the ACAD. We only have demographics of alumni who participated in the study. The demographics of our current student body in this program show that there still are high percentages of females (60%) and Asian Americans (53%).

Conclusion and Future Areas of Research

Students who left high school to enter college early were seeking autonomy, competence, and relatedness. Findings suggested that the less restricted nature of the university environment provided more autonomy and higher personal control over academic choices, as well as a peer group that allowed them a sense of belonging. Adolescents may not be fully aware of their social and emotional development as they are of their academic interests and needs. Because relatedness in the relationship with parents decreases during adolescence, these young people are in more need of building satisfying peer and romantic relationships. Even though they are achievement-oriented individuals with strong autonomy and competence needs, they have the same need for relatedness as for autonomy and competence. In the present study, some alumni noted they had limited relationships with older college students. Although ACAD had a significant role in allowing the participants to interact with same-age peers who have similar sociocognitive competence, some participants expressed discontent about their social relationships outside their cohorts. More research is needed to elucidate the social and emotional aspects of early college entrance.

This article also identifies several areas in need of further exploration, including comparison of early entrants' experiences with those of typical aged, highly capable

college students and continued investigation of how recently built intervention and transitional support in ACAD is effective in the development of current students' self-determination. Future research may also delve into the role of identity that is further stigmatized by age and giftedness.

Authors' Note

Sakhavat Mammadov is at Valdosta State University, Valdosta, GA, USA (as of August 1st, 2018).

Declaration of Conflicting Interests

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