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Abstract

In addition to the many social and physiological changes occurring during adolescence and young adulthood, young people also experience rapid neurological development between the age of 12 years old and the early 20s.[1] In particular, the prefrontal cortex becomes increasingly efficient, "enabling adolescents to plan their lives, to analyze possibilities, and to pursue goals."[2] These particular cognitive abilities (executive functions) are necessary for successful transitions to adulthood[3] and are highly influenced by experience. Unfortunately, many young people from disadvantaged backgrounds are often at-risk for delayed or ineffective development of the skills needed to succeed in high school and post-secondary education. As high schools and colleges across the United States continue to improve programming for underserved populations, Jesuit institutions stand in a prime position to support such students' development, both from mission and pedagogical standpoints. In reviewing a simulation-based training program at Arrupe Jesuit High School in Denver, Colorado, I explore how the Ignatian Pedagogical Paradigm (IPP) and neuroscience research complement one another. Specifically, I consider the implications that the IPP and the development of executive functions have for Jesuit institutions serving students from disadvantaged backgrounds as these students encounter transitional experiences.

Introduction

Historically, students from low-income, first-generation, and/or minority backgrounds have the lowest rates of persistence and success in college.[4] Nationally, about 30% of low-income high school graduates enroll in colleges or universities after graduation; about 9% of those students complete a baccalaureate degree by age 25.[5] In fact, University of Pennsylvania researcher Frank Furstenberg postulates that low-income young people are the most at-risk for not achieving successful transitions to adulthood.[6] Most families in the bottom third of the income bracket lack the material resources (income and housing), human capital (information), and social capital (connections) to provide the support their children need to move into higher education or stable employment.[7] In addition, "socioeconomic disadvantage has a deleterious impact on children's cognitive, intellectual, social and emotional development."[8] Aside from the lack of "capital" creating barriers to adult transitions, the potential underdevelopment of cognitive, intellectual, and social skills also negatively impacts their college experience and persistence (should students matriculate at colleges). I believe, however, that the hallmarks of Jesuit education, the Ignatian Pedagogical Paradigm and a core commitment to *cura personalis*, provide real options for encouraging the developmental growth of both disadvantaged student populations, as well as traditional students as a whole.

Adolescent Neurosocial Development

The developmental process of adolescence (considered ages 12-22 neurologically) is often a "fascinating, unnerving and potentially confusing sequence of intellectual and social transitions."[9] Indeed, the adolescent brain is developing and changing so rapidly during adolescence that many neuroscientists have suggested that the adolescent brain is "a work in progress."[10] The "work" of the adolescent brain is to build (myelination) or eliminate (pruning) neural pathways and to organize those pathways into more complex cognitive skills.[11] In fact, the pruning and myelination processes can be linked to the development of "the executive functions of the

brain, which originate primarily in the PFC [and] improve markedly through adolescence."[12]
Some of the primary tasks (executive functions) of the Prefrontal Cortex (PFC) include:[13]

- Controlling impulses
- Inhibiting inappropriate behavior
- Initiating appropriate behavior
- Shifting / adjusting behavior when situations change
- Providing a temporary mental workspace for working memory
- Organizing
- Forming strategies and planning behavior
- Setting priorities among tasks and goals
- Making decisions
- Empathy
- Sensitivity to feedback (reward and punishment)
- Insight

These tasks are considered higher-level cognitive abilities that allow humans to control and coordinate their thoughts and behavior.[14] A young person's ability to access and effectively use these executive functions contributes to her/his ability to engage in mature relationships and to make the decisions necessary for transitions to adult life.

Just as with other aspects of adolescent development, not all young people experience neurological development in the same way or at the same rate. The rapid and intense synaptic reorganization of the adolescent brain makes it highly sensitive to experiential input.[15] The situations, opportunities, and experiences that young people encounter affect how their brains develop and, consequently, how young people navigate intellectual and social transitions (e.g. finishing high school or pursuing college). While these processes can be challenging and confusing for many young people, students from disadvantaged backgrounds face higher risks of difficult or even delayed social and cognitive development.[16]

Fortunately, the adolescent brain is malleable and adaptive; it is a learning machine, for which consistent exposure to challenging and new social experiences may leave an "imprint on the pruning process."[17] Current neuroscience research suggests that "different activities […] influence how the adolescent's brain will ultimately be wired;"[18] the implication is that young people can change the outcome of their own neurodevelopment. Hence, participation in the right type of activities could mitigate some of the detrimental effects of low socioeconomic status (SES) or at-risk backgrounds. High schools and colleges are well positioned to provide such activities, and they have a responsibility to serve students of diverse backgrounds. Institutions in the Jesuit tradition, in particular, can offer unique and useful formative experiences.

Meeting Needs of Disadvantaged Students

Arrupe Jesuit High School

Rooted in the rich history and educational experience of the Society of Jesus, Arrupe Jesuit High School (AJHS), for example, is guided by the principles of Ignatian Pedagogy, *cura personalis* and the commitment to form "men and women for and with others." In addition, AJHS is a member of the Cristo Rey Network® of schools. The Network's unique Corporate Work Study Program (CWSP) model provides tuition assistance and real-world work experience to young people from disadvantaged backgrounds.[19] The combination of these unique and successful educational models allows young men and women the opportunity to earn a college-preparatory education and "to build a future that might otherwise be impossible."[20]

In many ways, Arrupe Jesuit High School helps students and their families overcome the barriers mentioned by Furstenberg.[21] To start, the financial burden of attending a private, Jesuit Catholic, college-preparatory high school is offset by participation in the CWSP. Students earn approximately 60% of their tuition costs by working one day per week through the Corporate Work Study Program. Scholarship funds are also provided to most families to cover additional costs. Furthermore, the school works diligently with families, colleges, and scholarship foundations to identify financial options for college attendance. Staff and faculty at Arrupe Jesuit provide human capital through rigorous coursework and guidance through college processes, but also through caring and supportive relationships that recognize and respect the needs, strengths and dignity of each

student. Co-curricular activities also challenge students to learn and grow as individuals and as part of a community. In the classroom, on the athletic field, and in the community, students develop social capital by connecting with peers, teachers, coaches, and neighbors. In the CWSP, students also benefit from social capital by interacting with diverse coworkers, engaging in mentoring relationships, performing a variety of tasks, and creating a professional network.

While many factors, such as those mentioned above, contribute to the successes experienced by AJHS students,[22] I wanted to explore how the unique elements of the AJHS experience (namely Jesuit education and CWSP) contribute to those successes. Additionally, I was intrigued by the relationship between executive functions and developmental outcomes for at-risk youth, so I focused attention on the Arrupe Corporate Work Study Program and reviewed an experiential training activity through a lens of IPP and neuroscience.

Arrupe CWSP

The Arrupe Corporate Work Study Program (CWSP) provides the students of Arrupe Jesuit High School the opportunity to earn their education through paid work experiences. Both for-profit and not-for-profit organizations partner with CWSP to hire students to fill entry-level clerical positions such as mail and file clerks, receptionists, data entry technicians, office assistants and other entry-level jobs. In exchange for the work, the hiring organization pays a flat fee to CWSP; the fee offsets approximately 60% of the student's annual tuition. In addition to the financial benefit of CWSP, students learn about career areas, develop both technical and interpersonal workplace skills, and build professional relationships with supervisors and coworkers.

All students at Arrupe Jesuit work, freshmen through seniors. Working for the first time is an important transitional experience for most young people. For the students of Arrupe Jesuit High School, the experience can feel even more overwhelming than it might for other young workers. First of all, AJHS students are not undertaking traditional teen jobs such as retail or food service. They are entering professional, adult environments to perform entry-level (and sometimes higher-level) clerical work. In addition, these work settings are often unfamiliar to their families, requiring students to learn norms and workplace cultures that are foreign.

As such, the CWSP provides both pre-job and ongoing training to support students and supervisors. The most intensive training experience for students occurs during the summer prior to the 9th grade year. A broad range of activities and workshops introduces young workers to basic office tasks and helps to instill confidence and familiarity with workplace expectations. One of the components, the Skills Practice Lab (SPL), is a distinctive example of the integration of Ignatian Pedagogy, social neuroscience, and basic skills development.

Skills Practice Lab

Overview

The Skills Practice Lab at Arrupe CWSP is a 100-minute block of practice with minimal formal instruction; the objective of the workshop is for students to demonstrate skills and knowledge learned in prior workshops. The session also provides instructors with opportunities to identify student strengths and challenges based on the outcomes of the practice sessions. Students participate in a variety of activities in a hands-on simulated work team, rather than in a traditional classroom setting focused on one topic. Volunteer facilitators (generally supervisors from current CWSP employers) act as team leaders, providing oversight and guidance to a small team of students. Each team leader instructs members of his/her team to complete tasks such as data entry, filing, scanning, or assembling mailers. Team leaders also engage in conversations and expect follow-up reports on projects in order to assess student performance in areas such as interpersonal skills and time management.

Relationship to Neuroscience

In addition to providing work-readiness preparation, the SPL also provides those much-needed experiences for PFC development. For example, SPL activities can engage basic neurological functions by drawing on genetic predispositions for risk taking. "A love of novelty" and related risk taking is often considered a

hallmark of adolescence.[23] While many believe that risk taking is simply a response to underdeveloped reasoning skills, some researchers argue that risk taking is part of the transition to adulthood, not simply a byproduct of immaturity. Why? Risk taking "leads directly to useful experience" and can provide the inspiration needed to "get you out of the house"[24] and test the skills and relationships that lead to independence.

Risk taking and novelty stimulate neural connections by forcing the brain to either build or prune connections in order to repeat, remember, or reject an experience. Because the brain learns by doing and builds important neural pathways through experience, it begins to adapt and modify the connections it needs based on what it uses. Indeed, "many of our capacities to make 'good,' 'rational,' and 'appropriate' judgments depend on an intricate interplay of brain structure, experience and social learning. It entails connecting the fabric of social and cultural life to complex neurobiological events."[25]

What novelty and risks come from the SPL? How are students connecting social and cultural life to neurobiological events? In the SPL, students are required to work in a learning environment that is likely foreign to most of them. In addition, they are asked to apply their newly learned skills to a social setting (workplace) that will be an unfamiliar yet important part of their AJHS experience. Rather than sitting in desks and listening to lectures, students engage with adults as peers. They move through a simulated office space with intention, perform tasks consistent with business settings (as opposed to classrooms), and, in essence, take risks to perform in a novel context. Students also take risks when they step out of a comfort zone to ask a question or when they execute a new task. Such risks may seem benign compared to traditionally risky adolescent behaviors, such as substance abuse or unprotected sex. These risks and the ensuing novelty could have the ability to satisfy some of the developmental need for newness that contributes to the development of executive functioning, and ultimately, stronger transitional skills.

Such novelty and risk taking encourages students to cultivate executive functions and use them in new and meaningful ways, as well. For instance, when a student works on a data entry project in SPL without succumbing to the temptation of internet surfing, she is using an executive function: impulse control. Or, when team leaders interrupt a student during filing tasks to ask him to complete a scanning project, his polite and enthusiastic response demonstrates his ability to adjust behavior and prioritize. While ignoring distractions or responding politely may be skills practiced in most classrooms, the novelty of the setting, as well as the learner's interpretation of the task's meaning and importance, also affects the ability to access that function.

Skills Practice Lab and Ignatian Pedagogy

The student's applied meaning to a task also relates to the learning process of the IPP.[26] The IPP is a learner-centered approach that aims to "accompany the learner in their growth and development."[27] It involves a five-step method in conjunction with a holistic view of the world in which the learner is an active participant in the learning process. This active participation makes experiential learning, such as the SPL, a natural fit with Jesuit education as well as with neurological development. Five elements comprise the process: context, experience, reflection, action, and evaluation. Interestingly, these elements, designed over 400 years ago, align with modern understandings of neurological adolescent development.

Context

In the Ignatian Pedagogical Paradigm, the setting in which a learner finds herself is important as it affects her ability to focus, understand, and apply concepts.[28] Context includes physical settings, such as the classroom environment, as well as the circumstances of the student's life and the greater community. The situation in which a young person lives, particularly when the situation is impoverished, crime-ridden, or rife with physical and social disorder (as is often the case for students at AJHS) increases the challenges to achieving positive developmental outcomes[29]. Therefore, learning environments at AJHS, such as the CWSP Skills Practice Lab, promote positive social interactions between students and facilitators, easy access to the resources needed to complete activities, and opportunities that both challenge student skills and promote success in an

active yet controlled setting. They also introduce students to the expectations of professional relationships. Furthermore, the physical setting familiarizes students with tasks and equipment common in the workplace and explains the rationale behind the practice. This intentional composition of place allows students to identify themselves as part of this new experience and engages neural processing. Students are asked to activate memories and then act upon those memories, or "prior learning experiences," in order to trigger the "use it or lose it"[30] process of synaptic pruning.

Experience

Ignatian Pedagogy also "offers ways for students to cognitively grasp the course material through application, analysis, synthesis, and evaluation. In addition, students are encouraged to internalize the lesson so that learning goes beyond an intellectual exercise."[31] The Skills Practice Lab exemplifies this component of IPP by asking students to demonstrate, in very concrete tasks, the basic knowledge they acquired in traditional classroom settings. After learning the methods, techniques, and basic purposes of filing, for example, students are allowed to use that knowledge in a hands-on setting, experiencing the stress and satisfaction of the activity. If a student feels slight frustration or excitement when asked to switch tasks, if he feels confusion or enthusiasm when performing data entry, or if he feels relief when the filing task ends, these responses are affective learning. They move the cognitive process of understanding filing into an experience. In essence, the student engages in activities that stimulate neural synapses, thereby promoting the use of executive functions (such as task-planning or using working memory).

Reflection

This affective learning is cemented through the reflection process. Reflection is the central component of the IPP. Providing students the opportunity to reflect on their learning is key to both retention and ownership of learning. "Reflection means thoughtful reconsideration of subject matter, an experience, an idea, a purpose or a spontaneous reaction, that its significance may be more fully grasped."[32] In the SPL, this component occurs when a student must revise a project or seek facilitator advice. The student is also asked, at the end of the session, to consider what aspects of the session were helpful, confusing, or likely to benefit him at work. This reflective component allows the student to consider what the project or learning objective meant to him, personally. From a neurological standpoint, such practice draws on the executive functions of empathy, long-term planning, memory, and even goal-setting. Each opportunity to practice such functions encourages stronger neural connections.

Action

Once the student assigns personal meaning to a task, she will ideally move to the action phase. Action refers to the learner's internal state—attitudes, priorities, commitments, habits, values, ideals—put to work in the service of others. In reference to the Skills Practice Lab, this component has a delayed demonstration. After practicing in the SPL, the student must choose to demonstrate one's skills at a new job site, activating personal learning in the service of coworkers. Again, putting learning to work requires the use (and in turn continued development of) executive functions. In this case, decision making, initiating appropriate behavior, and even adjusting behaviors when situations change are just a few of the executive functions that are accessed when a student takes action on the learning from SPL.

Furthermore, identity development requires opportunities to explore ideas and interests and to feel a sense of control over decision-making processes.[33] These opportunities arise when students take action on their learning from the SPL. Acting on these needs closely aligns with the executive functions of goal-setting, prioritizing, and balancing rewards and costs when making decisions. Similarly, the value of social connectedness[34] (available when students take action and engage coworkers at their CWSP job sites) cannot be underestimated in the role of identity development and adult transitions. Social connections allow young people to explore and practice different identities, to learn about career and lifestyle options, to evaluate different attitudes, values and beliefs, and to receive feedback on behaviors. Again, these benefits are made possible by (and also contribute to) positive neurological development.

Evaluation

In the IPP, evaluation not only assesses outcomes but also targets areas of unmet need and achievements in growth. Facilitators in the SPL provide immediate performance feedback to students, particularly during interpersonal exchanges. They then prompt students to apply the feedback in other interactions. Such feedback and guidance encourages adolescents to continually assess their skills and abilities, and in the long-term, to question if their actions are aligned with their goals and values. Asking such questions and modifying behavior based on evaluation encourages the use of executive functions, like forming strategies and planning behavior, sensitivity to feedback, and insight. This evaluation process addresses needs for the immediate tasks at hand and work-readiness training but also supports the ongoing pursuit of identity development and the transition to adulthood.

Implications for Higher Education

The SPL may be a specialized experience at AJHS, but the implications for adolescent development are further reaching. Students transitioning from high school to college (as well as fully matriculated students seeking internships, choosing majors, or facing college persistence difficulties) could likely reap the same developmental rewards as students transitioning to their first jobs. First-generation students, and/or those from disadvantaged backgrounds, may particularly benefit from the intentional marrying of IPP with experiential learning activities on Jesuit college campuses. Many of the programs and supports indicated as success factors for high school students (e.g. financial, human, and social capital[35]) are available on college campuses and could be adapted to meet the needs of a variety of students at various transitional thresholds.

For instance, many institutions of higher education provide scholarships and other need-based financial support to new students. This financial support could be enhanced by creating programs that present common financial concerns (context), introducing students to the departments and staff members that can address those concerns (experience) and providing students with opportunities to explore case studies or other "what if scenarios" (reflection). These types of practice could position students to take action if they face financial struggles that might impact their college persistence. In addition, the promotion of human and social capital, in the form of advisors, mentors, counselors, or even peer tutors may need to be more intentionally promoted for traditionally "at-risk" students, but are, nonetheless, available. Catholic institutions are called to make higher education accessible to more students; that accessibility must move beyond admissions and continue into daily life once students are on those campuses. They must "foster social and educational environments conducive to learning for economically disadvantaged students."[36]

Educational approaches that couple the formative nature of Jesuit education with the understanding that the adolescent brain is a "work in progress"[37] may provide students with the tools and supports they need to navigate the developmental thresholds (such as transitions to high school, college, and adult life) that can often be unsettling, intimidating, or confusing. Many students experience stress and unfamiliarity when starting college, choosing majors, approaching graduation, etc.; first-generation and disadvantaged students often feel this discomfort acutely, particularly if they have had little to no exposure to college norms.

Making "at-risk" college students aware of support services, campus programs, or classroom expectations is an important step in recruiting and orienting such students. In addition, providing realistic and meaningful connections between the classroom and the community would also tap into the developmental needs of students. College success requires ownership of the experience. In IPP language, students need to move beyond context and experience and into reflection and action. For example, new student orientations that ask students to think critically about "what if situations" and that require them to visit offices and meet support personnel (as opposed to walking past buildings and telling students about resources) will encourage synaptic firing and the development of executive functions such as forming strategies, adjusting to change, and critical thinking. By expanding learning and training opportunities to include competencies necessary

for the development of the whole person, we improve the outcomes for young people.[38]

Conclusion

"The brain has always been built for learning by example and experience […] that facility is what will give adolescents the chance to grow up well—the ability to learn from people around them."[39] The students at Arrupe Jesuit High School have an opportunity to witness a variety of occupations and workplace cultures, to actively participate alongside adult professionals, and to identify their own abilities to perform in such environments. Through this experience, a young person's imagination can be changed; he or she begins to plan and act on goals (executive functioning) that may not have been relevant in early childhood. On a small scale, the Skills Practice Lab, in particular, promotes positive adolescent development from pedagogical, psychosocial, and neurological frameworks.

Hopefully, the findings of the review will support existing programs that are already in place and serving disadvantaged students. And, perhaps they will provide inspiration to Jesuit colleges and universities that are working to increase enrollment and improve persistence rates for traditionally underserved populations. Jesuit institutions stand in perfect position to minister to disadvantaged youth and support their developmental transitions. Opportunities aligned with the IPP and supported by neurological research will allow us to achieve *cura personalis*, whether we are introducing basic workplace expectations to 14-year-old students or encouraging first-generation students not only to enter, but also thrive, on our campuses. The "success [of disadvantaged students] will not only result in a more well-educated population, but having the presence of minority students on U.S. campuses positively impacts the overall educational experience for all students."[40]

Notes

[1] Jay Giedd, "Structural Magnetic Resonance Imaging of the Adolescent Brain," in *Annals of the New York Academy of Sciences* 1021, no. 1 (January 12, 2006): 77-85.

[2] K. Berger, "Adolescence," in *The Developing Person Throughout the Lifespan*, 6th ed. (New York: Worth Publishers, 2005), 341-385.

[3] Ibid.

[4] Association for Jesuit Colleges and Universities, "Update on the Jesuit Network for Equitable Excellence in Higher Education (JNEE)," *AJCU Connections* 10, no. 6 (2010).

[5] Sara Martinez Tucker, "Getting More Low-Income Students into College Isn't about the Money, It's about the Curriculum," *Forbes,* March 4, 2014, http://www.forbes.com/sites/realspin/2014/03/04/getting-more-low-income-students-into-college-isnt-about-money-its-about-the-curriculum.

[6] Frank Furstenberg, "Passage to Adulthood," in *Annual Editions: Adolescent Psychology,* 8th edition, ed., Fred Stickle (New York: McGraw-Hill, 2011), 2-6.

[7] Ibid.

[8] Tuppett M. Yates, Byron Egeland, L., and Alan Sroufe, "Rethinking Resilience: A Developmental Process Perspective," in *Resilience and Vulnerability: Adaptation in the Context of Childhood Adversities*, ed. Suniya S. Luthar (Cambridge, UK: Cambridge University Press, 2003), 245.

[9] Berger, "Adolescence," 341-385.

[10] Daniel Weinberger, Brita Elvevag, and Jay Giedd, *The Adolescent Brain: A Work in Progress* (Washington, D.C.: The National Campaign to Prevent Teen Pregnancy, June 2005).

[11] Sarah-Jayne Blakemore and Suparna Choudhury, "Development of the Adolescent Brain: Implications for Executive Function and Social Cognition," *Journal of Child Psychology and Psychiatry* 47, no. 3 (2006): 296-312.

[12] Berger, "Adolescence," 341-385.

[13] Weinberger et al., "The Adolescent Brain," 1.

[14] Blakemore and Choudhury, "Development of the Adolescent Brain," 302.

[15] Ibid.

[16] Sheeva Azma, "Poverty and the Developing Brain: Insights from Neuroimaging," *Synesis: A Journal of Science, Technology, Ethics, and Policy* 4 (2013): G40-G46.

[17] Blakemore and Choudhury, "Development of the Adolescent Brain," 302.

[18] Nora Underwood, "The Teenage Brain: Why Adolescents Sleep in, Take Risks, and Won't Listen to Reason," *The Walrus* (November 2006): 46, http://thewalrus.ca/the-teenage-brain/.

[19] At AJHS, the average family income for a family of five is approximately $35,000 annually and nearly 82% of students qualify for the Free and Reduced Lunch Program. 95% of students come from minority backgrounds. Approximately half of the students will be the first in their family to complete high school and over 80% are first-generation college-bound. This information is included in the AJHS School Profile: http://www.arrupejesuit.com/ourpages/auto/2013/8/17/43428633/2014-2015%20School%20Profile%20_%20Graduation%20Statistics.pdf.

[20] Tim McMahon, S.J. "Welcome Message," accessed March 1, 2015, http://www.arrupejesuit.com/apps/pages/index.jsp?uREC_ID=224402&type=d&pREC_ID=495617.

[21] Arrupe Jesuit High School is a Jesuit, Catholic co-educational college preparatory high school. A member of the Cristo Rey Network of schools, AJHS provides a quality education to economically disadvantaged students from Denver, CO. From Arrupe Jesuit High School, About Us, "School Profile," accessed 3/15/15, http://www.arrupejesuit.com/apps/pages/index.jsp?uREC_ID=224402&type=d&pREC_ID=495618; Furstenberg, "Passage to Adulthood," 3.

[22] 100% of Arrupe Jesuit graduates have been accepted to college. The college persistence rate for these graduates is approximately 70%. Nearly 98% of Arrupe Jesuit students earn a 3 or higher (on a 5-point scale) on their CWSP evaluations and 95% of CWSP employers report high levels of satisfaction with the program. Arrupe Jesuit High School, "About Us," accessed March 15, 2015, http://www.arrupejesuit.com/apps/pages/index.jsp?uREC_ID=224402&type=d&pREC_ID=497856.

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[24] Ibid.

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[28] St. Aloysius College. "Jesuit Pedagogy," accessed March 15, 2015, http://www.staloysius.nsw.edu.au/about-us/jesuit-education/jesuit-pedagogy.

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[31] Seattle University, "Framework for Course Innovation."

[32] Ibid.

[33] Laura E. Berk, *Development Through the Lifespan*, 3rd ed. (Boston: Allyn and Bacon, 2004).

[34] Furstenberg, "Passage to Adulthood," 3.

[35] Ibid.

[36] Gerald Beyer, "Admission Impossible: Preferential Option for the Poor at Catholic Colleges," *US Catholic* 77, no. 2 (2012): 32-35.

[37] Daniel Weinberger, et al, "The Adolescent Brain: A Work in Progress," 1.

[38] Laura Lippman, Astrid Atienza, Andrew Rivers, and Julie Keith, "A Developmental Perspective on College and Workplace Readiness," *Child Trends,* no. 2008-35, http://www.childtrends.org/wp-content/uploads/2013/04/Child_Trends-2008_09_15_FR_ReadinessReport.pdf.

[39] Underwood, "The Teenage Brain."

[40] Melissa Collins Di Leonardo, "Editor's Letter," *AJCU Connections* 10, no. 6 (2010): 1.