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Graduate Student Perceptions of Graduate School Preparation for the Workplace

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Abstract

Graduate degree–holders occupy critical positions in the workforce. It is imperative that these individuals possess the skills necessary to succeed in their post-graduate positions. This paper discusses a survey of 1,925 employed individuals who completed a graduate degree. Results indicate that, in addition to imparting field specific knowledge, graduate programs are equipping students to perform a wide range of nonacademic skills (e.g., teamwork) deemed valuable in the workplace. However, there are still some areas in which universities could better tailor their graduate programs to align with the responsibilities of the employment sectors that their students will enter upon graduation.

Individuals with graduate degrees are perceived as highly valuable to their employers, and industry is demanding more of these *knowledge workers* (Council of Graduate Schools, 2009). By 2020, jobs requiring advanced degrees are projected to increase by 22% for the master's level and by 20% for the doctorate and professional level (Bureau of Labor Statistics, 2012). Because of the increasing demand for employees with graduate training, it is imperative that graduate schools in the United States provide their students with comprehensive training in a specialized field *and* the ability to successfully navigate and contribute to the employment sector (Council of Graduate Schools, 2011). Insight on the level to which professional and noncognitive skills, such as oral and written communication and teamwork, are needed for success in post-graduate employment can provide a helpful perspective to universities as they continue to shape and develop their graduate programs.

Professional and other noncognitive skills are believed to play a critical contributing role to success in educational and professional spheres (Cunha & Heckman, 2007; Heckman & Rubinstein, 2001). From as early as preschool (Heckman, Stixrud, & Urzua, 2006), up through high school (Duckworth & Seligman, 2005; Heckman & Rubinstein, 2001; Heckman et al., 2006; Lleras, 2008), and higher education (Kyllonen, Walters, & Kaufman, 2005; Lotkowski, Robbins, & Noeth, 2004; Wendler et al., 2012), noncognitive skills appear to contribute to various outcomes, such as academic achievement, degree completion time, and successful post-graduate employment.

One way to conceptualize noncognitive skills is as a facilitating agent of cognitive ability. In other words, cognitive ability alone is not always enough for success; one must be able to apply and integrate intellectual and cognitive functioning within the context of real-world parameters in order to be academically and/or professionally successful (Heckman et al., 2006).

Interestingly, while cognitive and noncognitive abilities can co-occur at similar levels, a stronger presence of the latter can actually be more beneficial to individuals for whom this is not the case (Heckman & Rubinstein, 2001). Though some literature suggests that the noncognitive abilities of college-educated females are more valued in the labor market than are those of their male counterparts (Heckman et al., 2006), noncognitive traits play an important role in post-graduation employment regardless of gender. This is also true for graduate degree–holders who are likely to be high in cognitive ability—noncognitive skills still matter.

There has been a consistent and systemic push to identify and investigate the specific types of noncognitive or nonacademic abilities that are valued in the professional workforce. Publications on this topic identify many overlapping skills/abilities, including: written and oral communication, creativity, critical thinking, problem solving, motivation, self-esteem, conscientiousness, teamwork, and leadership (Billing, 2003; Carnevale, Gainer, & Meltzer, 1990; Stasz, Ramsey, Eden, Melamid, & Kaganoff, 1996; Tynjälä, Slotte, Nieminen, Lonka, & Olkinuora, 2006). Although each skill is not necessarily essential to every position and, certainly, some are more highly valued across a number of positions, each one contributes to an individual's overall workforce performance. In other words, within many US workplaces, the degree to which an individual possesses one or more of these skills may have an impact on that individual's ability to succeed in a given occupation. In addition, the global workforce has undergone a significant transformation brought on by advances in technology. Despite the fact that some of the results seen in early studies predate the current, highly technology-driven workforce in which we operate, they should be considered all the more critical as they still have relevance for recent graduates and newly developed occupations (Tynjälä et al, 2006).

Academic researchers are not the only ones interested in identifying skills necessary for success in the workforce. Since 1995, the US Department of Labor has funded the initial and continued development of a (now web-based) tool that uses job analysis results to help individuals identify jobs in a user-friendly environment (Peterson, Mumford, Borman, Jeanneret, & Fleishman, 1999). This tool is called the Occupational Information Network (O*NET) and operates as a large-scale database "that uses a common language for collecting, describing, and presenting valid, reliable occupational information about work and the worker" (p. 9). At an operational level, O*NET enables job seekers to align the list of workforce skills that they possess with a list of occupations in which the combination of those specific skills are valued and could possibly be utilized. Based on feedback from job analysts, O*NET provides a comprehensive list of worker requirements, or descriptors, that refer to work-related attributes acquired and/or developed through experience and education that may be useful to workplace performance (Peterson et al., 1999). Commonly identified attributes often overlap with those highlighted in previous research and provide additional confirmation of the need for key noncognitive skills in the workforce.

Previous research indicates that employers have expressed dissatisfaction with the level of some noncognitive skills of their employees who have a high school or undergraduate education (Casner-Lotto & Barrington, 2006). Employers rated noncognitive skills on two dimensions: importance and employee preparedness. For new employees with a four-year degree, employers most frequently identified the following skills as *very important* to possess: oral and written communication, teamwork/collaboration, professionalism/work ethic, and critical thinking/problem solving. However, for this same group, the majority of employers rated

employee preparedness as only *adequate* for all of these skills, and almost one third of employers rated employee preparedness in written communication as *deficient*.

This topic was also investigated at the graduate level as part of a larger research study that explored various aspects of graduate students' career paths (Wendler et al., 2012). Interviewed employers commented that, while graduate students brought value to their organizations, they often lacked skills such as teamwork, project management, and the ability to communicate technical information to a nontechnical audience. It is interesting to note that a deficit in one or more of these skills was consistently identified across employer interviews, regardless of the organization size or sector. Employers also believed that new graduate degree holders needed to be better prepared to be innovative contributors within multidisciplinary contexts. Certainly, within a burgeoning global market, the importance of creativity and the ability to collaborate across disciplines cannot be understated for a new employee.

Previous examinations of graduate degree–holder workforce readiness have been conducted using data from employers (Casner-Lotto & Barrington, 2006; Wendler et al., 2012).This study further examines the issue of workforce readiness using individuals who hold graduate degrees and are employed. The focus of the study is on these individuals' perceptions of (a) those skills that are most valued in their current job and (b) how well their graduate program prepared them in those skills.

Two primary research questions were examined:

1. Do individuals feel differentially prepared on noncognitive skills based on their degree level (master's vs. doctorate).

2. Do individuals feel differentially prepared on noncognitive skills based on their perceived value of graduate school?

Data Source and Sample

The data used in this study come from a larger project that examined the pathways through graduate school into the world of professional occupations (Wendler et al., 2012; Wendler, Cline, Kotloff, & Mageean, 2013). The project surveyed graduate students who were at different points in their school-to-career path as a way of obtaining information related to knowledge and attitudes about graduate school and careers. While this data source does not capture all individuals who attended, or planned to attend, graduate school and thus may not generalize to all graduate students, it does provide access to a large number of students from a variety of demographic groups, fields of study, and institution types and provides an interesting perspective.

The data used in this study were collected as part of an online survey of individuals who took the *GRE*® General Test between 2002 and 2011. While over 5,700 students responded to the survey, this study reports on only those individuals who indicated that they had completed graduate school and were employed ($N = 1,925$). Additional information allowed responses to be further broken down by demographic group (gender and race/ethnicity), degree level attained (master's vs. doctorate), and perceived value of graduate school. See Wendler (2013) for additional detail on the data source.

While the survey covered a broad range of issues related to graduate school and careers, the current study investigates only those questions which inquired about (a) perceived importance of and preparation in specific workplace skills/emphases and (b) postgraduate school employment (see Table 1). Note that this report provides results in the form of descriptive statistics only. While responses to the survey provide some insight into issues related to

perceived importance and preparation of specific skills, additional research is needed to thoroughly investigate these issues.

Responses to all questions were examined by gender and race/ethnicity groups, degree level required by the job the student held, and perceived value of graduate school. Gender and race/ethnicity breakdowns were of interest in this context, as it was conjectured that unique patterns would emerge at these levels. Similarly, the employment contexts of those whose jobs required a master's versus doctorate degree, and those who have a high versus low perceived value of graduate school, may differ in terms of preparation and emphasized noncognitive skills. Analysis at these levels provided the opportunity to examine further nuances within the data. Degree level was defined as the degree required for a student's current position. The perceived value of graduate school variable was created using the responses to four survey questions that ask about the value and benefit of a graduate degree. It was computed by summing the scores of all four questions, each with an original score range of 1–5, such that the range for the new variable was 4–20. The data were then split into four groups based on the range, which was divided into four equal sections (see Table 2). Comparisons between the highest and lowest groups are described in the results section below.

Results

Postgraduate School Employment

The majority of students reported that their current job required a master's (40%) or a bachelor's degree (36%). Doctorate degrees were required for 16% of students' jobs. With regard to perceived graduate school value, about 3% of the students fell into the bottom group (those who valued their graduate education least), and 51% fell into the highest group (those who valued it most; Table 2). Over one half of the students who responded were employed in either

the business/corporate sector (27%) or in a teaching position (25%). Males were most often employed in the business/corporate sector (36%) as were Asian students (32%), while female (27%), Black (32%), and Hispanic (32%) students were most often employed in the teaching sector. In addition, those students who indicated their jobs required a master's degree or certificate were most often employed in faculty/teaching positions (25%), while research positions were most commonly held by those who had a doctorate degree (36%). Those at the highest level for perceived value of graduate education were most often employed in faculty/teaching jobs (27%). Those who perceived the value of graduate education to be low were most often employed in business/corporate jobs (28%).

Overall, 67% of students indicated that they were employed in a position that was closely related to their highest degree field of graduate study. Responses were consistent across gender and race/ethnicity groups. Some differences were seen by degree level. I analyzed only students whose position required a masters or doctorate degree. Within this group, 85% were in a job closely related to their highest degree; however, this proportion was much higher at the doctorate level (93%) than at the master's level (81%). Those at the highest level for perceived value of graduate education were most often employed in jobs that were closely related to their degrees (80%). This was also true for those who perceived the value of their graduate education to be low, but to a lesser degree (57%).

Importance of Workplace Skills

Students who responded indicated a number of skills to be very important in their current position (see Table 3): oral communication (83%), planning/organization (78%), ethics and integrity (75%), teamwork (72%), and writing skills (70%). Other skills, such as publications (20%), research skills (38%), teaching and training (45%), technological comfort and savvy

(50%), and creativity (55%), were indicated as being highly important less frequently. Student publications (47%) and teaching and training (17%) were most often described as not important.

Both males and females most frequently reported that oral communication was very important (77% and 87%, respectively) and least frequently listed publications as very important (24% and 17%, respectively; see Table 3). There was a large difference in the reported importance of teaching and training between men and women (38% and 50%, respectively).

Among Asian, Black, and White students, oral communication was again most frequently cited as very important (79%, 89%, 83%, respectively; see Table 3). Hispanic students most often said that ethics and integrity (82%) were very important in their present employment, followed by oral communication (80%).

Further analysis of the data revealed similar findings in terms of the skills perceived as important to the students' current positions (see Table 3). For students who said that their job required a master's degree, oral communication (88%), planning and organization (85%), and ethics and integrity (84%) were most often listed as very important skills. The results were similar for those whose job required a doctorate or professional degree; oral communication (78%) was most often listed as very important, followed by writing skills (79%) and analysis/synthesis of data (76%).

An examination of skills importance by level of value placed on graduate education revealed some differences between those who rated the value of graduate education highly versus those who rated it low (see Table 3). Oral communication (87%), ethics and integrity (83%), and planning and organization (83%) were most often cited as very important to the jobs of those who placed the highest value on their graduate education. Those who valued graduate education least listed oral communication (85%), analysis and synthesis of data (78%), and

resilience (76%) as very important. It is also interesting to note that those who valued their education most highly were more often employed in positions in which research and writing skills, planning and organization, and ethics and integrity were very important, compared to those who least valued their education.

Preparation in Workplace Skills

When asked how well they felt their graduate program prepared them in these skills, the majority of students who responded said that they were well prepared in all areas (see Table 4). There were some exceptions, such as publications (30%), creativity (39%), technological comfort and savvy (40%), and teaching and training (39%). The majority of students indicated that they felt only somewhat prepared by their program in these areas, although 3 of the 4 were reported to be very important in their current position (see Table 4). In addition, about 1 in 10 students indicated they did not feel prepared at all in skills such as creativity (10%), teamwork (10%), technological comfort and savvy (11%), and teaching and training (11%).

These findings were fairly consistent across gender and racial/ethnic groups with a few exceptions (see Table 4). Females reported feeling well prepared more often than males in the following areas: oral communication (48% and 57%, respectively), writing skills (60% and 70%, respectively), teamwork (41% and 51%, respectively), planning and organization (44% and 57%, respectively), and ethics and integrity (49% and 57%, respectively). Across skills, Black respondents generally reported feeling well prepared more often than members of the other race/ethnicity groups.

Table 4 also provides information for degree level. For those who indicated their jobs required a master's degree, writing skills (70%), analysis/synthesis of data (65%), and ethics and integrity (62%) were most often cited as skills in which respondents felt well prepared.

Publications was the only workplace skill in which at least 10% of students indicated they did not feel prepared at all. Conversely, at least 10% of individuals who said their position required a doctorate felt they were not prepared at all in most skills except for those which were research related (i.e., oral/written communication, research skills, and analysis/synthesis of data). This set of skills was most often cited as the set in which this group of respondents felt well prepared: research skills (70%), analysis/synthesis of data (68%), and writing skills (61%).

Table 4 presents the level of skills importance by the value placed on graduate education. Those who placed the highest value on their graduate education reported feeling well prepared most often in writing skills (70%) and analysis and synthesis of data (69%). Writing skills (64%) and analysis and synthesis of data (61%) were also the skills in which those with the lowest perceived value of graduate education felt well prepared, but in smaller proportions. For publications and teamwork, the majority of this group felt only somewhat prepared; conversely, the majority of those who placed the highest value on their graduate education felt well prepared in all skills. In addition, the mean percentage of skills that students who felt well prepared for differed for those with the highest and lowest value of graduate education (44% and 56%, respectively).

Discussion

The results presented in this study provide useful insights as to the connection between preparation at the graduate school level and skills perceived as important in the workplace. While the data are only descriptive of the differences seen across groups, there is still a number of interesting observations seen. For example, these data lend support to workforce patterns established in previous research which have provided evidence for workforce gender segregation domestically. A prime illustration is the higher likelihood of women to be employed as teachers

and less likely to work in corporate environments (see Hegeswisch, Liepmann, Hayes, & Hartmann, 2010). This was also observed in our data in that women indicated being employed in business/corporate sectors about 10% less often than men. In addition, women were more likely to say that teaching and training skills were important in their current position. They also cited publications as very important less often than men did. However, these differences may be the result of the particular field or discipline individuals are in, rather than reflecting their gender.

These results may also reflect the nature of faculty/teaching positions occupied by men and women. Studies have shown that women faculty do more teaching and administrative work and are less involved in research-related activities compared to their male counterparts (Misra, Lundquist, & Templer, 2012; Park, 1996). Results of this study provide further support as to the different responsibilities men and women have, even for positions that appear to be similar. Another interpretation of the study results might be that the women who responded to the survey were more often employed in exclusively teaching positions (e.g., at the K-12 level), while men were more often employed in faculty positions at the higher education level. One of the limitations of this study is that the survey did not ask for specific information about the type of teaching positions (i.e., K-12, higher education) in which individuals were employed, length of time in the workforce, or level of teaching position (i.e., assistant, associate, or full professor). Thus, definitive conclusions about the role of specific skills in the workforce cannot be drawn.

The responses regarding students' perceptions of their graduate school preparation in the skills valuable for success in the workplace are particularly insightful and, thus, will be the focus of the remainder of this paper. In order to put the preparation figures in context, one must first identify those related to perceived skill importance in the workplace (see Table 5). After all, if a skill is not important to one's career, less than adequate preparation is no great misfortune or, at

the least, no reason for concern. On the other hand, lack of preparation in skills that are very, or even somewhat, important to one's career can be highly problematic, particularly if one is expecting (and usually paying) to receive this preparation at the graduate level. Based on responses to this survey, oral communication was most frequently perceived to be very important to respondents' current occupations across all analyzed groups. Planning and organization was also rated as very important, particularly among master's degree holders and those who highly valued their graduate education. The perceived importance of both of these skills should surprise no one. The literature supports the essential function of both skills in the workplace (Archer & Davison, 2008; Blaxell & Moore, 2012; Eisner, 2010; Maes, Weidy, & Icenogle, 1997; Olney & Bednar, 1989; Schultz & Zedeck, 2011). Among other reasons, this is possibly due to the broad applicability of each to a variety of contexts. While all of the investigated skills are transferable in that they can be used in multiple fields and industries, some have greater specificity than others (e.g., the ability to analyze/synthesize data is useful in many different contexts, but not all). The ability to vocally articulate one's thoughts, intentions, and perceptions is essential to basic human interactions and certainly to postgraduate work environments (Archer & Davison, 2008). Similarly, the capacity to plan and organize time, resources, and so forth is critical to postgraduate work performance regardless of the specific field or nature of the job (Blaxell & Moore, 2012). The wide-ranging utility of both skills, thus, provides a solid theoretical lens through which to view these data.

Inherent in the value of a graduate degree is the sense that employers have certain expectations for employees who possess one; they believe graduate degree–holders have the advanced knowledge and often work experience to immediately tackle workplace goals (Wendler et al., 2012). Consequently, they often have specific expectations for their new hires

(Tanyel, Mitchell, & McAlum, 1999). While subject matter expertise is a given criteria, an employee's ability to transfer key noncognitive skills is critical to initial and long-term success in the workforce (Bennett, 2002). Wendler et al. (2012) surveyed employers on this topic, asking them about their expectations for graduate degree–holders at the time of their hire. Responses from 10 large companies indicated that, while graduate degree recipients are valuable to their employers, some lack the skills necessary to do their jobs well. For example, they listed working in a team environment, project management, and presentation skills as being deficient in some employees with graduate degrees. The results of the present study indicated that around half of the students perceived themselves to be well prepared in the corresponding areas of teamwork, planning and organization, and oral communication skills. It follows that the other half of the sampled students feel somewhat or not at all prepared in these areas. This is parallel to employer feedback and provides confirmation that graduate students require additional preparation in noncognitive areas identified as key by employers.

In terms of areas identified as important by students, many individuals reported feeling well prepared in most of the skills which they perceive to be most important in their jobs. There are, however, some areas in which the majority of students felt only somewhat or even not at all prepared (see Table 4). Specifically, over half believed that they were somewhat or not at all well prepared in creativity, while nearly that proportion reported the same thing for teamwork and technological comfort and savvy.

The results of this study are comparable to those found by Kemp and Seagraves (1995), who surveyed students about how well they felt prepared in a specific set of noncognitive skills by their undergraduate education. A majority of their sample indicated that they felt equipped by their undergraduate education in written and oral communication skills, and only half felt

equipped in graphical communication (the ability to communicate concepts and ideas via technical drawing, statistical graphs, and data presentation). The latter somewhat overlaps with the skill set required for data analysis/synthesis, namely, the ability to manipulate data. Interestingly, nearly two thirds (62%) of the sample in the present study felt well prepared by their graduate program in data analysis/synthesis skills. While the difference in skill preparation between the Kemp and Segraves study and the present one could be due to a number of factors, not the least of which is the differential emphases of graduate and undergraduate programs, it is encouraging to see that preparation in data manipulation skills is greater for graduate degree–holders, who are likely to implement them at a higher level. There is an overall concern, however, that graduate degree–holders are reporting comparable levels of preparation (or the lack thereof) to undergraduate degree recipients.

Overall, the results of this survey provide an encouraging confirmation to universities that they are on the right track in terms of graduate student preparation for employment, but additional work is needed. There are specific areas in which a closer alignment between graduate program and workplace goals is possible. For example, Wendler et al. (2012) recommend that universities broaden the focus of their graduate programs to include training in professional skills that are required in the workplace. If employer feedback is integrated into this training, the resulting collaboration could better prepare graduate students for success in the workplace. Additionally, employers have expressed an interest in the workforce training of graduate students outside the classroom, for example, through internships, co-ops, and postdoctoral opportunities (Wendler et al., 2012). These scenarios address a critical junction in the graduate student transition from learner to employed contributor. If given the opportunity to implement their new knowledge base and develop critical noncognitive skills within a *trial* workforce context, while

incorporating external stakeholder feedback, graduate degree–holders may enter the workforce

feeling more prepared than those in our sample. The key here is the need for greater integration

of academic and employment goals; this can best, and perhaps only, be obtained by greater

collaboration between these two sectors.

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Table 1

Survey Questions Analyzed

Question	Response options	Workplace skills/emphases
How important is [workplace skill/emphasis] in your current position? How well do you feel your highest degree program prepared you in [workplace skill/emphasis]?	Very important, Somewhat important, Not important	Knowledge of the field, publications, research skills, creativity, oral communication, writing skills, analysis/synthesis of data, teamwork, resilience, planning and organization, ethics and integrity, technological comfort and savvy, and teaching and training.
How related is your highest degree field to your current position?	Closely related, Somewhat related, Not related	
Which of these sectors best describes your primary job?	Business/Corporate, Faculty/Teaching, Research, Nonprofit, Community/Public Service, Government, Entrepreneurial, and Military	

Note. Survey responses related to knowledge of the field were not included in the analyses

Table 2

Perceived Value of a Graduate Education: Percent of Respondents in Each Score Category

Score category from low value to high value			
$N = 47$ (3%)	$N = 148$ (9%)	$N = 634$ (37%)	$N = 875$ (51%)

Table 3

Skills Perceived as Very Important in Current Position by Gender, Race, Degree Level, and Value of Graduate Education

Skill	Gender		Race/ethnicity				Degree level		Value of graduate education	
	Male (n=812)	Female (n=1,113)	Asian (n=130)	Black (n=103)	Hispanic (n=100)	White (n=1,171)	Master's (n=689)	Doctorate (n=275)	Lowest (n=47)	Highest (n=875)
Publications	24%	17%	31%	17%	20%	18%	16%	58%	28%	24%
Research skills	43%	34%	42%	33%	37%	37%	36%	72%	34%	41%
Creativity	57%	54%	59%	59%	49%	54%	57%	62%	57%	59%
Oral communication	77%	87%	79%	89%	80%	83%	88%	78%	85%	87%
Writing skills	66%	73%	71%	79%	72%	70%	76%	79%	66%	77%
Analysis/synthesis of data	68%	62%	61%	68%	68%	62%	72%	76%	78%	72%
Teamwork	69%	74%	71%	75%	70%	73%	79%	58%	74%	75%
Resilience	63%	70%	64%	77%	66%	69%	69%	67%	76%	70%
Planning and organization	71%	84%	73%	83%	80%	78%	85%	72%	70%	83%
Ethics and integrity	69%	80%	67%	81%	82%	76%	84%	70%	74%	83%
Technological comfort and savvy	52%	49%	50%	50%	46%	50%	52%	46%	51%	53%
Teaching and training	38%	50%	38%	61%	45%	47%	50%	44%	52%	49%

Table 4

Skills Perceived as Being Well-Prepared For by Gender, Race, Degree Level, and Value of Graduate Education

Skill	Gender		Race/ethnicity				Degree level		Value of graduate education	
	Male (n=812)	Female (n=1,113)	Asian (n=130)	Black (n=103)	Hispanic (n=100)	White (n=1,171)	Master's (n=689)	Doctorate (n=275)	Lowest (n=47)	Highest (n=875)
Publications	32%	28%	29%	34%	36%	29%	30%	45%	27%	37%
Research skills	57%	56%	54%	59%	64%	57%	57%	70%	47%	64%
Creativity	39%	38%	40%	49%	41%	37%	395	38%	42%	44%
Oral communication	48%	57%	50%	73%	55%	54%	59%	53%	50%	60%
Writing skills	60%	70%	52%	78%	73%	68%	70%	61%	64%	70%
Analysis/synthesis of data	65%	60%	60%	59%	67%	62%	65%	68%	61%	69%
Teamwork	41%	51%	46%	64%	53%	47%	55%	37%	27%	56%
Resilience	44%	49%	44%	61%	52%	48%	49%	48%	45%	55%
Planning and organization	44%	57%	48%	72%	64%	52%	58%	43%	48%	60%
Ethics and integrity	49%	57%	51%	67%	60%	55%	62%	54%	40%	65%
Technological comfort and savvy	39%	38%	43%	48%	42%	38%	42%	34%	32%	46%
Teaching and training	35%	39%	28%	50%	38%	38%	41%	36%	41%	44%

Table 5

Students' Perceived Importance and Level of Preparedness Across Skills

Skill	Very important	Very prepared	Somewhat prepared	Not at all prepared
Publications	20%	30%	38%	12%
Research skills	38%	56%	33%	4%
Creativity	**55%**	**39%**	**44%**	**10%**
Oral communication	83%	54%	36%	7%
Writing skills	70%	66%	27%	5%
Analysis/synthesis of data	65%	62%	29%	5%
Teamwork	**72%**	**47%**	**36%**	**10%**
Resilience	67%	47%	36%	8%
Planning and organization	78%	52%	37%	7%
Ethics and integrity	75%	54%	31%	8%
Technological comfort and savvy	**50%**	**39%**	**40%**	**11%**
Teaching and training	45%	38%	39%	11%

Note. Bold cells indicate instances where a majority of students listed a skill as very important, and either (a) a majority only felt somewhat prepared,(b2) at least 10% felt not at all prepared, or (c) both.