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## **Linking Grades And College Graduates' Perceptions of Obstacles And Facilitators: A Cautionary Tale**

We set out to compare the relationship between the standardized grade averages (CRC scores) of recent college graduates with and without disabilities at a large English cegep. We also examined the relationship between graduates' perceptions of facilitators and obstacles to academic success, and their exit CRC scores. In the course of our research, we found that many graduates self-reported a disability, even though they had not registered with the college to receive disability related services. Because little is known about graduates with disabilities who do not register, we examined the scores of graduates with disabilities more closely, comparing those who had and had not registered for disability related services.

### *Comparing Graduates Who Do and Who Do Not Complete Surveys*

In the process of analyzing the findings we found that graduates who completed our questionnaires, whether they had a disability or not, had higher high school leaving grades and had higher standardized college grade averages (CRCs) than graduates who had not completed our questionnaires. This was true of graduates who had completed any optional college survey, either while they were students or after graduation. Our sample consisted of 9406 recent graduates, approximately a third of whom completed at least one survey (for additional methodological details see Jorgensen et al., 2007).

We show in Table 1 that the standardized grades of college graduates who completed a survey are significantly higher than those of graduates who did not do so. This is true for graduates both with and without disabilities.

**Table 1 A Comparison of College Exit Scores of Survey Responders and Non-Responders**

<b>Group</b>	<b>Survey Non-responders</b>	<b>Survey Responders</b>
<b>With Disabilities</b>		
Average CRC	24.42	26.68
Number of Graduates	198	222
<b>Without Disabilities</b>		
Average CRC	25.89	27.13
Number of Graduates	6027	2959

OK. So the grades of survey completers are higher than those of noncompleters. Others too have reported similar findings (Woosley, 2005), and there is a huge psychology literature showing that

volunteers are different from nonvolunteers in a variety of contexts. In order to compensate for this difficulty we had to limit our comparisons of registered and unregistered graduates to survey responders only.

### *Grades Of Male And Female Graduates*

The literature shows that the grades of females are generally higher than those of males and that this is true of college students with and without disabilities (Jorgensen et al., 2005). We show in Table 2 that we replicated these findings when we compared the standardized grade averages of graduates with and without disabilities, and this was true for both males and females within these groups.

**Table 2 College Exit Grades (CRCs) of Graduates With and Without Disabilities**

<b>Group</b>	<b>Males</b>	<b>Females</b>
<b>Learning (LD/ADD/ADHD)</b>		
Average CRC	23.66	24.61
Number of Graduates	81	104
<b>Other Disabilities</b>		
Average CRC	26.18	26.46
Number of Graduates	86	149
<b>Without Disabilities</b>		
Average CRC	25.78	26.61
Number of Graduates	3367	5619

### *Graduates with Disabilities*

The literature on college students and graduates with disabilities is typically based on individuals who register for disability related services at their school. This is because the research is conducted either by campus disability service providers or because these individuals are asked to help with participant recruitment. But many students with disabilities do not register for these services. Our data suggest that this group represents a large number of students and graduates about whom very little is known (Fichten, et al., 2003, 2006). Conducting college wide surveys that ask individuals to self-report their impairment is a good means of obtaining data about those students and graduates who do not register with the college service provider. Of course, only data from individuals who respond to the survey are available in such studies because without self-reporting there is no way to ascertain whether a student or a graduate has a disability, if they do not register to receive disability related services. This was, of course, also true for the present study.

In order to examine the academic outcomes of graduates with disabilities who did or did not register for disability related services, we compared the scores of survey responders only. We could not compare the scores of non-responders because only the non-responders who registered for services are known to us. Because both the literature and our previous findings suggested that there are differences in the

academic outcomes of students and graduates with learning disabilities / attention deficit / attention deficit hyperactivity disorder (LD/ADD/ADHD) and other disabilities / impairments (Jorgensen et al, 2005), we further divided our sample into these two groups.

Inspection of the means in Table 3, and statistical testing show no significant differences in CRC scores between responder graduates with disabilities who registered for disability services and those who did not, whether they had LD/ADD/ADHD or other disabilities. This was true even when the differences in high school grades were taken into account. However, our data overall did show that graduates with LD/ADD/ADHD had significantly lower CRC scores than graduates with other disabilities and non-disabled graduates. However, it should be noted that graduates with LD/ADD/ADHD also had lower high school grades.

**Table 3 Comparison of College Exit Grades (CRC's) of Graduates Who Registered and Those Who Did Not Register for Disability Related Services (*Survey responders only=222*).**

	<b>Registered</b>	<b>Not Registered</b>
<b>LD/ADD/ADHD</b>		
Average CRC	25.11	25.93
Number of Graduates	36	24
<b>Other Disabilities</b>		
Other Disabilities	26.56	26.60
Number of Graduates	41	121
<b>Total</b>		
Average CRC	<b>25.88</b>	<b>26.49</b>
Number of Graduates	<b>77</b>	<b>145</b>

#### *Academic Facilitators and Obstacles*

In this study, and in a previous investigation we showed that graduates with disabilities who did not register for disability related services perceived their studies as being more difficult than either peers with disabilities who registered for these services or those who were non-disabled (Fichten, et al., 2006). But do such perceptions translate into poorer grades?

The short answer is, "Yes." Graduates who perceived various aspects of their studies as easier had significantly higher CRC scores than those who perceived their studies as harder. To find out more about the aspects of the perceived academic experience that were linked to CRC scores we examined individual items. Nine such items could be identified: financial situation, family, level of personal motivation, study habits, previous educational experience, level of difficulty of courses, attitudes of professors, willingness of professors to adapt courses to the student's needs, and the availability of computers off-campus. For graduates with disabilities study habits, level of personal motivation and disability related support services off campus were most strongly related to the CRC score. Level of

personal motivation was particularly important for graduates with disabilities and accounted for the largest amount of variability in the CRC score apart from the high school grade.

### *Conclusions*

In summary, it should be noted that survey responders have higher grades than non-responders, and this needs to be taken into account when interpreting survey findings in a variety of contexts. That having been said, our findings show that certain aspects of the college experience, many of which are within the control of the colleges, are associated with superior performance. But, in the final analysis, it was learner's level of motivation and study habits that we found to be most closely related to higher grades upon graduation. For graduates with disabilities, disability related support services off-campus were also related to higher exit CRC scores.

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