

Proving the Value of Honors Education: The Right Data and the Right Messaging

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Administered within over 1,500 honors colleges and programs in two- and four-year institutions worldwide (National Collegiate Honors Council (NCHC) 2017; Scott and Smith 2016; Wolfensberger 2015), honors education serves the best interests of students and adds quality to the academic mission of host institutions by promoting the highest intellectual standards. Necessarily differing in form and content, all honors programs and colleges share the goals of identifying and supporting the most talented students as they achieve success in college and as they learn how to prepare not only for successful careers, but also for lifelong learning and meaningful civic engagement (Humphrey 2008). Certainly honors enthusiasts believe that these goals are met through innovative and challenging programming in areas of curriculum, undergraduate research, community engagement and service, and leadership.

These beliefs, however, need to be backed by empirical data. Do honors programs and colleges achieve their goals? Do they increase

the success of their students? Do they add measurable value to their institutions? How do we know? What data are needed to prove the worth of honors education, and how should those data be communicated to the administrators responsible for funding it—provosts, chancellors, and presidents? What are the obstacles to honors programs' and colleges' ability to gather those data and persuade various audiences? Nationally, a growing body of evidence confirms that honors students are more successful than other students (e.g., Cosgrove 2004; Pritchard and Wilson 2003). That every specific honors college or program know—not just hope or think—that it is effective in terms of recruiting, retaining, and promoting the success of its exceptional students is essential. Achieving this knowledge requires the right data, the right analyses, and the right communication. This paper details several ways to accomplish this task as well as some of the obstacles to this effort. We approach the idea of assessment and evaluation—or more simply, documenting positive effects of programs and persuading others of those effects—with social psychological research methods and while considering the politics of today's higher education landscape. Specifically, we discuss how to obtain, understand, and use the simplest to the most complex data to prove the ultimate value of an honors program, and how to tailor messaging about those data. Honors colleges and programs are the model for undergraduate recruitment and success. Our goal is to help readers prove it.

FROM THE SIMPLEST TO THE MOST COMPLEX DATA

At least three things are necessary to make a compelling case that honors education is worth institutional investment: the right data, the right analyses, and the right communication of those data. Honors deans and directors must know their audience and adjust the message appropriately. Sometimes the simplest data and the simplest analyses are sufficient, especially if the audience already values honors education. Sometimes more complex data and analyses are necessary because deans and directors may encounter skeptics about the worth of honors. Moreover, because universities and colleges today are often underfunded, administrators are constantly

looking for ways to scale back operations. Those hard decisions should be, but often are not, based on data illustrating whether programs benefit students. Complex data can prove the worth of the program, but they are worthless unless conveyed clearly and understood by the audience. An honors dean or director may only have an elevator ride to convince someone of the importance of a college's or program's worth. Impressions are formed quickly and are long lived (Fisk, Gilbert, and Lindzey 2010).

To obtain and use simple and complex data effectively, honors administrators must first choose the outcomes (the dependent variables, in methodological terms) that are to be measured—those outcomes that are most important to an institution. Of all the wonderful things an honors college or program does for a university, usually the most important ones to the financial bottom line (i.e., increasing tuition) are recruitment and retention: attracting the best students to the campus and retaining them until they graduate. Next, we share a few examples of how to provide evidence of such value, going from the simplest to the most complex evidence.

WHAT IS THE RECRUITMENT VALUE OF HONORS?

The first example is simple yet exceptionally effective in many situations. What is the recruitment value of honors? At the University of Illinois at Chicago (UIC), the dean (the first author of this essay) found that a particularly effective data point was that “65 percent of freshmen said they ‘would not have come to the University of Illinois at Chicago had it not been for the UIC Honors College.’” This data point was self-reported by students using a poll of the entering freshman class with only one survey question: “Would you have come to UIC had it not been for the Honors College?” Fully 65 percent of all honors students and 75 percent of our most prestigious diversity scholarship students said “no.”

Of course, people are not always accurate in their self-reports (Azar 1997), but they certainly can be, especially when they remember what they are being asked and when they have no motivation to lie about it. This survey item meets those criteria. Importantly, this piece of data costs nothing to obtain, is easy and quick to

communicate, and is persuasive. It is elegant in its simplicity. And it is music to the ears of an admissions director, provost, and president, each of whom is interested in supporting enterprises that increase recruitment, especially of top achievers, thereby bringing more tuition money to the university and relieving some of the financial stresses that most institutions suffer.

WHAT IS THE VALUE OF HONORS EDUCATION IN SUPPORTING STUDENT SUCCESS?

The next examples consider a different yet also crucial question: What is the value of honors education in supporting student success? Setting aside distal measures such as lifelong success indicators, which are exceedingly difficult and expensive to collect, the most important proximal measure of the impact of honors on student success is whether students graduate. We present three ways to address this question of the impact of honors education on graduation rates. The first and second approaches reflect the standard of “elegant simplicity” while the third provides a similar message but is far more complicated, far more difficult to convey, yet far superior if the audience really cares about and understands data and statistical analyses. Offering evidence to an institution’s administration that honors helps retain and graduate students is important because administrators usually care about students being successful at their institutions and because retaining students also generates tuition revenue and affects the financial bottom line. Further, we believe that all honors programs and colleges should be performing these analyses regularly, not only to prove their effectiveness to others, but also to assess for themselves whether they are effective.

Example 1: A Simple Comparison

Question: Do honors students graduate at higher rates than other students on campus? Answer: Yes, of course. At the UIC Honors College, where our students are 40 percent Pell-eligible and so diverse that there is no racial majority, the graduation rate

was recently 88 percent, while the campus average of non-honors students approached 60 percent. These two simple data points are impressive, and for many purposes, such as talking with prospective parents, they are enough. For other purposes, however, these numbers are not sufficient because they are not definitive about the impact of honors education specifically. Skeptics can claim that honors students are more successful (e.g., more likely to graduate) for reasons other than their honors experiences; they maintain these students are smarter to start with, which people often wrongly think is measured by standardized test scores; better prepared; richer; not first-generation college students; and a dozen other qualities that are stereotypical, although not always true, about honors students.

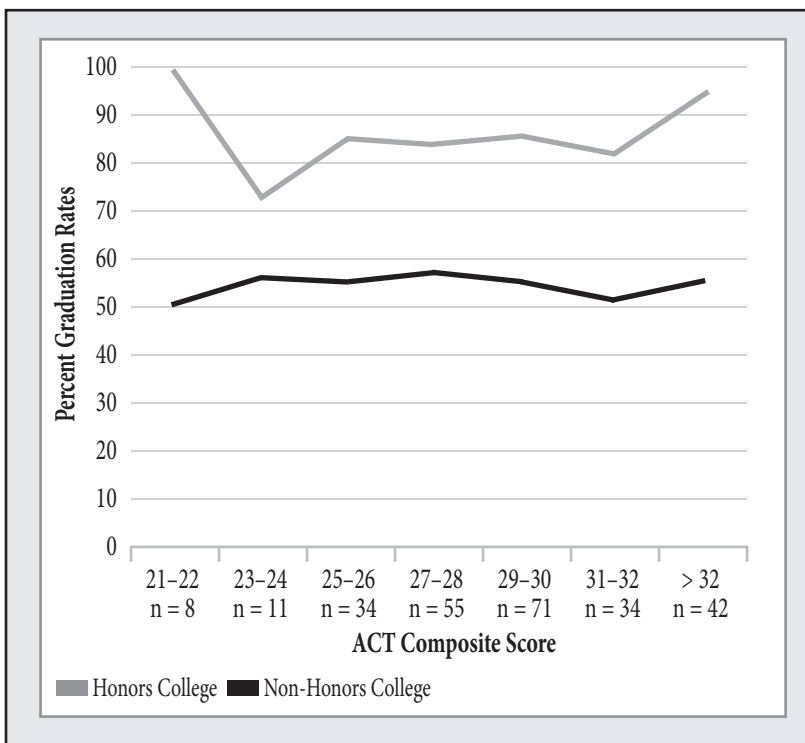
Allowing people to believe these notions is problematic. They are claiming that honors students would have been just as successful even if they had not been in the honors college or program. If that were true, honors education would not be needed. Experienced honors administrators know this claim is not true—if only in our gut. It is not merely what students bring with them to an honors program that determines their greater success; it is what honors education does for them once they get there. Thus, the dean's or director's job is to prove that honors education has an effect *above and beyond* various individual students' entering characteristics. Examples 2 and 3 consider how to make that case.

Example 2: Data that Begin to Account for Students' Entering Characteristics

In Figure 1, we provide a simple way to illustrate the increased success of honors students while also accounting for alternative reasons for this success. These data are from a recent cohort of University of Illinois at Chicago Honors College students. This graph shows an outcome (in this case, graduation rates) as a function of whether students are in the honors college, but further, also as a function of a third variable that is often claimed to account for the increased graduation rate of honors students: ACT score.

Specifically, five-year graduation rates (percentages of students entering at the same time) are graphed on the vertical (i.e., Y) axis, and groupings of ACT scores are graphed across the horizontal (i.e., X) axis. The top gray line shows the graduation rate of honors college students; the bottom solid line represents all other students (non-honors college students) at the university in that cohort. The main effect, statistically speaking, of honors is clear, with that top gray line being 20–25 percentage points higher than the bottom solid line. But most importantly, that difference pretty much holds steady across each level of ACT score, down to around 21 or 22 ACT points. In other words, the effect of honors education on graduation rates is evident regardless of entering ACT scores.

FIGURE 1. FIVE-YEAR GRADUATION RATES AS A FUNCTION OF ACT: UIC HONORS VS. NON-HONORS STUDENTS



Note: n indicates the number of students in the honors college sample.

One could similarly plot graduation rates across various other alternative explanations one by one, such as the number of entering AP credits or high school GPA. If such a graph is explained clearly and simply, anyone can readily understand it regardless of statistical expertise; the graph makes it possible to see the effect of honors. It is therefore effective across audiences with widely varying levels of statistical sophistication. For example, we used it in our annual report, which is aimed at administrators, faculty, students, alumni, donors, and other friends (Bottoms, Mehta, and McCloud [Williams] 2015). That gap between the gray and solid lines in that graph represents the “value added” of the honors college and clearly illustrates that, again, what is consequential is not what students come with when they enter college but what honors does for them once they arrive.

Another point worth noting in Figure 1 is the 100 percent graduation rate for honors students with ACT scores of 21 and 22. These scores are not often seen among honors students, given typical admissions policies. Although only eight honors students had scores in this range, their success demonstrates better than any other group the value that honors adds. Moreover, students at the top of the ACT distribution—even those students with ACT scores of 35 and 36—are no more likely to graduate than those with much lower scores, and non-honors students with 35 or 36 are certainly less likely to graduate than the honors students with the lowest ACT scores. Considering how flat both the gray and solid lines are is important: ACT score—above about 21 or 22—is not a strong predictor for anyone at UIC, which can be seen here because honors and non-honors student groups have been pulled apart, that is, separated. Note that if this graph had merged the two groups into only a single line, one would have seen a slight upward slope from left to right, a trend that would also show up as a small statistical correlation if one did the calculations. But the graph in Figure 1 illustrates that such an association of ACT with graduation rates is due to honors college membership—simply more of the honors college students have higher ACT scores, and the honors students also graduate at higher rates. That is, higher ACT scores are somewhat

confounded with honors college membership, so when honors students are pulled out, the line flattens, and the correlations drop to non-significance, at least when the lowest ACT scores in the analysis start around 21 or higher. Administrators at universities often wrongly use such a one-line approach, without disentangling honors and non-honors students, in arguing that ACT scores predict student success. This graph, therefore, underscores the importance of the growing and well-supported movement to admit students based on factors other than standardized test scores.

Example 3: Complex Data, Complex Analyses: A Comparison that Accounts Well for Students' Entering Characteristics

The data presented in Figure 1 provide an important illustration for administrative audiences, but ultimately, it is still not a completely definitive answer to claims of alternative explanations because it considers only one alternative explanation at a time, such as ACT, and because it is not a statistical analysis that can provide a more specific estimation of effect sizes. Statistically speaking, various predictor variables, such as ACT, high school GPA, or whether a student is first generation, can be interrelated with each other, so one needs to look at all of them simultaneously to understand the unique effects of each and to understand whether honors education has an effect above and beyond all those other factors. A more sophisticated approach that takes care of these concerns is to use multivariate statistical analyses, which control for many variables at once to see the unique effect of the honors experience.

Researchers at UIC have done such analyses, and this study is presented in detail in another chapter of this collection (see Diaz, Farruggia, Wellman, and Bottoms (2019) herein). To summarize briefly, we studied over 21,000 students who entered UIC between 2006–2012, 14 percent of whom were honors college students. The sample was unusually diverse, as is our institution (*U.S. News & World Report* 2017), with a mean age of 18 years; 55 percent women; 37 percent first-generation college students; 45 percent Pell-eligible;

and 24 percent Asian, 10 percent African American, 21 percent Latino, 35 percent white, and 10 percent mixed or other ethnicities/races. We conducted five separate analyses for five outcome measures: hierarchical linear regression models were used to assess the effects of honors college membership and other variables on first-semester GPA and number of credits completed in the first year of college, and logistic regression was used to assess the outcomes of retention from the first to second year, 4-year graduation rate, and 6-year graduation rate. In addition to determining the impact of students' membership in the honors college, we tested for the potential effects of nine additional predictor variables that might be confounded with honors college membership, and which therefore could be alternative explanations for the effect of honors. Specifically, in each of the five analyses, all predictor variables were entered into six steps or "blocks" as follows: (1) age and gender; (2) ethnic/racial background; (3) parent income and first-generation status; (4) entering high school GPA, number of AP credits, ACT composite score, and UIC writing placement; and finally (5) honors college participation. Readers need not understand statistics deeply to appreciate the basic idea of how these analyses work. Essentially, these analyses detect and pull out the statistically significant (i.e., reliably detectable) effect of one variable after another, until all variables have been accounted for. In other words, the first step (block) of one of these analyses first accounts for (or pulls out) whatever statistical impact age and gender might have. Then the next steps account for any effect that race/ethnicity has, and so on until the only variable left is honors college membership in the last step. If the effect of honors college membership were due to its being confounded with any or all of the other variables, then logically, it would have no statistically significant effect when added in step 5, because at the end of the analysis, the effects of all the other variables have already been accounted for. If honors college membership still has a significant effect in step 5, then that effect is really due to honors and not to any of the other variables that have already been accounted for.

As detailed later in this volume, Diaz et al. found that compared to non-honors students, honors college students had higher

first-term GPAs, earned more credits their first year, were more likely to be retained to their sophomore year, and had higher four- and six-year graduation rates. Importantly, those effects remained even after the analyses controlled for the effects of all the other nine alternative variables: honors college membership still had a significant effect in step 5. Therefore, the analyses illustrated the significant impact of honors college membership above and beyond the effects associated with nine other variables that are often confounded with honors college membership, thus ruling out many alternative hypotheses that are often used by critics to explain away the positive effects of honors education.

Further, our analyses also indicate that the benefits of honors college membership increase with the amount of time students spent in the honors college. This phenomenon argues against another alternative explanation for the impact of honors education—that honors students self-select because of higher initial internalized motivation to succeed and that this motivation rather than their experiences in honors leads to their higher levels of success. Another argument against this alternative motivational explanation is that high school grades are surely, at least in part, a simple partial proxy for motivation, and we also controlled for that and still found the effects of honors to be significant.

Finally, our analyses also revealed another important factor: African American and Latino students benefited more than did students in other racial/ethnic categories, at least in terms of first-term GPA and first-year credits earned. Documenting that honors can play a role in decreasing the huge gap in educational achievement between underrepresented minority students and others is important. Being able to present such evidence is truly gratifying. Honors colleges and programs can and should admit more promising underrepresented minority students, de-emphasizing factors such as standardized test scores. When we took this step at UIC, skeptics opined that we were only setting students up for failure. We were not. Our analyses provide evidence that honors supports their success.

LIMITATIONS, POTENTIAL BARRIERS, AND OTHER CONSIDERATIONS

Finally, it is worth considering potential limitations and obstacles to the approaches we have discussed here in order to be prepared to address them if they are mentioned by the audience one is trying to persuade. First, no single analysis is perfect, and the best strategy for explaining a complex human behavior such as college student success is to have a multifaceted plan that builds a case on the basis of converging evidence. Even in our multivariate regression analyses, we certainly did not test every possible variable that could be confounded with honors college membership; thus more work can be done to identify and test other alternative hypotheses. And of course, all of our data come from students at one university. We have presented several types of converging data, but many other possibilities exist depending on the particular program and on what outcomes and predictors are important at the institution.

Second, even though the analyses support the contention that honors education is effective, they do little to explain why. Honors programs are home to many academically enriching (i.e., “high-impact practices” à la Kuh 2008; Mayhew et al. 2016) and socio-emotionally supportive programs, including specialized professional, peer, and faculty advising; engaged living communities; financial assistance; special academic work such as small honors classes, capstone theses, and research; leadership experiences; and service learning and civic engagement experiences. All of them have been linked in general student populations to increased college success (e.g., Inkelas and Weisman 2003; Freeman et al. 2007). But questions remain: which among those programs are most effective at improving student outcomes? Which ones contribute most to the positive effects of honors education? Investigation of these factors is not only important for supporting lobbying efforts on behalf of an honors college or program with university administration, but also for program evaluation and development purposes, for understanding where to focus resources, and for staff training. Further, it is important to identify which practices are best for which students.

This information could lead to understanding why the effects of honors experiences are stronger for students of some races/ethnicities compared to others. A tailored approach to honors education, heeding individual differences in student needs, fits with the values of honors. Such analyses would also provide information about practices that help all students, not only honors students—again, a goal that fits well with the values of honors.

Third, we discussed only relatively short-term outcome measures, such as credits earned during the first year, college GPA, retention, and graduation. These measures are certainly important, yet the literature on program evaluation makes it clear that many ways to determine effectiveness exist. Higher education, especially honors education, claims to prepare students for a better life beyond college. Does it? Ideally, honors programs would track their graduates to obtain richer long-term measures of success, including evidence of lifelong learning and being responsible in civic society.

Fourth, one barrier to programs or colleges collecting the type of data and doing the kinds of analyses suggested here might be that honors administrators, especially deans and associate deans, while possessing expertise in a broad range of areas, often come from disciplines unfamiliar with multivariate statistical techniques. If they lack these skills, one solution that will work is to request that the office of institutional research perform the analyses. Of course, institutional research and reporting staff members may not have time to fulfill individualized department requests, or they may specialize in purely descriptive analyses rather than social science hypothesis testing and analyses using multivariate regression or hierarchical linear modeling (HLM). If that is the case, another possibility is engaging successful faculty members from the social sciences to lead these efforts. Faculty who have published papers using these analyses to examine human behavior or highly qualified graduate students under their supervision can conduct and explain the analyses. These researchers should be encouraged to capitalize on their need to publish by allowing them to use the data for testing theories that interest them, and they should be compensated appropriately whenever possible.

One caveat to remember when selecting faculty partners is that a little statistical knowledge is a dangerous thing. There are many ways to conduct technically legitimate analyses, especially regressions, but without expertise in using and interpreting such analyses, one can end up with an inaccurate story of human behavior. People who are new to statistics or use them infrequently might not understand how to answer various questions using the proper analysis or the proper statistical controls. Consequently, relying on truly experienced faculty partners is advisable. Finally, just because handling data statistically might be unfamiliar to an honors administrator, that is no reason to fear it or accompanying tasks such as having a plan reviewed by the Institutional Review Board. The right faculty partners will be well-versed in how to present studies for human subjects review, and the study could even move forward with what is known as “exempt” status if it is done with appropriate safeguards for the confidentiality and anonymity of student participants.

Fifth, funding may not be available to support this work. Because of a tight budget, honors administrators might decide that using resources to support programs rather than investing in evaluative data collection and analyses is a better choice. We challenge that assumption. If administrators do not know whether their programs are working, continuing them might not make sense. It is essential, then, to recognize the importance of investing in data analysis, understanding that the day will come—if it has not already—when an administrator above the honors college or program will demand good evidence before continuing funding and institutional support. Before that day arrives, honors deans and directors should designate or redirect program funds or look for alternative sources of support such as grants to conduct these studies. We would also urge honors administrators to be creative: many private foundations have an interest in higher education, especially in research that can generalize nationally, and some foundations and even individual donors may specifically be interested in high-achieving students, or else we would not have examples such as the Lewis Honors College, the Schreyer Honors College, or the Barrett Honors College. The campus office of development or advancement can

help honors administrators identify foundations and people who care about such causes. We also suggest that honors administrators “Google” around on their own to find possible contacts. Also, businesses invest in efforts that have the potential to enrich their pipeline of employees, so we advise honors administrators to make connections in their locale. Honors directors and deans can lobby honors organizations such as NCHC to create special small grants for this purpose, and, as mentioned above, it is always possible to engage faculty and graduate students who might be willing to work for the benefit of potential publication alone.

Finally, perhaps the most depressing potential possibility is that no one will listen to or believe the honors administrator, even when the right data are presented, analyzed properly, and communicated correctly. Some opponents to honors, especially those with a dangerously small amount of statistical knowledge will pick at everything an honors administrator does—no matter what variables one tests or how many tests are run. No matter how conclusive the analysis is, it may never be enough to convince some for whom there will always be an alternative explanation. To that end, assembling converging data is essential. In addition to the kinds of data we have discussed, honors administrators should add qualitative or descriptive information and case studies with narratives about students who have succeeded because of honors and despite academic false starts. Being thorough and persistent is critical because people may reject the results outright for no good reason. If social psychologists know anything, it is that people believe what they want to believe (i.e., the “confirmation bias,” e.g., Kassir, Dror, and Kukucka 2013; Rosenthal and Jacobson 1966), and leaders in higher education are no exception. The first author once presented data to an interim provost who was so dismissive that he only smiled condescendingly and said he would “have to wait to see the publication.” Many competing political interests flourish at a university, but not all of them are admirable. Certain special interests may trump good data and best intentions. That does not mean, however, that honors administrators should not do the research for their own internal evaluation needs or for discussion with high-level academic administrators

when regime change occurs at high levels of the institution's administration, as there is fairly often these days. Moreover, producing such research can add to the accumulating evidence in the growing publication record about the impact of honors education. Our advice is that honors administrators should steel themselves, be patient, do the right thing, collect good data, analyze those data correctly and honestly, explain the analyses well, use the right data for the right situation, publish it if possible, and above all, be persistent.

CONCLUSION

Nationally, the appreciation of multivariate social science statistical methods to investigate many aspects of higher education is increasing. Honors should be no exception. In turn, such analyses will increase the quality of honors education, especially if leaders have the courage to share their results and act on them appropriately. Some efforts are already underway, such as this monograph, which follows from fruitful discussion among many concerned leaders in honors education who met at the May 2016 NCHC-sponsored honors research colloquium at Wayne State University, organized by NCHC Past President Jerry Herron to further his initiative as president to emphasize honors research. Another example is the establishment of Honors Education in Research Universities (HERU), a collective with the goal of “fostering the extension of the unique research mission of our institutions to our honors colleges and programs . . . to truly understand the efficacy of our efforts”; and the creation of HERU's new online open-access journal, *Honors in Higher Education*, to “foster creative thought about how to achieve a more sophisticated level of self-examination through research” (Bottoms and Gutgold 2016). More research is needed, and we see many indicators that leaders in honors are rising to the occasion.

Especially in fiscally tight times, it is important for any honors college or program to prove that it is effective. The right data, the right analyses, and the right communications will reveal unequivocally that honors education is an effective model for undergraduate recruitment and success.

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