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WMD Research Report

College of Social and Behavioral Sciences

The College of Social & Behavioral Science at the University of Utah takes in data from students studying under seven different departments. This semester there are approximately 2,800 undergraduate students and 500 graduate students enrolled, which is about 12% of the total undergraduates and 6% of the graduates currently enrolled at the university. They oversee 18 majors, with three of those -- Psychology, Economics, and Human Development & Family Studies -- having the three highest numbers of undergraduate degrees awarded from them in the last ten years.

Cathleen Zick is an Associate Dean for Undergraduate Studies and Faculty Development in the College of Social & Behavioral Science. She is also a professor of Family and Consumer Studies and continues to research household structure in addition to her responsibilities as Associate Dean. Between all three areas, the majority of Associate Dean Zick's work revolves around data analysis. The research she conducts with the University involves distributing surveys to Utah families and analyzing the self-reported data they offer. She has also taught several classes, and as a professor she educates students on public policy and how to handle national public data. As an Associate Dean, much of her work involves using data to evaluate student performance and determine which courses are offered, and how they might be changed

in the future.

The College of Social & Behavioral Science almost exclusively utilizes information retrieved from the Student Data Warehouse. This Warehouse contains all the information the university has on every potential, current, and past student. From the personal information, essay, and more provided in each student's initial application, to their final grades and class performance, all information is saved here. The Office of the Registrar is in charge of collecting and storing all of this data, as well as distributing it to approved faculty members for analysis purposes within the university only. The Office of Budget & Institutional Analysis controls what data is allowed to be distributed to the public.

The Office of the Registrar stores all student data centrally in a secure server, which is protected with a firewall. The server is backed up every night to a secure location in downtown Salt Lake to ensure its safety. In addition, all university faculty members with access to student data are required to use a dual lock ID system, meaning that they input a regular username and password and then enter the single use code that is sent to their phone or tablet as well. While Associate Dean Zick and others with similar access have long been required to use this two-factor authentication, all other employees of the university are currently also switching to dual lock identification to further protect the university's data. Anyone working on campus, in the hospital, or with health sciences organizations, including all student employees, will be forced to make the transition by December 28th, 2016. This two-factor authentication further ensures protection against any potential future attacks, as hackers are unable to

access data within an employee's account even if they obtain the employee's login information. Fortunately, though, Associate Dean Zick reported that she is not aware of any breaches to date of student information, nor does she know of any serious threats occurring during her time at the university.

Data collected by the Office of the Registrar is never sold and is only distributed as anonymous quantitative data. Only certain faculty members within the university, such as Associate Dean Zick, are given administrative access privileges. This allows them to request information for official institutional analysis purposes only, described by the Office of the Registrar as situations in which the "need to know" exists. Any other employees who wish to access student data must submit a request form to Associate Dean Zick detailing what type of data they would like to see and explaining why it will be of use to them. Those who want to gain access to the Student Data Warehouse must be appointed by the Dean of the College of Social & Behavioral Science. They must also complete the FERPA (Family Educational Rights and Privacy Act) Certification, which is a review session ensuring that the employee is aware of the Federal law in place to protect students and their information. In addition, they have to complete an online training module and an in person in-depth training session. Only one person from the College of Social & Behavioral Science can have administrative access to the Student Data Warehouse at any given time, keeping the student data from being accessed by too many individuals and helping to ensure privacy.

The data that Associate Dean Zick and the rest of the College of Social & Behavioral Science have access to is all quantitative and kept anonymous, as the

objective in studying this data is to come to conclusions about the students and courses as a whole, not to isolate students and track their behavior as individuals. Only analysts with the Office of the Registrar are given access to the names of individuals attached to their data. Because the data is kept anonymous, its use in the College of Social & Behavioral Science affects students as a whole population rather than targeting individuals. In some cases groups of students can be isolated in an effort to offer support or resources, but individual students are not penalized by their data and their information is not being reviewed or used on a personal level.

Data is collected from all students, whether they are aware of it or not. Any applications submitted to the university -- initial admission applications, Honors College, financial aid, housing, and acceptance to majors, minors, or other programs -- are saved. Details on credit earned before attending the university in college preparation high school classes, from high standardized test scores, and during courses transferred from other universities, as well as credit hours earned at the University of Utah, are also saved. Furthermore, all behavior recorded in classes is kept, including all assignments turned in and their grades, which lecture videos each student watched online, and what discussions each student participated in on the online class forums. Students offer some information voluntarily, such as adding emergency contacts and filling out applications for scholarships, while the students have already given permission for the rest to be collected as soon as they send their initial application to the university. The university has taken one small step in the direction of transparency, however, in requesting course evaluations. This semester, emails requesting evaluations include a link which shows an infographic describing the use of the responses. It's a very basic

explanation, but clarifies for students that data is collected anonymously and is used to help students to select classes, professors to improve courses, and the university to make decisions. This last use is part of Associate Dean Zick's responsibilities, as student surveys are a large portion of the data she analyzes.

Information is collected not just from current undergraduate as well as graduate students, but also from alumni, often in the form of voluntary self reported surveys. Surveys are utilized heavily by the College of Social & Behavioral Science, and are distributed to approximately 400 graduate students, 600 undergraduate students, and 4000 alumni. At the end of each semester, current students receive an invitation to fill out a questionnaire for each of the classes they took. These are standard for the whole university, and ask multiple choice questions evaluating the level to which each item was met ranging from Strongly Disagree to Strongly Agree. Questions describe the course layout, materials, and effectiveness, as well as how inclusive, knowledgeable, and effective the professor was. There is also a short answer option for providing more specific comments and constructive criticism. Alumni are sent similar surveys with the expectation that, after some time working in their respective fields, they could describe how useful their courses became after graduation. These alumni surveys focus on asking if there was anything they were frustrated about as students, if they felt fully prepared to begin their careers or not, and if they have any suggestions for changes that could be made in future courses.

In the past, current graduate and undergraduate students have been offered surveys with an additional portion asking for their names and contact information in

order to distribute incentives; participants who included their personal information were entered into a drawing for a gift card. The personal details were only kept for randomly allocating gift cards and did not remain in use beyond that purpose. Surveys sent to alumni did not have the same incentives, and they were offered anonymously.

Associate Dean Zick and her colleagues use the data they gathers to evaluate current course offerings and to determine which ones will be continued or altered for future semesters. They also use data to identify ways of improving retention and graduation rates. The College of Social & Behavioral Science has a limited amount of resources to offer, so analyzing student data helps them to determine where those resources should be allocated.

The College of Social & Behavioral Sciences also uses data to identify difficult to pass courses. They identify those that serve as bottlenecks -- courses that are required for graduation but are also often very difficult, as well as the classes that have high percentages of students retaking them because they received a low or failing grade their first time through. These classes are evaluated to find ways to help students succeed in them, and resources such as tutors are often made available for everyone taking these classes.

Further research also showed a large portion of upperclassmen who were close to completing their degrees but were not enrolled in further classes. These students had completed 90 credit hours or more but had no plans to graduate. The College of Social & Behavioral Sciences began identifying a group of students who met this criteria each

semester and offered each of them a small scholarship. The program is successful in encouraging these students to return and ensuring that money isn't the only reason they are unable to graduate.

In order to help students graduate and ensure that they do so on time, Associate Dean Zick and her colleagues have been looking for trends that indicate how successful a student might be. The research has shown that many students aren't aware of the majors that they might be interested as they go through their first few semesters. Since the students discover that their interests involve those fields of study so late, it becomes very difficult for them to transition and meet the requirements of their new majors on time. This delays graduation and can discourage students from finishing their degrees. Using these findings, the College of Social & Behavioral Sciences started an outreach program to help students find the right majors for them earlier. The results show that graduation rates have gone up significantly since implementing this program.