SDCC: Visible or Invisible?

An Interactive Qualifying Project Report

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by

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Abstract

The purpose of our study is to help the Student Development and Counseling Center better understand student knowledge about the center as well as student willingness to use the resources available at the center. We found several links between demographics and knowledge of the center as well as willingness to go to the center. We found that men, students who live off campus or who commute, and students who are not very involved on campus are less likely to know about the center. The same groups are also less likely to be willing to go to the counseling center.

Acknowledgements

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Introduction

Mental health is one of the most serious concerns on college campuses today. College students face many challenges in their everyday lives including the stress of academics and the attraction of extracurricular activities. For many students, this is also the first time in their lives when they have to take responsibility for their finances, time management, and personal health. They can no longer tell their parents about a problem and expect to have it fixed. These factors combine to create a high-stress lifestyle for many students.

Colleges and universities have responded to these needs in various ways, from first-year seminars that have a significant focus on wellness and healthy lifestyle choices to requiring on campus housing freshman or summer bridging programs. Colleges and universities have also responded by introducing or expanding counseling services for the students who do have difficulty adapting to the new challenges of college life. The adjustments needed in college make counseling centers a very important part of the student support framework at most campuses.

The stress found on college campuses often do not start when the student begins college. The pressure to get into the best universities has created a culture in which the college application process, the process of building the best possible application portfolio, begins in middle school or even earlier. Starting in middle school, childrens' schedules are filled with everything from music lessons to dance lessons, from science fairs to math competitions, from sports camps to community service projects. This high stress level follows a student through high school and into college. Today's students are pushed by society to do both curricular and extracurricular activities to improve their resume. Students start to feel the stress of higher education long before they arrive in college and long before they even decide where they want to apply.

Once in college there is a constant pressure to continue doing better than their peers so that they can join the best fraternity or sorority, get the best summer internship, be accepted to the most popular project center, and eventually land the best job. It is these pressures throughout a student's life that accumulate in their college years. The years in college are often the time in an individual's life when events will occur that may require counseling. While having a

dedicated counseling center is not a requirement for an accredited university or college, there are very few which do not have a staff dedicated to the mental health of their students.

At Worcester Polytechnic Institute (WPI), there is a dedicated Student Development and Counseling Center (SDCC) which has a full time staff of 5 certified counselors and 2 certified counselor interns[1] to help students with everything from time management to mental health problems related to stress and anxiety. The SDCC services include everything up to handling student depression and substance abuse. Even though the SDCC is set up to handle almost any problem that could be brought before them, there are still many hurdles they need to overcome. One of these obstacles is the stigma associated with mental health issues.

It is more acceptable today for individuals to seek help for mental health issues than it was, for example, fifty years ago, but there are still areas for concern. There may still be a large number of students who do not see help because of the stigma that still exists. On the other end of the spectrum there is another problem that arises from the decreasing stigma surrounding mental health. This problem is that the number of students going to the counseling center is steadily increasing which results in the need for more counselors.[2] This can be seen as a good problem to have because more individuals seeking help will result in a more students getting help. The only negative associated with more students utilizing the counseling center is that they only have so many time slots available. To meet this need one more full-time counselor was added in 2007 and other part-time individuals are hired on an as needed basis.

Having lived on campus for several years we have seen that students living on campus get exposed to the SDCC frequently, but may still not attend programs or seek help there. The SDCC, located at 157 West Street, is not like 12 Grimmauld Place:[3] It is easily visible in a physical sense to all those who wish to see it. Even though the commonly used name for the SDCC is "West Street House," the location is still not well known on campus. It appears that the number of students who visit the SDCC is far lower than the number who could benefit from using a counseling center. The first goal of this project was to measure the visibility of the SDCC

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[1] Minimum of Masters Degrees, Licensed Mental health Counselors (or working towards licensure) also Licensed Clinical Social Workers

[2] 57% increase from 2006-2010 academic years.

[3] From J.K. Rowling's Harry Potter series, this is the (invisible) headquarters of the Order Of the Phoenix, the house long owned by the Black family and currently under Fidelius Charm.

on campus. The second goal was to determine if any particular student populations are more or less likely to know about the SDCC. The third goal was to determine if a student's level of involvement on campus had an effect on their knowledge of the SDCC. If students did not use a counseling center the next question that was set out to be answered was "Where would a student would turn in a time of need?"

In order to address the two major focus points, visibility on campus and willingness to go to the counseling center, we developed a survey that was distributed to all undergraduate students. The survey was released at a time when we thought that we would receive a large level number of student responses. The intention of the survey and the data analysis was to assist the SDCC in better understanding student needs and how to break down any barriers that may be restricting students from getting the help they need. With this data the counseling center will be able to better cater to student needs.

Background

Overview

This section of the paper addresses the range of research used to guide the development of the project.

The Questions

Our project group was made up of all Resident Advisors, who were already heavily involved with the Student Development and Counseling Center (SDCC) and their programs and groups on campus. We had all seen and heard of many cases of students that needed to be referred down to the SDCC. Not every case where someone has to go down is going to be a severe psychotic break down; there are a lot of smaller things where the counselors are just great resources to talk to about things going on in your life. Homesickness, relationship issues, problems with substance abuse, being stressed out, the SDCC is a great resource for any, or all of these, and many more. Despite the SDCC being such a great resource it still seemed like people did not really take full advantage of it. This started to raise some questions as to why this might be. Could people be afraid of going down? Do they even know about the SDCC? What could be done to try to change this?

Looking back on the history of University Counseling Centers, in the mid-1940s, after the end of World War II, when a lot of soldiers started to come back to the States and go back to school there was a big need for counseling centers to help them.[4] In the early years there was really not much background information for these original counseling centers to work off of, so for the most part they had to figure things out on their own. In time it started to become more apparent that there needed to be better communication between the early counseling centers to help support each other and the people that they saw. In 1950 several mid-western university counseling directors helped to start the Association for University & College Counseling Center Directors (AUCCCD).[5] The AUCCCD had its first conference that year at the University of Minnesota; it was run by the University's Counseling Bureau Director Dr. Ralph Birdie.[6] Since

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[4] *AUCCCD*. Web. 4 Nov. 2010. <http://aucccd.org/?page=about>
[5] *AUCCCD*. Web. 4 Nov. 2010. <http://aucccd.org/?page=about>
[6] *AUCCCD*. Web. 4 Nov. 2010. <http://aucccd.org/?page=about>

its start in 1950, the AUCCCD has developed and expanded and currently includes 677 Universities from across the U.S., Canada, Europe, and Asia.[7]

The next focus of our study was to look at some other University Counseling Centers. Three of the schools that we looked at were Boston University, University of Illinois at Urbana-Champaign, and Iona College. Some of the things we were looking for were information that they might have on their websites, programs that they offered, or anything else that seemed to stand out.

Boston University[8] - They have a regular health center page, and then a separate page with specific issues[9]. There are nine different videos of people talking about some of the main issues that college students face, and normalize all of the situations and encourage viewers to talk to someone about what they are going through. The text on the page is as follows "I got help. Those three words have made a huge difference in the lives of many BU students. Some needed information. Some needed treatment. All needed to know they weren't alone in facing painful issues or learning to take control of their lives." From there it goes on to give some information about the health center, and how to get in contact with them. The page is very welcoming, and personable. It takes some delicate issues, and breaks them down and helps the reader relate to the stories of the people featured on the page. This is a good reminder that having all of the right information on the page is not enough. The information needs to be presented in a way that can normalize the situation, and help someone realize that they are not the only person facing that.

The actual student health services page at BU contains a lot of information. If you were seeking specific answers, you would probably be able to find them here. It is less likely you would just explore this website if you didn't have a purpose for doing so. (It is much less flashy then the "I got help" page.)

The one big difference between BU and WPI is that the counseling center is part of health services. At WPI, the SDCC and health services are in separate locations. A lot of the information on the BU website focuses on physical health concerns more than mental health. It is

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[7] *AUCCCD*. Web. 4 Nov. 2010 <http://aucccd.org/?page=about>
[8] "Student Health Services." *Boston University*. Web. 4 Nov. 2010. <http://www.bu.edu/shs/>.
[9] "Student Health Services." *Boston University*. Web. 4 Nov. 2010. <http://www.bu.edu/mentalhealth/>.

not obvious from the health services website that this is the place to go if a student wanted to talk about struggles with depression, drinking, etc. If you were to find the "I got help" page then it would become clearer this was the right place. This is accessible from a link on the bottom of the health services home page. One problem being that it was not easily visible. Even with having already been informed about this page by someone at the SDCC it was difficult to locate the link for the page off of the main health services website.

University of Illinois at Urbana-Champaign[10] - This page has tons of information. If there is any sort of issue you could possibly have questions about, you could find the answer here. There is nothing too eye catching about this site, lots of informative text, but it is in a small font and is easy to pass over.

One interesting program that they have is called ACE IT (Alcohol Culture Explored Interactive Theatre). This is a 90 minute program that consists of a student performance portraying drinking on campus, followed by a discussion. For students to be eligible to participate in the production of this program they have to take a class in the spring semester (to give it the following fall). This performance is mandatory for all freshmen, and they even take attendance to make sure people are there. The aim of this program is to let students know that they don't need to drink, as well as warning the students who chose to that it can have a big impact on their academics.

Iona College[11] - Their website is pretty simple, not too much text, but enough to be informative about what help a student can get.   Under the link "Success and Survival Guide" there are a lot of different issues/ health concerns listed. Everything from "meeting new people" to "acquaintance rape" is listed. Under each of these subsections there is useful information, the exact nature varying from section to section. In the "acquaintance rape" section there are steps for what you should do in the event that it happens, and phone numbers for the different resources available for help. With things like "creating healthy relationships" there are bullet point lists of how to identify if you are in a healthy relationship or not, as well as some tips for what to do if you or a friend is in an unhealthy relationship.

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[10] *Counseling Center*. Web. 4 Nov. 2010. <http://www.counselingcenter.illinois.edu/>.
[11] "Counseling Center - Iona College, New York." *Iona College - Campuses in New Rochelle and Rockland New York*. Web. 4 Nov. 2010. <http://www.iona.edu/studentlife/counsel/>.

Another section of the Iona site that really stands out was "Introduction to the Counseling Process". Here they take the opportunity to explain how the counseling process works. It explains how talking to a counselor is different from talking to a friend or family member, and how the difference can be beneficial. In addition to this, they discuss confidentiality and how the counselors have connections with other campus offices and can reach out to them and be an advocate for the students.

Mental health is an issue that is important no matter what school you attend, but how does WPI compare with other schools and the needs that they have in a counseling center? In particular, what makes WPI different from other Universities? One big concern was the fact that WPI is an engineering school, and therefore a comparison with a school emphasizing the liberal arts could be difficult. In order to avoid this issue, we compared WPI to other schools in the Association of Independent Technological Universities (AITU), which are all engineering based, and of a size comparable to WPI.

School	# of Students	# of Counselors
Cal Tech[12]	(~2,100 students)	7 Counselors, 2 Interns
CMU[13]	(~11,000 students)	11 Counselors, 1 Intern
Clarkson[14]	(~ 3,000 students)	3 Counselors
Cooper Union[15]	(~ 1,000 students)	Has referrals to nearby counseling centers, but does not seem to have its own center.
Drexel[16]	(~ 22,000 students)	10 Counselors
Olin[17]	(~ 300 students)	Has consultants, but not set counseling center.
Harvey Mudd[18]	(~ 700 students)	14 Counselors (Part of the Claremount University Consortium which provides access to the Monsour Counseling center, but also available to the other schools of the consortium.)
MIT[19]	(~ 10,000 students)	21 Counselors
RPI[20]	(~ 7,000 students)	5 Counselors
RIT[21]	(~ 17,000 students)	10 Counselors
Rose-Hulman[22]	(~ 2,000 students)	3 Counselors
Stevens[23]	(~ 5,000 students)	3 Counselors
WPI[24]	(~ 4,000 students)	5 Counselors, 2 Interns

Table 1- Information on various counseling centers at technical universities

[12] "Caltech Counseling Center" Web. 4 Nov. 2010 <http://www.counseling.caltech.edu/>

[13] "Counseling and Psychological Services - Carnegie Mellon University." *Student Affairs - Carnegie Mellon University*. Web. 4 Nov. 2010. <http://www.studentaffairs.cmu.edu/counseling/>.

[14] "Counseling Center." *Clarkson University*. Web. 4 Nov. 2010. <http://www.clarkson.edu/counseling/>.

[15] "Emergency Information: Counseling Referrals." Web. 4 Nov. 2010. <http://www.cooper.edu/admin/emergency/services.shtml>.

[16] "Counseling Center." *Drexel University*. Web. 4 Nov. 2010. <http://www.drexel.edu/studentlife/ch//CC_main.html>.

[17] "Olin College : Student Life : Student Services." *Franklin W. Olin College of Engineering*. Web. 4 Nov. 2010. <http://www.olin.edu/student_life/student_services.aspx>.

[18] "Monsour Counseling and Psychological Services – Claremont University Consortium." *Claremont University Consortium*. Web. 4 Nov. 2010. <http://www.cuc.claremont.edu/monsour/>.

[19] "MIT Medical : Mental Health and Counseling." *MIT Medical : Home*. Web. 4 Nov. 2010. <http://medweb.mit.edu/directory/services/mental_health.html>.

[20] "Counseling Student Health Center, Rensselaer Polytechnic Institute." *Student Health Center, Rensselaer Polytechnic Institute*. Web. 4 Nov. 2010. <http://studenthealth.rpi.edu/update.do?catcenterkey=2>.

[21] "RIT - Counseling Center." *Rochester Institute of Technology*. Web. 4 Nov. 2010. <http://www.rit.edu/studentaffairs/counseling/>.

[22] "Student Counseling Services." *Rose-Hulman Institute of Technology*. Web. 4 Nov. 2010. <http://www.rose-hulman.edu/HMUCS/>.

[23] "Counseling Center." Web. 4 Nov. 2010. <http://www.stevens.edu/counseling/>.

[24] "Student Development & Counseling Center - Welcome to West Street House!" *Worcester Polytechnic Institute (WPI)*. Web. 304 Nov. 2010. <http://www.wpi.edu/Admin/SDCC/>.

When compared with this list of schools, WPI is much closer to the ratio of counselors to students of both MIT and Cal Tech. A lot of the other schools have many fewer counselors per student. This is somewhat surprising when considering student knowledge of the SDCC. From talking with the counselors at the SDCC there are many students coming down to see them, but there are still some students who do not seem to know about the SDCC at all. So maybe if this seems to be a problem at WPI it is also a problem at other schools. Or perhaps WPI just breads more of an environment of stress and other factors that lead to a need for counseling. The seven week terms, and project base learning system seem to really be great for the way that a lot of people learn. There is also a lot of stress that comes out of all of the learning being done at such a quick pace. The fact that WPI is really the only school of its kind makes it difficult to directly relate it to other campuses. At any rate, it is an important idea to keep in mind moving into a study of the visibility of the SDCC on WPI's campus.

Barriers to Mental Health Care Use

One of the biggest factors in whether individuals seek professional help for their mental health needs is the perceived stigma they have about help seeking. There are two primary types of stigma described in the 2008 article "Perceived Stigma and Mental Health Care Seeking"[25] which are *personal stigma* and *public stigma*. To be more specific, the study considers an individual's perceptions of these stigmas, which may or may not be what the actual stigma is. The perceived social or public stigma is what the individual believes everyone else's opinion is with regards to help seeking, while their personal perceived stigma is based on their own values and beliefs. This study, as well as another done in 2009[26] found that "There are almost no students with high personal stigma and low perceived stigma; in other words, to have high personal stigma, one must have high perceived stigma."[27] This link between what an individual thinks, and what they believe others think is a key barrier to help-seeking. Both of these studies found that individuals with religious backgrounds and individuals from poor families were more likely to perceive a higher level of stigma regarding help-seeking. These studies provide a good background on groups to target for assessing and reducing stigma within the WPI population.

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[25] Ezra Golberstein B.A., Daniel Eisenberg Ph.D., Sarah E. Gollust B.A. Psychiatric services. April 2008. 2 November 2010 <http://ps.psychiatryonline.org/>.- Based on the Healthy Minds Study, 2005.

[26] Eisenberg, Daniel, Marilyn F. Downs, Ezra Golberstein and Kara Zivin. "Stigma and Help Seeking for Mental Health Among College Students." *Medical Care Research and Review*. October 2009. Volume 66, Issue 5: p. 536.

[27] Eisenberg et al. p. 536

The 2009 article by Eisenberg and his team[28] also states that "[p]revious research suggests that education and social contact are promising approaches to reduce personal stigma"[29] and that "stigma reduction efforts are more likely to increase help-seeking behavior among college students if they reduce personally held stigmatizing attitudes as opposed to perceptions of what others believe."[30]

Another key barrier to help seeking, especially for students, is the cost of services. A 2005 study from *Mental Health Weekly*[31] found that the direct costs of depression can triple for people with less access to mental health care. The study also found that "those with limited access to treatment were more than four times as likely to quit their job and twice as likely to be fired from their job because of their depression"[32] which only exacerbates the situation.

Mistrust of mental health care givers is also a reason why individuals from a minority background are unlikely to seek professional help. In the field of mental health the presence of minority doctors is uncommon and therefore contributes to feelings of prejudice and discrimination. Studies have shown that a very large number of people live with mental disorders of some kind and often do not seek help.

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[28] Eisenberg et. al.
[29] Eisenberg et al. p. 538
[30] Eisenberg et al. p. 538
[31] Depression costs triple for persons with less access to MH care." *Mental Health Weekly.* Wiley Periodicals, Inc. 17 July, 2006
[32] "Depression costs triple for persons with less access to MH care." *Mental Health Weekly.* Wiley Periodicals, Inc. 17 July, 2006 p. 3

The Survey

Before we being to discuss any results or conclusions we must first show the process we went through in constructing, editing, piloting, re-editing, and releasing the final survey.

Protocol

The main body of our study is a survey to gauge the visibility and attitudes toward the Student Development and Counseling Center (SDCC) of the general student body of Worcester Polytechnic Institute (WPI). The survey consists of 17 questions, of which participants may only see 10-12 depending on their answers to previous questions. The full survey, which can be seen in Appendix A, shows the branching that participants will encounter when taking the survey.

The first seven questions were used to gather demographic information about the participant, including how long the student has been at WPI, their nationality, their religious affiliation, their race, and their level of involvement on campus. All of these have been shown to be factors determining whether or not a student will seek help for mental health issues and were necessary in properly assessing student knowledge of the Counseling Center and whether or not certain individuals or groups would or would not use the SDCC's services. The first questions that everyone saw are:

1. What is your class year?
2. What is your gender:
3. Are you an international student?
4. What is your religious affiliation?
5. What is your race?
6. Which best describes your living situation?
7. Please estimate the number of hours you spend each week on extracurricular activities such as clubs and activities, varsity and intramural sports, Greek life, and work study or outside work:
8. Prior to taking this survey, did you know that the Student Development and Counseling Center existed?

These questions were presented in an online survey that was hosted on the survey site SurveyMonkey.[33]. The first group of questions (1-7) was all presented on one page. After completion of the first page the participant would be led to question eight and this is where the

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[33] www.Surveymonkey.com

branching in the survey begins. Depending on whether or not the student said they had heard about the SDCC prior to taking our survey, they would see a different series of questions.

A pilot version of the survey was tested with seven freshman WPI students in January, 2011. We chose to have freshman complete the pilot survey because, being students that have been here for less than a year we suspected they would have less exposure to the SDCC. The freshmen were selected to complete the survey arbitrarily by announcing the request to the co-ed fourth floor of Daniels Hall. We had seven replies within thirty minutes so those were the students that participated. During the pilot survey participants were asked if each question was understandable, if there was overlap between the questions, and if the questions were loaded or leading. The pilot was done using a paper version of the survey with a supplemental sheet to collect the participant's answers. The supplemental hand-out had 4 columns; Column 1: understandable (Yes, No)?, Column 2: Overlap (Yes, No)?, Column 3: Loaded (Yes, No)?, Column 4: Comments. At the top of the page there was a full description of what each title for the column meant in case there was any confusion. (The supplemental sheet is included in Appendix A.) Every answer the participants gave to the actual survey questions was instantly disposed of and never seen by anyone but the participant. After giving the pilot survey, some minor changes were made to the questions. The biggest change was adding two options to the question about the student's gender; we added the options "Transgender" and "Other" to allow students to not classify themselves as male of female.

After making the changes to the survey, all undergraduate students received a link to the survey as well as a brief overview of our goals and reasoning via their WPI provided email account. The full text of the solicitation message can be found in appendix A. The email was written to assure all students that they were under no obligation to complete the survey and that by completing the survey they were agreeing to let us use their answers.

Survey Release

As a rule IQP groups sending out surveys to the campus, are only allowed one email to the undergraduate alias. We needed to come up with a way to get the most responses that we could after students only seeing our email once. The email was sent to the entire undergraduate student population. The email included a link to the survey and students had the option to ignore

or delete the email. In the event that the email did not generate enough responses among certain population's, e.g. international students or other underrepresented groups of students on campus, they would have been solicited again for response in order to acquire an adequate amount of data.

The day for sending the email out was an important decision that had to be made. On weekend's people tend to have more free time, but do not always check their email and things like surveys can be easily overlooked. Monday tends to be a day to try to catch up on things students overlooked during the weekend and would also not be an ideal day to send out the survey. Waiting too long into the week would have run into issues of people trying to get all of their work done for Friday. On Fridays people want to relax, start their weekend, and will not be bothered by a survey in most cases. These factors indicate Tuesday and Wednesday are good days to send a survey out. Our group decided that the better of these days was Wednesday because many students have a lighter class load on this day, and would potentially be more likely to respond to a survey.

After the day was chosen, the best time to send the survey was considered. As Wednesday tends to be less class intensive, people sleep in later during the morning. So ideally the survey should be sent out at some point in the afternoon. There is also another factor that comes into play; the undergraduate email alias is moderated[34]. With this being the case even if we sent an email out at the time we wanted, it would not be released until the moderator checked for any emails. It was eventually decided that the email would be sent out at noon, on Wednesday February 16th, 2011 with the thought that it would end up being release at some point in the next 2 or 3 hours and would be seen by students that afternoon.

With the day and time selected there was a final obstacle to consider. A lot of students filter their emails to different folders based on the senders, or the email alias it is sent to. Doing this is a great help in keeping track of emails between different classes, clubs, and other activities separated. The problem then is that a lot of students filter their WPI undergraduate email alias to a separate folder. There are a few different cases for what happens then, some students will

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[34] A moderated alias is when there is an individual that proof reads and releases emails to an alias typically to control unwanted emails spam or inappropriate content.

actually read the emails, some will skim them for anything of interest, and some just ignore them all together. In an attempt to avoid this, our survey was emailed to the undergraduate alias as a Blind Carbon Copy (BCC). When an email is sent as a BCC the receiver will be able to see the email, but will be unable to see who it was sent to. Our group decided to utilize this option to circumvent the filters that people have in place. If the email does not appear to be sent to the undergraduate alias, it appears to be an email specifically sent to the person in the "To:" category, and as a result appears in their regular inbox. So by sending the email explaining the survey out as a BCC we hoped to raise the potential number of students who would read the email.

When sending out the survey we even considered which group member would be best to send the email out. The three members of our group are all Resident Advisors and involved around campus in other organizations. Nicholas Fast and Ryan Worsman are both involved in Greek Life, as well as a variety of other organizations around campus and it was decided that their names were going to be better known to a larger population of campus. Since Ryan had a class at noon Nicholas ended up sending the email out, and sending it to Ryan, with the undergraduate alias as a BCC. This way when students saw the email they would see both Nicholas' and Ryan's names. The hope being that if people knew either of them, or at least recognized their names they would be more likely to complete our survey.

Once our survey was released we noticed that, a large sample of data was coming in very quickly. Three days after the survey was released we checked the responses and found we already had responses from more than 5% of the student body. The demographic spread when we first checked was close to the same as WPI as a whole which showed us that we didn't have to over sample for any groups. When we look at the response rate achieved by our survey when it closed we had 13.1% of the undergraduate student body. This is a higher response rate than the latest survey sent out by the Student Government Association (SGA). We hypothesized that the large number of responses was due to several different factors. One of the influential factors was already discussed in the strategy used when sending out the survey.

Another factor was that within 24 hours of our survey release the death of a WPI student was announced. The announcement also included information about the SDCC as a resource for

grief counseling. This may have given our survey some indirect advertisement because of students concern for their peers. Beyond this factor we also considered the time of the year. C-term is traditionally a very stressful term for everyone on campus for multiple reasons. The days are shorter, there is no break in the middle of C-term, it is cold outside so most activities need to be indoors, and most clubs have just reelected all positions so the new leaders are just taking up their roles. All of these factors could contribute to the increased number of students that go to the SDCC for counseling in the month of February.

Results

When the survey was closed on February 21, 2011, 449 students had responded. This is 13.1% of the undergraduate class population. One person's responses could not be used because required questions were not answered. Respondents were allowed to skip some questions, and the number who chose to do so is listed under each table where applicable.

Demographics of the Response Population

The survey collected demographic data in the following areas:

- Class year
- Gender
- Race
- Religion
- Housing status
- International status
- Campus involvement

We began by looking at the answers to the demographic questions and comparing them to the undergraduate population. For the first question, "What is your class year?" responses were almost evenly divided between freshman, sophomores, juniors, and seniors. The number of responses of "graduate student" was substantially lower than the rest, only three responses compared to 80-130 for the other categories. This is mainly because the survey was sent out to the undergraduate student alias. For the relevant tests done, all those who identified themselves as graduate students were treated as seniors. The few responses we did receive are likely from students involved in the BS/MS program that are still on the Undergraduate alias, undergraduates@wpi.edu, but identify with the graduate populace. This compares favorably to the WPI fact book data which shows a split of 26% each of freshmen and sophomores, 23% juniors, and 24% seniors. This confirms that each class is well represented by the data collected in the survey.

Class Year	Fact Book	SDCC Survey	Response Count
Graduate Student	N/A	0.7%	3
Senior	24.1%	19.0%	85
Junior	22.8%	27.0%	121

	26.8%	28.1%	126
Sophomore	26.8%	28.1%	126
Freshman	26.3%	25.2%	113
	answered question		**448**

Table 2: Class-year distribution

The gender spilt in our sample was very close to an even distribution between males and females. This is very different from the actual campus ratio, which is a roughly 70/30 split male to female. When asked to identify their gender respondents were given male and female but also other and transgender which made analysis a little more difficult, but judging by comments made in the open response section it was much appreciated by some students.

Gender	**Response Percent**	**Response Count**
Transgender	1.1%	5
Male	52.2%	234
Female	45.8%	205
Other (please specify)	0.9%	4
answered question		**448**

Table 3 – Gender distribution

The response population included 29 international students, which is 6.5% of the total responses. This compares with about 9.7% in the undergraduate population. A small amount of oversampling could have collected a more accurate number of responses from international students, but the extra work required was deemed unnecessary due to the fact that we did collect enough responses to make statements about this population.

Are you an international student?	**Response Percent**	**Response Count**
Yes	6.5%	29
No	93.5%	418
answered question		**447**
skipped question		**1**

Table 4 – International Student distribution

The distribution of race in the responses was surprisingly close to the demographic data for WPI. There are two places where the survey response population appears to be very different from the undergraduate population: the percentage of students who classified themselves as "white" was more than 83% while the actual percentage is less than 70%. This can, perhaps, be explained by the WPI data classifying almost 12% of students as "non-resident aliens," which was a category not available in our survey.

Ethnicity	Fact Book	SDCC Visibility Study
White	68.7%	83.6%
Non-Resident Alien	11.5%	N/A
Hispanic	5.9%	5.8%
Asian	5.7%	6.5%
Other	4.6%	2.9%
Black	2.6%	2.9%
Native American	0.9%	1.1%

Table 5 – Race distribution

The most common responses when asked about their religious affiliation were "Christianity" (49.6%) and "None" (31.7%), but there was a significant portion that declined to answer or chose the "Other" option and filled in another choice. The distribution of respondents by religion is not as useful for analysis but it was included to learn if there is a link between religious background and an individual's willingness to seek mental health help. After giving the survey, we realized that the phrasing of the question "What is your religious affiliation?" may not have given as good results as "What religion were you raised in?" due to some factors that differ between how students identify themselves in college and what preconceptions they bring with them.

What is your religious affiliation?	Response Percent	Response Count
Christianity	49.6%	222
Islam	2.9%	13
Judaism	2.7%	12
Hinduism	1.1%	5
Buddhism	0.4%	2
None	31.7%	142
Prefer not to answer	7.1%	32
Other (please specify)	4.5%	20
answered question		**448**

Table 6 – Religious Affiliation distribution

The data collected about students living situation showed that we had a close split between living on and off campus with a small portion of students commuting. We collected this data to see if there was a relationship between students living off campus students or commuting and knowing about or going to the SDCC. This was included because we suspected there was a significant difference between students exposed to advertising for the SDCC in their residences and those who weren't.

Living situation	Response Percent	Response Count
On campus	53.5%	239
Off campus	42.1%	188
Commuter	4.5%	20
answered question		**447**
skipped question		**1**

Table 7 – Living situation distribution

Another factor analyzed was the relationship between how involved students were on campus and their knowledge of the center. Our data showed that only 7% of students said they spent 0 hours while around 45% spent between 1 and 10 hours per week on clubs and other activities (see Figure 1). The median time spent on extracurricular activities was 11-15 hours per week, with the mean being closer to 12 hours. This number was calculated by averaging the midpoint of each data range, using 23 hours for the "20 or more" category.
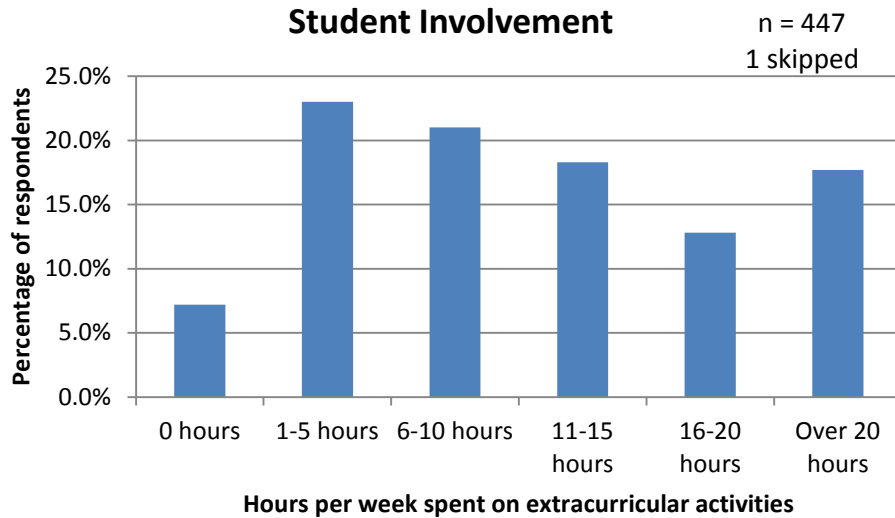
Figure 1 – Distribution of time spent on extracurricular activities

Knowledge of the SDCC and Willingness to Go

In the survey, students were presented one of two branches based on what their response was to the first non-demographic question which was "Prior to taking this survey, have you heard of the Student Development and Counseling Center?" If students answered yes they had, they were asked if they had ever used the SDCC's services, and if they had not, respondents were asked if they had ever thought of using them. If a respondent had not heard of the counseling center before, they were asked if they had been to or were willing to go to any counseling center.

Have you heard of the SDCC?	Response Percent	Response Count
Yes	77.0%	344
Never heard of them before	23.0%	103
answered question		**447**
skipped question		**1**

Table 8 – Distribution of students who have or have not heard of the SDCC

One of the two key pieces to our survey was the question regarding whether or not the respondents had heard of the Counseling Center prior to taking the survey. We found there was a high percentage (77%) of the respondents that knew the counseling center existed prior to taking our survey. As an additional question to those who answered that they had heard of the center,

we asked if they had attended a program presented by the SDCC. Out of the 77% of student that knew the SDCC existed nearly two thirds had never attended a program put on by them. This shows that most students know the SDCC exists, but there are a much smaller percentage of those students who have taken advantage of the services the SDCC provides.

In addition to finding out how many WPI students knew about the Counseling Center, the SDCC asked us to include a question about what student attitudes toward the center were. The survey gave an array of adjectives on a continuum from "Friendly" to "Mean" displayed in a random order and asked students to check all that applied. The option to write in an explanation or additional comments was provided and used by a large percentage of respondents. This data will provide the staff of the SDCC more information about what students think of the center and if the opinions are in line with their goals.
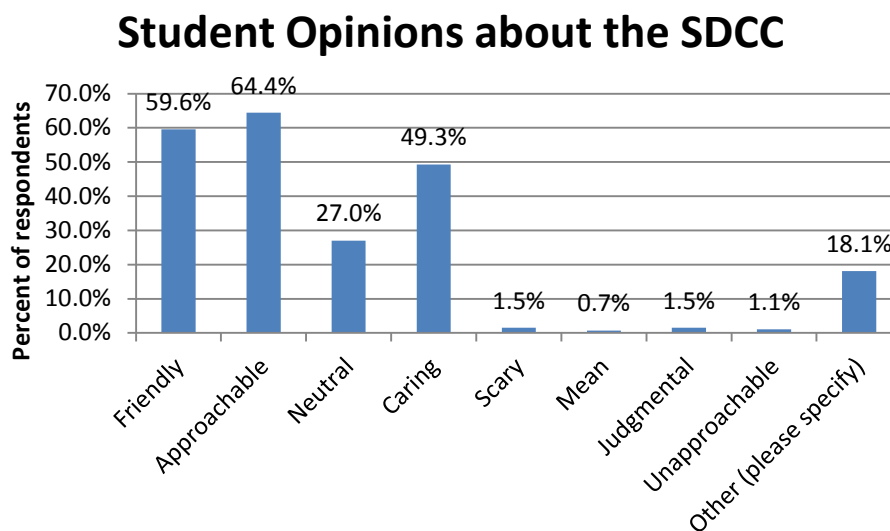

Student Opinions about the SDCC

Figure 2 – Student opinions of the SDCC

Another goal of our survey was to find out whether or not students were using the SDCC and if they were willing to use it. Due to the branching nature of our survey respondents saw variations on the same questions, so we looked at the data separately to see if corresponding questions had similar responses. Students who had heard of the center were asked if they had ever been to the SDCC for personal counseling and only 23.7% responded that they had. A higher percent, 36%, responded that they had thought about going to the Counseling Center for

help. The related set of questions for students who had not heard of the SDCC showed an even more drastic difference in the number of people who had gone or thought of going to any counseling center for help. Only 12.6% of respondents who had not heard of the SDCC said they had thought about or have gone to another counseling center for help. Finally, we asked students what resources they would use if they didn't go to the counseling center for help. The distribution of answers showed some interesting results, especially when compared to a similar question asked by the Student Government on their student survey. It showed that almost all students, more than 91%, would go to their friends for help while only 17% would go to a counseling center. The distributions for other choices varied greatly from Religious Leader (8.8%) to Faculty (19%) to Parents (74%).

Response	Have you gone to the SDCC for personal counseling?	Have you thought about going to the SDCC for help?	Have you ever gone or thought about going to a counseling center for help?
Yes	23.7%	36.1%	12.6%
No	76.3%	63.9%	87.4%
Responses	312	241	103

Table 9– Responses to the various questions regarding whether students had been to the center or would be willing to go.

Relationships between Demographics and Responses

After looking at the demographic data and responses to the questions about the SDCC we began to compare questions from the two areas to see if there were any trends. We used a χ^2 test for independence to tell us whether or not our results were significant in cases where we saw a difference between groups within a demographic with respect to the questions we were comparing them to. This test is based on making the assumption that there is no difference between the groups within the demographic, then checking to see if the data fits this assumption. The χ^2 test tells how likely it is that the data fits this assumption, so a smaller value means that it is less likely the data occurred by chance. To calculate the expected distributions for each question, we assumed that the distribution of responses for each demographic category should be the same as for the whole sample. For more information on the χ^2 test and the calculations it entails, see Appendix F: The χ^2 Test.

One relationship we considered was between gender and willingness to go to the counseling center. This test showed an interesting difference between males and females; many more females than expected answered that they would go, while many fewer men than expected said they would be willing to go; in other words, women were much more likely than men to be willing to go to the counseling center. Since the probability that this data occurred randomly is so small, we can consider this a significant result to analyze further.

Gender	Actual		Expected	
	Would Go	Would not go	Would Go	Would not go
Female	61	88	45.2	111.4
Male	36	153	51.8	127.7
p-Value	0.000012			

Table 10 – Actual versus expected willingness to go to the SDCC by gender.

We also tested some other factors against willingness to go to the SDCC such as class year, international status, the respondent's housing situation, and how involved on campus they are. For all of these other features, they were found to have a significant chance of being due to random variation, with most having a probability of over 48% and in the case of class year, being as high as 90%. In the case of campus involvement however, there was a smaller chance, but it was still above our threshold for significance at 15% (see Table 11).

Campus Involvement	Actual		Expected	
	Would Go	Would not go	Would Go	Would not go
0 hours	4	17	6.06	14.94
1-5 hours	22	55	22.22	54.78
6-10 hours	13	60	21.07	51.93
11-15 hours	22	38	17.32	42.68
16-20 hours	15	32	13.57	33.43
Over 20 hours	23	41	18.47	45.53
p-Value	0.1578			

Table 11 – Actual versus expected willingness to go to the SDCC by campus involvement

In addition to looking at the relationship between willingness to go to the center, we also analyzed the link between some of these same factors and whether or not students had heard of the SDCC. When we compared housing status, international status, campus involvement, and class year, we found that there was a potential link between both housing status and campus

involvement and whether or not students had head of the SDCC. In the case of campus involvement, the link may not actually exist due to significant variations between the different levels of involvement. More people than expected did respond that they had heard of the SDCC for those who responded that they spent more than five hours per week on extracurricular activities, but the ratios within that block are significantly different. To ease some of our analysis, we reduced these groups to low involvement (0-5 hours), medium involvement (6-15 hours), and high involvement (16 or more hours). We found that the rate of knowledge of the respondents increased as involvement increased, but that there was a higher rate among those with medium involvement than those of high involvement. In both cases the rate was higher than that of students with low involvement.

Campus Involvement	Actual			Expected	
	Would Go	Would not go		Would Go	Would not go
0 hours	11	21		7.37	24.63
1-5 hours	36	66		23.50	78.50
6-10 hours	20	74		21.66	72.34
11-15 hours	9	73		18.89	63.11
16-20 hours	13	44		13.13	43.87
Over 20 hours	13	66		18.20	60.80
p-Value	0.000755				

Table 12- Actual versus expected responses for campus involvement and whether the respondent had heard of the SDCC

Most Important Facts

- 77% of students surveyed knew about the SDCC
- Of those students, 30% had been to the SDCC or were willing to go
- Areas of significant difference were
    - Gender – Male students were less likely to go
    - Housing situation – Students living off campus were less aware of the center
    - Campus Involvement – Students who are not as involved on campus are less likely to know about the center

Summary and Recommendations

Overall, we found that 77% of undergraduates at WPI do know the SDCC exists. Out of those 77% only 30% have been to the SDCC or are willing to go to the SDCC. Some areas where there were significant differences from the expected answer to the actual answer were: gender, living situation, and campus involvement. Through our study it was found that male students were far less likely to go to the SDCC than female students. Another group of students that had a low awareness of the SDCC was found by looking at a students living situation. If a student lives off campus and commutes to school it is far less likely that he/she knows the SDCC exists. A final significant difference that was noted was the variations in knowledge base about the SDCC's existence and how it corresponds to the student's level of involvement on campus. Individuals that were heavily involved on campus were far more likely to know the SDCC existed than students that spent very few hours per week committed to extracurricular activities.

In contrast out of students that participated in our survey we found many areas where the demographic variations had very little or no correlation to the knowledge about the SDCC. Four aspects that we had originally thought may have a relationship to knowledge or willingness to go to the SDCC were race, international status, religion, and class year. Though these four aspects did not indicate a deviation from the expected number of students answering whether or not they knew about SDCC or were willing to go, it did provide us with valuable information for narrowing the areas that advertisements should focus on. One concern that was noted after the

data was collected with the wording of the demographic question on religious affiliation. The question's original aim was to see if there was any connection between a person's upbringing and their willingness to visit the SDCC. It was originally expected that there would be some significant data collected based off of the answers to this question. When it appeared that there were in fact no significant variations due to this answer, we looked back at the question to see if there was any potential reason for this outcome. One thought that arose was the consideration of how a college student would answer the question of religious affiliation. When what the question wanted to ask was more along the lines of: "What religious affiliation did you grow up with?" With the way the question presented on the actually survey was worded it may have come off as: "What is your current religious affiliation?" The potential difference in expected results coming from the thought that college is a time for personal growth and discovery. When no longer under the direct control of parents, it is possible that students may start to identify with a different religious affiliation than their parents, or by that which they were raised. If students answered the question in this way, then the weight of the original question is lost. The hope for this demographic question was to analyze a person's upbringing based on religion to see if it correlated to their current actions. If the test was to be redone or some of the questions reused for another survey of similar goals, rewording of this question for clarity would be suggested.

We can see two major directions that the data collected can be expanded upon and used in the future. The first direction is to take the areas where we found there to be variations from our actual response rate to expected response rate and try and find the reason why they exist. Possible causes could be stigma or varying levels of exposure. The second direction that this could be taken is to launch an advertising campaign specifically directed toward the areas we found to have people not willing to go to the SDCC or not knowing it exists at all. With either of these directions the mental health of students here at WPI, the usage of the SDCC, and the students' knowledge of on campus resources all stand to benefit from the results.

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Appendices

Appendix A: The Final Survey

Student Development and Counseling Center (SDCC) Visibility Survey

1.

1. What is your class year?

| Graduate Student |
| Senior |
| Junior |
| Sophomore |
| Freshman |

2. What is your gender?

| Female |
| Male |
| Transgender |
| Other (please specify) |

3. Are you an international student?

| Yes |
| No |

4. What is your religious affiliation?

| Christianity |
| Islam |
| Judaism |
| Hinduism |
| Buddhism |
| None |
| Prefer not to answer |

Other (please specify)

[   ]

5. What is your race?

American Indian or Alaska Native

Asian

Black or African American

Hispanic

Native Hawaiian or other Pacific Islander

White

Prefer not to answer

Other (please specify)

[   ]

6. Which best describes your living situation?

On campus

Off campus

Commuter

7. Please estimate the number of hours you spend each week on extracurricular activities such as clubs and activities, varsity and intramural sports, Greek life, and work study or outside work:

0 hours

1-5 hours

6-10 hours

11-15 hours

16-20 hours

Over 20 hours

(Next)

Student Development and Counseling Center (SDCC) Visibility Survey

2.

1. Prior to taking this survey, did you know that the Student Development and Counseling Center existed?

Yes
Never heard of them before

(Prev) (Next)

Student Development and Counseling Center (SDCC) Visibility Survey

3.

1. Where did you hear about the Student Development and Counseling Center?

2. Have you attended a program run by the Student Development and Counseling Center? If "Yes" what was the topic?

No
Yes

3. How would you describe the attitude and atmosphere of the Student Development and Counseling Center? (i.e. Are they approachable? Are they intimidating? Are they friendly?) Check all that apply.

Approachable
Judgmental
Friendly
Scary
Neutral
Mean
Unapproachable
Caring
Other (please specify)

4. Have you ever gone to the Student Development and Counseling Center for personal counseling?

Yes
No

(Prev) (Next)

Student Development and Counseling Center (SDCC) Visibility Survey

4.

1. Have you ever thought about going to the Student Development and Counseling Center for help?

No
Yes

(Prev)   (Next)

Student Development and Counseling Center (SDCC) Visibility Survey

5.

1. If you decided not to go, why did you make that decision?

Prev   Next

Student Development and Counseling Center (SDCC) Visibility Survey

3.

1. Have you ever gone to, or thought about going to a counseling center for help?

No
Yes

Prev   Next

Student Development and Counseling Center (SDCC) Visibility Survey

4.

1. If you decided not to go, why did you make that decision?

Prev   Next

Student Development and Counseling Center (SDCC) Visibility Survey

5.

1. Is there anyone else you would seek guidance or help from?

| Resident Advisor (RA) |
| Parents |
| Religious Leader |
| Staff |
| Faculty |
| Friends |
| Counseling Center |
| Other (please specify) |

Prev   Done

Appendix B: Pilot Survey and Results

The following is the supplemental handout used during the pilot study.

Understandable- Did you need to read the question more than once to be able to understand what it was really asking? Was it clear and straightforward in the way that it was worded?

Overlap- Was the question asked in such a way that you could have answered it multiple different ways? (For example giving two ranges that both contain some of the same numbers)

Loaded- Did you feel that the wording of the question tried to make it seem like you needed to pick one choice over another? Did it seem like there was only one obvious answer?

SDCC IQP – Pilot Survey

Understandable: Did you need to read the question more than once to be able to understand what it was really asking? Was it clear and straightforward in the way that it was worded?
Overlap: Was the question asked in such a way that you could have answered it multiple different ways? (For example giving two ranges that both contain some of the same numbers)
Loaded: Did you feel that the wording of the question tried to make it seem like you needed to pick on choice over another? Did it seem like there was only one obvious answer?

	Understandable		Overlap		Loaded		Comments
Question 1	Yes	No	Yes	No	Yes	No	
Question 2	Yes	No	Yes	No	Yes	No	
Question 3	Yes	No	Yes	No	Yes	No	
Question 4	Yes	No	Yes	No	Yes	No	
Question 5	Yes	No	Yes	No	Yes	No	
Question 5	Yes	No	Yes	No	Yes	No	
Question 6	Yes	No	Yes	No	Yes	No	
Question 7	Yes	No	Yes	No	Yes	No	
Question 8	Yes	No	Yes	No	Yes	No	
Question 9	Yes	No	Yes	No	Yes	No	
Question 10	Yes	No	Yes	No	Yes	No	
Question 11	Yes	No	Yes	No	Yes	No	
Question 12	Yes	No	Yes	No	Yes	No	
Question 13	Yes	No	Yes	No	Yes	No	
Question 14	Yes	No	Yes	No	Yes	No	
Question 15	Yes	No	Yes	No	Yes	No	
Question 16	Yes	No	Yes	No	Yes	No	
Question 17	Yes	No	Yes	No	Yes	No	
Question 18	Yes	No	Yes	No	Yes	No	

Do you understand what the objective of this survey is?

Did you feel comfortable answering all of the questions?

Is the wording of the survey clear? Are there any questions that you thought could have been worded more clearly? If so how would you word them?

Did any of the questions require you to think for too long about what your answer was? If so which ones? Do you have any suggestions for they could be improved?

Did you find the survey to be too long?

Did you feel there were any issues with this survey that you have not brought up yet? If so what were they?

Any final comments?

Questions to analyze with the data afterwards:

Do any of the questions generate response bias? If so, which ones?
Do the answers collected reflect what you want in regards to the purpose of the survey?
Is there enough diversity in the answers received?
If there were any issues that people had with the survey, did multiple people have the same concern?
Were there enough people that had difficulty on the same question/s that they should be re-worded?

Results:

Question	understandable		overlap		loaded			#of people that answered these ?'s
	no	yes	no	yes	no	yes		
1	1	4	5		3	2		5
2	1	4	5		4	1		5
3	1	4	5		4	1		5
4	1	4	4	1	5			5
5	1	4	5		5			5
6	1	4	5		4			5
7	1	4	4	1	4			5
8	1	4	5		5			5
9	1	3	4		4			4
10	1	3	4		4			4
11	1	3	4		4			4
12	1	3	4		4			4
13	1	2	3		3			3
14							N/A	
15							N/A	
16		1	1		1			1
17		2	2		2			2
18	1	4	5		5			5

Appendix C: Internal Review Board Application

WORCESTER POLYTECHNIC INSTITUTE

WORCESTER POLYTECHNIC INSTITUTE
Institutional Review Board
Application for Approval to Use Human Subjects in Research

WPI IRB use only
IRB # _____
Date: _____

	WPI IRB use only
This application is for: *(Please check one)* ☒ Expedited Review ☐ Full Review	

Principal Investigator (PI) or Project Faculty Advisor: *(NOT a student or fellow; must be a WPI employee)*

Name: Arthur Heinricher   Tel No: x5397   E-Mail Address: heinrich@wpi.edu   ☐

Department: Dean of Undergraduate Studies

Co-Investigator(s): *(Co-PI(s)/non students)*

Name: Matthew Barry   Tel No: x5540   E-Mail Address: mbarry@wpi.edu   ☐

Name: Charles Morse   Tel No: x5540   E-Mail Address: cmorse@wpi.edu   ☐

Student Investigator(s):

Name: Randall Crock   Tel No: 720.299.0774   E-Mail Address: rcrock@wpi.edu   ☐

Name: Nicholas Fast   Tel No: 860.912.5093   E-Mail Address: nfast@wpi.edu   ☐

Check if: ☒ **Undergraduate project** *(MQP, IQP, Suff., other)*   IQP
        ☐ **Graduate project** *(M.S. Ph.D., other)*

Has an IRB ever suspended or terminated a study of any investigator listed above?
No ☒   Yes ☐   *(Attach a summary of the event and resolution.)*

Vulnerable Populations: The proposed research will involve the following (Check all that apply):
pregnant women ☐   human fetuses ☐   neonates ☐   minors/children ☐   prisoners ☐
students ☒   individuals with mental disabilities ☐   individuals with physical disabilities ☐

Collaborating Institutions: *(Please list all collaborating Institutions.)*
None

Locations of Research: *(If at WPI, please indicate where on campus. If off campus, please give details of locations.)*
WPI - Student Development and Counseling Center

Project Title: Multimedia Marketing Material - SDCC

Funding: *(If the research is funded, please enclose one copy of the research proposal or most recent draft with your application.)*

Funding Agency: _____   WPI Fund: _____

Human Subjects Research: *(All study personnel having direct contact with subjects **must** take and pass a training course on human subjects research. There are links to web-based training courses that can be accessed under the Training link on the IRB web site http://www.wpi.edu/offices/irb/training.html. **The IRB requires a copy of the completion certificate from the course or proof of an equivalent program.)***

Anticipated Dates of Research:

Start Date: 1/17/2011   Completion Date: 2/17/2011

WPI IRB revised 10/5/2010

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WORCESTER POLYTECHNIC INSTITUTE

Institutional Review Board

Application for Approval to Use Human Subjects in Research

Instructions: Answer all questions. If you are asked to provide an explanation, please do so with adequate details. If needed, attach itemized replies. Any incomplete application will be returned.

1.) Purpose of Study: *(Please provide a concise statement of the background, nature and reasons for the proposed study. Insert below using non-technical language that can be understood by non-scientist members of the IRB.)*

The purpose of our study is to help the Student Development and Counseling Center better understand student knowledge about the center as well as their views on the attitude and atmosphere of the center. Various other studies have been done at universities across the country regarding which student demographics are less likely to seek help for mental health problems. Our survey is designed to asses the attitudes of some of these demographics on the WPI campus.

2.) Study Protocol: *(Please attach sufficient information for effective review by non-scientist members of the IRB. Define all abbreviations and use simple words. Unless justification is provided this part of the application must not exceed 5 pages. Attaching sections of a grant application is not an acceptable substitute.)*

A.) For **biomedical, engineering and related research**, please provide an outline of the actual experiments to be performed. Where applicable, provide a detailed description of the experimental devices or procedures to be used, detailed information on the exact dosages of drugs or chemicals to be used, total quantity of blood samples to be used, and descriptions of special diets.

B.) For applications in the **social sciences, management and other non-biomedical disciplines** please provide a detailed description of your proposed study. Where applicable, include copies of any questionnaires or standardized tests you plan to incorporate into your study. If your study involves interviews please submit an outline indicating the types of questions you will include.

C.) If the study involves **investigational drugs or investigational medical devices**, and the PI is obtaining an Investigational New Drug (IND) number or Investigational Device Exemption (IDE) number from the FDA, please provide details.

D.) Please note if any **hazardous materials** are being used in this study.

E.) Please note if any **special diets** are being used in this study.

3.) Subject Information:

A.) Please provide the exact number of subjects you plan to enroll in this study and describe your subject population. *(eg. WPI students, WPI staff, UMASS Medical patient, other)*

Males: __1058__   Females: __2479__   Description: __WPI Udergraduate Students__

B.) Will subjects who do not understand English be enrolled?
No ☒   Yes ☐   *(Please insert below the language(s) that will be translated on the consent form.)*

C.) Are there any circumstances under which your study population may feel coerced into participating in this study?
No ☒   Yes ☐   *(Please insert below a description of how you will assure your subjects do not feel coerced.)*

D.) Are the subjects at risk of harm if their participation in the study becomes known?
No ☒   Yes ☐   *(Please insert below a description of possible effects on your subjects.)*

WORCESTER POLYTECHNIC INSTITUTE

Institutional Review Board

Application for Approval to Use Human Subjects in Research

E.) Are there reasons for excluding possible subjects from this research?
No ☒   Yes ☐   *(If yes, please explain.)*

F.) How will subjects be recruited for participation?   *(Check all that apply.)*

☒ Direct subject advertising, including: *(Please provide a copy of the proposed ad. All direct subject advertising must be approved by the WPI IRB prior to use.)*

☐ Referral: *(By whom)* _____
☐ Other: *(Identify)* _____
☐ Database: *(Describe how database populated)*
_____

☐ Newspaper	☐ Bulletin board
☐ Radio	☐ Flyers
☐ Television	☐ Letters
☐ Internet	☒ E-mail

F.) Have the subjects in the database agreed to be contacted for research projects? No ☐   Yes ☐   N/A ☒

G.) Are the subjects being paid for participating? *(Consider all types of reimbursement, ex. stipend, parking, travel.)*
No ☒   Yes ☐   *(Check all that apply.)*   ☐ Cash   ☐ Check   ☐ Gift certificate   ☐ Other: _____
Amount of compensation _____

4.) Informed Consent:

A.) Who will discuss the study with and obtain consent of prospective subjects?   *(Check all that apply.)*
☐ Principal Investigator   ☐ Co-Investigator(s)   ☒ Student Investigator(s)

B.) Are you aware that subjects must read and sign and Informed Consent Form prior to conducting any study-related procedures and agree that all subjects will be consented prior to initiating study related procedures?   No ☐   Yes ☒

C.) Are you aware that you must consent subjects using only the IRB-approved Informed Consent Form?   No ☐   Yes ☒

D.) Will subjects be consented in a private room, not in a public space?   No ☐   Yes ☐

E.) Do you agree to spend as much time as needed to thoroughly explain and respond to any subject's questions about the study, and allow them as much time as needed to consider their decision prior to enrolling them as subjects?   No ☐   Yes ☒

F.) Do you agree that the person obtaining consent will explain the risks of the study, the subject's right to decide not to participate, and the subject's right to withdraw from the study at any time?   No ☐   Yes ☒

G.) Do you agree to either 1.) retain signed copies of all informed consent agreements in a secure location for at least three years or 2.) supply copies of all signed informed consent agreements in .pdf format for retention by the IRB in electronic form?   No ☐   Yes ☐

(If you answer No to any of the questions above, please provide an explanation.)

_____

5.) Potential Risks: *(A risk is a potential harm that a reasonable person would consider important in deciding whether to participate in research. Risks can be categorized as physical, psychological, sociological, economic and legal, and include pain, stress, invasion of privacy, embarrassment or exposure of sensitive or confidential data. All potential risks and discomforts must be minimized to the greatest extent possible by using e.g. appropriate monitoring, safety devices and withdrawal of a subject if there is evidence of a specific adverse event.)*

A.) What are the risks / discomforts associated with each intervention or procedure in the study?

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Participants in this study may be uncomfortable disclosing personal mental health history information.

B.) What procedures will be in place to prevent / minimize potential risks or discomfort?

Participants are not required to answer any questions that may make them uncomfortable.

6.) Potential Benefits:

A.) What potential benefits other than payment may subjects receive from participating in the study?
This study will help the Student Development and Counseling Center better understand the at-risk groups and students with less knowledge of the Center at WPI and can use this research to better target these groups with their services.

B.) What potential benefits can society expect from the study?
This study will contribute to the knowledge base about technical college students and their reasons for seeking help from university counseling centers.

7.) Data Collection, Storage, and Confidentiality:

A.) How will data be collected?

Data will be colleted using the online survey tool, SurveyMonkey

B.) Will a subject's voice, face or identifiable body features (eg. tattoo, scar) be recorded by audio or videotaping?
No ☒   Yes ☐   (Explain the recording procedures you plan to follow.)

C.) Will personal identifying information be recorded? No ☒   Yes ☐   (If yes, explain how the identifying information will be protected. How will personal identifying information be coded and how will the code key be kept confidential?)

D.) Where will the data be stored and how will it be secured?

Data will be stored on the SurveyMonkey servers according to their privacy policy.

E.) What will happen to the data when the study is completed?
The data will be stored indefinitely on the SurveyMonkey servers until it is retrieved for a permanent record to be kept at the Student Development and Counseling Center.

F.) Can data acquired in the study adversely affect a subject's relationship with other individuals? (i.e. employee-supervisor, student-teacher, family relationships)
Since no identifying information is being recorded, this study should have no effect on a subjects relationships with other individuals.

G.) Do you plan to use or disclose identifiable information outside of the investigation personnel?
No ☒   Yes ☐ (Please explain.)

H.) Do you plan to use or disclose identifiable information outside of WPI including non-WPI investigators?
No ☒   Yes ☐ (Please explain.)

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8.) Incidental findings: *In the conduct of information gathering, is it possible that the investigator will encounter any incidental findings? If so, how will these be handled? (An incidental finding is information discovered about a subject which should be of concern to the subject but is not the focus of the research. For example, a researcher monitoring heart rates during exercise could discover that a subject has an irregular heartbeat.)*

9.) Deception: *(Investigators must not exclude information from a subject that a reasonable person would want to know in deciding whether to participate in a study.)*

Will the information about the research purpose and design be withheld from the subjects?
No ☒   Yes ☐ *(Please explain.)*

10.) Adverse effects: *(Serious or unexpected adverse reactions or injuries must be reported to the WPI IRB within 48 hours using the IRB Adverse Event Form found out at http://www.wpi.edu/offices/irb/forms.html. Other adverse events should be reported within 10 working days.)*

What follow-up efforts will be made to detect any harm to subjects and how will the WPI IRB be kept informed?

There are no adverse effects of this survey, so there are no contingency plans for coping with problems.

11.) Informed consent: *(Documented informed consent must be obtained from all participants in studies that involve human subjects. You must use the templates available at http://www.wpi.edu/offices/irb/forms.html to prepare these forms.* **Informed consent forms must be included with this application.** *Under certain circumstances the WPI IRB may waive the requirement for informed consent.)*

Investigator's Assurance:

I certify the information provided in this application is complete and correct.

I understand that I have ultimate responsibility for the conduct of the study, the ethical performance of the project, the protection of the rights and welfare of human subjects, and strict adherence to any stipulations imposed by the WPI IRB.

I agree to comply with all WPI policies, as well all federal, state and local laws on the protection of human subjects in research, including:
- ensuring the satisfactory completion of human subjects training.
- performing the study in accordance with the WPI IRB approved protocol.
- implementing study changes only after WPI IRB approval.
- obtaining informed consent from subjects using only the WPI IRB approved consent form.
- promptly reporting significant adverse effects to the WPI IRB.

Signature of Principal Investigator _____ Date _____

Print Full Name and Title _____

Please return a signed hard copy of this application to the WPI IRB c/o Ruth McKeogh 2ⁿᵈ Floor Project Center

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Or email an electronic copy to irb@wpi.edu
If you have any questions, please call (508) 831-6699.

2.) Study Protocol

The main body of our study is a brief survey to gauge the knowledge and attitudes toward the Student Development and Counseling Center (SDCC) of the general student body of Worcester Polytechnic Institute (WPI). The survey consists of X questions, of which participants may only see Y depending on their answers to previous questions. The attached draft of the survey shows the branching that participants will encounter when taking the survey. The survey will be hosted on the online survey site SurveyMonkey and participants will be able to fill it out in their own time. The first 7 questions are to gather demographic data about the participant including how long the participant has been at WPI, their nationality, their religious affiliation, their race, and their level of involvement on campus. All of these have been shown to be factors in students who do or do not seek help for mental health issues and will be necessary in properly assessing the knowledge of the Counseling Center and whether or not certain individuals or groups would or would not use the SDCC's services.

All undergraduate students will receive a link to the survey as well as a brief overview of our goals and reasoning via their WPI provided email account. The full text of the solicitation message can be found as an additional attachment for part 3F. The entire undergraduate student body was selected because they are the target population and sampling less than the whole population could not generate a sufficient number of responses. From there they can choose to click the link and take the survey or not; participation is completely optional. In the event that this does not generate enough responses among certain populations such as international students or other underrepresented groups of students on campus, they will be solicited again for response in order to acquire as many data points as possible. After a short interval, two reminders will be sent again to encourage as many people to fill out the survey as possible. These will have identical text to the first with the exception of a clause stipulating that individuals should not take the survey more than once.

The tentative time frame for conducting this survey covers from late January 2011 through the end of February 2011 and is as follows. The first week a pilot survey will be done using the

attached draft of the survey. The second week would be an initial analysis of the effectiveness of the survey and revisions before conducting the large sampling. At the end of the second week, the first email would be sent to the undergraduate population soliciting their response. The end of the third and fourth weeks the reminder emails would be sent to encourage any students who have not already answered to do so. Week five will be used to collate and do preliminary analysis of the data followed by an in-depth examination of the responses.

No hazardous materials or special diets will be used in this study.

Email Soliciting for Responses

Visibility Survey

🟢 Fast, Nicholas A [nfast@WPI.EDU]

Sent: Wednesday, February 16, 2011 11:51 AM

To: 🟠 Worsman, Ryan K

Hello undergraduates:

We are an IQP group researching the visibility of on campus resources. We would greatly appreciate it if your take a few minutes to fill out an online survey.

Fill out the survey on SurveyMonkey:

https://www.surveymonkey.com/s/9DTGZ8H

By clicking the link you are consenting to complete this survey with the knowledge that you are free to withdraw your participation at any time without penalty. The information collected in this survey in fully confidential and will be analyzed as a whole not on an individual basis.

Thank you for your participation,

Nicholas Fast
Ryan Worsman
Randall Crock

Appendix D: Email Regarding Death on Campus

Death of a student

○ WPI Office of the President [president@WPI.EDU]

Sent:	Wednesday, February 16, 2011 3:22 PM
To:	○ students@wpi.edu; ○ 'employees@wpi.edu'

To Members of the WPI Community,

It is with great sadness that I inform you of the loss of one of our students, Jonathan "Jon" Rowell, a senior majoring in Management. Jon passed away last evening after being rushed from his off-campus apartment to St. Vincent's Hospital. Information about the circumstances is still developing.

Members of the WPI professional staff are actively reaching out to Jon's family and friends. Plans for any funeral and/or memorial services will be shared with the community as they become available.

This loss is unthinkably painful for Jon's family and friends, and we can only imagine how difficult it will be for students, faculty and staff, who knew him. Our Student Development and Counseling Center (SDCC) staff are offering their support and counseling to all. Anyone in need of their assistance, or who simply wishes to talk to someone, is urged to meet with these counselors. They are extending their hours - both today and tomorrow - and will be available until 9:00 p.m. You may find them in the Campus Center Lobby for a "drop-in" visit or, if you would prefer a confidential conversation, please contact them directly at x5540 or stop by their office at 157 West Street.

On behalf of the entire WPI community, we extend our deepest and sincerest sympathy to all of Jon's family and friends.

Dennis Berkey

Appendix E: Presentation Slides
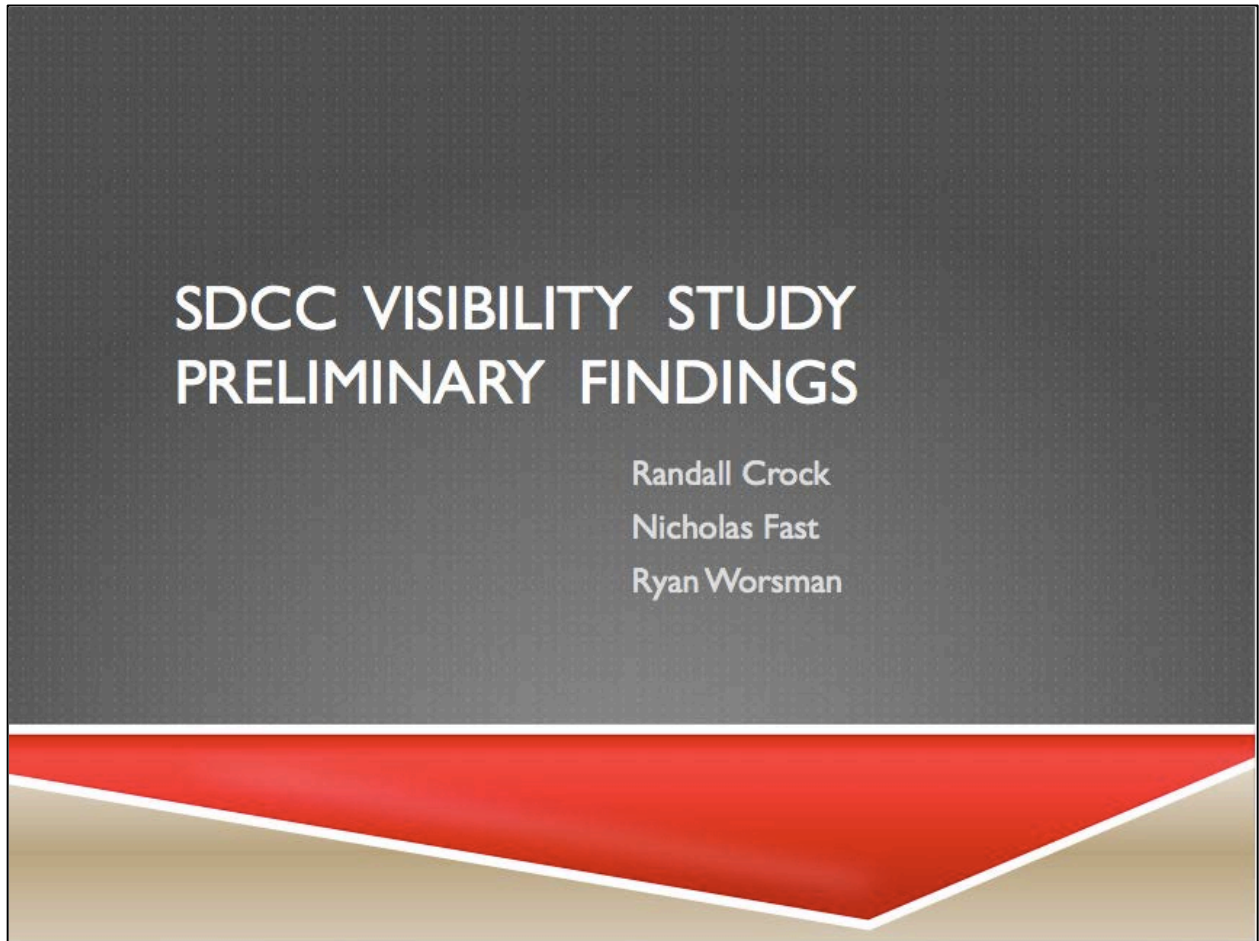
Figure 3: Page 1 of Presentation

Figure 4: Page 2 of Presentation

Figure 5: Page 3 of Presentation

Figure 6: Page 4 of Presentation

Figure 7: Page 5 of Presentation

Figure 8: Page 6 of Presentation

Figure 9: Page 7 of Presentation

Figure 10: Page 8 of Presentation

Figure 11: Page 9 of Presentation

Figure 12: Page 10 of Presentation

Appendix F: The χ^2 Test

The statistic we used to make comparisons between whether or not students knew about the Student Development and Counseling Center and the demographic information we collected was the χ^2 test for independence. Running this statistic give the probability that the given data fulfills the null hypothesis. In our case, the null hypothesis was that there is no difference between the different groups with regard to either knowledge of the SDCC or willingness to go. It can be said that there is no statistically significant difference when the p-value, the value given by the χ^2 test, is above a certain threshold. In the case of clinical testing, it is most often 5%, but in other applications it can be higher. We used a value of 10% for most of our tests which means that there is a 10% chance that the data collected is due to random chance and not due to a difference in the groups. If the p-value is below this threshold, there is a significant difference between the divisions, but this test does not tell what the difference is, or in what direction it lies; it only tells that there is a difference.

Computing the χ^2 value is relatively simple. First, you need to compute the expected values if the null hypothesis is true. To do this, multiply the sum of all respondents who gave each answer, then divide that by the ratio between the number of respondents in the demographic and the total number of respondents. For example, you have a question with two answers *x,* and *y*. You want to see if there is a difference between gender and their answer to the question. For each unique response cell [(*x, male), (y, female*), (*x, male*), (*y, female*)] compute the above function to find its expected value. An example computation is below for the cell *n,* which corresponds to the response (*x, male*).

$$Number\ of\ Responses\ of\ \text{x}\ \cdot\ \frac{Number\ of\ responses\ of\ \text{male}}{Total\ number\ of\ responses} = E_n$$

Equation 1 – Computation of the expected value for a particular cell

This number is the number of people who would have answered *a* and *male* if the null hypothesis was true. After all these values are computed for the Cartesian product of the values for the comparison, the χ^2 test compares the actual values to the expected using the following equation where O_i is the observed value for cell i, E_i is the expected value computed above for cell i, and N is the total number of cells in the table.

$$\chi^2 = \sum_{i=1}^{N} \frac{(O_i - E_i)^2}{E_i}$$

Equation 2 – Computation of the χ^2 statistic using the observed and calculated expected values

This equation returns a value which must be compared to a χ^2 distribution to obtain the probability value. The actual probability value (p-value) is obtained by comparing the χ^2 statistic to a χ^2 distribution with k degrees of freedom, where k is $(number\ of\ colums - 1) \cdot (number\ of\ rows - 1)$.