## Changes in Student Wellness During the First Year of College



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#### Introduction

An examination of extant college student health and wellness literature revealed that there was no comprehensive model of wellness and few longitudinal studies of wellness. As a result, we designed a new instrument that would measure students' wellness holistically, and would be used to study changes in wellness over time.

Survey Design procedures:

- . The literature formed the basis of the instrument
- . Campus health and wellness professionals reviewed the instrument multiple times
- . Pre-pilot administration invited students from multiple majors to take the survey and provide feedback
- . Pilot administration among incoming first-year students prior to their orientation in summer 2011
  - . Exploratory factor analysis was used to identify the underlying constructs and eliminate variables that did not fit (confirmatory factor analysis upcoming)
- . Cognitive interviews were conducted with a sample of respondents from the 2011 pilot and the survey was revised as a result

This presentation focuses on two administrations of the revised Student Health and Wellness in the 2012-2013 academic year. First, we administered the revised instrument to incoming first-year students prior to their orientation in summer 2012 (T1). The instrument was then administered in March 2013 to all T1 respondents who were enrolled in spring 2013 (T2).

The Survey was administered through Carmen, the online course management system at The Ohio State University. Based on enrollment in the Carmen course, the first administration had an 89% response rate, with 3,756 respondents. After checking Ohio State enrollment in the Student Information System (SIS), 3,729 cases were retained. The sample size for the second administration was 2,853, with 875 students from T1 ineligible (17 not enrolled, 858 did not consent to future research). The response rate for T2 was 26%, with 736 respondents.

The main objective of the research is to determine if college students leave postsecondary institutions less well than when they enter. This presentation examines changes that occur during the first year of college.

#### Methods

All parts of this research study have been approved by the Institutional Review Board of The Ohio State University.

The survey was administered to incoming first-year students prior to their orientation in summer 2012. A pre-orientation checklist e-mailed to students included information on how to access the survey. The survey was delivered via the university's online course management system, Carmen, using Qualtrics survey software. In addition to taking the survey, students were asked if they would like to participate in future research so that they could be followed longitudinally. Students were also asked if they would allow access to their educational records so that measures of health and wellness could be studied in relation to traditional measures of success at the university (e.g., GPA, retention, four-year graduation).

All students who responded to the first administration and remained enrolled throughout autumn 2012 and spring 2013 were invited to take the survey again in March of 2013 through emails that linked to Carmen.

Only data from students who took both surveys were compared. Chi square tests of cross tabulations and paired samples t-tests of means were used to determine if statistically significant differences were present. Body Mass Index (BMI) was calculated from self-reported height and weight using the formula BMI = weight (pounds) / [height (inches)]<sup>2</sup> x 703

#### Results

The paired samples t-tests revealed statistically significant differences from T1 to T2 on 63 out of 69 variables. The differences from T1 to T2 show a trend toward less healthy behaviors and decreased wellness. The variables that did not have statistically significant differences in the t-test were: I often feel that I have little control over my safety; I feel supported by my family; I am concerned about my financial future; I consider myself to be spiritual/religious; I engage in mentally stimulating activities; I am free of credit card debt.

Diet Efficacy and Behavior

I am confident that I can maintain a nutritious diet

I eat a nutritious diet

Academic Experience

I felt challenged by my academics during my most

recent academic term

6.4% 9.5%

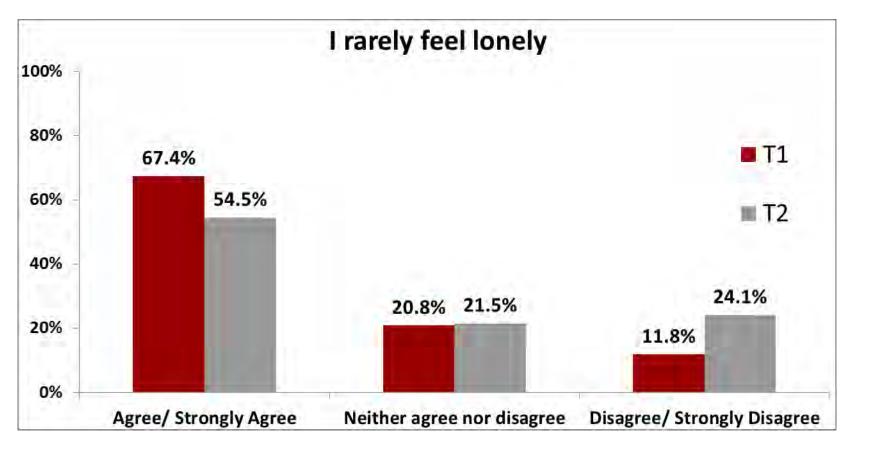
Below are a selection of the statistically significant cross tabulations (p < .001), which also show a trend toward less healthy behaviors and decreased wellness.

#### **Demographics**

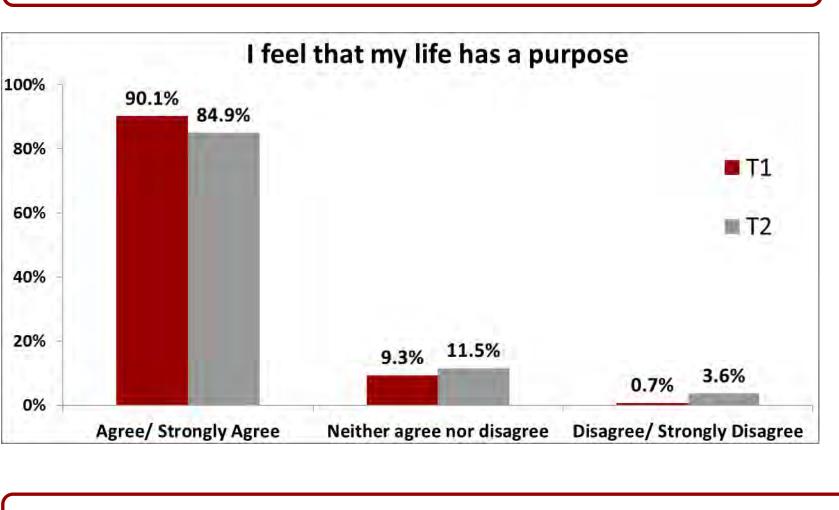
Gender at T2	%
Male	36.5%
Female	63.0%
Transgender	0.3%
Self-defined	0.3%

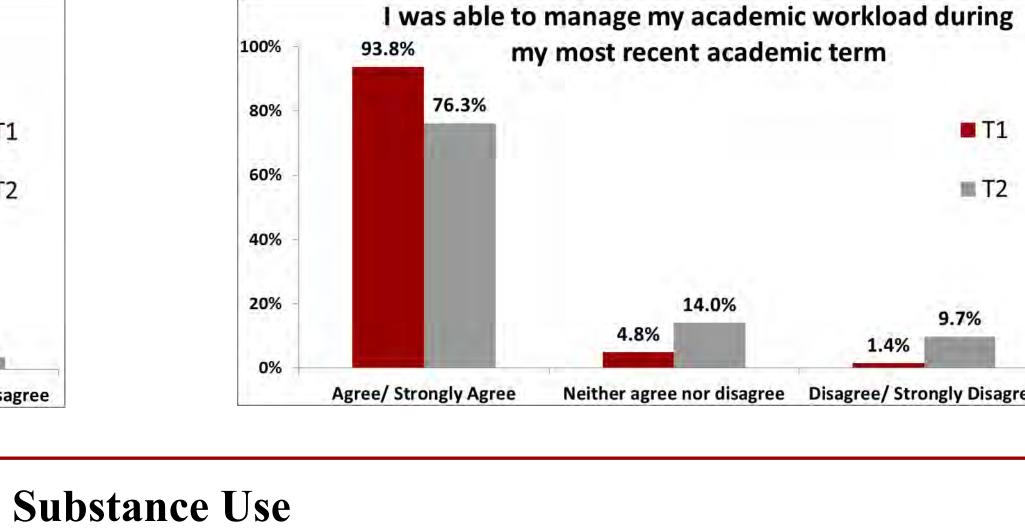
Sen defined 3.370	
Race/ Ethnicity at T2	%
African American/Black/ African Descent	3.2%
Asian American/ Asian	7.0%
Hawaiian/ Pacific Islander	0.1%
Latino(a)/ Hispanic	0.8%
Native American/ American Indian/ Alaskan Native	0.3%
Middle Eastern/ Arab American	1.0%
White/ European American	79.3%
Other	0.8%
Multiple races/ ethnicities	7.4%

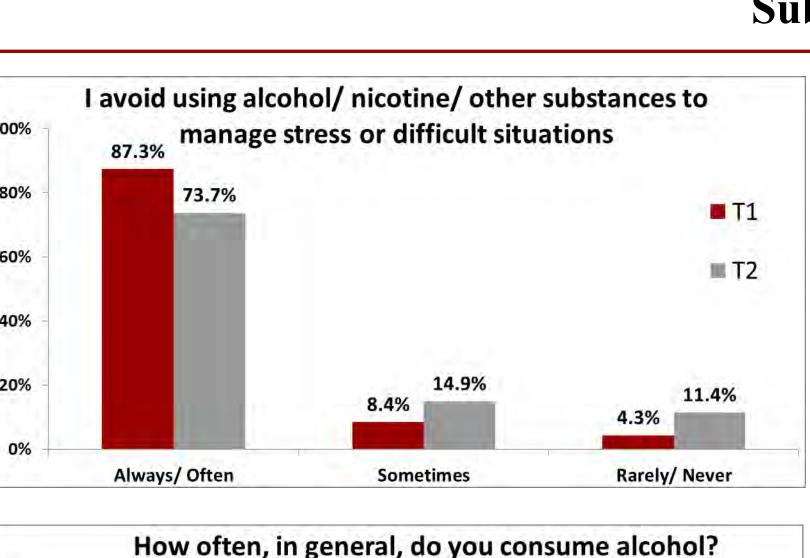
#### **Social Interaction**

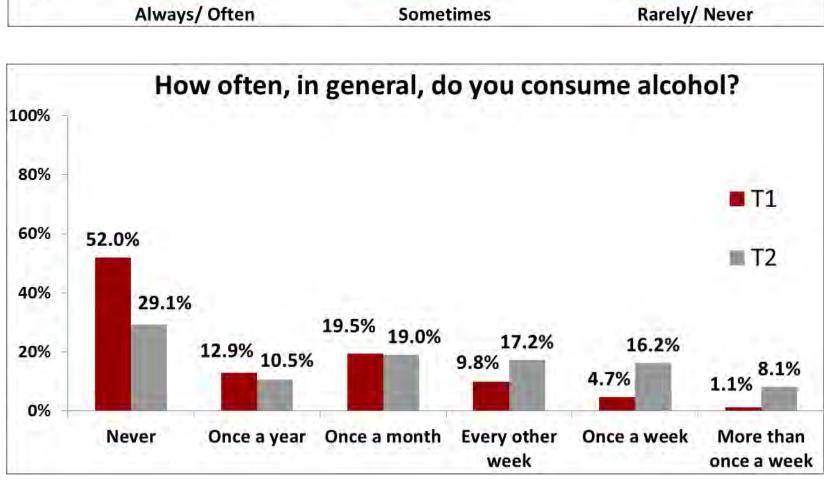


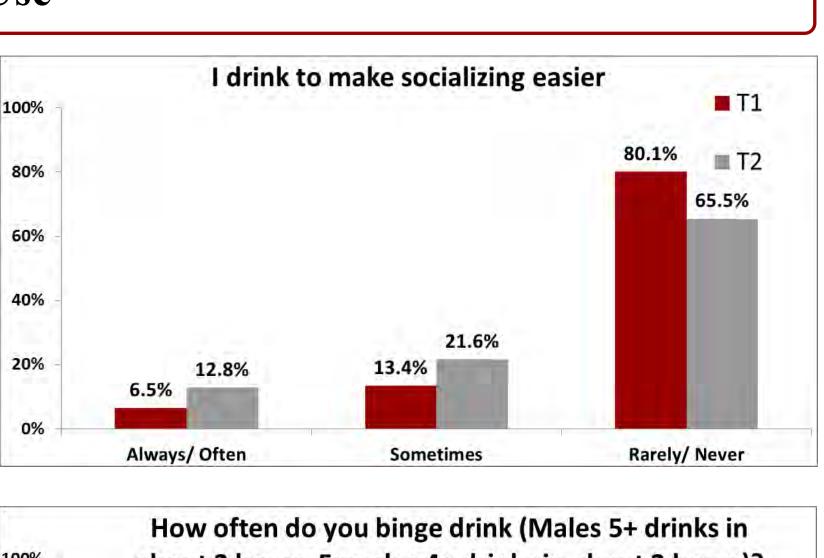
#### Sense of Purpose

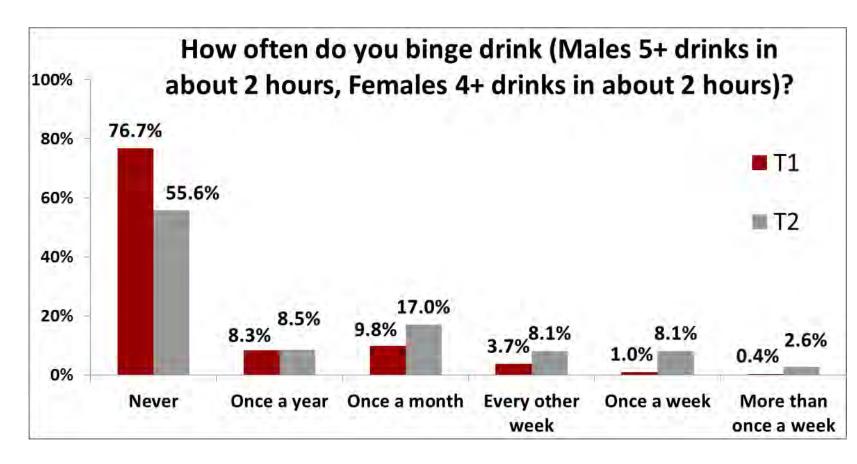




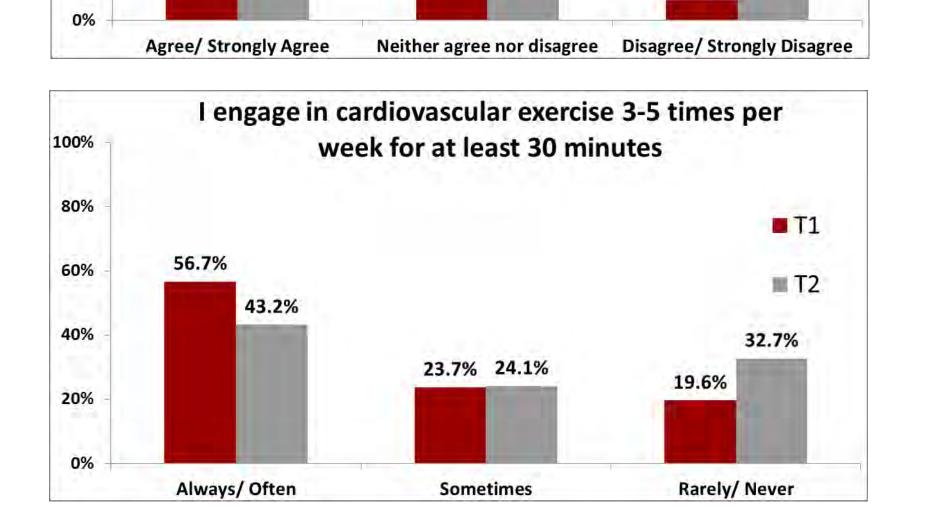




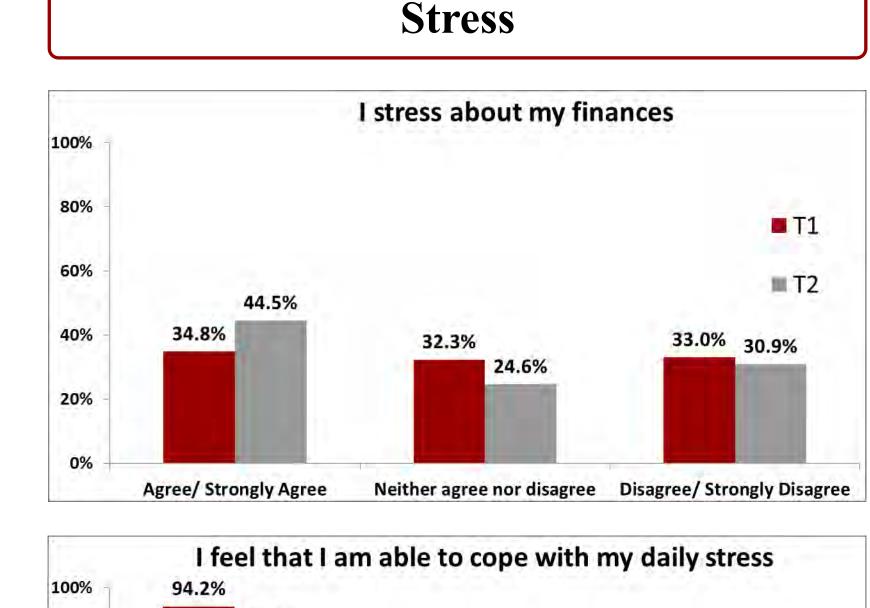


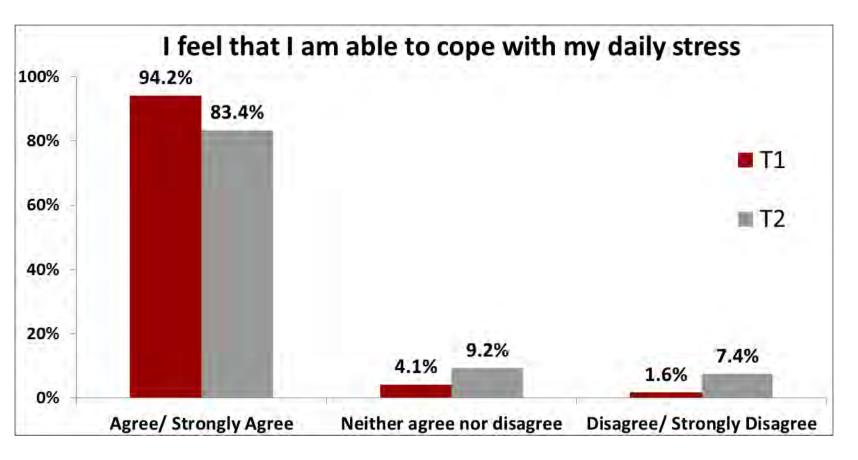


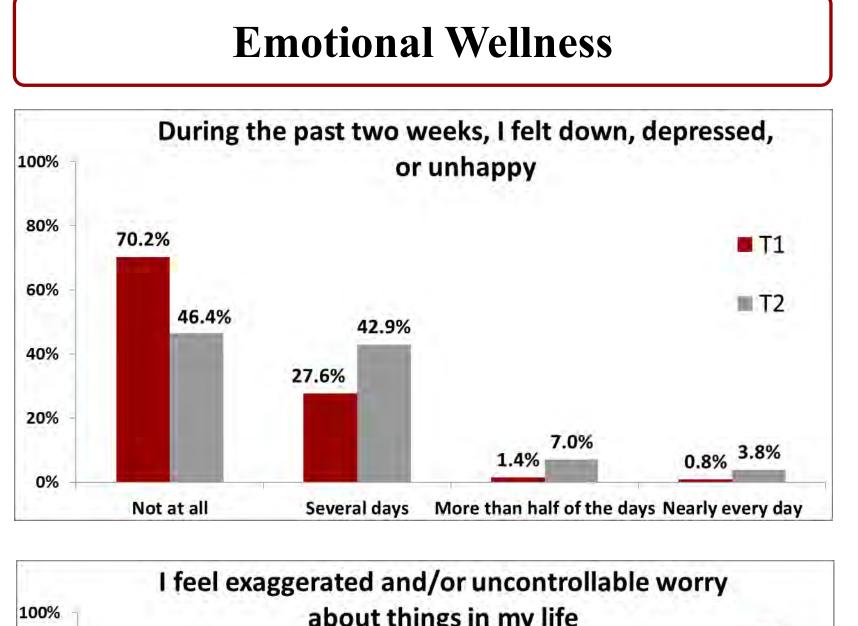
# I am confident that I can exercise regularly 80.6% 80% 63.1%

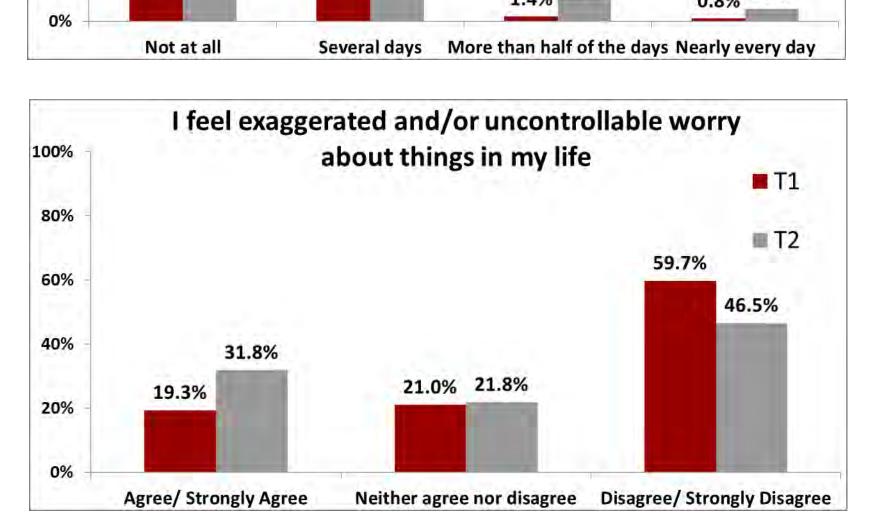


6.3%









### **Opportunities for Intervention**

The Student Health and Wellness Inventory can be used for intervention both at the individual and the population levels. Using the results of the instrument, with a student's consent, Ohio State could tailor its services to individual students, based on their responses. And as students take the survey over time, the tailored information offered would update to reflect these changes. Currently, interventions are being implemented. The Center for the Study of Student Life (CSSL) collaborates with the Ohio State Student Wellness Center by providing contact information for students who demonstrate lower levels of financial wellness (and who have opted in to receive information on wellness programs) so they can be solicited for Scarlet and Gray Financial interventions.

In the future, CSSL plans to collaborate with other offices to help get the right information to the right students at the right time, so that students know there is support for their specific needs. CSSL could expand interventions to include providing information to students about other existing wellness programs, such as Party Smart, which helps educate students on state drinking laws and responsible drinking practices. For students reporting academic difficulty, Ohio State could provide them information and resources related to tutoring, advising, and services at the Younkin Success Center. Students could, based upon their needs, also receive information about specific clubs and student organizations, such as physical activity-oriented clubs that could help improve activity levels and socialization.

The data will also allow us to view trends on the population-level to inform population-level interventions and policies. Population-level data could help inform First-Year Experience course sessions, Resident Advisor trainings, nutrition information provided by Dining Services, and other university structures that influence the experience of students in their first year.

#### Limitations

Demographic data (including height and weight) were self-reported. Although the paired samples t-tests have more statistical power, the students who took the survey twice may differ from those who only took it once. Relatedly, as apparent from the reduction in the sample from T1 to T2, attrition is an issue with longitudinal studies.

Validating a new instrument takes time. While we have taken steps (i.e., literature as survey basis, expert reviews, pre-pilot, pilot, factor analysis, cognitive interviews) to ensure the instrument is sound, additional work needs to be done to confirm the validity and reliability of the instrument.

This study only used the instrument with first-year, first-time college students of traditional age who were continuously enrolled throughout their first year. College students of non-traditional age or students who return to college after leaving for some reason may report different wellness and health results than did the sample who responded to our instrument. Therefore, this longitudinal study should be replicated with a variety of samples.

#### Acknowledgements

- . First Year Experience
- . Student Wellness Center
- . Undergraduate Admissions and Orientation
- . School of Health and Rehabilitation Sciences
- . College of Public Health
- Family and Consumer Sciences
- Department of Psychology Wellness Collaborative
- Students in pre-pilot study and cognitive interviews
- . 2011 cohort and 2012 cohorts