



**UNIVERSITY OF CALGARY**

# R.E.C.E.S.S. Study Results: Mental Health Changes in 1<sup>st</sup> Year University

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## ABSTRACT

University students with poor mental health may have impaired academic performance. This sub study (of the larger R.E.C.E.S.S. study) was conducted to assess the mental and physical health of 1st year students at the University of Calgary during the 2014 fall semester. Seventy-four (65%F) first year students participated from 11 faculties with a mean age of 18.1± 1.0. Students completed the SF36-V2 Survey at the beginning and end of the semester. Sixty-six (89.2%) students completed both pre and post testing. A decrease in vitality (p=0.003), social functioning (p=0.004), emotional state (p=0.014), and mental health (p=0.019) outcomes as measured by the SF36-V2 occurred during the semester. In addition, aggregate mental health significantly declined from the beginning to the end of the semester (p <0.001), while physical health did not change (p=0.242). Results from this study and the ongoing results (winter 2015) may inform the Mental Health Task Force under development at the University of Calgary.

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## INTRODUCTION

### Vulnerability of 1<sup>st</sup> year students

- 3/4 of lifelong mental disorders start by the mid-20's<sup>1</sup>
- Mental health in a 1<sup>st</sup> year university population is largely understudied given the lack of studies available

### Review of Literature

- 37.5% of Canadian undergraduates self-reported in 2013 that they had difficulty functioning because of depression at points during the academic year<sup>2</sup>
- 93.7% of counselling centers surveyed in the US and Canada reported an increase in students with serious psychological problems in 2014<sup>3</sup>

### Academic Implications

- Increasing severity of mental disorders was correlated with a higher level of academic impairment in surveyed American college students<sup>4</sup>
- Depression has been shown to increase both the likelihood of dropping out and of having a lower GPA<sup>5,6</sup>

## PURPOSE

To investigate whether the mental (and physical) health of fulltime 1<sup>st</sup> year University of Calgary students changed over the 2014 Fall semester.

## METHODS

### Recruitment occurred during orientation week across all faculties (N=74)

- 57% KNES, 12.2% Art, 8.1% ENG, 8.1% SCI, 4.1% MED, 6.8% BUS, 2.7% NURS, 1.4% EDU

### Biometric measures:

Mean (SD): age 18.2 ± 1.1 yrs., weight (WT) 67.4 ± 14.4 kg; height (HT) 169.3 ± 9.5 cm, calculated BMI 23.2 ± 3.8, and waist circumferences (WC) 81.0 ± 9.3 cm; 2 participants were missing WT and WC

**Inclusion Criteria:** 1<sup>st</sup> year, full time students attending fall semester and completion of pre (Sept 17-24<sup>th</sup>) and post (Dec. 10-19<sup>th</sup>) SF36-V2 questionnaire (36 item generic questionnaire to assess overall health status<sup>7</sup>)

This investigation was part of a larger student study (RECESS: Recreation Exercise Caloric Expenditure Sitting and Sleep).

## ANALYSIS

- A paired t-test was used to compare pre- and post-test SF36-V2 questionnaire scores

### Two aggregate summary measures were calculated based on the 8 domains or scales.

- **Mental health (MCS):** Mental Health (MH), Role Emotion (RE-everyday role limitations due to emotional problems, Vitality (VT-level of energy), and Social Functioning (SF) scales
- **Physical health (PCS):** Physical Functioning (PF), everyday Role limitations due to Physical problems (RP), Physical pain (BP), and General Health (GH) scales.

## RESULTS

74 participants (65% F; n=48); 68 (92%) completed both the pre and post questionnaire

**Pre- and post-test:** Significant decreases in VT, SF, RE, MH measures were found between the pre- and post-test (see Table 1; Figure 1). No change in PF, RP, BP, and GH.

**Table 1. Paired t-test Pre- and Post-Test Measures**

Subscales	Pre-test		Post-Test		t	Df	p
	Mean	SD	Mean	SD			
PF	90.07	14.55	89.26	16.05	0.637	67	0.525
RP	88.69	14.34	87.59	16.99	0.555	67	0.580
BP	81.43	15.67	78.24	18.23	1.481	67	0.143
GH	74.19	14.37	74.04	15.68	0.105	67	0.917
VT	59.10	15.25	53.49	19.80	3.09	67	0.003*
RE	82.72	20.63	76.96	24.52	2.536	67	0.014*
SF	88.79	15.59	82.54	21.61	3.019	67	0.004*
MH	74.26	14.12	71.32	16.88	2.405	67	0.019*
HT	60.29	24.52	60.66	24.17	-0.136	67	0.829

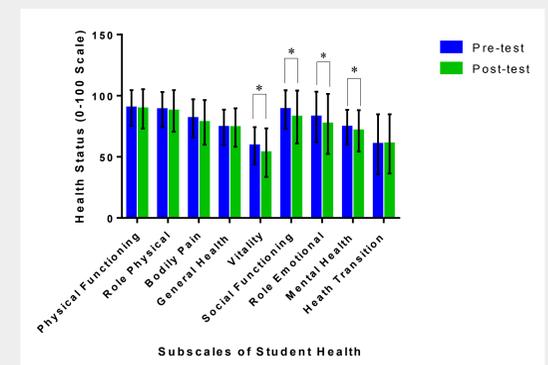
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## RESULTS CONT'D

### Aggregate

- MCS was significantly higher during the pre-test (M=76.22, SD=14.01) compared to the post-test (M=71.08, SD=17.69), t(67) = 4.011, p < 0.001 (see Figure 1).
- PCS shown no significant difference between the pre- and post-test (M= 83.60, SD=11.17), t(67) = 1.181, p=0.242



**Figure 1. Mean health differences between pre- and post-test**  
Note: Error bars = standard deviation, Significant differences = asterisks

## DISCUSSION

Academic success of students is enhanced by good mental health<sup>4,5,6</sup> and therefore there is value in investing in the mental health of students. In this study 1<sup>st</sup> year student's mental health decreased during the fall semester while their physical health remained the same. Currently, a forward cultural shift seems to be occurring in mental health at universities, specifically U of C with the **Mental Health Task Force**. As part of this cultural shift, contributing factors to good mental health, e.g. adequate sleep, regular meals, and physical activity<sup>8</sup>, need to be encouraged and made accessible to those struggling. Student mental health is also impacted by a variety of factors, such as academic pressure, technology dependence, and financial difficulties<sup>9</sup>. Working with government, faculty, and students to create and maintain programs designed to address these factors is very important as we are all stakeholders in the future.

### Future Research

The RECESS study is ongoing and will include a student subgroup analysis by faculty, gender, and PE experience.

### Limitations

Reached 69% of sample size, limited generalizability, and self-selection bias.