BURNOUT, PHYSICAL ACTIVITY AND EXTRACURRICULAR ACTIVITY IN MEDICAL STUDENTS

PHILIP MACILWRAITH

SUPERVISOR: DR DEIRDRE BENNETT

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

BACKGROUND

Higher levels of burnout

- are linked with lower quality of life[1,2]
- decreased academic and professional performance[3]
- reduced levels of mental and physical wellbeing[4,5]

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

BACKGROUND

- Burnout is highly prevalent among medical students internationally[1,6]
- Physical activity levels are suboptimal in European medical students[7]
- Research has identified associations between physical activity and burnout levels[8,9]

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

PRIMARY OBJECTIVES

- To build up a picture of burnout and physical activity levels in UCC
- To see if burnout levels correlate with physical activity levels

SECONDARY OBJECTIVE

- To identify popular extracurricular activities among medical students in UCC

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

METHODS

- Observational, cross-sectional study
- Internationally validated questionnaires[10,11]
- Consenting participants surveyed electronically and on paper
- March to May 2016
- Data analysed with SPSS Statistics® V20.0.

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

MASLACH BURNOUT INVENTORY-STUDENT SURVEY (MBI-SS)

- Fifteen item validated questionnaire
- Measures three components of burnout:
  - Emotional Exhaustion (EE) e.g. *"I feel emotionally drained by my studies"*
  - Cynicism (CY) e.g. *"I doubt the significance of my studies"*
  - Academic Efficacy (AE) e.g. *"I have accomplished many worthwhile things in my studies"*

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE (IPAQ) – SHORT FORM

- Validated questionnaire assesses amount of time spent engaging in vigorous and moderate physical activity and walking per week
- This is then converted into Metabolic Equivalents (METs) and students categorised as:
  - Health Enhancing Physical Activity
  - Minimally active
  - Inactive

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

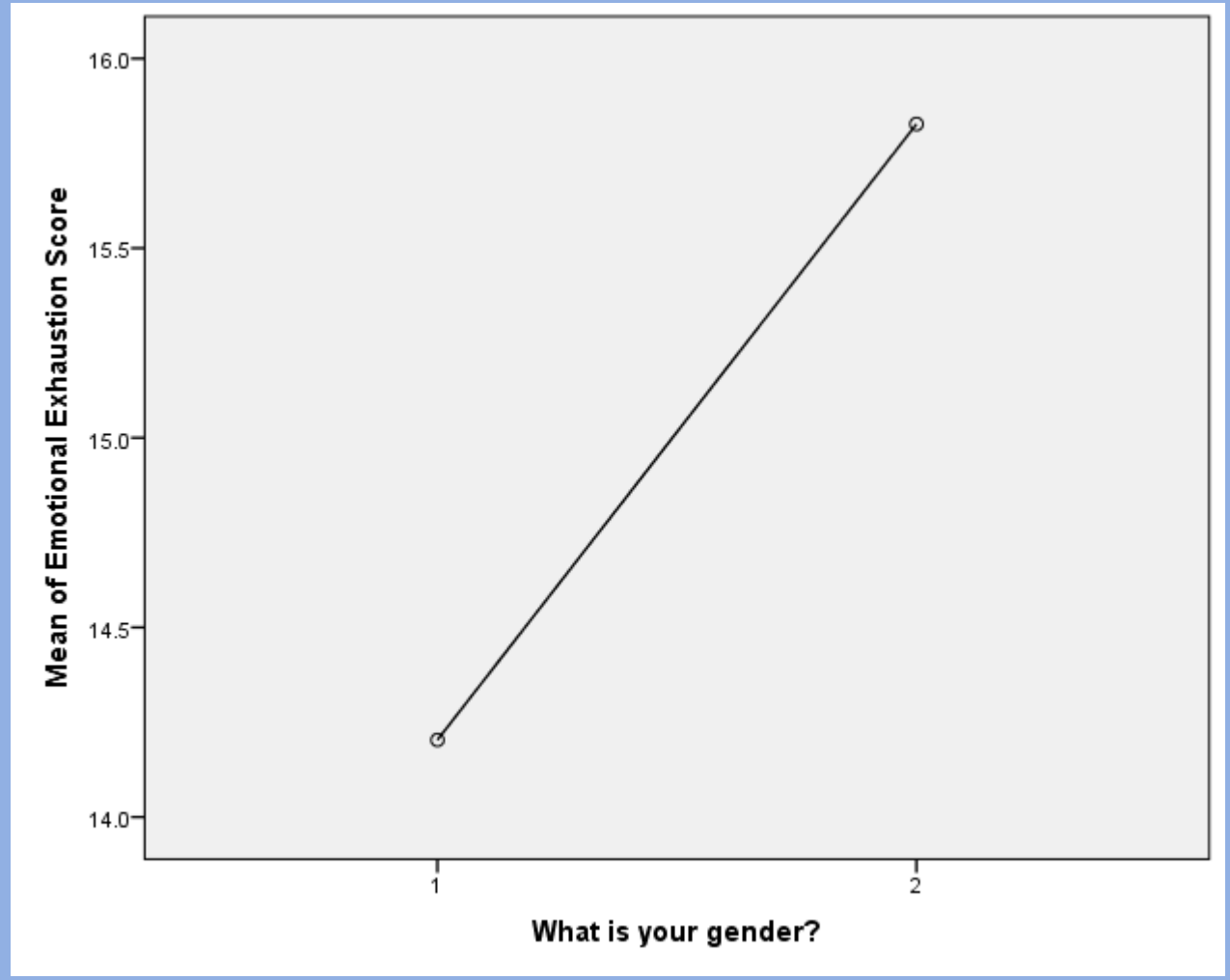
University College Cork
School of Medicine
Medical Education Unit

% MEDICAL STUDENTS PER STUDY

BURNOUT SUBSCALES

	UCC	Lebanon	Germany	US	Hungary	UK
High Emotional Exhaustion	**44.8%**	84.8%	37.7%	51.7%	38.6%	54.8%
High Cynicism	**25.6%**	53.2%	29.8%	44%	34%	34%
Low Academic Efficacy	**51.2%**	50.5%	34.3%	52%	24%	46.6%

BURNOUT: GENDER

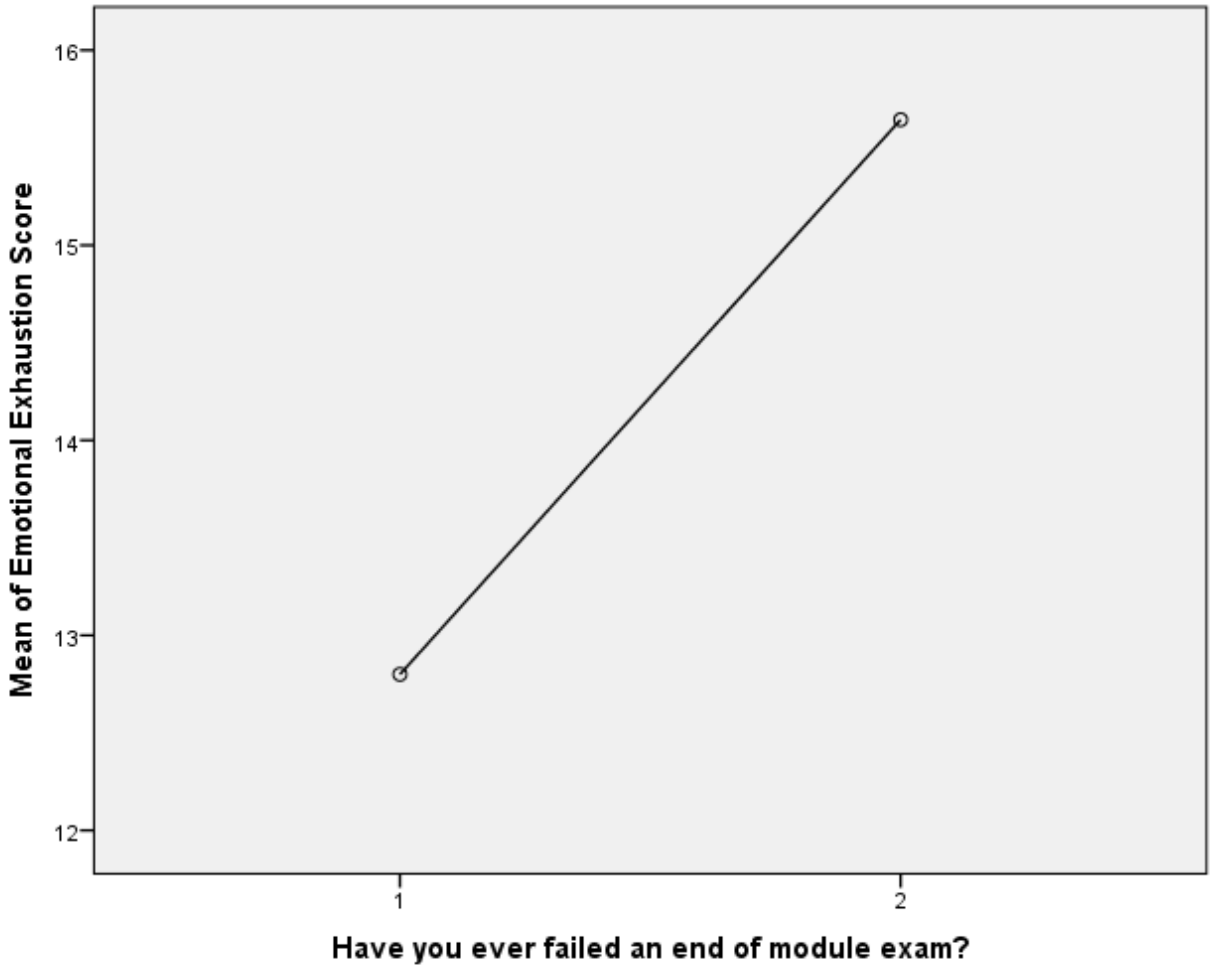


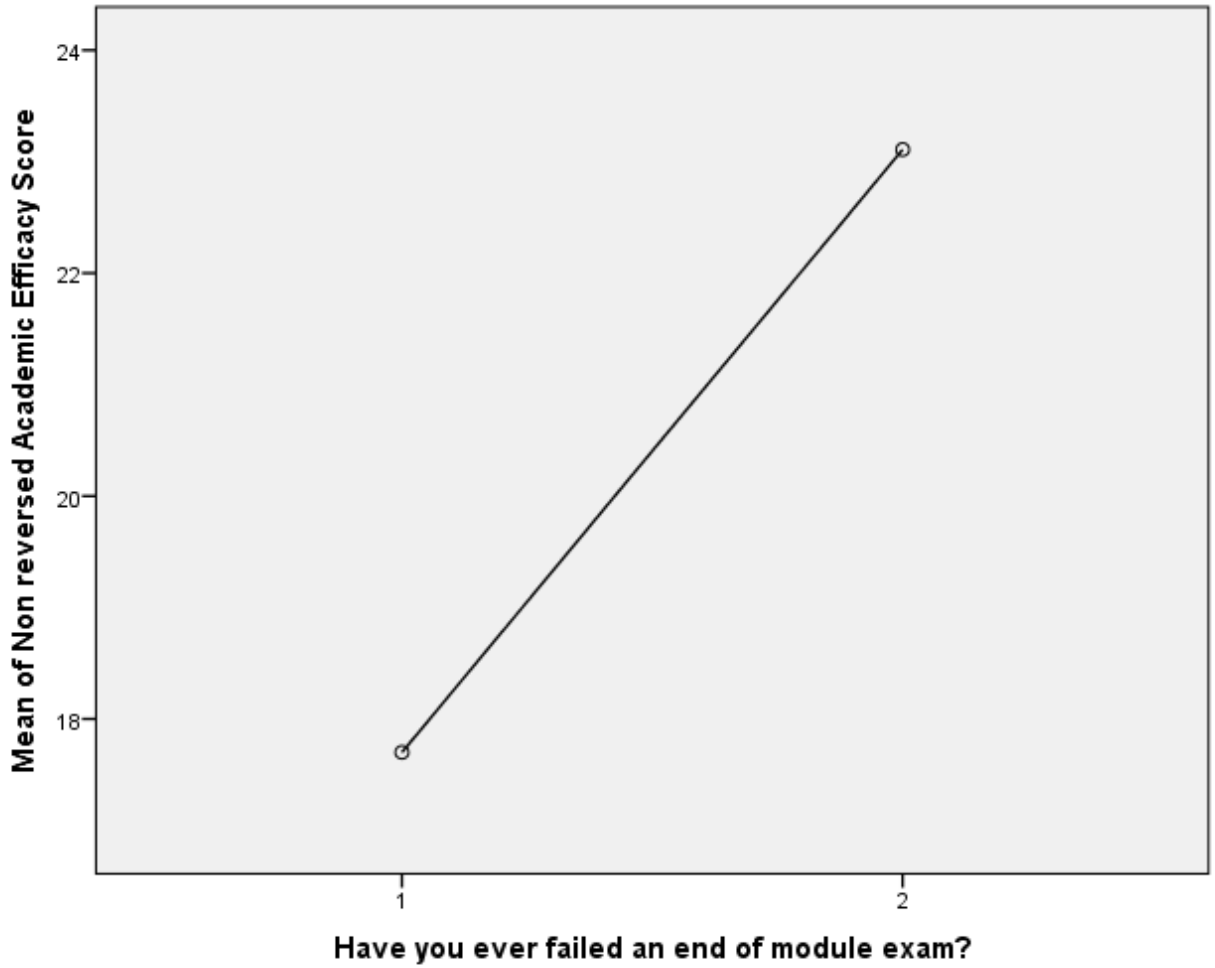
P=0.02

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

BURNOUT: EXAM FAILURE





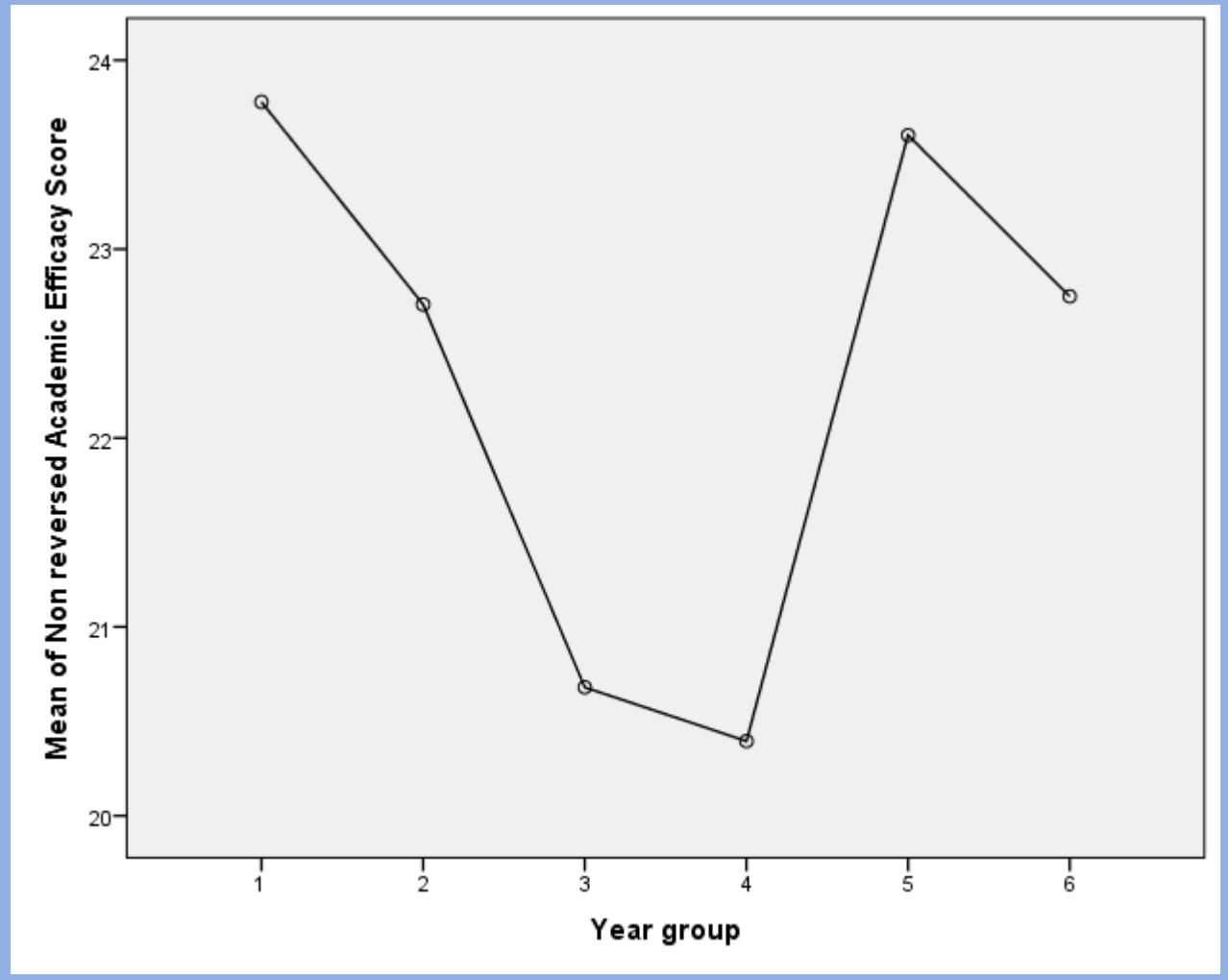
UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

P=0.003

P<0.001

University College Cork
School of Medicine
Medical Education Unit

BURNOUT: YEAR GROUP

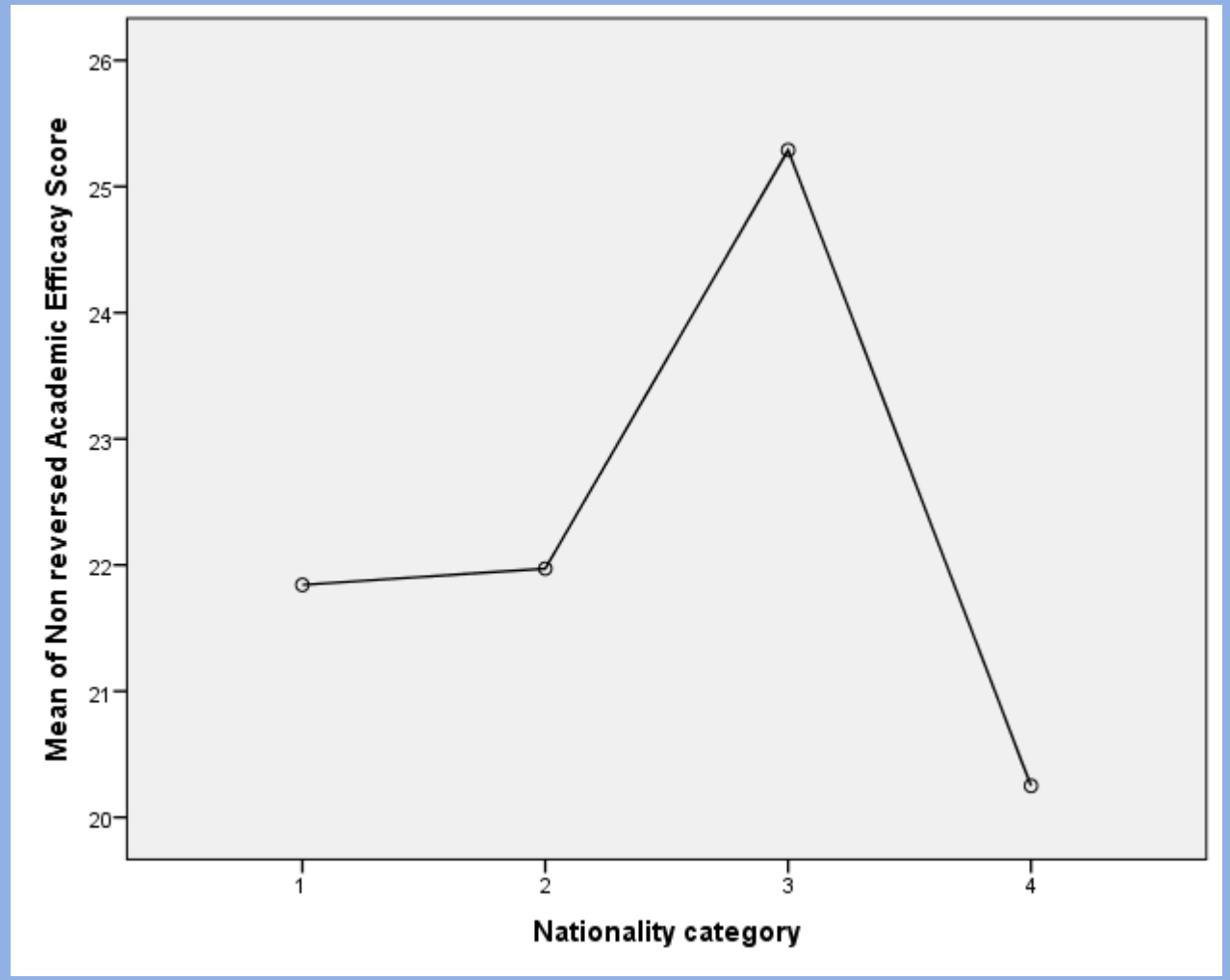


P=0.004

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

BURNOUT: NATIONALITY

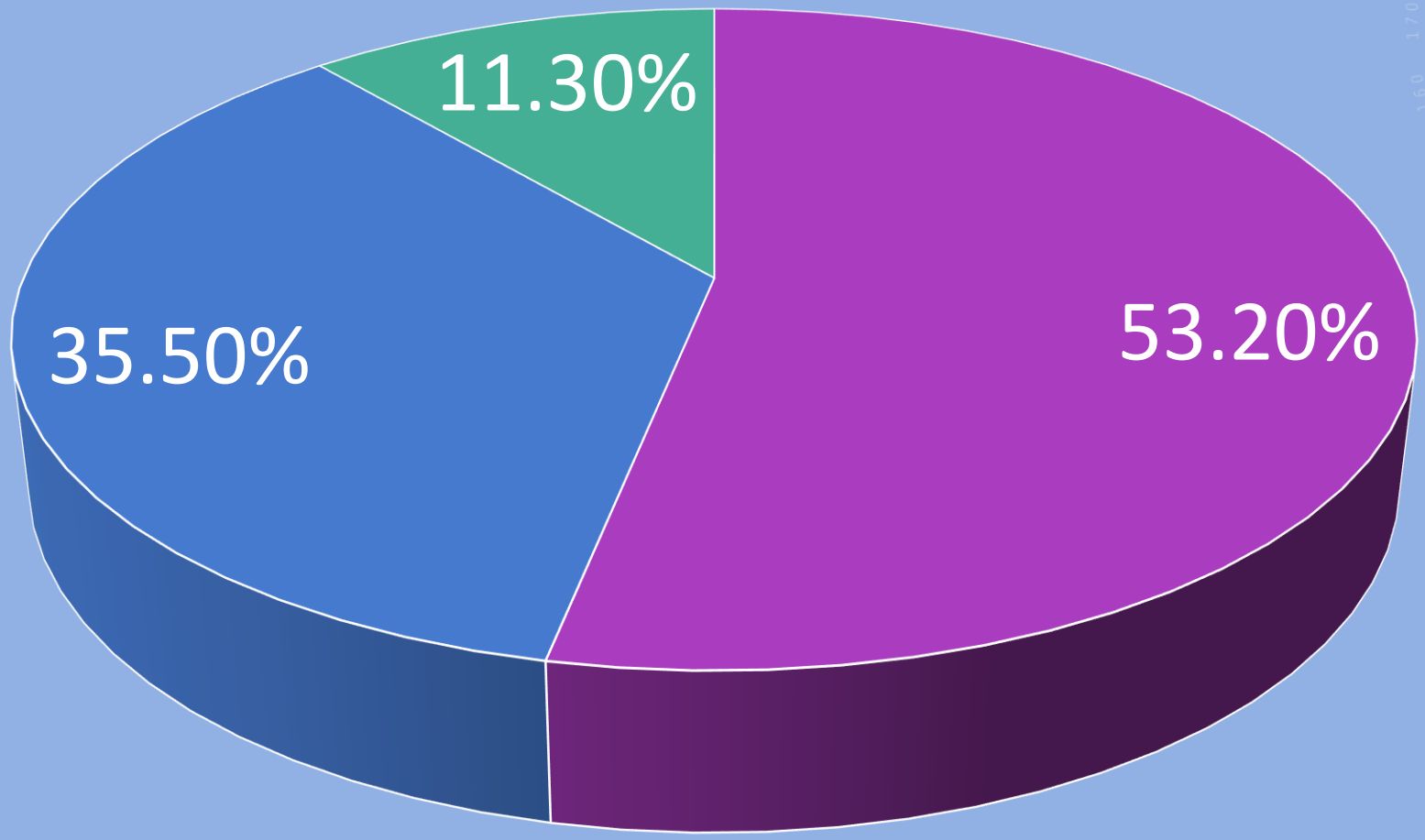


P=0.012

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

PHYSICAL ACTIVITY LEVELS



UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

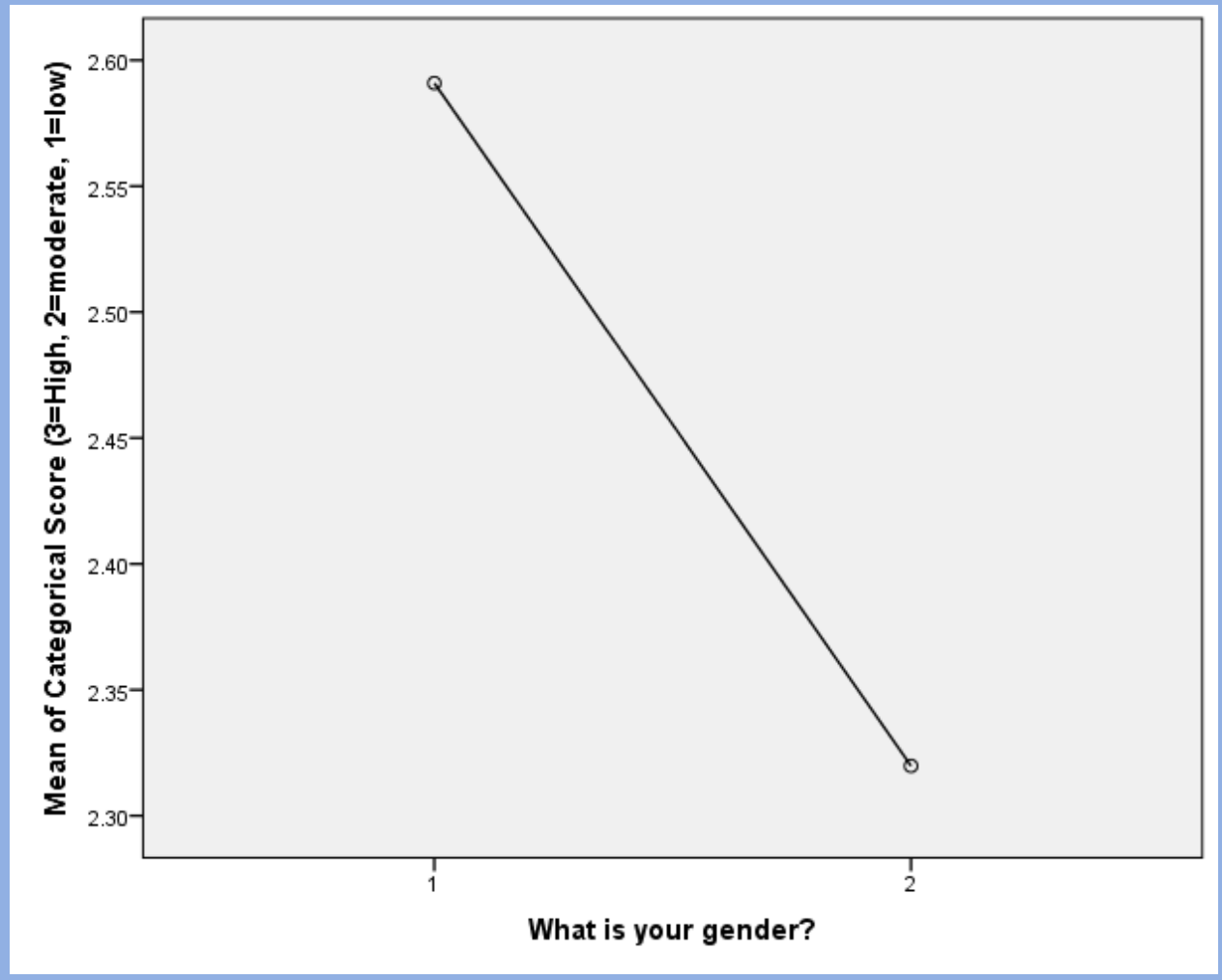
University College Cork
School of Medicine
Medical Education Unit

% MEDICAL STUDENTS PER STUDY

PHYSICAL ACTIVITY LEVEL

	UCC	India	Poland	Portugal	Egypt	Saudi Arabia
Health Enhancing Physical Activity (HEPA Active)	**53.2%**	41.3%	26%	42%	15.4%	10.8%
Minimally Active	**35.5%**	43.2%	52%	39%	69.3%	48.1%
Inactive	**11.3%**	15.4%	22%	19%	15.4%	41.1%

PHYSICAL ACTIVITY: GENDER

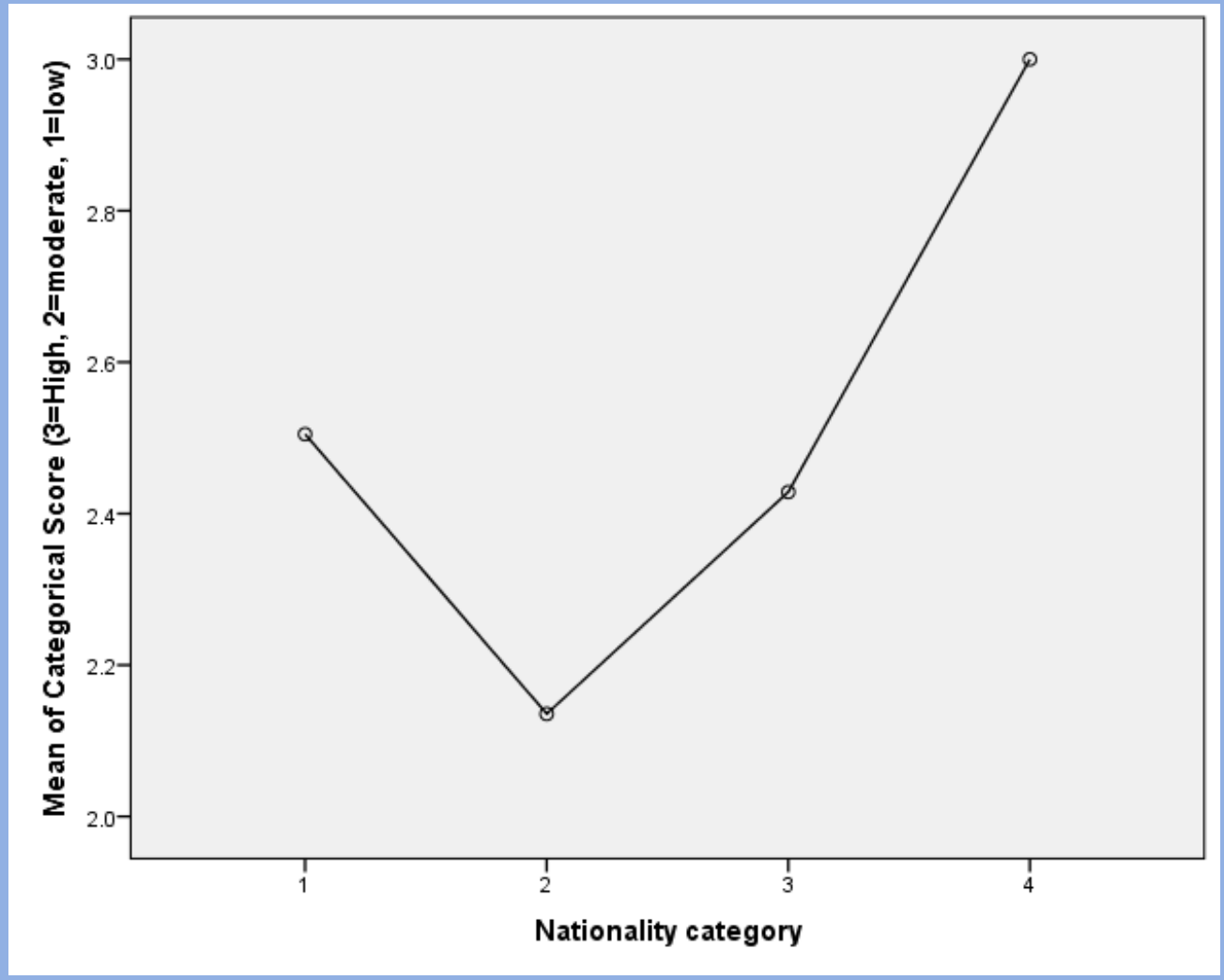


P=0.001

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

PHYSICAL ACTIVITY: NATIONALITY

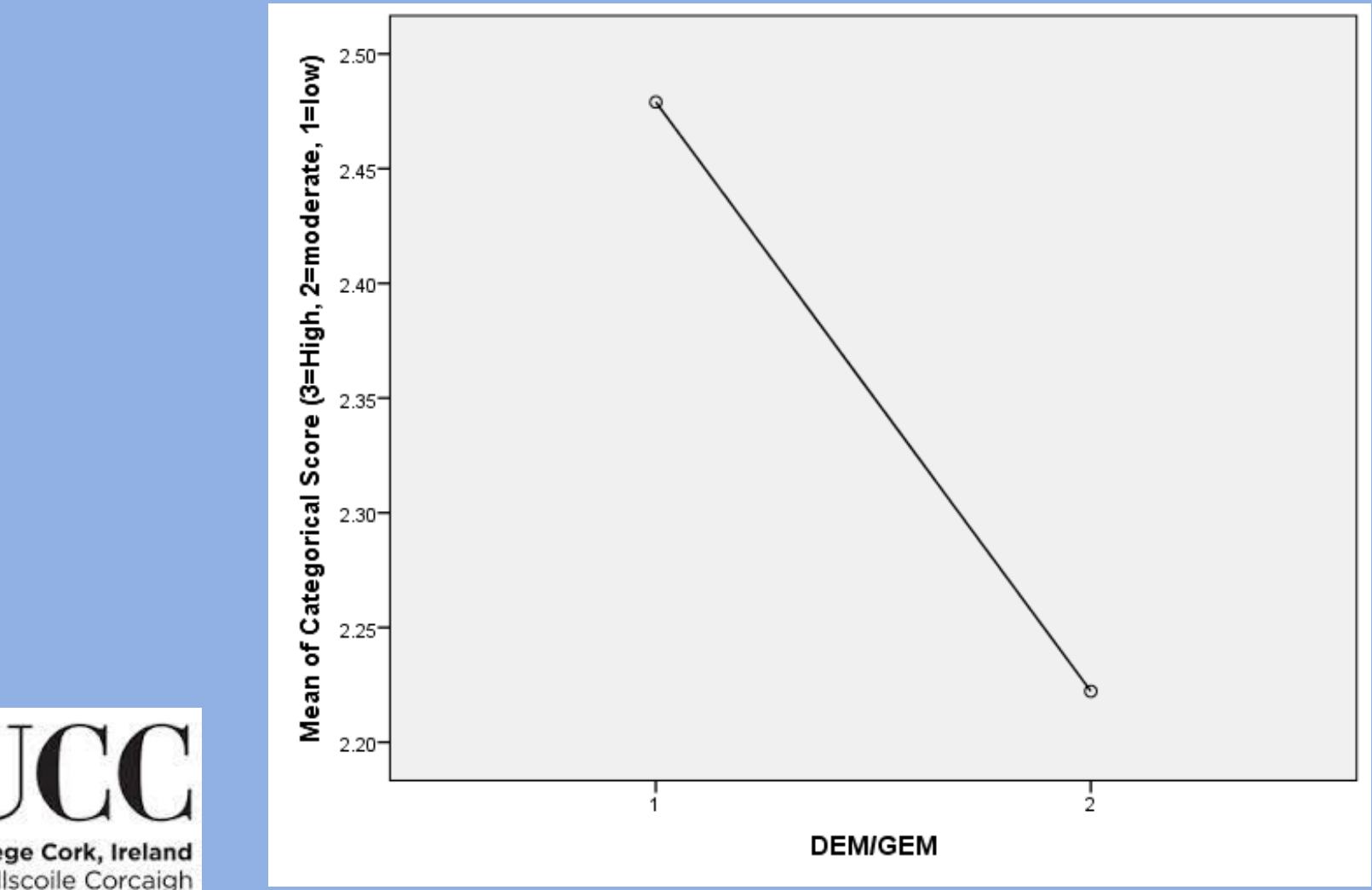


P=0.001

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

PHYSICAL ACTIVITY: DEM/GEM

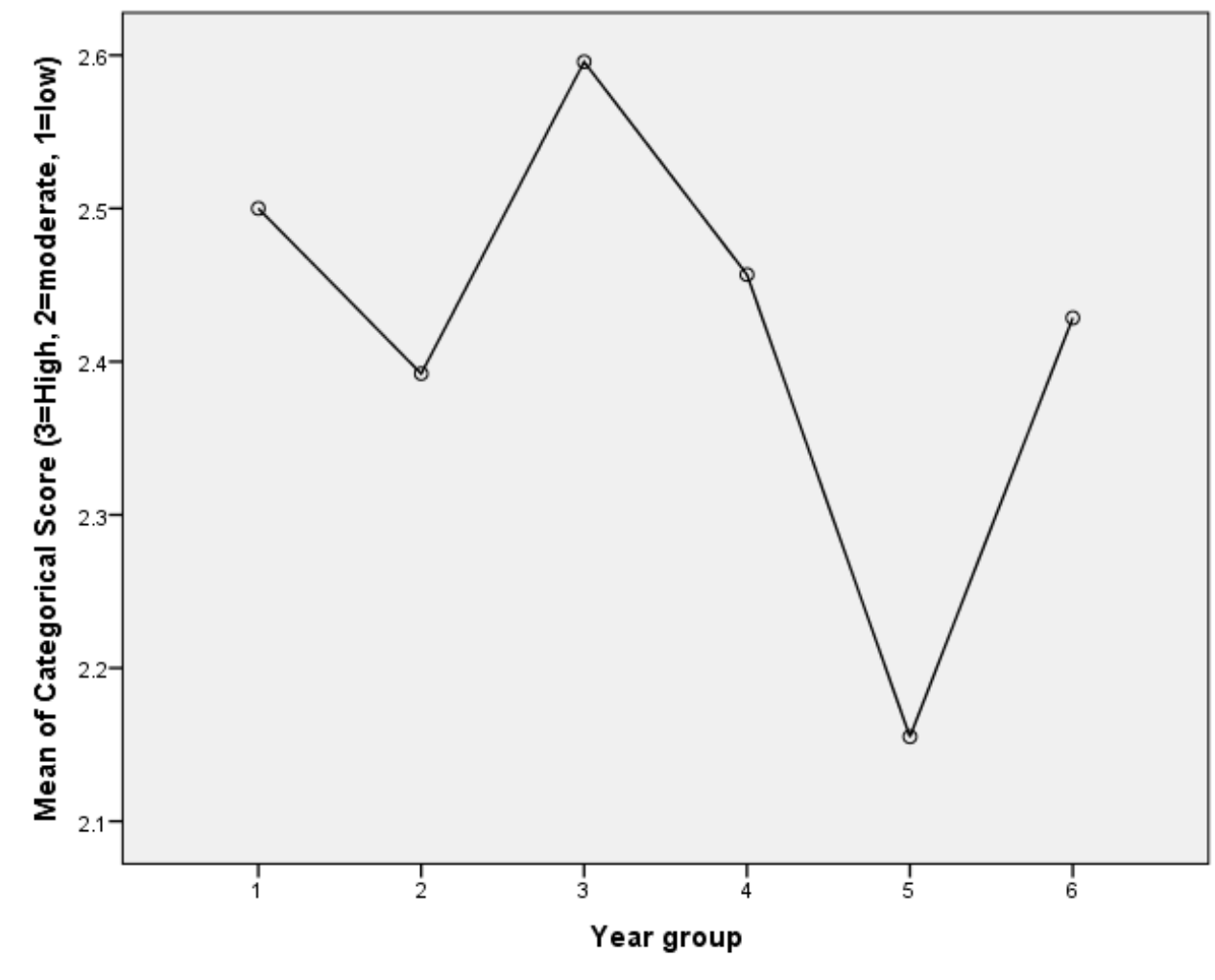


P=0.005

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

PHYSICAL ACTIVITY: YEAR GROUP

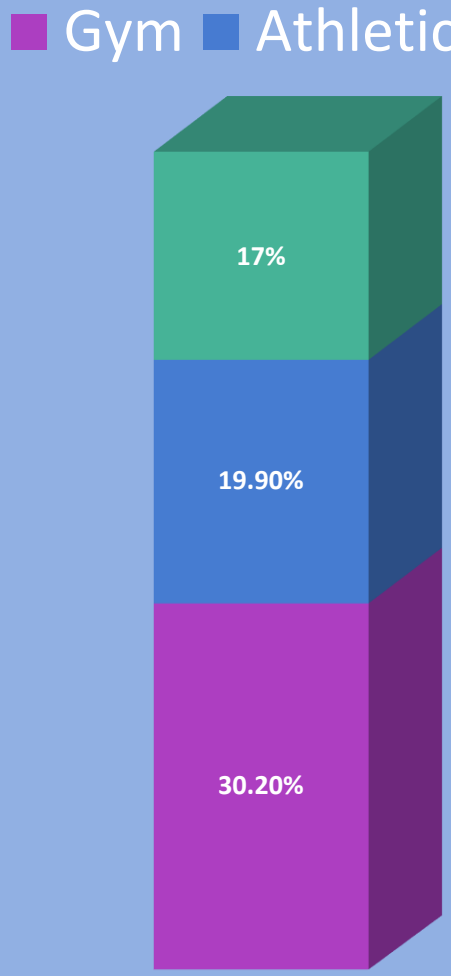


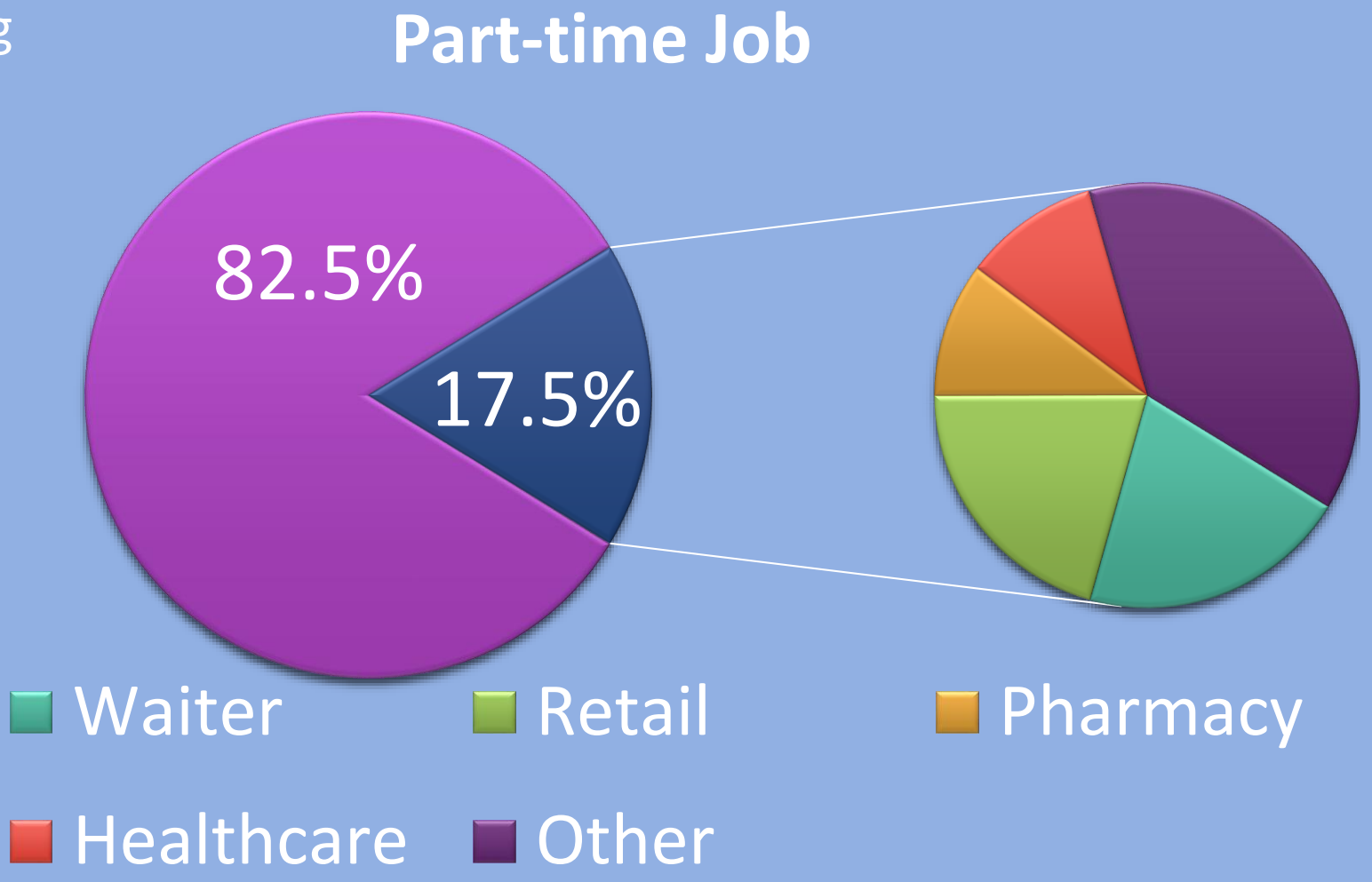
P=0.023

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

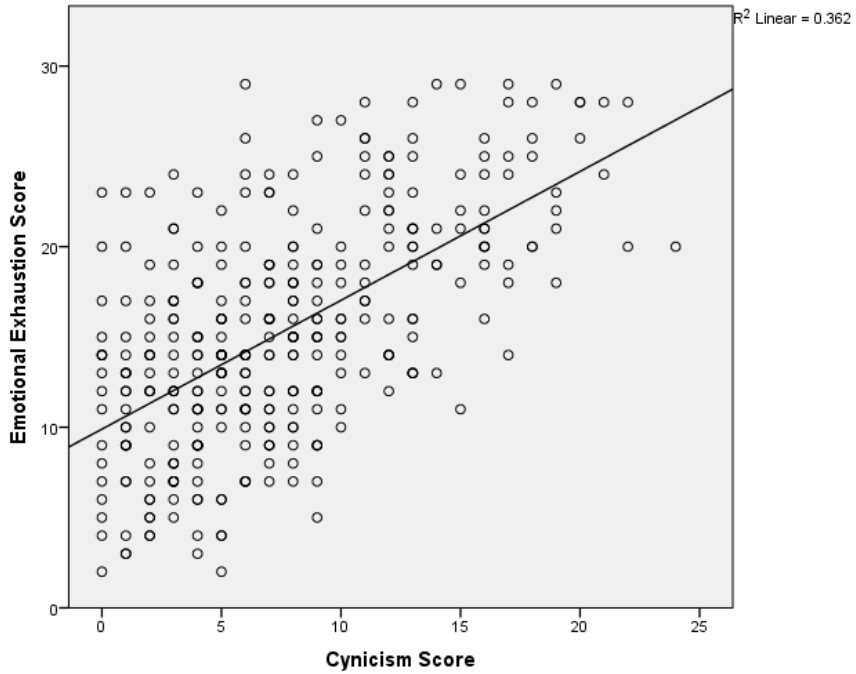
EXTRACURRICULAR ACTIVITIES

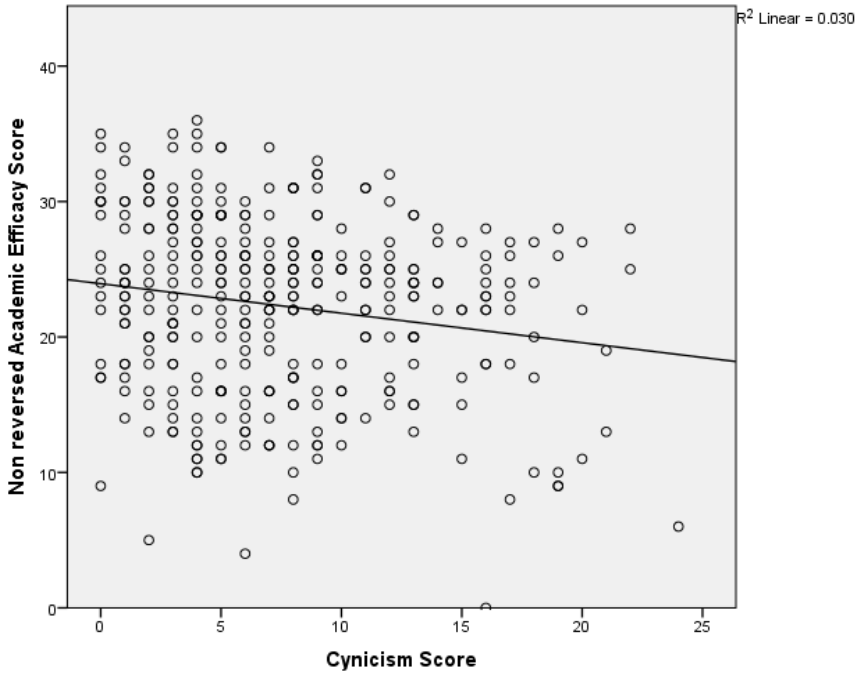


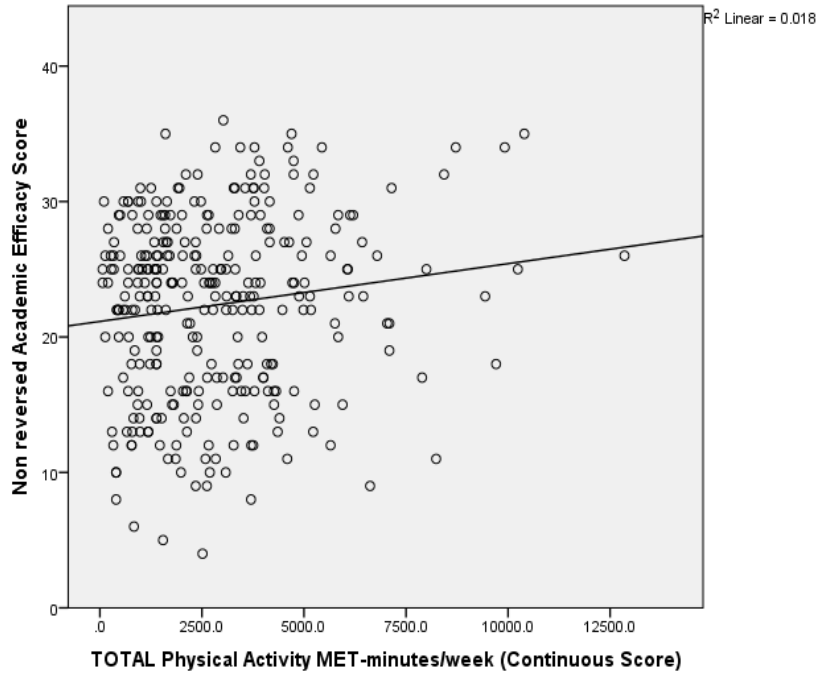


CORRELATIONS

- There was a strong positive correlation between EE and CY scores and a weak negative correlation between AE and CY.
- A weak positive correlation was observed between AE and physical activity levels.







STRENGTHS

- Only reported study in Ireland investigating burnout in medical students
- Internationally validated questionnaires
- Easily repeatable

LIMITATIONS

- Non-response bias
- Time restraints
- Unequal response rate

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

FURTHER RESEARCH

- Potential interventional study
- Certain demographics more important to target
- Early intervention may benefit later years

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

CONCLUSION

- Burnout is common among medical students in University College Cork
- Levels of physical activity correlate with certain components of burnout
- Encouraging medical students to engage in health-enhancing physical activity early in their medical training may reduce burnout levels

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

REFERENCES

1. Dyrbye LN, Thomas MR, Massie FS, Power DV, Eacker A, Harper W, et al. Burnout and suicidal ideation among U.S. medical students. Ann Intern Med. 2008;149(5):334-41.
2. Dahlin ME, Runeson B. Burnout and psychiatric morbidity among medical students entering clinical training: a three year prospective questionnaire and interview-based study. BMC Med Educ. 2007;7:6.
3. McEntee, E, L D, Clarke, A, P F. Career Tracking Study: Factors affecting career choices and retention of Irish medical graduates. 2005.
4. Baldwin DC, Jr., Daugherty SR, Ryan PM, Yaghmour NA. What do residents do when not working or sleeping? A multispecialty survey of 36 residency programs. Acad Med. 2012;87(4):395-402.
5. J P. Optimizing Medicine Residency Training Programs. India: Pondicherry Institute of Medical Sciences; 2015.
6. Dyrbye LN, Power DV, Massie FS, Eacker A, Harper W, Thomas MR, et al. Factors associated with resilience to and recovery from burnout: a prospective, multi-institutional study of US medical students. Med Educ. 2010;44(10):1016-26.
7. Slade AN, Kies SM. The relationship between academic performance and recreation use among first-year medical students. Med Educ Online. 2015;20:25105.
8. Hao W, Yi H, Liu Z, Gao Y, Eshita Y, Guo W, et al. Gender comparisons of physical fitness indexes in Inner Mongolia medical students in China. Glob J Health Sci. 2015;7(1):220-7.
9. Cecil J, McHale C, Hart J, Laidlaw A. Behaviour and burnout in medical students. Med Educ Online. 2014;19:25209.
10. Williams D, Tricomi G, Gupta J, Janise A. Efficacy of burnout interventions in the medical education pipeline. Acad Psychiatry. 2015;39(1):47-54.
11. Dyrbye LN, West CP, Satele D, Boone S, Tan L, Sloan J, et al. Burnout among U.S. medical students, residents, and early career physicians relative to the general U.S. population. Acad Med. 2014;89(3):443-51.

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit

THANK YOU!

UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

University College Cork
School of Medicine
Medical Education Unit