**Adverse childhood experiences (ACEs) among university students, and the relationship with lifetime mood and anxiety disorders.**

**By Margaret McLafferty, PhD, Cherie Armour, PhD, and Siobhan O’Neill, PhD**

**Background**

Mental health disorders are highly prevalent among university students and appear to be increasing in severity (Prince, 2015; Thorley, 2017). Some students commence university with pre-existing psychological problems, but for others the stress of university life can trigger psychopathology. This may partly be related to the fact that many students commence university in late adolescence, an important developmental period in terms of their mental health and wellbeing (Kessler et al., 2007). Since psychological problems can have a very negative impact on academic achievement and attrition rates, social relationships and overall wellbeing (Mortier et al., 2015; Auerbach et al., 2016), it is very important to identify risk factors which may promote or exacerbate psychopathology in this vulnerable cohort.

Several socio demographic risk factors have been identified, such as gender, age and sexuality (Said et al., 2013). Adverse childhood experiences (ACEs) are also significant risk factors for psychopathology during the transition to adulthood (Schilling, et al., 2007). Research has revealed that 76% of students reported at least one ACE, while 21% experienced four or more ACEs (Tran et al., 2015), with such experiences related to psychopathology and suicidality. However, most student studies assess the impact of individual adversities, rather than examining profiles of ACEs, which may provide a more accurate estimate, since ACEs seldom occur in isolation.

**Study purpose and methods**

The WHO World Mental Health Surveys International College Student Project (WMH-ICS) aims to examine and monitor student mental health and wellbeing as they progress through university. The Ulster University Student Wellbeing Study (UUSWS) was conducted as part of this initiative. The study commenced in September 2015, with 739 first year undergraduate students fully completing the first wave of the comprehensive online survey, which used the WMH-CIDI (Kessler & Ustun, 2008) to examine mental health problems. Weights were created utilising gender and age characteristics of first year undergraduate students, to ensure that the study results were representative of the student population at Ulster University, Northern Ireland. The analyses were conducted using SPSS version 23 and Mplus version 7.31.

Initial analyses of the UUSWS dataset (McLafferty et al., 2017) revealed elevated rates of lifetime major depressive episode, (MDE, 24.2%) and generalised anxiety disorder (GAD, 22.6%). Furthermore, O’Neill et al., (2018) found strong links between ACEs and suicidal behaviour and self-harm among this cohort. The aim of the current study was to build on these findings, and expand the knowledge base, by exploring the relationship between ACE profiles and MDE and GAD.

Profiles of childhood adversities were identified, utilising 13 ACEs experienced before the age of 18 (parental psychological problems, alcohol or drug problems, suicidal behaviour, criminality, domestic violence, physical punishment, physical abuse, insults, emotional abuse, inappropriate touching, sexual abuse, serious neglect and doing dangerous or age-inappropriate chores. Logistic regression analyses explored relationships between lifetime MDE and GAD and a number of predictor variables (gender, age, sexuality and the identified ACE profiles).

**Key Findings**

Latent profile analysis identified three distinct ACE classes. The largest class, which accounted for 87.1% of participants, experienced low levels of ACEs and was considered the baseline or low-risk class. The second class, which accounted for 10.4% of the sample, was characterised by moderate levels of ACEs, particularly those related to emotional abuse and insults, and was labelled the moderate-risk class. Finally, a third class, representing 2.5% of the sample, experienced elevated levels of ACEs, especially those related to parental maltreatment, including family violence, physical punishment, physical and emotional abuse, and neglect, and was labelled the high-risk class.

A series of logistic regression analyses examined associations between socio-demographic variables and the ACE classes with lifetime MDE and GAD. Females were more likely to have lifetime MDE (*OR*=1.604, *p*<.05) and GAD (*OR*=1.627, *p*<.05). When compared to students under the age of 21, mature students (21-48) were more likely to have MDE (*OR*=1.784, *p*<.01) but no significant age differences were revealed for GAD. In contrast to heterosexual students, those who said they were non-heterosexual (gay or lesbian, bisexual, asexual, not sure, other), representing 9% of the student population, were nearly three times more likely to have MDE (*OR*=2.915, *p*<.001) and over three and a half times more likely to have GAD (*OR*=3.553, *p*<.001). When compared to the low-risk ACE class, students who experienced moderate rates of ACEs displayed significantly elevated levels of MDE (*OR*=2.944, p<.001) and GAD (*OR*=2.949, p<.001). However, the high-risk ACE class displayed the greatest odds of having MDE (*OR*=3.112, p<.05), and were nearly six times more likely to have GAD (*OR*=5.941, p<.001). Indeed, high levels of ACEs were the principle risk factors for both lifetime MDE and GAD.

**Discussion and implications**

The current study explored risk factors for psychopathology in first year undergraduate students, providing vital information for university services, helping them to provide support for students in need. The study revealed that ACEs were very significant risk factors for psychopathology in the student population. Females and mature students were also at a heightened risk. Additionally, students who did not identify as heterosexual displayed very elevated rates of MDE and GAD. It is very important therefore that information and support is available on campus to help address their needs. Furthermore, since ACEs had such a negative impact on psychopathology, it is of utmost importance to promote and develop initiatives to help students deal with the trauma associated with these experiences, such as resilience building programmes.

The findings from this study would suggest that students should be encouraged to disclose mental illness when commencing university, and that risk and needs assessments should be conducted early to identify at risk students. Comprehensive induction procedures, anti-stigma and awareness raising campaigns would also be recommended to help alleviate the stress of starting university and the many challenges it may bring. Studies have found that student mental health problems can fluctuate from first to final year (Bewick et al., 2010), therefore it is imperative that adequate structures and systems are put in place to support students throughout their time at university.

**References**

Auerbach, R. P., Alonso, J., Axinn, W. G., Cuijpers, P., Ebert, D. D., Greif Green, J., ……... Bruffaerts, R. (2016). Mental disorders among college students in the WHO World Mental Health Surveys. *Psychological Medicine*, 46(14), 2955-2970. doi: [10.1017/S0033291716001665](https://doi.org/10.1017/S0033291716001665)

Bewick, B., Koutsopoulou, G., Miles, J., Slaa, E., & Barkham, M. (2010). Changes in undergraduate students’ psychological well-being as they progress through university. *Studies in Higher Education*, *35*(6),633-645. doi: 10.1080/03075070903216643

Kessler, R.C., & Üstün, T.B. (2008). *The WHO world mental health surveys: global perspectives on the epidemiology of mental disorders.* New York: Cambridge University Press.

Kessler R.C., Amminger, G. P., Aguilar‐Gaxiola, S., Alonso, J., Lee, S., & Ustun, T. B. (2007). Age of onset of mental disorders: a review of recent literature. *Current Opinion in Psychiatry*, 20(4), 359–364. doi:  [10.1097/YCO.0b013e32816ebc8c](https://dx.doi.org/10.1097/YCO.0b013e32816ebc8c)

McLafferty, M., Lapsley, C.R., Ennis, E., Armour, C, Murphy, M., Bunting, B.P. ……… O’Neill, S. (2017). Mental health, behavioural problems and treatment seeking among students commencing university in Northern Ireland. *Plos One, 12(12),* e0188785.

O’Neill, S., McLafferty, M, Ennis, E., Lapsley, C., Bjourson, A.J., Armour, C. ………… Murray, E. (2018). Socio-demographic, mental health and childhood adversity risk factors for self-harm and suicidal behaviour in College Students in Northern Ireland. *Journal of Affective Disorders, 239,* 58-65*.* doi: 10.1016/j.jad.2018.06.006

Mortier, P., Demyttenaere, K., Auerbach, R. P., Green, J. G., Kessler, R. C., Kiekens, G., … Bruffaerts, R. (2015). The impact of lifetime suicidality on academic performance in college freshmen. *Journal of Affective Disorders*, *186*, 254–260. [doi: 10.1016/j.jad.2015.07.030](http://doi.org/10.1016/j.jad.2015.07.030)

Prince, J. P. (2015). University students counselling and mental health in the United States: Trends and challenges. *Mental Health and Prevention, 3,* 5-10. [doi: 10.1016/j.mhp.2015.03.001](https://doi.org/10.1016/j.mhp.2015.03.001)

Said, D., Kypri, K., & Bowman, J. (2013). Risk factors for mental disorders among university students in Australia: findings from a web-based cross-sectional survey. *Social Psychiatry and Psychiatric Epidemiology, 48,* 935-944. doi: 10.1007/s00127-012-0574-x

Schilling, E. A., Aseltine, R. H., & Gore, S. (2007). Adverse childhood experiences and mental health in young adults: a longitudinal survey.  *BMC Public Health*, *7*, 30. [doi: 10.1186/1471-2458-7-30](http://doi.org/10.1186/1471-2458-7-30)

Thorley, C. (2017). *Not by degrees. Improving Student Mental Health in the UK’s universities.* London: Institute for Public Policy Research.

Tran, Q. A., Dunne, M. P., Van Vo, T., & Luu, N. H. (2015). Adverse childhood experiences and the health of university students in eight provinces of Vietnam. *Asia-Pacific Journal of Public Health, 27*(8), 26S–32S. doi: [10.1177/1010539515589812](http://dx.doi.org/10.1177/1010539515589812)

**About the Authors**

**Margaret McLafferty**, PhD is a Research Associate in the School of Psychology at Ulster University. She co-ordinated the Ulster University Student Wellbeing Study and has a background in research into adverse childhood experiences and maladaptive parenting practices, and the link to psychopathology and suicidal behaviour, exploring both risk and protective factors. She is currently involved in research on student mental health, and veteran health and wellbeing.

**Cherie Armour**, PhD, is a Professor of Psychological Trauma and Mental Health and Associate Dean of Research and Impact at Ulster University in Northern Ireland, UK. Cherie is also the current President of the UK Psychological Trauma Society. Cherie’s primary research interests include the psychosocial factors influencing mental health in a range of traumatized groupings. At present Cherie is focusing her research efforts on victims of childhood trauma and military veterans residing in Northern Ireland.

**Siobhan O’Neill,** PhD, is a Professor of Mental Health Sciences at [Ulster University](http://www.ulster.ac.uk/). Siobhan coordinated the largest ever study of mental health in Northern Ireland, the [NI Study of Health and Stress](https://www.profsiobhanoneill.com/key-publications). Her current research programmes focus on maternal mental health, mental health in school children, and the transgenerational transmission of Troubles related trauma. She is currently involved in studies of mental health in students, the biological basis of mental illness and suicidal behaviour, and suicide crisis line caller behaviour and outcomes.