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
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The GENERA Network/Community of Practice and Its Work on Mental Health in Physics

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Abstract. This paper presents the Gender Equality Network in the European Research Area (GENERA) Network/Community of Practice, and its work on mental health issues in academia. GENERA's vision is to support, coordinate and improve gender equality in physics through various working groups on gender, diversity and inclusivity topics. Mental health issues can be especially distressing in academia, owing to the constant expectations of high performance for both faculty and students. Along with depression and anxiety, GENERA also addresses other issues such as sexual assault and suicide. This paper outlines the need for creating awareness and lifting the stigma of mental health problems in academia by using the available resources at institutional levels, such as improving training and reconsidering the reward system to include successful mentoring and support for student well-being. Finally, GENERA proposes specific methodologies for improving the mental health of students and faculty. These approaches will be presented during an upcoming workshop series on the topic, which will welcome participants from Europe and around the world.

INTRODUCTION

The Gender Equality Network in the European Research Area (GENERA) Network/Community of Practice (CoP) (<https://www.genera-network.eu>) originated from the project GENERA: “Gender Equality Network in the European Research Area,” which was funded by the European Commission (GERI-4-2014, September 1, 2015 to August 31, 2018, grant agreement 665637). The project was developed to support, coordinate and improve gender equality policies in physics research organizations in Europe and worldwide. As a CoP, it represents a group of people who “share a concern or a passion for something they do and learn how to do it better as they interact regularly” [1]. GENERA provides its members and friends with access to expertise on methods to improve gender balance in research content, process and impact. It also provides opportunities to identify new markets for science knowledge whereby gender can differentiate the quality of research and innovation outcomes. Furthermore, GENERA supports improving the gender balance in university enrollment in physics by ensuring that gender considerations are properly integrated into advocacy and that outreach activities are designed to promote the value of physics education and the awareness of opportunities for physics-related employment and careers. The CoP also collectively contributes to the policy making for improvement of the gender balance in the European Research Area. GENERA has a track record of informative reports and has developed successful tools for implementing its goals [2]. The members of GENERA are grouped into several working groups, and these groups collect data and develop methodologies on various topics, such as statistical data, gender dimensions in research and teaching, careers and so on. Specifically, the working group on careers focuses on the following topics: facts and figures on men and women in science, technology, engineering and mathematics; mental health; inclusive leadership; careers paths inside, outside and in between academia; mentorship and networking; and combining research, teaching and family.

Mental health issues have generally been attracting increased attention on a global level in recent years. Different organizations, such as the World Health Organization and UNICEF, as well as academic and research sectors have gathered extensive statistical data on the many factors affecting the general population's mental health. They have also emphasized the need for immediate action to solve the problem on a global scale. The latest report by the organization United for Global Mental Health [3] underscored the necessity to prioritize mental health by changing governmental

policies and practices, as well as the need to tackle the many challenges, such as stigma, discrimination and the unwillingness to acknowledge the scale and seriousness of the issues.

Mental health is also increasingly being recognized as an important issue in academia. The lack of support from colleagues and bosses and the stigma about mental health issues leads to individuals to fear the personal and professional consequences of disclosing symptoms or seeking therapy, which exacerbates the problems and increases the risk of suicide [4]. The situation has become more dire during the COVID-19 pandemic, with social isolation, lockdowns, online-only lectures and attempts to complete work and job responsibilities from home having an adverse impact on academic life [5]. The study [5] reveals that 90% of the participants were negatively affected and unable to perform normal work or studies at their universities for one week to two months.

This conference paper addresses the complex mental health problems faced by academic personnel and students and presents the statistics from previous research relevant to these issues. Based on this information, the paper outlines the immediate steps to be taken for resolving the mental health issues in academia, starting with overcoming the stigma and discrimination and continuing toward utilizing the available resources and creating new ones at the institutional level. The last part of the paper focuses on the specific methodologies developed within the GENERA Network/CoP, for improving the well-being of students and faculty. These methodologies will be presented at an upcoming workshop series organized by GENERA on the topic of gender, diversity, and inclusivity. The test phase for the series was initiated on December 15, 2022 with an online workshop “GENERA Workshops in Physics 1: Segregation, Implicit Bias & Myths—Threats to Fair Physics Careers” with participants from EU countries (<https://www.genera-network.eu>).

MENTAL HEALTH IN ACADEMIA

General Definitions

Mental health refers to the level of psychological well-being or the absence of mental illness [6]. A person with good mental health is able to function at a satisfactory level and can emotionally and behaviorally adjust to the challenges of everyday life. According to the World Health Organization [7], an individual’s well-being is expressed in their ability to cope with the normal stresses of life, to be productive at work and to contribute to their community. The prevailing mental health issues among academic personnel and students are depression and anxiety, with other possible problems including elevated emotional distress, eating disorders and self-harm, among others. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) [8] outlines the diagnostic criteria for someone with depression as the presence of at least five of the following symptoms during a two-week period (with at least one needing to be among the first two): depressed mood, diminished interest/pleasure in different activities, significant weight loss/gain or decreased/increased appetite, fatigue/loss of energy, feelings of worthless or excessive guilt, diminished ability to think/concentrate or indecisiveness and recurrent suicidal thoughts/suicide attempts or specific plans for dying by suicide. In addition, excessive worries, obsessive rumination and phobias are typical for people with depression. General anxiety disorders are classified as the individual having at least three of the following symptoms in the previous six months: excessive anxiety and worry, restlessness/feeling on the edge, fatigue, irritability, muscle tension, difficulty concentrating/going blank and sleep disturbances.

Mental Health Issues among Students and Faculty

Among university students, the main concerns associated with mental health problems are the relationships with their advisors, their living conditions and personal finances and their overall sense of being valued and included, especially among peers [4]. Worries about future career prospects (e.g., getting a high-status/high-income job) can result in students experiencing excessive feelings of academic pressure as early as high school [9].

A recent review on the challenges and mental health issues of academic trainees found that in the fall of 2018, 17.3% of students (~85% undergraduate; 15% graduate sample) in the United States had used professional services to treat depression in the previous year [9]. Based on the Depression, Anxiety and Stress scale, depression was found to affect 27.1% of Turkish university students [10] and 55.6% of Spanish students [11]. Using the Beck Depression Inventory, a French study reported that 18% of students had moderate to severe depression [12].

Based on data presented in a previous study [13], Bira *et al.* [4] concluded that “the prevalence of anxiety and depression in graduate students is almost an order of magnitude greater than that observed in the general population.” In addition, the situation of underrepresented groups, such as women and LGBTQ+ individuals who may already be contending with a sense of being undervalued and excluded, needs particular attention. For example, Eleftheriades *et*

al. [9] reported that between 13% and 27% of female students are survivors of sexual assault, while other studies [14] have estimated rates greater than 50%. However, as emphasized by [9], only one in five female victims reported being assaulted, while only one in six received assistance from the authorities. Gender minorities were estimated to be at high risk for sexual assault, especially queer individuals who were assigned male at birth and trans women. Among graduate students, 21% of females and 13% of males reported sexual assault, with 62.5% of cases involving peers and 19% involving a professor. To fight the stigma of being a sexual assault victim, it is clearly extremely important to educate both undergraduate and graduate students about sexual harassment and assault in academia and their right to report.

Factors contributing to mental health issues among faculty include the pressure of constant competition for grants, publishing papers on a regular basis, and earning promotions and tenure [4]. Although statistical data on mental health problems in faculty are not as abundant as for students, Schindler *et al.* [15] show that 20% of full-time academic physicians and basic science faculty have significant levels of depression. As a point of concern, nearly 70% of the participants in another US study were unfamiliar with the healthcare resources available to them for assistance, and only 13% had used these resources [16]. Bira *et al.* [4] emphasize that the latter is largely due to the stigma around mental health. Namely, individuals fear that disclosing symptoms or seeking therapy will lead to personal and professional consequences, such as being fired or becoming the object of gossip among colleagues. Owing to this stigma, many faculty members with mental health problems did not disclose them at their workplace (only 29% shared the information with colleagues, and 25% with supervisors); however, most sought support from their families (75%) and friends (51%) [17].

It is extremely important to educate faculty about the impact of mental health in academia and the need to seek help before symptoms have progressed to the level of mental health disorders or the risk of self-harm. While more statistical data are needed on the prevalence of mental health problems among academic staff, some individuals have bravely shared their experiences in coping with such issues while climbing the academic ladder [18].

GENERA'S WORK ON MENTAL HEALTH IN ACADEMIA

The crucial keys to addressing mental health issues in academia are creating awareness and overcoming the stigma associated with mental health disorders. The following initial steps in this direction can be taken, with some having been outlined by Bira *et al.* [4]:

- Conducting more research on the issues of mental health in academia
- Creating dialogue via research communicated via written and social media
- Conveying the main message: “You are not alone and you are valued!”
- Providing diversity training and inclusion, as well as consistent, accessible resources for mental health problems (e.g., depression, bipolar disorder, anxiety) at the organizational level.

To fulfill these steps, the following resources are recommended, building on those suggested by Bira *et al.* [4]:

- Training on mental health and emotional wellness for both students and faculty
- Specific training focused on effective mentoring practices and modeling the wellness for students
- Establishing a culture that promotes a sense of community
- Providing anonymous surveys to students and faculty, as well as anonymous, digital counseling services
- Rewarding based on effective education, mentoring, and wellness practices [19]
- Revising examination/evaluation methods to reduce stress among students and faculty.

Within the GENERA Network/CoP, various methods are currently being developed to help with education around mental health and to elevate the well-being of students and faculty. The proposed methodology includes the following:

- **Storytelling.** Participants can share their good and bad examples of coping with mental health issues in academia, as well as receive feedback from others.
- **Anonymous tests.** Participants will have the opportunity to take anonymous surveys that will guide them to healthcare/counseling services, where they can receive professional help for their specific issues.
- **Role playing.** Participants will be able to re-enact specific situations from traumatic past experiences to process their feelings and to train themselves to cope with potential triggers within the safe environment of a group.
- **Educational seminars.** Participants will be able to attend lectures by counseling experts concerning the impact of mental health issues in academia and how to tackle them.
- **Private sessions.** Participants will be offered confidential counseling session by a highly trained counseling professional/therapist.

- **“Safe Space” training.** Based on models from the LGBTQ+ communities, participants will be able to share their experiences and receive feedback concerning their mental health issues in a supportive, nonjudgmental environment.

CONCLUSION

This paper has provided an overview of the most common mental health issues faced by academic personnel and students, followed by data from the literature. A special emphasis was placed on the situation of underrepresented groups and the need for further research. Next, problems arising among faculty and students were described according to each group and specific examples were provided. Our “take home” message focused on how to raise awareness and how to overcome the stigma about mental health by creating dialogue between faculty, students, healthcare professionals, organizations, and supporters. Available resources for tackling the emerging problems were highlighted, including anonymous, digital counseling services, as well as specific training on effective mentoring practices and modeling the well-being of the students. Different methods have been developed within the GENERA Network/CoP to help with education and improving the wellness of the students and faculty members, such as storytelling, group work, seminars and safe space training” in a protected, confidential environment. GENERA is organizing a workshop series on the topic of gender, diversity, and inclusivity, where the findings of this paper will be presented. The test-run phase for the workshops started in December 2022, where participants from Europe took part online, while in the future international, as well as on site participation is foreseen. The GENERA website (<https://www.genera-network.eu>) provides more information.

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