



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



Make today matter

Two brothers developed an online screening app to detect early stage depression and anxiety

by Gerthyo and Wilando Ferreira

Gerthyo and Wilando Ferreira recently won two awards at an international EXPO competition with a project titled "Code RED: Combating the invisible adolescent enemy". They started this journey with a school EXPO Science project, which focused on the development of an online screening instrument that can be completed by adolescents using their cell phones or other mobile devices. The aim was to detect childhood depression and anxiety at an early stage. At the time, the two brothers were in Grade 11 and Grade 9. They are both in Hoërskool Waterkloof, currently in Grades 12 and 10.



Winners of the international category in Spain



Winners of two categories in Spain

After being selected by their school to participate at Northern Gauteng level in August 2022, Gerthyo and Wilando won the awards for best project in Social and Psychological Sciences as well as best overall EXPO project. In December 2022, Gerthyo and Wilando participated at national level at the South African Youth Engineering and Science Symposium (SAYESS) and once again won the awards for best project in Social and Psychological Sciences and best overall EXPO project. Following this achievement, they were nominated as one of two projects from South Africa to participate at the XXIV Exporecerca Jove competition in Spain from 8 to 11 March 2023. At this event, they won the following awards:

- Best research in Psychological Sciences (the American Psychological Association [APA] award)
- Best EXPO project in the category International projects (all participants outside Spain).

The screening instrument that Gerthyo and Wilando developed aims to identify depression, anxiety and the possibility of self-harm among adolescents, in order to provide early support to those who require psychological intervention. The questionnaire can be completed on a mobile phone or other electronic device on the Code RED: Q-FAD App which was developed by the Segametsi Hope Expertise company. It takes around 2-3 minutes to complete the Code RED questionnaire and if "yes" is the response to certain questions, an alert message is sent to the school psychologist via email. Upon receiving such an alert message, the school psychologist can

contact the child to make an appointment and provide the necessary support. In developing and refining the instrument and App, Gerthyo and Wilando conducted two pilot studies at their school, ending up with three versions of the questionnaire.

In addition, six educational psychologists with experience in schools, three university researchers with expertise in quantitative research and instrument development, and six research and industrial psychologists were involved as consultants and participants who assisted in the formulation, refinement and finalisation of the questions in the questionnaire. At the moment, a final testing phase is in progress, with the intent of launching the App in schools across the country in the near future. Some additional goals for the future include adaptations of the App for schools with limited resources or where a psychologist is not available on site.

In Spain, a school from Spain as well as one from the United States of America also enquired about the possibility of implementing the Code RED: Q-FAD App at their schools in future. Gerthyo and Wilando would both like to study at the University of Pretoria. Gerthyo has applied for BEng (Mechanical Engineering) for 2024 and Wilando is considering a career in Actuarial Science although he is still exploring other options. If you would like to contact Gerthyo or Wilando about the Code RED project or App, you can do so on Qfad.app@gmail.com



Gerthyo and Wilando at their project in Spain