

Day 6

Group Projects

Assessment & Feedback

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**Polygenic Risk Score Analysis, 22 - 27 June 2025,
Makerere University, Uganda**



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& DATA INTENSIVE SCIENCES



To do list

- Write a script (markdown) in R or Python for the analysis
- **Push to the WCS PRS Course Github Page**
- Upload slides to the google drive
- Prepare a project summary report and upload to the google drive
- Prepare slide presentation
- Present your findings (10 mins)
- Answer questions from the panel

PROJECT QUESTIONS

1. Applicability of PRSmix

Do you think the PRSmix approach is likely to perform well in continental African populations? Why or why not?

- Consider factors such as genetic diversity, linkage disequilibrium patterns, ancestry mismatch in GWAS summary statistics, and trait architecture

2. Evaluation of PRSmix Performance

How well did the PRSmix-derived PRS perform in your assigned dataset?

- Report and interpret relevant metrics (e.g., AUC, R^2 , odds ratios)
- Comment on the strength of prediction and any subgroup differences

3. Comparison with PGS Catalog Scores

How does the PRSmix-derived PRS compare to the individual PRS scores from the PGS Catalog in terms of predictive performance for your dataset?

- Which performed better?
- What factors (e.g., ancestry mismatch, training data quality, trait polygenicity) might explain the difference?

4. Interpretation and Limitations

What do your results suggest about the utility of polygenic scores for this trait in African populations?

Grading Rubric

- ✓ Introduction/Motivation
- ✓ Analysis
- ✓ Results (Q1 – Q4)
- ✓ Project Report
- ✓ Markdown on Github
- ✓ Quality of presentation
- ✓ Team Collaboration

5 marks each
Total = 50 marks

Assessment & Feedback



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Group 1 Members



Precious



Evelyn



Minenhle



Faith



Isaac



Cephas



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Group 1 Assessment

Feedback

Grading Rubric	Avg. Score
Intro/Motivation	5
Analysis	4.25
Q1 – PRSmix in Africa pop	4.125
Q2 – Evaluation of iPRS	3.125
Q3 – Comparison w PGS	4
Q4 - Interpretation	3.5
Project Report	4
Github Markdown	4.25
Quality of Presentation	4.5
Team Collaboration	4

Group 2 Members



Ngone



Mpanji



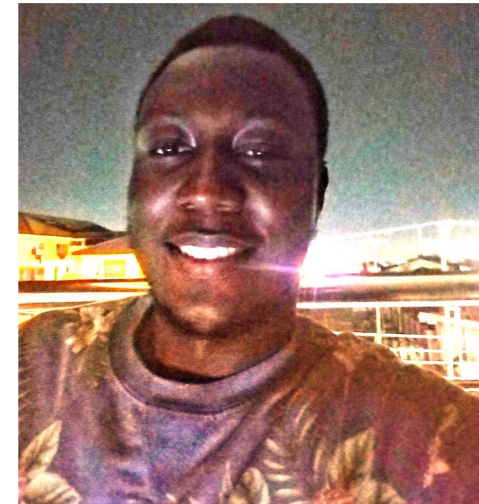
Ronald



Kevin Cissy



Esmael



Bruce

Group 2 Assessment

Feedback

Grading Rubric	Avg. Score
Intro/Motivation	4.5
Analysis	3.625
Q1 – PRSmix in Africa pop	2.25
Q2 - Evaluation of iPRS	2.5
Q3 - Comparison w PGS	4
Q4 - Interpretation	3.5
Project Report	3.875
Github Markdown	4
Quality of Presentation	4
Team Collaboration	3.25

Group 3 Members



Cheick



Nto



Pheziwe



Olga



Andrea

Group 3 Assessment

Feedback

Grading Rubric	Avg. Score
Intro/Motivation	4.75
Analysis	4.5
Q1 – PRSmix in Africa pop	4
Q2 – Evaluation of iPRS	3.5
Q3 – Comparison w PGS	3.625
Q4 - Interpretation	3.75
Project Report	4.5
Github Markdown	4
Quality of Presentation	4
Team Collaboration	4.25

Group 4 Members



Benson



Frederick



Kingsley



Emma



Caitlin



Jacob



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wellcome
connecting
science

Group 4 Assessment

Feedback

Grading Rubric	Avg. Score
Intro/Motivation	3.25
Analysis	4
Q1 – PRSmix in Africa pop	4
Q2 – Evaluation of iPRS	4
Q3 – Comparison w PGS	3.5
Q4 - Interpretation	4.5
Project Report	4.5
Github Markdown	4.5
Quality of Presentation	3.75
Team Collaboration	4.75

Results

Group	Total Score
Group 1	40.75
Group 2	35.5
Group 3	40.875
Group 4	40.75

Congratulations to Group 3 Members



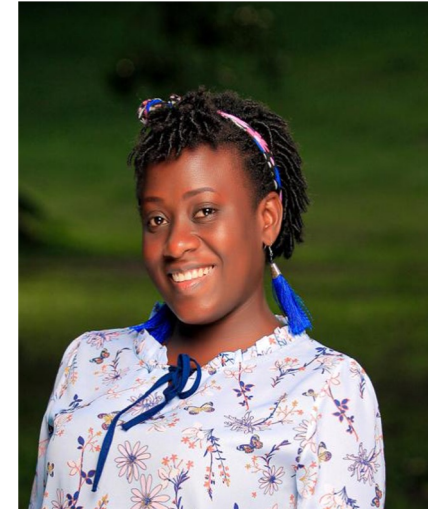
Cheick



Nto



Pheziwe

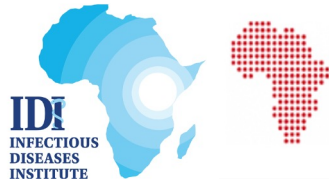


Olga



Andrea

Winner



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\$100 CASH PRIZE



Must be spent on scientific purposes

Acknowledgements



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