

# Review of: "Gambling Prevalence and Factors Associated with Gambling Participation among University Students in Uganda"

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Potential competing interests: No potential competing interests to declare.

Thank you to the authors for working to cover a relevant research gap, assessing the prevalence and factors associated with gambling in a university student population. This is a group that has been shown in other pieces of research conducted elsewhere to be at increased risk of experiencing gambling harms. Importantly, this piece of research is conducted in Uganda, a context in which limited research has been conducted into gambling generally, and specifically university student gambling. It is also critical that research on gambling is conducted in the contexts of lower-income countries, given the relative lack of research conducted in these settings, and concerns around gambling companies targeting such countries to enter into new markets where the infrastructure for gambling already exists, but regulatory environments to protect people from gambling harms may not (Reith et al., 2019; Bitanirwe and Ssewanyana, 2021). Particularly interesting about this study is that it considers factors that are specific to the student population that are potentially associated with participation in gambling (e.g. course/accommodation/funding factors) which to the knowledge of the reviewer have not been covered by previous literature.

This study has utility in showing the prevalence of gambling in a student population in Uganda, and highlights some **potentially** associated factors – which may be useful for targeting interventions to prevent gambling harms in these groups. However, this study has a limitation in that it only performs analyses at the bivariate level, so it is unclear whether confounding factors may underpin any significant relationships found.

## Introduction:

- The research gives a good overview of the current state of gambling opportunities in Uganda, and how gambling is viewed by society in Uganda. Also, a good overview is provided of students as a population that are vulnerable to gambling harms.
- While the introduction touches on the current regulatory environment of gambling in Uganda, the prevalence of gambling harms in Uganda, and the prevention and treatment of gambling harms, it could have provided further details on these to give the reader a deeper background understanding of the gambling setting within Uganda.

## Methods:

- It would be beneficial for the reader to know by what means the students were randomly sampled/selected for

participation as this is not detailed.

- It is not specified whether all of the students who were selected/approached to participate agreed to participate in the research. If some students who were approached did not agree to participate what is the response rate? Or are the 11.4% of the questionnaires that were excluded for insufficient data those who did not agree to participate?
- It is beneficial that a validated tool was used for assessing student psychosocial functioning and antisocial behaviours. However, in relation to antisocial behaviours it is unclear what the item 'involvement in behaviours that one should be ashamed of if they became public' may entail, and this measure seems somewhat subjective – unless this is a measure that may be understood differently from within a Ugandan context. Further, considering that gambling (as noted in the introduction) is a stigmatised activity in Uganda, this may in and of itself class as one of these behaviours – so it would be expected that those answering yes to this measure may have higher gambling participation.
- Gambling participation is measured dichotomously which is ok for the purposes of this work, however, (for future reference/work) further validated measures could have helped to highlight whether gambling harms are present in the student population. Validated measures such as the Problem Gambling Severity Index (PGSI) or the Short Gambling Harm Screen (SGHS) would have been interesting to use to identify the presence of gambling specific harms – although it is noted that the reviewer has no knowledge as to whether such measures would be culturally appropriate or acceptable in the Ugandan context. It is also appreciated that such measures may have been beyond the scope of this study also.
- In terms of analyses, the use of multivariate binary logistic regressions would have strengthened the robustness of the analysis and validity of the findings. By analysing each variable through regressions with gambling participation independently it cannot be assessed whether there is some level of confounding impacting on the significant results found. For example, this study found that gambling participation was heightened in both male students and students who 'had taken advantage of others sexually' – it may be that male gender is associated with both gambling participation and taking advantage of others sexually, meaning that the relationship between gambling participation and taking advantage of others sexually that was found by this study is actually underpinned by male gender, rather than having a direct relationship. Controlling for different variables in multivariate analyses would have helped to show where there are more direct relationships between gambling participation and variables of interest. Further, running logistic regressions for each variable separately increases the number of statistical tests being performed, and therefore the probability of having a false positive finding also increases (Type 1 error).

### Results:

- Where it is stated 'This value is, as one might suspect from the literature review, higher than rates reported for the general population' in relation to the prevalence of students participating in gambling, it is not entirely clear that the rate of gambling in the general population is given during the literature review, it would have been useful to explicitly state this figure for readers to understand how much higher this is.
- Due to some groups having small numbers it may have been beneficial for analyses to collapse some groups into one (e.g. for age there are only 34 and 18 individuals in the age groups 29-33 and 34+ respectively).
- In the age regression the 24-28 age category is missing.

- It is unclear for some of the regression analyses why certain groups were chosen as the reference category. For example, for the regression looking at religious affiliation, 'Other' is used as the reference category, however, as 'Other' doesn't have any specific meaning attached to it, it may have been worthwhile using a different category e.g. Catholic as the reference category? Same for regressions looking at university residence, and education sponsorship, it may have been more interesting/valid to use reference categories with a specific meaning attached.
- In the regression looking at study programme evening is the reference category, however, no individuals in this category participated in gambling. It may have been more interesting to use day classes as the reference category, particularly as day and weekend classes were the categories with the highest number of individuals, it may have been useful to compare these groups to one another.
- The rest of the results are reported well in an easy-to-understand manner.

#### Discussion:

- The discussion leans well on literature to frame the findings. Authors could have further discussed the relevance of the findings for designing policies and interventions which aim to prevent and respond to gambling harms within the student population in Uganda.
- Conclusions are in line with what the findings have shown.

Bitanihirwe B. and Ssewanyana D. (2021) Gambling patterns and problem gambling among youth in Sub-Saharan Africa: A systematic review. *Journal of Gambling Studies*, 37:723-745. <https://doi.org/10.1007/s10899-021-10001-w>

Reith G., Wardle H., and Gilmore I. (2019) Gambling harm: a global problem requiring global solutions. *The Lancet*, 394:1212-1214. [https://doi.org/10.1016/S0140-6736\(19\)31991-9](https://doi.org/10.1016/S0140-6736(19)31991-9)