

CLUSTERING ASSOCIATION RULES WITH AN APPLICATION TO PHYSICAL ACTIVITY

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Association rule mining is a method for finding rules that associates a set of antecedent variables with another set of consequent variables, producing rules of the form *antecedent* → *consequent*. One of the issues in association rule mining is that it tends to produce a huge set of potential rules of which many are redundant. One way to mitigate this issue is to cluster the produced set of rules and select by some criteria the most relevant rules to represent the found clusters.

In this study association rule mining and clustering of the resultant rules were used to find which of the given set of background variables were associated with belonging to a given quartile of certain physical activity behaviours. The target data were Finfit 2017 containing objectively measured amounts of weekly physical activity, sedentary behaviour and sleep along with sociodemographic and health related variables as well as variables relating to the environment of each participants home [1,2]. Physical activity is an important part of healthy lifestyle and by determining the factors motivating participation in it can help in promoting healthier choices.

References

- [1] Vähä-Ypyä H, Sievänen H, Husu P, Tokola K, Vasankari T. Intensity Paradox—Low-Fit People Are Physically Most Active in Terms of Their Fitness. *Sensors*. 2021; 21(6):2063. <https://doi.org/10.3390/s21062063>.
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