

Bias Finite Sample Effect Report

Study: Finite Sample Size Test

The study is designed to explore the bias amplification effect by quantitative misrepresentation when sample size is limited. Bias amplification is applied to models trained with different training set size and the degrees to which the bias is promoted are compared across these models.

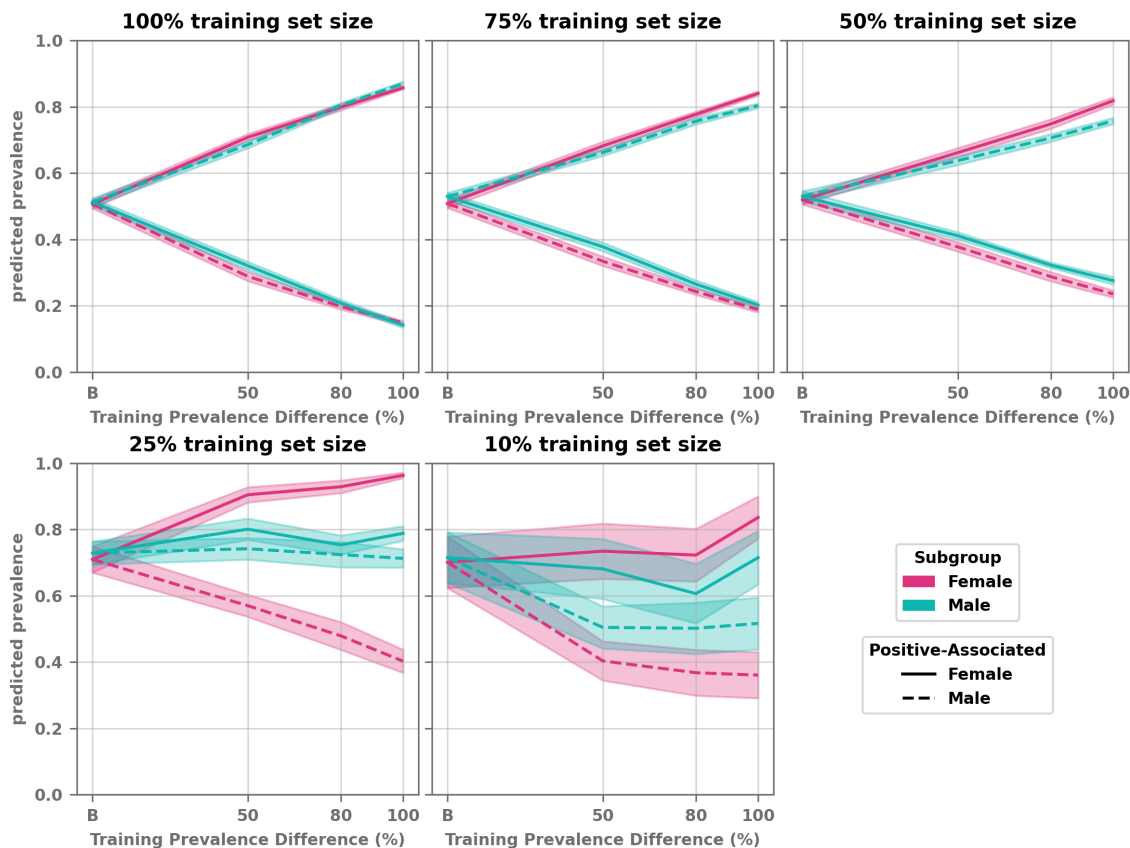
Bias Amplification Approach: Quantitative Misrepresentation

The quantitative misrepresentation approach applies data selection prior to training so that the disease prevalence is different for different patient subgroups. Additional controls over the degree to which bias is amplified is taken by the amount of prevalence difference between subgroups.

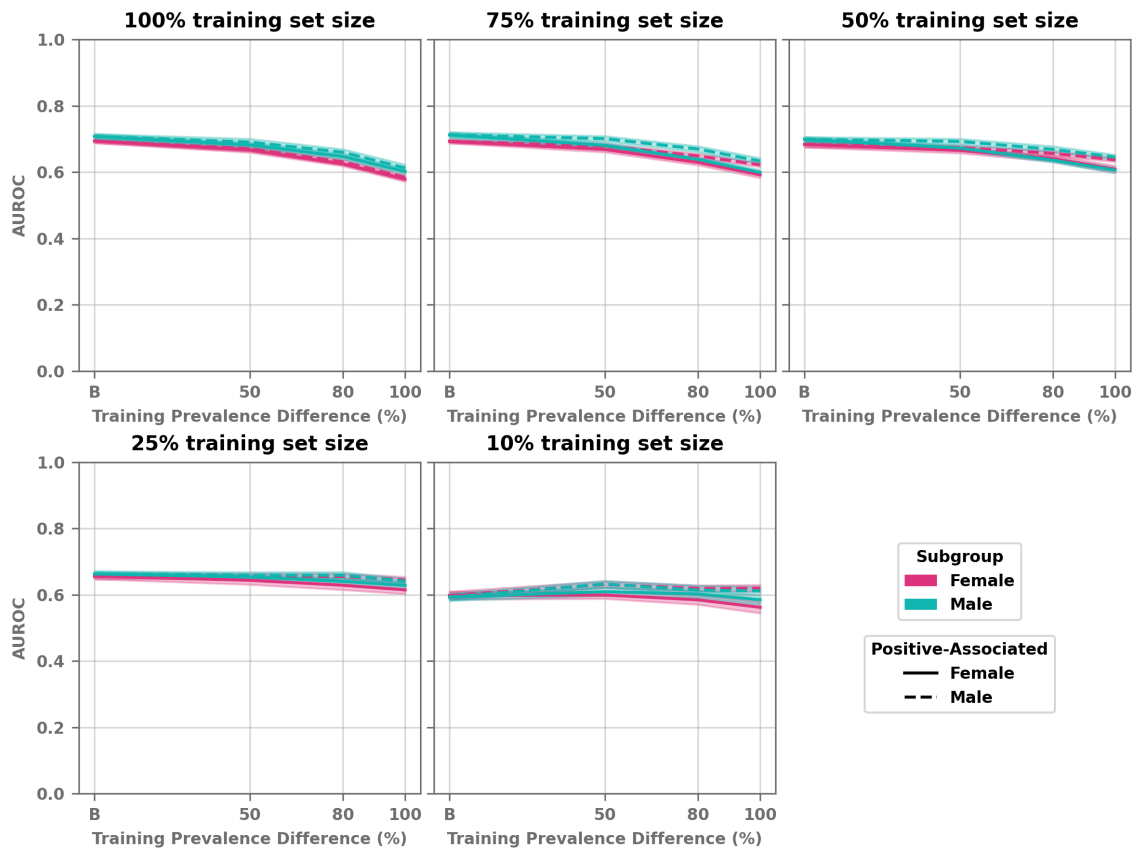
Results

Each figure under this section presents one metric result respectively. Inside each figure, the subplots show results with different sample sizes used for model training. For these experiments, the positive-associated subgroup refers to the subgroup with the higher disease prevalence in the training set. The x-axis indicates the subgroup disease prevalence difference in the training set, while B indicates the baseline model.

1. predicted prevalence



2. AUROC



Report Metadata

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