

Unraveling adolescent risk behavior patterns: insights from a Brazilian cross-sectional study

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Latent Class Analysis identified four distinct patterns of health risk behavior among Brazilian 9th graders, based on the type and number of behaviors observed across a set of eight indicators.

In this study, **we aim to identify and describe groups of adolescents based on their reported patterns of behavior.** That is because health risk behaviors – HRB – may occur simultaneously, impacting health outcomes throughout development.

METHODS

To identify risk behavior patterns, we performed a **latent class analysis (LCA)** based on the occurrence of eight behavior indicators (Fig.1) in a sample representative of 9th graders from São Paulo, Brazil (mean = 14.9 years; 47.8% female). We used data from **sp-proso**, a cross-sectional study with both public and private schools. The best LCA solution was chosen considering widely recommended model goodness-of-fit indices and entropy values > 0.8.

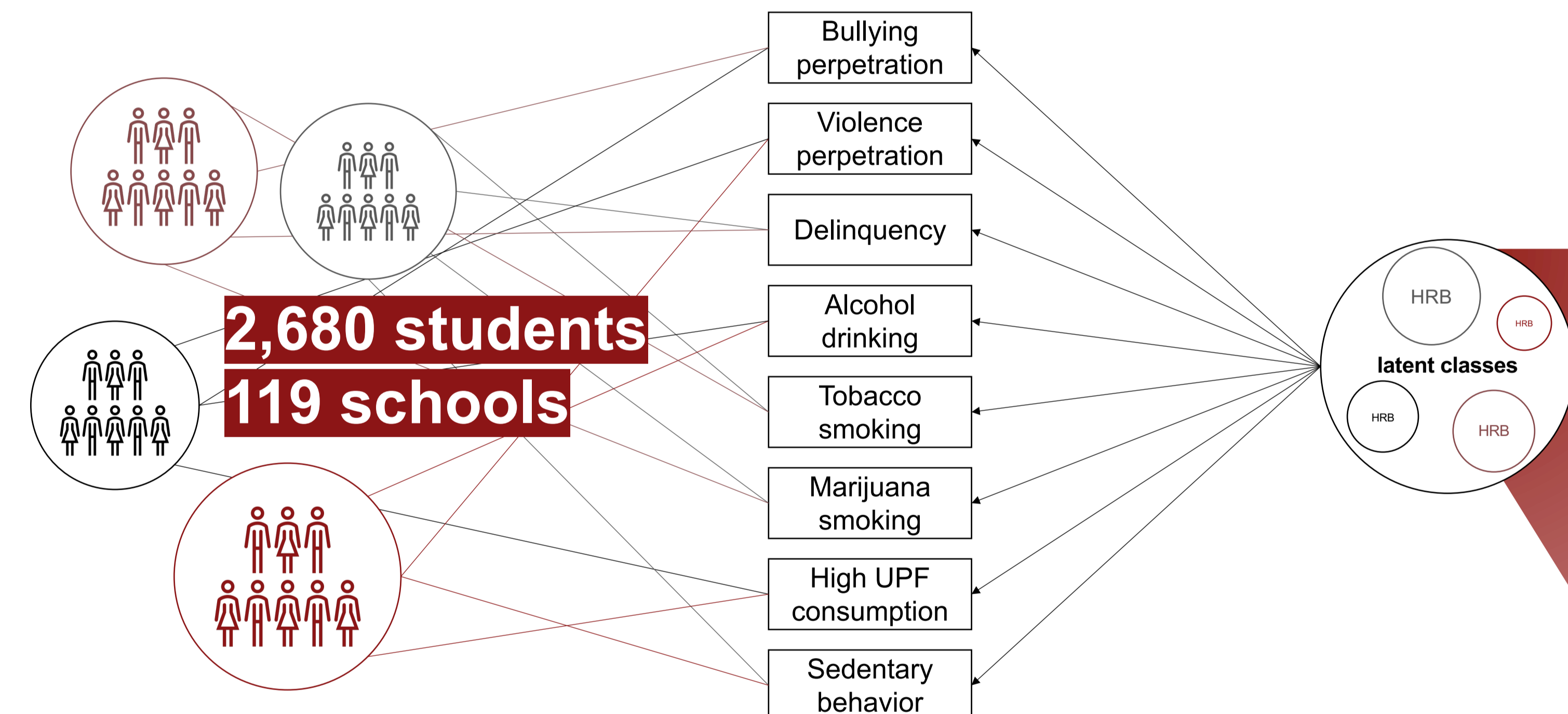


Fig.1. Conceptual model diagram and highlighted results.

SUMMARY AND CONCLUSIONS

Our finding of distinct patterns of HRB in a representative sample of students from a large Brazilian city suggests that such variations must be better investigated to inform **interventions and prevention strategies tailored to specific groups.** In addition, the co-occurrence of different HRB can provide insights into potential **underlying and common factors contributing to risk taking.** We believe further investigation should apply longitudinal methods to explore how these patterns evolve over time and their implications for long-term health outcomes and well-being among adolescents.

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RESULTS

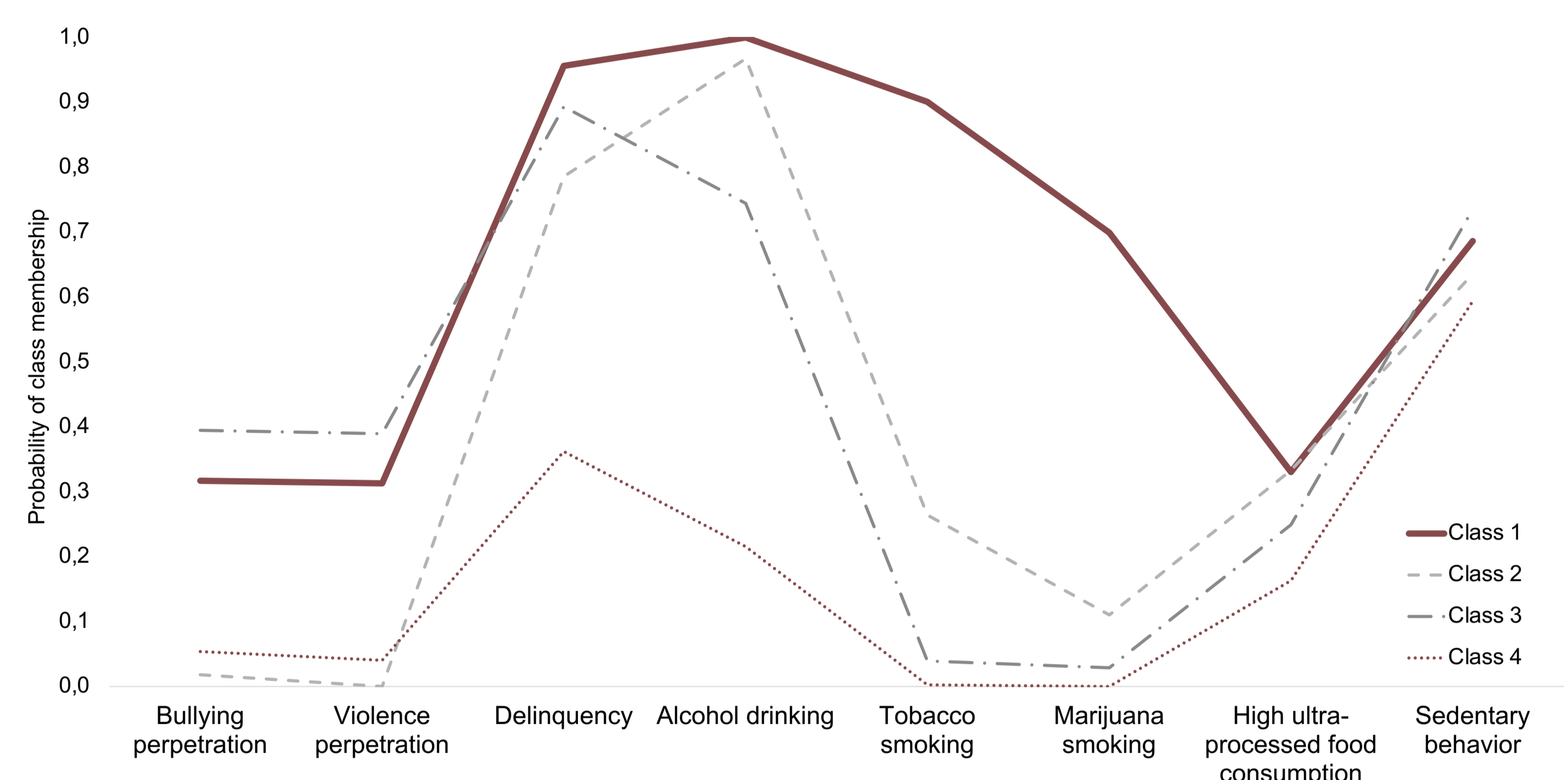


Fig.2. Probability of class membership by HRB. sp-proso. São Paulo, Brazil, 2017.

A **four-class solution** was the most adequate. The probability of class membership distribution suggests four groups that differ by the number of behaviors they engage in, but also by the type of such behaviors (Fig.2 and Fig.3).

Students allocated to class 1 (12.8%) exhibit a pattern of more HRB, regardless of their characteristics,

but also...

... adolescents exhibiting **fewer HRB** (45%) were allocated to class 4.

... participants from class 2 (22.6%) **do not perpetrate bullying or other common forms of violence.**

... students in class 3 (19.7%) have **higher chances of perpetrating violence but show low substance consumption** such as tobacco and marijuana.

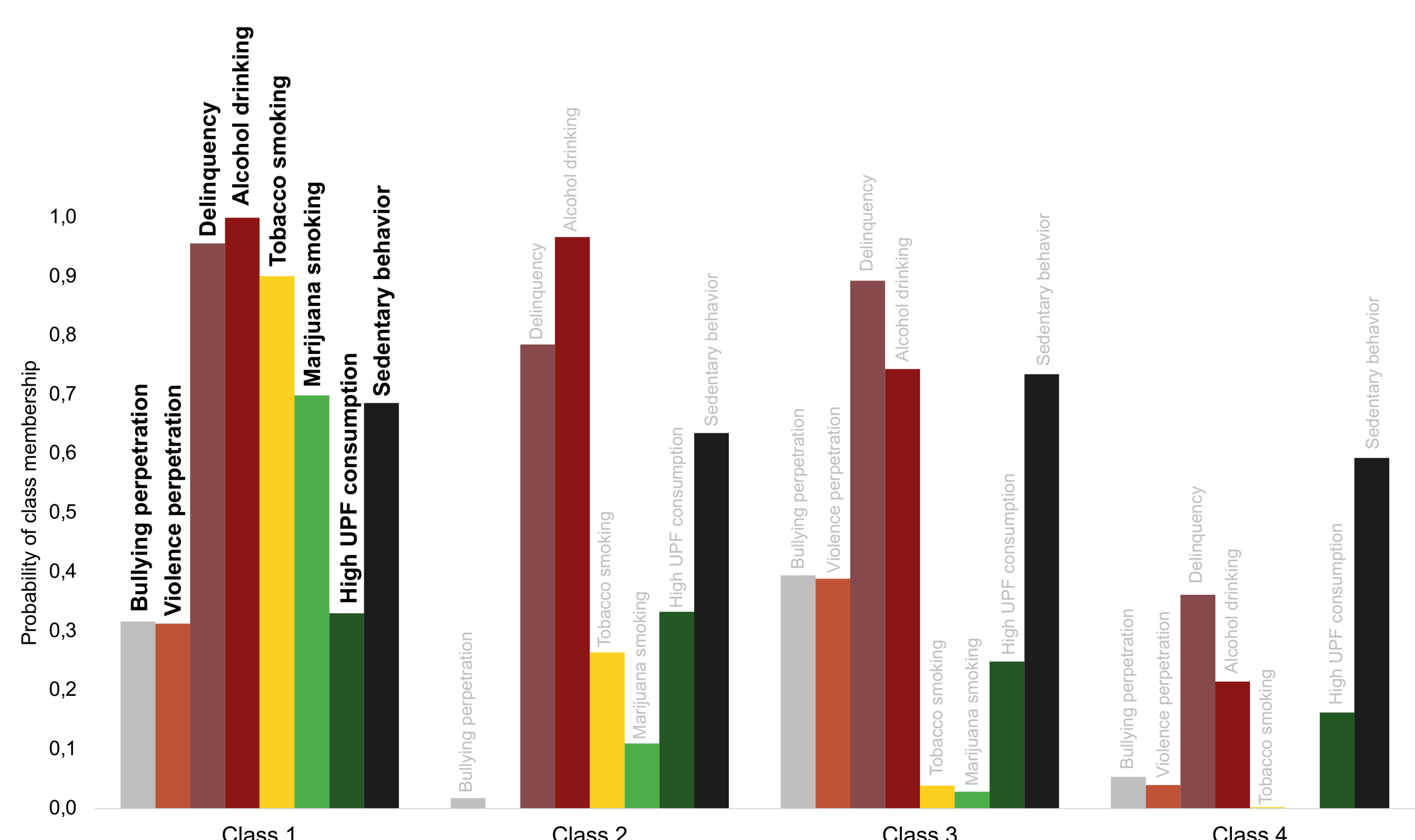


Fig.3. Probability of class membership by class and HRB. sp-proso. São Paulo, Brazil, 2017.

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