

# Portuguese gym-goers versus performance-enhancing substances: What do we know?

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## Background

The use of prohibited performance-enhancing substances (PES) in gyms is a public health concern due to emerging adverse health effects. While psychological and social factors (intentions, attitudes, and beliefs) influencing PES use are known (e.g., Wiefferink et al., 2008; Tavares et al., 2020), understanding reasons for non-use is crucial. Demographic factors like being male, having less education, being unemployed, training frequently, and bodybuilding are linked to PES use (Tavares et al., 2022). The study aims to identify the profile of gym-goers who do not use PES to distinguish risk characteristics from preventive ones.

## Method

Cross-sectional, quantitative study among a convenience sample of Portuguese gym/fitness practitioners (n = 453; 61,3% female; 38,7% male), recruited directly on social networks (Facebook) and by institutional email (via gyms). Data were collected via an anonymous web-based survey, assessing sociodemographic factors, exercise characteristics, gym modalities, peers, social influence, attitudes, subjective norms, beliefs, intentions, and self-reported use of PES. Statistical analysis was performed using SPSS V27.0. To identify the profile of non-PES users, Decision Trees were used.

## Results

### Sociodemographic characteristics

- Out of 453 participants, 50 reported using PES, representing 11.1%. Gender and age were significant factors: 94.5% of women do not use PES, 80% of men do not use them, and among those under 25 years old, 92.6% do not use PES.

### Psychosocial Determinants

Regarding beliefs, subjective norms, intention, and attitudes, only intention proved to be the most important, with it being found that 97% of individuals who have a negative intention to consume PES (score  $\leq 3.6$ ) do not consume it.

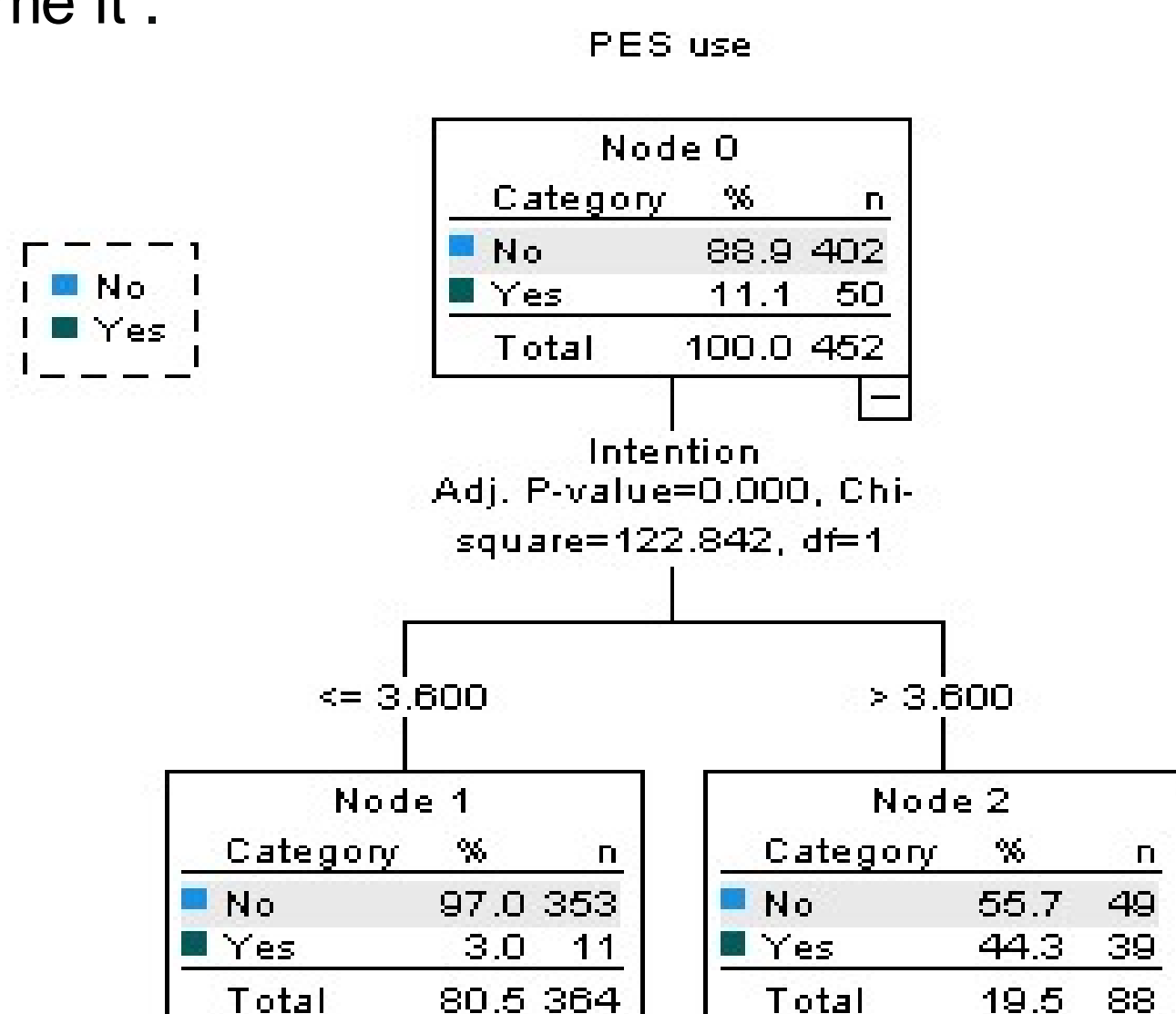


Figure 1. Decision tree for beliefs, subjective norms, attitudes, and intention.

### Activities, training frequency, and training time

- Participants engaged in cardio fitness (57%), recreational bodybuilding (56.5%), stretching (27.8%), and localized gymnastics (27.2%). Training frequency, bodybuilding, and functional training were significant factors. Among those training less frequently (1-3 times a week), 95.5% do not use PES, with 98.1% of these also not practicing bodybuilding. For those with higher training frequency (4-6 times or more), and engaging in functional training, 88% do not use PES.

### Global Profile

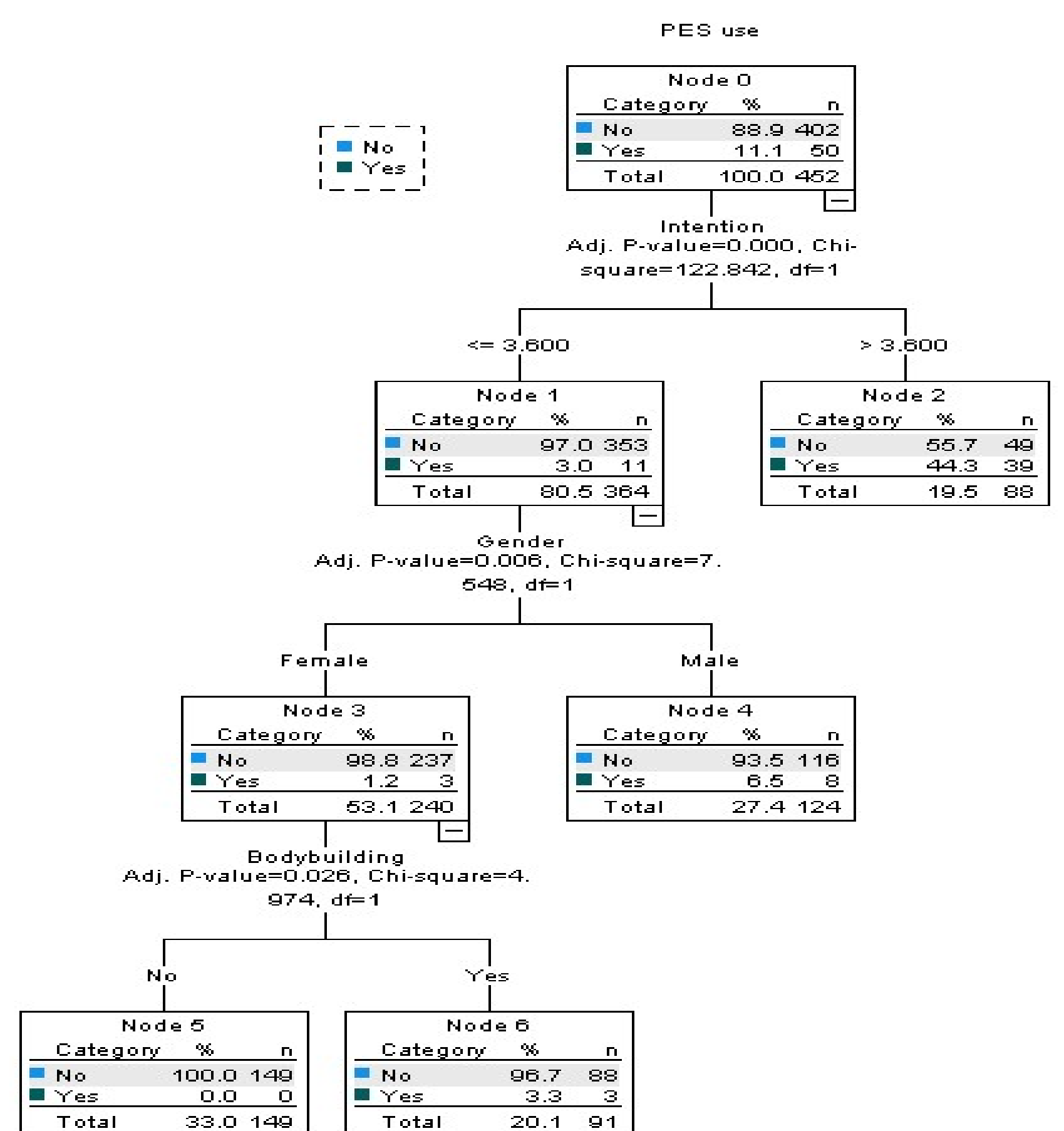


Figure 2. Decision tree for Global Profile.

## Conclusion

The study identifies key reasons gym-goers choose not to use PES. It highlights the importance of negative intentions and cognitive factors in this decision. Demographically, more women (94.5%) than men (80%) avoid PES, with younger men under 25 also showing strong resistance. Those engaged in functional training, rather than bodybuilding, prefer not to use PES. This preference is driven by enjoyment of physical activity and quick natural results. The study provides insights for promoting substance-free fitness.

## References

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