

Spousal Educational Attainment as a Effect Modifier of Multiple Risk Factors for Hypertension Prevalence, Awareness, and Control

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1. Spousal education attainment could *attenuate the adverse effects* of multiple risk factors for hypertension prevalence, awareness, and control.
2. Spousal are encouraged to participate in *home-centered hypertension prevention and management*.

BACKGROUND

Cardiovascular diseases, including hypertension, have posed growing threats to human health in decades. And there are sparse evidence about the modification role of spousal and own educational attainment on the association between multiple risk factors and hypertension prevalence, awareness, and control.

METHODS

A total of 71 211 191 reproductive-aged participants from the National Free Pre-Pregnancy Check-ups Project during 2013-2019 were included in this cross-sectional study. We investigated effect modification by spousal or own educational attainment on the association between multiple risk factors and hypertension prevalence, awareness, and control. And the interested risk factors here included age, gender, household registration, ethnicity, alcohol consumption, smoking, passive smoking, and BMI. Inverse probability weighting via propensity models were used to adjust for the imbalance by covariates. And inverse-probability-weighted ORs were used to assess the association between multiple risk factors and the prevalence, awareness, and control of hypertension stratified by spousal and own educational attainment. And the likelihood ratio tests were applied to compare models with and without an interaction term for spousal and own educational attainment and each risk factor.

RESULTS

Spousal educational attainment serves as an effect modifier of multiple risk factors for hypertension prevalence, awareness, and control. For example, compared participants aged <35 years, the inverse-probability-weighted ORs for hypertension prevalence were 2.04 (95% CI: 2.02-2.06), 1.86 (1.83-1.90), 1.72 (1.68-1.76), and 1.73 (1.63-1.84) for participants with advanced age stratified by spousal educational attainment of compulsory education, senior high, college, and postgraduate, respectively. However, the odds of hypertension awareness associated with advanced age were decreased with spousal educational attainment increasing, and the corresponding ORs were 3.45 (3.40-3.51), 3.52 (3.44-3.61), 3.05 (2.98-3.12), and 2.48 (2.35-2.62). In addition, higher spousal educational attainment increased the odds of hypertension control associated with advanced age, the corresponding ORs were 0.72 (0.70-0.75), 0.85 (0.81-0.9), 0.97 (0.92-1.01), and 1.04 (0.93-1.15). Similar situations were also identified in analyses of own educational attainment and prevalence, awareness, and control of hypertension.

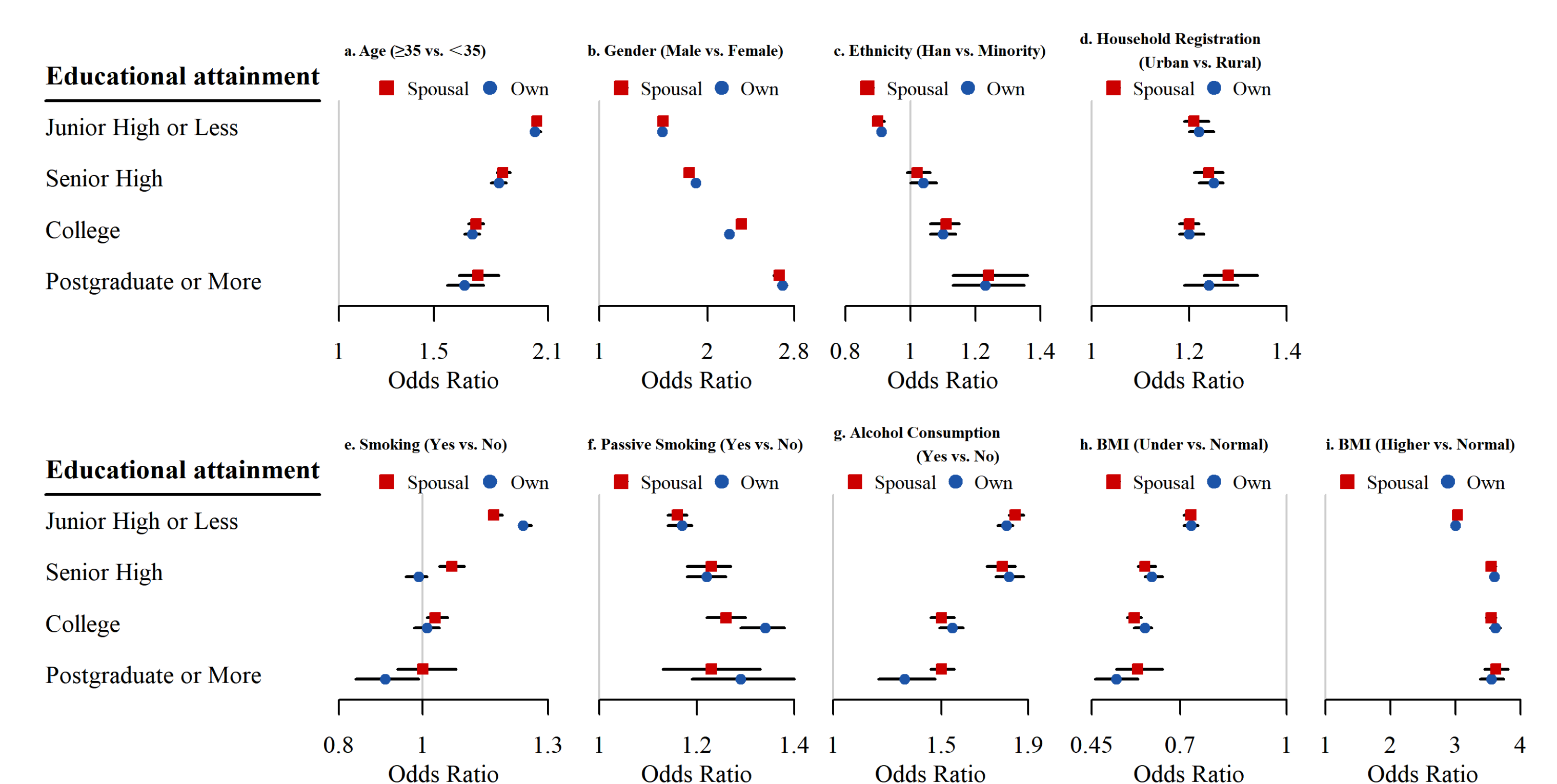


Figure 1. Inverse-probability-weighted ORs and 95% CIs for hypertension prevalence according to risk factors stratified by spousal and own educational attainment.

RESULTS CONTINUED

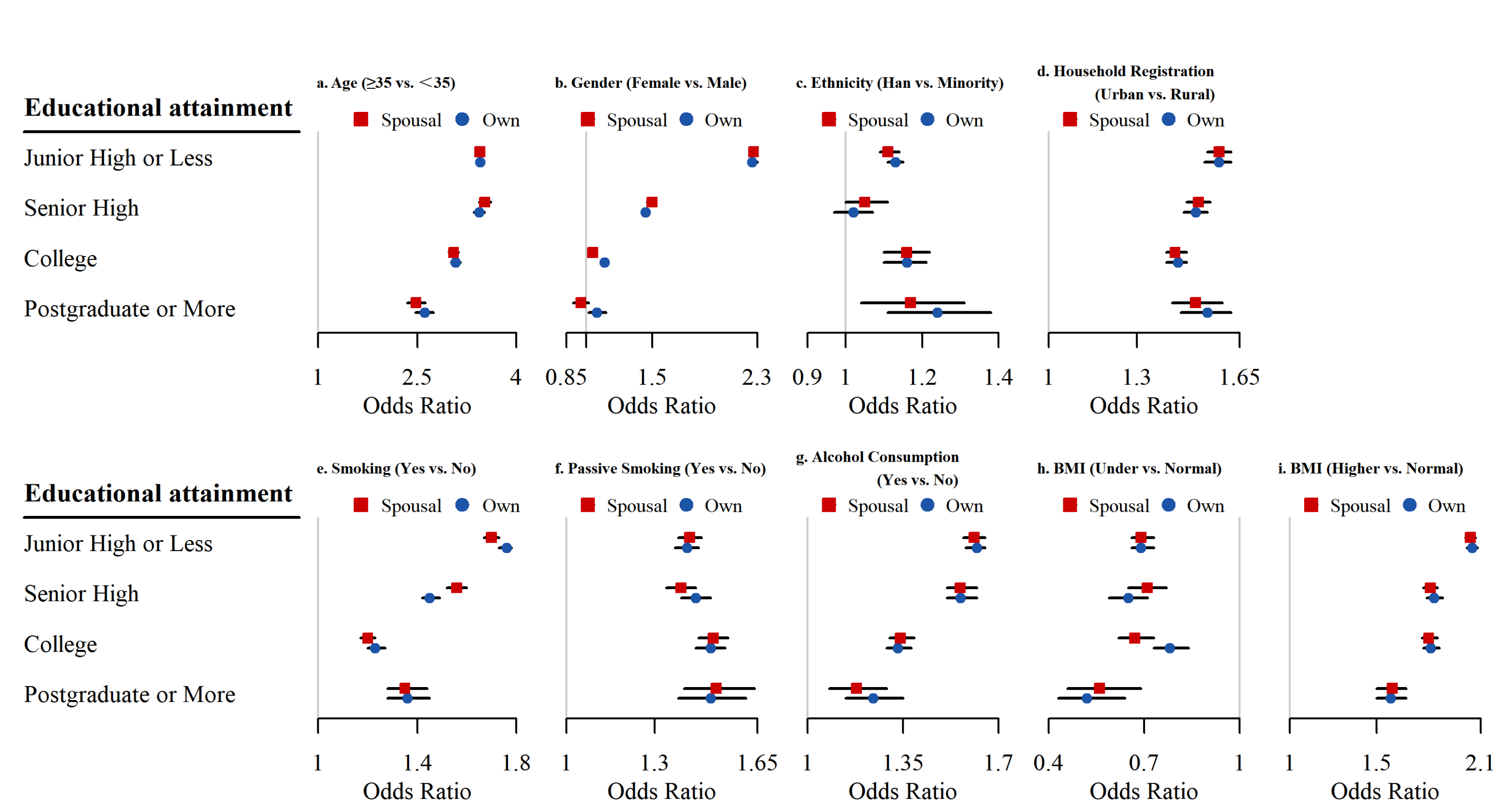


Figure 2. Inverse-probability-weighted ORs and 95% CIs of multiple risk factors for hypertension awareness, stratified by spousal and own educational attainment.

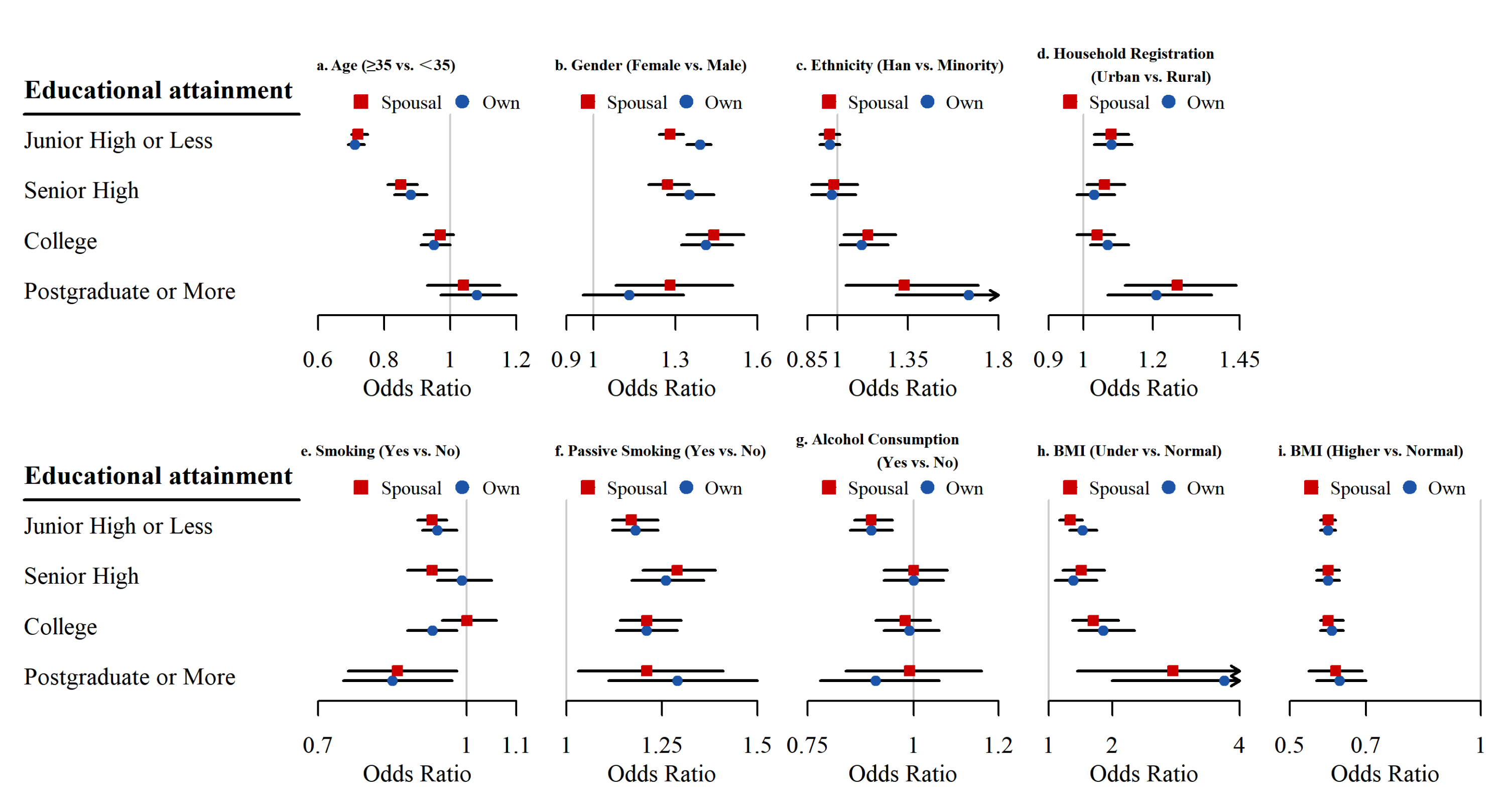


Figure 3. Inverse-probability-weighted ORs and 95% CIs of multiple risk factors for control of hypertension, stratified by spousal and own educational attainment.

CONCLUSIONS

Higher spousal and own educational attainment could attenuate the adverse impacts of multiple risk factors on the prevalence, awareness, control of hypertension. Our findings primarily explain the inequalities of education attainment in hypertension prevention and control, calling for spouses participation promotion in family-centered hypertension prevention and management.

ADDITIONAL KEY INFORMATION

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