Introduction: Adolescent smoking remains as an important health problem in different countries. Understanding the factors involved in this behaviour may help to design and implement preventive programs.

Objective: To study the association between personal, familial, school and peer factors and smoking behaviour among Chilean adolescents.

Aim: To study the association between factors from four domains (personal, family, school and peers) and current smoking amongst adolescents performing secondary analyses of the Fifth Chilean School Population National Substance Use Survey (CHSS-2003) dataset.

Methods: The CHSS-2003 is a stratified cross-sectional survey which gathers information about personal, familial, school and peer factors and cigarette use using a self-reported questionnaire. Complete data from 21,956 students for all variables of interest were used in the analyses. Theory-driven hierarchical stepwise multivariable logistic regression analyses were performed to study the association between personal, familial, school and peer factors and smoking.

Results: Results show that higher school commitment (OR=0.46; 95%CI: 0.38-0.56), going home after school than not (OR=0.69; 95%CI: 0.62-0.78), higher parental monitoring (OR=0.62; 95%CI: 0.45-0.85), lower school aggressiveness (OR=0.49; 95%CI: 0.33-0.73) and having a stronger negative opinion about drug use (OR=0.40; 95%CI: 0.34-0.46) reduced the risk for smoking. However, the longer the time spent with friends the higher the risk for smoking (OR=2.47; 95%CI: 2.08-2.94).

Conclusions: Results confirmed the importance of some personal, familial, school and peer factors in Chile. Prevention programs in Chile should include interventions aimed to strengthen factors such as school commitment and parental monitoring in order to prevent smoking amongst adolescents.