

Divorce as a smoking gun: Evidence from the 2023 ISTAT Aspetti della Vita Quotidiana Survey

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Abstract. This paper investigates the association between marital dissolution and current smoking behavior using microdata from the 2023 Italian multipurpose household survey (*Aspetti della vita quotidiana*, ISTAT). Drawing on a sample of 34,968 adults and employing binary logistic regression with categorical controls for age, education, perceived income, sex, and geographic area, I find that separated and divorced individuals face approximately 69% higher odds of being current smokers compared to their married counterparts (OR = 1.688, 95% CI: 1.541–1.850, $p < 0.001$). This finding is stable across four alternative model specifications that vary the sample age range and the definition of the dependent variable. The association could be explained by the stress-coping theory and the healthy marriage selection effect. The model has one main limitation: given the use of cross-sectional data, it is impossible to establish causal direction between the variables the model inspects.

Keywords: *smoking behaviour, marital dissolution, divorce, coping, Italy, logistic regression, ISTAT microdata*

1. Introduction

Smoking remains one of the leading preventable causes of death worldwide, and Italy is no exception. According to ISTAT surveillance data, roughly one in five Italian adults smoked daily in 2023, a figure that has declined over recent decades but remains stubbornly persistent in certain demographic subgroups. Understanding which life circumstances are associated with higher smoking rates is therefore not only an academic exercise but a question with direct public health relevance.

This paper asks a specific and underexplored question within the Italian context: are separated and divorced adults more likely to smoke than their married peers? The hypothesis is grounded in a long tradition of research linking marital dissolution to adverse health behaviours. Divorce and separation rank among the most stressful life events an individual can experience (Holmes & Rahe, 1967), and the behavioural response to such stress often includes an increase in substance use — including tobacco (Kassel, Stroud & Paronis, 2003; Pearlin & Schooler, 1978).

I should be transparent about where this question came from. I've been smoking for about ten years, and I want to quit. And while I know, rationally, that quitting is ultimately a matter of consistency and inner resolve — no dataset is going to do it for me — I am data-driven enough to have started looking at the numbers anyway, as if understanding the phenomenon from the outside might somehow help me from the inside. In that process I came across this dataset and found myself browsing variables at odd hours. When I noticed that the survey captured both detailed civil status and complete smoking histories, the question about family structure and smoking behaviour formed almost on its own. I followed it.

Using the 2023 wave of the *Aspetti della vita quotidiana* (AVQ) survey and a series of logistic regression models, I find a robust and statistically significant association: separated and divorced adults face approximately 69% higher odds of being current smokers compared to married adults, after controlling for gender, age class, education, perceived income, and geographic area. This finding holds across different sample restrictions and different definitions of the dependent variable.

The paper is structured as follows. Section 2 reviews the relevant literature on marriage, health behaviour, and stress-coping mechanisms. Section 3 describes the data and sample construction. Section 4 defines the variables. Section 5 outlines the empirical strategy. Section 6 presents the results. Sections 7 and 8 discuss the findings and limitations. Section 9 concludes.

2. Related Literature

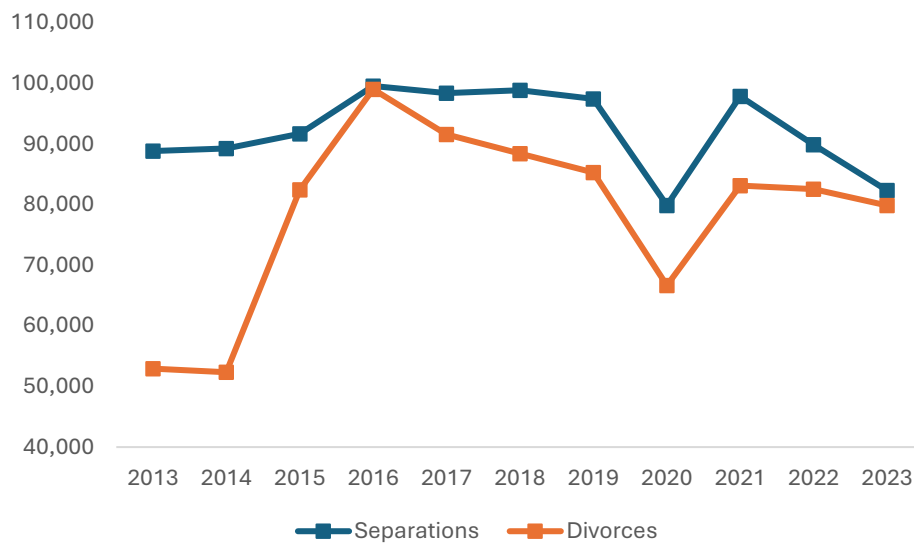
2.1 Marriage, Family Status, and Health Behaviour

A substantial body of sociological and epidemiological research has documented the association between marital status and health outcomes. The influential work of Umberson (1987) established that family relationships — and marriage in particular — shape health behaviours through social control mechanisms. Married individuals are more likely to be discouraged from smoking and excessive drinking by their spouses, to maintain regular sleeping and eating patterns, and to seek medical care when necessary. In Umberson's framework, marriage functions as a form of informal health governance.

Subsequent research has refined and complicated this picture. Waite (1995) demonstrated that the protective effects of marriage on health are not uniform but vary substantially by gender and by the quality of the marital relationship. Lillard and Waite (1995) showed that marital disruption carries independent mortality risks, suggesting that the dissolution of a marriage is itself a health-relevant event, not merely a return to an unmarried baseline.

Liu and Umberson (2008), reviewing three decades of data from the U.S. General Social Survey, showed that the health advantages of marriage relative to other statuses have widened over time, with divorced individuals exhibiting increasingly poor health outcomes by comparison. This trajectory is relevant to the Italian context, where divorce rates have risen steadily since the liberalization of divorce law in the early 1970s, accelerating sharply after the 2015 reform that shortened the mandatory separation period (Figure A).

Figure A. Separations and divorces in Italy, 2013-2023



Source: ISTAT, Matrimoni, Unioni Civili, Separazioni e Divorzi, Anno 2023 (published November 2024).

2.2 Marital Dissolution as a Stressor

Divorce and separation are consistently ranked among the highest-scoring life events on standardized stress scales (Holmes & Rahe, 1967). Hughes and Waite (2009) find that the cumulative marital biography — a history of separation, divorce, or widowhood — is strongly associated with poorer physical health at midlife, even after controlling for current marital status. This suggests that the stress of dissolution has lasting effects that persist well beyond the acute phase.

Williams and Umberson (2004), using a gendered life-course perspective, find that the timing and sequence of marital transitions matter: a divorce in midlife carries different health implications than one in early adulthood, partly because of the different social and economic stakes involved. When separation and divorce involve protracted legal processes, significant economic disruption, and when children are present, the stressor dimension is likely pronounced.

Sbarra, Law, and Portley (2011), in a meta-analysis spanning multiple decades and countries, document that divorced individuals have substantially elevated risks of mortality, mental illness, and chronic disease compared to married individuals. Crucially, they find that this effect is not fully explained by socioeconomic factors, pointing toward behavioural mechanisms — including substance use — as partial mediators.

2.3 Smoking as a Coping Mechanism

The relationship between psychological stress and smoking is well established. Kassel, Stroud, and Paronis (2003) review the experimental and naturalistic evidence on stress-induced smoking and conclude that — whatever the pharmacological reality of nicotine's anxiolytic effects — the subjective experience of smoking as stress relief is a powerful driver of both initiation and relapse. Pearlin and Schooler (1978), in their foundational work on coping structures, identify substance use as a common response-focused coping strategy, particularly among individuals who perceive

themselves as having limited control over their situation, which is particularly common during a separation.

The implication for my study is straightforward: if marital dissolution is experienced as a major stressor and if smoking functions as a coping mechanism, I expect separated and divorced individuals to exhibit higher smoking rates than their married counterparts. This is the hypothesis I test.

A caveat worth stating upfront: the stress-coping hypothesis implies a particular causal direction — that the dissolution comes first and the smoking increase follows. Cross-sectional data cannot confirm this. It is equally plausible that smokers are more likely to get divorced (through mechanisms involving health, finances, or interpersonal conflict), or that a third variable — say, a general propensity toward risk-taking or impulsivity — causes both. I'll return to this problem at length in Section 8.

2.4 Smoking in Italy: Context

Italy presents a particular context for this research. Smoking prevalence has historically been higher among men than women, though the gender gap has narrowed considerably in younger generations. Geographic disparities persist, with somewhat higher rates in Southern Italy. Unlike some Northern European countries, Italy lacks a strong tradition of longitudinal health cohort studies, which means most domestic evidence on smoking determinants relies on cross-sectional survey data — including the AVQ series I use here.

Notably, Italian-specific research on the intersection of family structure and smoking behaviour is limited. The present paper aims to contribute a quantitative portrait of this association using nationally representative data.

3. Data and Sample

The empirical analysis draws on the 2023 wave of the *Aspetti della vita quotidiana* (AVQ) survey, conducted by the Istituto Nazionale di Statistica (ISTAT). The AVQ is Italy's main multipurpose household survey, administered annually to a nationally representative sample of Italian households. It covers a broad range of topics including health behaviours, cultural participation, transportation, and family structure. The survey is designed to be representative at the regional level.

I use the public-use microdata file (mlcro.STAT) released by ISTAT in 2025. This file is freely downloadable through the istat.it portal under the mlcro.STAT program. To protect respondent confidentiality, ISTAT has applied a series of data protection measures to the file, including the suppression of fine geographic identifiers (province and municipality codes), the recoding of continuous variables into intervals (including age into fifteen classes, and the number of cigarettes smoked daily into bands), and the aggregation of some civil status categories. Specifically, the variable STCIVMi merges separated de facto, legally separated, and divorced individuals into a single category — a limitation I'll discuss further in Section 8.

The raw file contains 41,750 individual records. I apply two sample restrictions. First, I exclude minors (individuals in age class 1–6, corresponding to ages 0–17), as the smoking questions are not administered to this group. This yields 35,681 adult records. Second, I exclude individuals with missing or coded-as-unavailable civil status (STCIVMi = 9, N = 412), leaving a working sample of 35,269 adults. For regressions that exclude former smokers (my Definition B dependent variable), the sample reduces to 25,906 individuals.

4. Variables

4.1 Dependent Variable: Current Smoking Status

The dependent variable is constructed from the survey item FUMO, which records the respondent's smoking status in three categories: currently smokes (FUMO = 1), former smoker (FUMO = 2), and never smoked (FUMO = 3). I define two binary versions of this variable:

Definition A (fumatore_01_A): Takes value 1 if the respondent currently smokes (FUMO = 1), and 0 otherwise, including former and never smokers. This is the more conservative and inclusive specification.

Definition B (fumatore_01_B): Takes value 1 if the respondent currently smokes (FUMO = 1), and 0 only if the respondent has never smoked (FUMO = 3). Former smokers are excluded entirely from the sample under this definition. The rationale requires a step of explanation. Under Definition A, the "0" group pools two very different types of people: those who never smoked and those who smoked in the past but quit. Quitting is itself a behaviour that may be correlated with marital status: married individuals typically have more social support, more stable routines, and more informal encouragement from a partner to adopt healthier habits. If married adults are more likely to have quit smoking than separated ones, then the "0" group among the married contains a higher share of former smokers, making the two "0" groups compositionally different in a way that is hard to control for. Definition B resolves this by restricting the reference group to those who have never smoked at all, creating a cleaner contrast: current smokers versus people who never acquired the habit in the first place.

In the main sample, 18.9% of adults are current smokers, 25.6% are former smokers, and 55.6% have never smoked.

4.2 Main Independent Variable: Marital Dissolution

The variable of primary interest is STCIVMi, the recoded civil status variable in the mlcro.STAT file. As noted above, ISTAT has collapsed three distinct legal statuses — separated de facto, legally separated, and divorced — into a single code (STCIVMi = 3). I construct a binary indicator **separato_01** that takes value 1 for individuals in this merged category and 0 otherwise.

The reference category in all models is married or in a civil union (STCIVMi = 2), which constitutes the largest group at 49.0% of the adult sample. Additional civil status dummies for single (never married) and widowed individuals are included in all models.

Among the 3,269 adults classified as separated or divorced (9.2% of the sample), the age distribution skews toward midlife: the modal age class is 45–54 years, with 30% of separated individuals falling in this group. Men and women are slightly unevenly represented: 42.6% of the separated group is male, compared to 50.0% in the married group — a compositional difference that actually works against the main hypothesis rather than inflating it.

4.3 Control Variables

All model specifications include the following controls:

Gender (maschio): Binary indicator, 1 = male. Males smoke substantially more than females in Italy (22.6% vs. 15.4% in the sample).

Age class (C(eta_num)): Categorical dummies for each of nine age classes (18–19, 20–24, 25–34, 35–44, 45–54, 55–59, 60–64, 65–74, 75+). The reference category is 25–34. I deliberately avoid treating age as a continuous or ordinal variable, because the relationship between age and smoking is non-linear in the data: smoking peaks around 25–34 (26.1%) and declines

monotonically thereafter, but the decline is especially steep after 64. Treating age as ordinal would impose a linear constraint inconsistent with this pattern.

Education (C(ISTRMi)): Categorical dummies for four education levels (university degree, secondary diploma, lower secondary, primary / no qualification). The reference category is secondary diploma. I use dummies rather than an ordinal scale, and the reason is worth explaining in some detail. The standard expectation, consistent with decades of public health research, is a monotone relationship between education and smoking: university graduates smoke less than diploma holders, diploma holders less than those who completed lower secondary, and so on down the scale. If that relationship held cleanly in the data, treating education as an ordinal number (university = 4, diploma = 3, lower secondary = 2, primary / no qualification = 1) would be a reasonable assumption. Instead, in the full sample (18+), the group with the lowest education — primary school or no qualification — has the lowest smoking rate of all: 9.1%, lower even than university graduates. This is the opposite of what the literature predicts, and it would completely distort an ordinal specification: the model would be forced to fit a coefficient that goes in the wrong direction, or collapses toward zero, losing the real signal entirely. The explanation is not that low education protects against smoking. It is that the group itself is compositionally unusual. In Italy today, adults with only a primary school certificate or no formal qualification are almost exclusively people born before the 1950s, and within that elderly cohort, most are women, since women typically outlive men. These women grew up in a generation for which smoking was almost entirely a male behaviour, culturally and socially. Their educational attainment is acting as an accidental proxy for their age and gender, not as an independent signal of smoking risk. This is what statisticians call a compositional artefact: the anomaly is not in the variable itself but in who happens to populate that category in this particular dataset. Using categorical dummies dissolves the problem, because each education group receives its own coefficient without any constraint on the ordering or spacing between them. The three other groups, namely university, diploma, and lower secondary, display the expected monotone gradient, which the dummies capture cleanly. As a further check, it can be noted that this paradox disappears entirely in the age-restricted sample (18–64). Once the very elderly are removed, the remaining adults with low formal education are a different and more heterogeneous group and their smoking rate rises to levels consistent with the expected gradient. The ordinal assumption would be defensible in that restricted sample, though I retain categorical dummies throughout for consistency.

Perceived income (C(REDPRMi)): Categorical dummies for the six coded values of the perceived household income variable. Again, I am forced to treat this variable as categorical rather than ordinal because its distribution and its relationship with other variables are not consistent with a clean ordinal interpretation. The variable behaves unusually, particularly in the full sample, where certain codes are heavily dominated by the elderly population, and the smoking gradient across codes is non-monotone.

Geographic area (C(RIPMf)): Categorical dummies for five Italian macro-regions (North-West, North-East, Centre, South, Islands). Reference category is North-West.

5. Empirical Strategy

5.1 Model

I estimate a binary logistic regression model of the following form:

$$\log[P(\text{smoke} = 1) / P(\text{smoke} = 0)] = \beta_0 + \beta_1 \cdot \text{separato} + \beta_2 \cdot \text{celibe} + \beta_3 \cdot \text{vedovo} + \beta_4 \cdot \text{maschio} + \beta_5 \cdot C(\text{education}) + \beta_6 \cdot C(\text{income}) + \beta_7 \cdot C(\text{age}) + \beta_8 \cdot C(\text{geography}) + \varepsilon$$

The choice of logistic regression follows directly from the binary nature of the dependent variable. A linear probability model would risk generating predicted probabilities outside the [0,1] interval and would assume a constant marginal effect across the range of predictors — both problematic for a binary outcome. Logistic regression models the log-odds of smoking as a linear function of the predictors, guaranteeing that the implied probabilities are bounded.

I report results as odds ratios ($OR = \exp(\beta)$) rather than raw log-odds coefficients, as these are more directly interpretable: an OR of 1.0 indicates no difference relative to the reference group; an OR above 1.0 indicates higher odds of smoking; below 1.0, lower odds.

5.2 Four Model Variants

I estimate four versions of the model to assess robustness:

M1: Full sample (18+), Definition A dependent variable (current smoker vs. all others). N = 34,968.

M2: Full sample (18+), Definition B dependent variable (current smoker vs. never smoker only). N = 25,906.

M3: Age-restricted sample (18–64), Definition A. N = 24,092.

M4: Age-restricted sample (18–64), Definition B. N = 18,770.

5.3 On Standard Errors and Clustering

The AVQ is a household survey, meaning that multiple individuals from the same family appear in the data. Standard logistic regression assumes independent observations, a condition that is technically violated when family members are included. To assess whether this matters in practice, I re-estimated M1 with standard errors clustered at the household level (PROFAM identifier). The confidence interval for the main coefficient of interest (separato) widened from [1.541–1.850] to [1.535–1.857] — a negligible difference of 0.013 in total width. I attribute this stability to the fact that separated individuals, by definition, predominantly live in single-person or single-parent households, reducing within-cluster correlation for this key subgroup. All reported results use standard (unclustered) standard errors, with the note that clustering does not materially affect inference.

6. Results

6.1 Descriptive Statistics

Table 1 presents descriptive statistics for the main variables. The most striking raw comparison is in Panel B: separated and divorced adults have a current smoking rate of 25.5%, versus 15.8% among married adults — a difference of nearly 10 percentage points. Single adults (24.9%) and separated adults have very similar rates in the raw data; the distinction will emerge once the control for age is applied, since many single adults are young and the age composition of the two groups differs substantially. Widowed adults have by far the lowest smoking rate (9.1%), reflecting their older age profile.

Descriptive statistics also reveal that separated adults are compositionally somewhat different from married adults in ways that are relevant to the regression. They have fewer men (42.6% vs. 50.0%), slightly younger average age, and similar educational attainment. Crucially, the gender composition works against the hypothesis: since men smoke more, a group with fewer men would be expected to smoke less, all else equal. The raw 10-point gap therefore understates the adjusted effect.

Table 1. Descriptive Statistics

Variable	N	%	Smokers (%)	Notes
Panel A: Dependent variable (FUMO)				
Current smoker (FUMO = 1)	6,730	18.9%	—	Dep. var = 1
Ex-smoker (FUMO = 2)	9,136	25.6%	—	Dep. var = 0 (Def. A)
Never smoked (FUMO = 3)	19,815	55.6%	—	Dep. var = 0 (Def. A & B)
Panel B: Civil status (STCIVMi) — adults with valid FUMO				
Married / civil union	17,452	49.0%	15.8%	Reference
Single (never married)	11,056	31.0%	24.9%	
Separated / divorced	3,269	9.2%	25.5%	Key variable
Widowed	3,492	9.8%	9.1%	
Panel C: Controls				
Male	16,891	47.3%	22.6%	
Female	18,790	52.7%	15.4%	
Education: university degree	6,277	17.6%	15.8%	
Education: secondary diploma	14,093	39.5%	21.0%	Reference
Education: lower secondary	9,512	26.7%	23.0%	
Education: primary / no qualification	4,961	13.9%	9.1%	Mostly elderly
Exposed to passive smoke at home (DOVCASP)	892	2.5%	32.3%	Proxy variable
Total adults ≥ 18 years	35,681	100%		

Notes: Sample consists of adults aged 18 and over with valid FUMO response. Smoking rates for control variables use sub-sample with valid FUMO response. DOVCASP = 1 indicates declared exposure to passive smoke at home.

6.2 Regression Results

Table 2 presents odds ratios from the four logistic regression models. All models include the full set of categorical controls described in Section 4. Statistical significance is denoted by asterisks (***) $p < 0.001$, ** $p < 0.01$, * $p < 0.05$).

The main finding is immediately visible and remarkably stable. Across all four specifications, the odds ratio for being separated or divorced (relative to being married) falls between 1.638 and 1.705. In M1, the reference model, $OR = 1.688$ (95% CI: 1.541–1.850, $p < 0.001$). This means that, after controlling for sex, age, education, income, and geography, a separated or divorced adult faces approximately 69% higher odds of being a current smoker than a married adult.

When I first obtained this result, I spent an embarrassing amount of time trying to find what I had done wrong. An odds ratio of 1.69 with a confidence interval that tight felt too clean. I ran the

model four different ways, checked for clustering effects, changed the dependent variable, restricted the sample. The coefficient barely moved.

Moving across columns, M2 (full sample, never-smokers only as the reference group) gives a nearly identical estimate of 1.705. M3 and M4, restricted to 18–64 year-olds, give slightly lower but still highly significant estimates of 1.638 and 1.644. The modest downward shift in the restricted sample is consistent with the expectation that the age restriction removes some compositional noise from the elderly population.

Among the control variables, the sex coefficient is strong and stable across all four models: men face approximately 49% higher odds of being current smokers than women. Education follows the expected gradient in the restricted sample (M3, M4), where the education paradox documented in Section 4.3 is resolved: relative to secondary diploma holders, university graduates smoke significantly less (OR \approx 0.60-0.63), while lower-secondary completers smoke significantly more (OR \approx 1.41-1.45). In the full sample models, the primary/no qualification group is not significantly different from the diploma reference, confirming the diagnosis that this group's anomalously low smoking rate in the full sample is a compositional artefact of the elderly population.

Figure B displays these estimates visually, making the stability of the main coefficient across specifications immediately apparent.

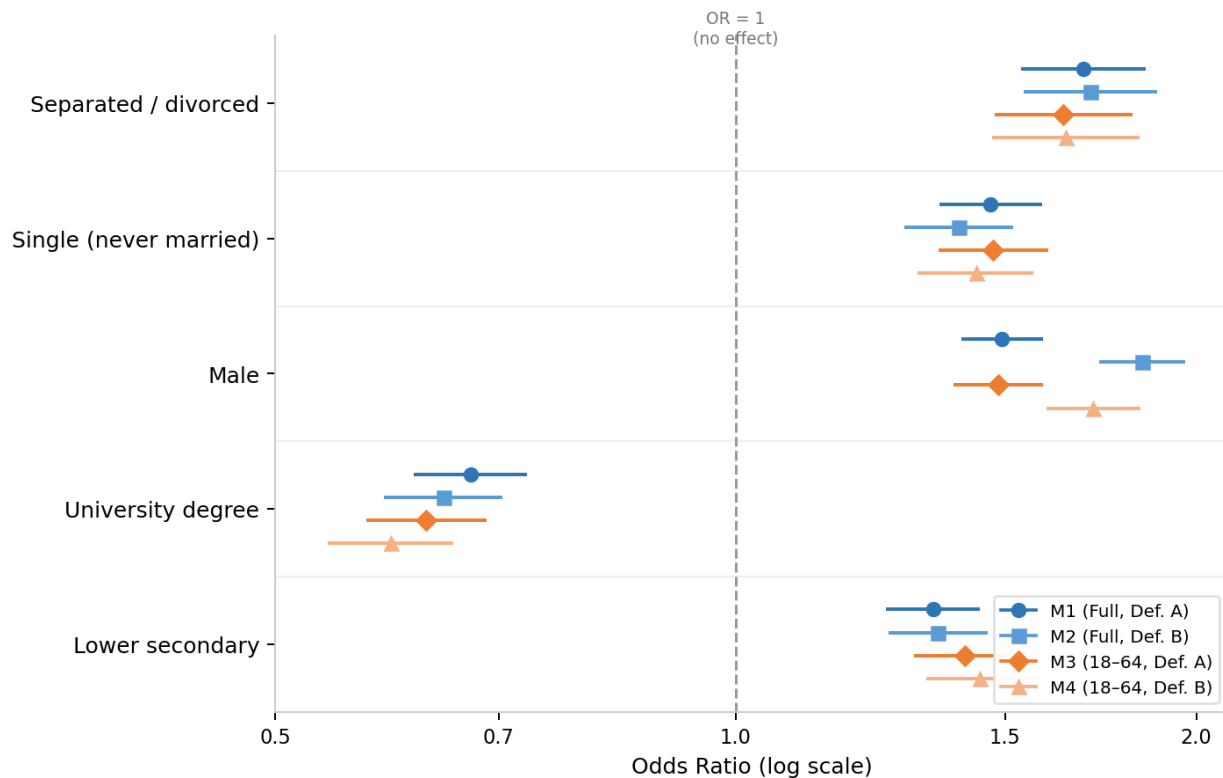
Table 2. Logistic Regression Results: Odds Ratios

	M1	M2	M3	M4	
	Full sample Dep. A	Full sample Dep. B	Ages 18–64 Dep. A	Ages 18–64 Dep. B	
Panel A: Civil status (ref. = Married/civil union)					
Separated / divorced	1.688***	1.705***	1.638***	1.644***	★
[95% CI]	[1.541–1.850]	[1.546–1.881]	[1.480–1.813]	[1.475–1.833]	
Single (never married)	1.468***	1.400***	1.474***	1.436***	
Widowed	1.255***	1.090	1.530***	1.340**	
Panel B: Key controls					
Male (ref. = Female)	1.493***	1.844***	1.485***	1.713***	
University (ref. = Secondary diploma)	0.671***	0.644***	0.628***	0.595***	
Lower secondary (ref. = Secondary diploma)	1.346***	1.356***	1.413***	1.445***	
Additional controls					
Age class dummies (ref. = 25–34)	Yes	Yes	Yes	Yes	
Income perception dummies (ref. = Code 1)	Yes	Yes	Yes	Yes	
Geographic area dummies (ref. = North-West)	Yes	Yes	Yes	Yes	

	M1	M2	M3	M4	
	Full sample Dep. A	Full sample Dep. B	Ages 18–64 Dep. A	Ages 18–64 Dep. B	
Model fit					
N	34,968	25,906	24,092	18,770	
McFadden Pseudo R ²	0.059	0.067	0.031	0.033	

Notes: Odds ratios reported. Reference categories: married/civil union (civil status), secondary diploma (education), ages 25–34 (age), North-West (geography). *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. ★ indicates the main finding of interest.

Figure B. Odds ratios for key predictors across the four model specifications



Horizontal bars show 95% confidence intervals; the dashed line marks OR = 1 (no effect). The near-perfect overlap of the four estimates for each predictor illustrates the robustness of the results to sample and outcome definition.

7. Discussion

The association between marital dissolution and current smoking is large, highly significant, and robust. An odds ratio of approximately 1.69, sustained across samples and specifications, places

separation and divorce among the stronger sociodemographic predictors of smoking behaviour in this dataset, comparable in magnitude to the sex effect and substantially larger than the education gradient above the diploma level.

How should these findings be interpreted? Three broad explanations are compatible with the findings.

The first is the **stress-coping hypothesis**: dissolution is a major stressor, and smoking is a behavioural coping response. This is the story most directly implied by the research design and the most natural reading of the literature reviewed in Section 2. The problem is that cross-sectional data cannot establish the temporal sequence that this story requires. To prove the validity of this hypothesis, I would need to know if smoking increased after (or during) a separation — information this dataset does not contain.

The second is **reverse causation**: smoking contributes to marital breakdown. This could happen through several pathways: health deterioration reducing partners' quality of life, financial strain from tobacco expenditure, or conflict between smoking and non-smoking partners. Some longitudinal evidence suggests this pathway exists (see Sbarra et al., 2011, for a discussion), though it is typically not the dominant direction of effect in studies that can separate the two.

The third is **common cause**: a third variable — say, a general disposition toward risk-taking, impulsivity, or low conscientiousness — increases both the probability of smoking and the probability of marital breakdown. In this scenario, neither causes the other; both are expressions of an underlying characteristic and personality trait which is not measured by the dataset.

A fourth consideration, which cuts across all three explanations, is the **healthy marriage selection effect**. The reference group, currently married adults, is not a neutral baseline. It is a selected group: people who have succeeded in forming and maintaining a stable marriage. On average, this group is healthier, more economically stable, and embedded in stronger social networks than the general population. This selection is not random. The same traits that predict stable marriage, for instance conscientiousness, emotional regulation and financial prudence, are also associated with lower smoking rates. By comparing separated individuals against this positively selected group, I am likely inflating the measured association upward by some unknown amount. I cannot quantify this inflation without longitudinal data that tracks individuals before and after marital transitions.

I want to be honest about the uncertainty here. With the data at my disposal, it is not possible to properly assess and quantify the effects of these competing explanations. What I have established is that the association is real, substantial, and not an artefact of the data structure or the analytical choices I made. What drives it remains an open question — and, frankly, a more interesting one than the association itself.

My finding is broadly consistent with international evidence. Studies using longitudinal data in the United States (Williams & Umberson, 2004; Hughes & Waite, 2009) and meta-analytic evidence across countries (Sbarra et al., 2011) document elevated rates of adverse health behaviours among the divorced and separated, including smoking, excessive drinking, and irregular exercise. The magnitude of the association I find ($OR \approx 1.69$) sits comfortably within the range reported in this literature, lending some external validity to the Italian estimate.

8. Limitations

Some limitations must be considered:

Cross-sectional design. As discussed at length in Section 7, the single-point-in-time structure of the data makes it impossible to establish temporal precedence between marital dissolution and

smoking, leaving the three competing causal interpretations unresolved. This is the most fundamental constraint of the study.

Omitted variable bias. The model's McFadden Pseudo R^2 of 0.059 in the main specification means that roughly 94% of individual-level variation in smoking status is not captured by the predictors. Important variables absent from the dataset include mental health status (depression and anxiety are both strongly associated with smoking), alcohol consumption (which co-occurs with tobacco use), social network characteristics, number and custody of children post-separation, and personality traits. To the extent that any of these is correlated with both civil status and smoking, my estimates may be biased.

Civil status recoding. ISTAT's data protection measures merge de facto separation, legal separation, and divorce into a single code. These three statuses differ in their legal, economic, and psychological implications. Legal divorce in Italy involves a multi-year process, is economically disruptive, and carries substantial social meaning; de facto separation may be more recent and less formally resolved. Pooling these three statuses introduces heterogeneity within the STCIVMi = 3 group that I cannot decompose.

9. Conclusions

This paper has documented a robust association between marital dissolution and current smoking in the Italian adult population. Using logistic regression on nationally representative microdata from the 2023 ISTAT AVQ survey, I find that separated and divorced adults face approximately 69% higher odds of being current smokers than married adults (OR = 1.688, 95% CI: 1.541–1.850), after controlling for sex, age, education, income, and geographic area. This finding is stable across four model specifications.

What this paper can say with confidence is limited but clear: the association exists and it is of substantial magnitude. Separated and divorced Italian adults are a group at elevated smoking risk — a finding with potential relevance for public health interventions targeting smoking cessation, which might productively be delivered in the context of separation and divorce support services.

What this paper cannot say is whether the association is causal, and if so, in which direction. The cross-sectional design forecloses causal inference. Future work with longitudinal data — ideally tracking individuals through the process of marital dissolution and measuring smoking behaviour before, during, and after — would be necessary to test the stress-coping mechanism directly.

All data used in this paper are freely available through the ISTAT *micro*.STAT portal (<https://www.istat.it>). The full Python analysis code is reproduced in the Technical Appendix.

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Technical Appendix: Data and Code Notes

Software. All analyses were conducted in Python 3.12 using pandas 2.x, numpy, and statsmodels.

Data source. ISTAT, Aspetti della vita quotidiana 2023, mlcro.STAT file (released 2025). Tab-delimited text format. All variables read as string type and stripped of whitespace before processing. Empty strings replaced with NaN.

Key variable constructions. fumatore_01_A: 1 if FUMO == '1', else 0, for adults with FUMO ∈ {'1','2','3'}. separato_01: 1 if STCIVMi == '3'. maschio: 1 if SESSO == '1'. fumo_passivo_casa: 1 if DOVCASP == '1'. eta_num: pd.to_numeric(ETAMi), filtered to ≥ 7 for adults. istruzione_ord (used in preliminary models only): {'01':4, '07':3, '09':2, '10':1}. Final models use C(ISTRMi) categorical dummies.

Model formula (statsmodels notation). dep ~ C(STCIVMi, Treatment('2')) + maschio + C(ISTRMi, Treatment('07')) + C(REDPRMi, Treatment('1')) + C(eta_num, Treatment(9)) + C(RIPMf, Treatment('1'))

Clustering check. M1 was re-estimated with cov_type='cluster', cov_kwds={'groups': PROFAM}. The separato OR confidence interval changed from [1.541–1.850] to [1.535–1.857]. All reported models use standard (unclustered) errors.

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