

1 Title: Psychosocial and sociodemographic predictors of attrition in a
2 longitudinal study of major depression in primary care: The predictD-Spain
3 study.
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ABSTRACT

BACKGROUND: Few data exist on the psychosocial factors associated with attrition in longitudinal surveys. We aim to determine psychosocial and sociodemographic predictors of attrition from a longitudinal study of the onset and persistence of episodes of major depression in primary care.

METHODS: A systematic random sample of general practice attendees was recruited in seven Spanish provinces between October 2005 and February 2006. Major depression was diagnosed using the Composite International Diagnostic Interview and a set of 39 individual and environmental risk factors for depression were assessed at baseline and after 6 and 12 months of follow-up. We used multilevel logistic regression.

RESULTS: We selected 7,777 primary care attendees aged 18-75 years, of whom 1,251 (16.1%) were excluded. Of the remaining 6,526, 1,084 (16.6%) refused to participate. Thus, 5,442 patients (attending 231 family physicians in 41 health centers) were interviewed at baseline, of whom 3,804 (70%) and 3,567 (66%) remained at 6 and 12 months of follow-up, respectively. The province and sociodemographic factors were stronger predictors of attrition than psychosocial factors. Depression and anxiety had no effect but other psychosocial factors affected attrition. We also found different profiles for the patients lost at 12 months when we included predictors measured at baseline versus 6 months.

CONCLUSIONS: These findings suggest several psychosocial factors might be considered factors of attrition in primary care cohorts and confirm that baseline characteristics are insufficient for analysing non-response in longitudinal studies, suggesting that different retention strategies should be applied for patients interviewed at 6 and 12 months.

Key words: longitudinal studies; patient dropouts; primary health care; psychosocial factors; selection bias.

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INTRODUCTION

Non-response and loss to follow-up in cohort studies lead to loss of statistical power and ‘selection bias’ or ‘non-response bias’, if the exposure of interest is associated with willingness to participate in a study [1]. Even with similar marginal distributions in participants and in the source population, bias may still be present if participation depends on both exposure and outcome. [2]

The predictD study is an international study with the main objective to develop a risk index for the onset of episodes of major depression in general practice attendees. [3] The predictD study recruited and followed-up a large sample of general practice attendees over one year. Out of 39 potential risk factors for depression, a risk index of 10 risk factors was derived with a high predictive power and external validity [4]. The predictD-Spain study aimed to go further by extending the follow-up for three years and by including genetic factors in the risk equation (the predictD-Gene study), [5-7] as well as examining professional and organizational factors as contributors to both the onset and persistence of episodes of major depression (the predictD-Services study). [8]

A recent systematic review of 17 cohort studies of outcome of depression in primary care conducted between 1985 and 2006 reported that 67% to 93% of patients remained at six months and 62% to 91% at 12 months. [9] Only two studies examined predictors of non-response and loss to follow-up, [10-11] but neither adjusted for that in the analyses. However, a third study used weighting methods to adjust for non-response. [12-13] Demographic data are unlikely to change much between assessments in longitudinal studies, but psychosocial factors may be subject to greater variation. Factors associated with attrition in longitudinal surveys have been investigated in several studies, although few data are available on the psychosocial factors associated with loss of respondents [14-16] and, as mentioned earlier, even fewer data are available from primary care cohorts.

The aim of this study was to determine psychosocial and socio-demographic predictors of attrition in a longitudinal study to predict the onset and persistence of episodes of major depression in primary care.

MATERIAL AND METHODS

Design

This prospective cohort study recruited a systematic random sample of general practice attendees. Here we describe and analyze the first 12 months of follow-up. Ethical approval for the study was obtained from relevant ethics committees. Full details of the study design and methods have been presented elsewhere. [3-4, 5, 8]

Setting

Seven provinces are participating with 231 Family Physicians in 41 health centers distributed throughout Spain: Malaga and Granada in southern Spain; Zaragoza and La Rioja in northern Spain; Madrid, capital of Spain, situated in the center; Las Palmas in the Canary Islands; and Majorca in the Balearic Islands. Each health center, which covers a population of 15,000 to 30,000 inhabitants from a geographically defined area, is staffed by family physicians. The Spanish National Health Service provides free medical cover to the whole population. The health centers taking part extend over urban and rural settings in each province.

Sample and exclusion criteria

A systematic random sample from family physician appointment lists was taken at regular intervals of between 4 and 6 attendees with random starting points for each day. The sample, aged 18 to 75 years, was recruited in six Spanish provinces between October 2005 and February 2006. The seventh province, Malaga, started between October 2003 and February 2004 because it was already participating in the predictD international study. [3-4] The family physicians introduced the study to the selected patients and requested permission before contacting the research assistant. Patients over 75 years of age were excluded because the risk of cognitive impairment increases relatively sharply after that age. Other exclusion criteria included inability to speak or understand Spanish, severe organic mental disease and terminal illness, patients due to be away for more than 3 months during the coming year, and persons (representatives) who attended the surgery on behalf of the person who had the appointment (for example, to collect a prescription or a certificate). Participants who gave informed consent undertook a research interview at the health center within two weeks. To consider a patient as non-localized, we always made at least 3 attempts to contact the patient, at different times and on different days, including non-working days and out-of-work hours.

Outcome measures

The outcome variable in the predictD-Spain study was a depressive disorder. Depression was measured with the 12-month (modified to 6-month) Depression Section of the Composite International Diagnostic Interview (CIDI). [17-19] In this study, a diagnosis of major depression at baseline was included as an independent variable in all the regression models, whereas our

dependent variables were patients interviewed versus not-interviewed at 6 months / not located at 6 months / refused at 6 months / and not-interviewed at 12 months.

Risk factors for depression

The selection of risk factors for the onset of depression was designed to cover all important areas identified in a systematic review of the literature. [3-4] The reliability and validity of the measurements and tools used have been described previously. [3, 5, 8] All potential predictors of attrition measured at baseline were also measured at the 6 months follow-up.

- Socio-demographic factors: age, sex, marital status, occupation, employment status, ethnicity, nationality, country of birth, educational level, income, owner-occupier of an accommodation, living alone or with others.
- Controls, demands and rewards for unpaid and paid work, using an adapted version of the job content instrument [20].
- Debt and financial strain [21].
- Physical and mental well-being, assessed by the SF-12 [22-23] and a question on the presence of long-standing illness, disability or infirmity.
- Alcohol misuse, assessed by the Alcohol Use Disorders Identification Test (AUDIT). [24-26]
- A life-time screen for depression based on the first two questions of the CIDI. [27]
- Brief questions on the quality of sexual and emotional relationships with a partner, adapted from a

- 187 standardized questionnaire. [28]
- 188 • Presence of serious physical, psychological or substance misuse problems, or any serious disability,
- 189 in persons who were close friends or relations of participants; and difficulty getting on with people and
- 190 maintaining close relationships, assessed using questions from a social functioning scale. [29]
- 191 • Childhood experiences of physical, emotional or sexual abuse. [30]
- 192 • Nature and strength of spiritual beliefs. [31]
- 193 • Family psychiatric history in first-degree family members, and suicide in first-degree relatives. [32]
- 194 • Anxiety symptoms using the anxiety section of the Primary Care Evaluation of Mental Disorders
- 195 (PRIME-MD). [33-34]
- 196 • The living environment, including satisfaction with neighborhood and perception of safety inside / outside
- 197 the home using questions from the Health Surveys for England. [35]
- 198 • Recent life-threatening events, using a brief validated checklist. [36]
- 199 • Experience of discrimination on the grounds of sex, age, ethnicity, appearance, disability or sexual
- 200 orientation using questions from a recent European study. [37]
- 201 • Adequacy, availability and sources of social support from family and friends. [38]
- 202 • Month of interview at baseline: October to December and January to February.

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Statistical analysis

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We used multilevel logistic regression, with doctor and health center as random factors, to test for differences between participants interviewed and not interviewed at the 6- and 12-months follow-up. The intraclass correlation coefficients were 0.093 (health center) and 0.022 (doctor) for the null model at 6 months, and 0.084 (health center) and 0.022 (doctor) at 12 months. The likelihood-ratio tests of a multilevel versus usual logistic model at 6 and 12 months were highly significant (Chi-square = 262.16, $P < 0.0001$; and Chi-square = 257.52, $P < 0.0001$, respectively), supporting the multilevel approach. We included all independent variables measured at baseline for the study of attrition at 6 (model 1) and 12 months (model 2). We then included in model 2 the variable “attrition at 6 months”, because this might help distinguish the effects of baseline predictors on both points of time (model 3). We used backward methods starting with the variables with an odds ratio close to one and a level of significance of $P > 0.20$. As the findings from these analyses were broadly similar,

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results from the full models are presented here. We built two new models to analyze the main reasons for attrition: not located (not located and moved house away from city or town), model 4; and refused (refused, had no time, or failed to attend appointments), model 5. Finally, we built two models for attrition at 12 months, which only included patients interviewed at 6 and 12 months, one with predictors measured at baseline (model 6) and the other with predictors measured at 6 months (model 7). The models 3, 4, 5, 6 and 7 had “convergence” problems when we tried to include all predictors; for this reason, we used forward methods at a level of significance of $P < 0.20$, but without removing any variables that modified the coefficients by more than 10%. These criteria ensured that the information lost as a result of exclusion of a variable from the equation was small. [39] The variable ‘major depression’ measured at baseline was forced into the models because it was the main outcome variable in the predictD-Spain study. We also retained “province” because of an a priori assumption of clustering within province, although it had few categories ($n=7$) that could be considered as random factors. [40] Polynomial transformation of age did not significantly improve the fit of the models; unlike the logarithm ($x+1$) of job satisfaction (paid and unpaid) which did fit. We conducted the analyses using STATA, release 10. [41]

231 **RESULTS**

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233 Exclusions and refusals

234 Of the 7,777 primary care attendees selected, 1,251 (16.1%) were excluded. The reasons for exclusion
235 are shown in the flowchart (Figure 1). Of those who refused to participate (1,084 patients), 780 gave their
236 consent for their age and sex data to be used in our analysis. A higher proportion of these latter were male,
237 360 of the 780 (46.1%) versus 1756 of the 5442 patients who provided baseline information (32.3%), Chi
238 square = 18.06 and $P < 0.001$; and those who refused had a lower mean age, 46.9 [95% Confidence Interval
239 (CI): 45.7, 48.0] versus 48.5 years [95% CI: 48.1, 48.9], $P = 0.018$.

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241 Attrition

242 We interviewed 5,442 patients at baseline, 3,804 (70%) at 6 months and 3,567 (66%) at 12 months of follow-
243 up; 267 of those participating at 12 months had not responded at 6 months. The reasons for attrition at 6 months
244 are shown in the flowchart (Figure 1). No information is available for the reasons for failing to interview at 12
245 months. Table 1 shows the distribution of response rates by province.

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TABLE 1: Response rates by province.

| Province | Health Centers and (FPs) | Number of patients approached | Number not eligible (%) ^a | Number eligible | Number refused (%) ^b | Total interviewed Baseline | Total interviewed at 6 months (%) ^c | Total interviewed at 12 months (%) ^c |
|---------------|--------------------------|-------------------------------|--------------------------------------|-----------------|---------------------------------|----------------------------|--|---|
| Malaga | 9 (57) | Not available ⁻ | Not available ⁻ | 1,478 | 202 (13.7) | 1,276 | 1,008 (79.0) | 922 (72.3) |
| Granada | 7 (35) | 1,254 | 302 (24.1) | 952 | 170 (17.8) | 783 | 598 (76.5) | 564 (72.0) |
| Zaragoza | 6 (30) | 958 | 71 (7.41) | 887 | 130 (14.6) | 757 | 588 (77.7) | 504 (66.6) |
| Madrid | 5 (35) | 1,251 | 312 (24.9) | 939 | 168 (17.9) | 771 | 473 (61.4) | 477 (61.9) |
| La Rioja | 6 (26) | 976 | 97 (9.9) | 879 | 127 (14.4) | 752 | 524 (69.7) | 561 (74.6) |
| Majorca | 5 (31) | 1,159 | 314 (27.1) | 845 | 127 (15.0) | 718 | 374 (52.1) | 328 (45.7) |
| Las Palmas | 3 (17) | 701 | 155 (22.1) | 546 | 160 (29.3) | 386 | 239 (61.9) | 211 (54.7) |
| All Provinces | 41 (231) | 7,777 | 1,251 (16.1) | 6,526 | 1,084 (16.6) | 5,442 | 3,804 (70%) | 3,567 (66%) |

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* This number does not include patients “approached and not eligible” because that information was not available. FPs (Family Physicians)
(%)^a Percentage of the patients approached; (%)^b Percentage of the eligible patients; (%)^c Percentage of the patients interviewed at baseline.

257 Attrition at 6 months

258 Patients who were not interviewed at 6 months (Model 1) were younger, had a lower level of
259 education and income, and were more often male, single, born outside Spain, and less often
260 students than those who were interviewed (Table 2). They also had greater dissatisfaction with the
261 neighborhood, a higher religious-spiritual intensity and satisfaction with sexual relationships, lower
262 satisfaction with emotional relationships with partner, higher discrimination (one discrimination) and a
263 lower proportion of lifetime depression than those who were interviewed (Tables 3 and 4). Province
264 was the strongest predictor of attrition at 6 months.

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266 In the model of attrition at 6 months for patients not located (Model 4), the effect of province and
267 born outside Spain was increased in relation to attrition at 6 months in general (Model 1), their
268 association decreasing with age, sex, and being single. The variables retired and month of interview at
269 baseline (January and February) were also associated with not-located patients, while being a
270 student lost its protective effect. Moreover, not-located patients reported less lifetime depression,
271 experienced higher discrimination (one discrimination) and had a lower proportion of serious
272 psychological problems in their fathers than those interviewed at 6 months.

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274 In the model of attrition at 6 months for patients who refused (Model 5; tables A, B and C; web
275 only), sex (male), single, and lower level of education retained a similar effect on attrition at 6 months in
276 general (model 1), their association decreasing with age, born outside Spain, low income and
277 dissatisfaction with neighborhood. Province changed the direction of its effect. Living alone,
278 widowed, less family and friend support and lower mental quality of life showed a trend towards
279 being associated with refused at 6 months. Furthermore, these persons were more often employed and
280 had higher satisfaction with paid work, suffering fewer life-threatening events and reporting fewer
281 physical problems in very close persons.

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283 Attrition at 12 months

284 Comparing attrition at 12 months with attrition at 6 months, lower age, sex (male), higher religious-
285 spiritual intensity, being widowed, unemployed, and alcohol-dependant increased in importance,
286 while interview date and lifetime depression lost their effect. Furthermore, patients not interviewed at 12
287 months had fewer threatening experiences and fewer family suicides among fathers and sisters.

288 Within the variable province, “La Rioja” had an opposite relation. These changes with regard to
289 attrition at 6 months were more evident when we adjusted for the variable attrition at 6 months in the
290 model of attrition at 12 months (Model 3; tables A, B and C; web only).

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292 Differences were found with regard to province when we compared attrition at 12 months between
293 Model 2 (all patients) and Model 6 (patients who were interviewed at 6 months). In Model 6, the
294 importance of the variables sex, single, widowhood, income, full-time education, religious-spiritual
295 intensity and perception of discrimination all decreased, whereas the importance of the variables
296 difficulty meeting payment of bills and sexual childhood abuse increased. In Model 6 there was less
297 misuse and alcohol dependence and fewer close persons with alcohol and drug problems than in
298 Model 2. Threatening experiences (three), satisfaction with sexual relationships, major depression at
299 baseline, lifetime depression and religious versus spiritual beliefs changed the direction of their
300 effects.

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TABLE 2: Crude and adjusted odds ratios of attrition in relation to social, demographic and work variables measured at baseline.

| VARIABLES | Attrition at 6 months ^a (Model 1) ^a | | | | Not located at 6 months (Model 4) ^b | | | | Attrition at 12 months (Model 2) ^c | | | | Attrition at 12 months (Model 6) ^d | | | |
|---|---|---------------|-------------|---------------|--|---------------|-------------|---------------|---|---------------|-------------|---------------|---|---------------|-------------|---------------|
| | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | |
| | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. |
| Province | | | | | | | | | | | | | | | | |
| Malaga | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | | |
| Granada | 1.09 | 0.72 - 1.68 | 1.40 | 0.82 - 2.39 | 5.64 | 1.98 - 17.7 | 6.66 | 1.92 - 22.4 | 1.05 | 0.69 - 1.58 | 1.29 | 0.75 - 2.22 | 1.37 | 0.74 - 2.57 | 1.96 | 0.84 - 4.54 |
| Zaragoza | 1.14 | 0.74 - 1.76 | 1.35 | 0.75 - 2.43 | 4.43 | 1.43 - 13.7 | 4.90 | 1.37 - 17.5 | 1.45 | 0.95 - 2.22 | 1.90 | 1.05 - 3.41 | 2.51 | 1.34 - 4.68 | 3.95 | 1.64 - 9.50 |
| Madrid | 2.56 | 1.66 - 3.95 | 2.86 | 1.72 - 4.47 | 31.2 | 10.7 - 91.1 | 31.8 | 10.2 - 99.1 | 1.71 | 1.11 - 2.62 | 2.14 | 1.27 - 3.62 | 1.02 | 0.51 - 2.05 | 0.96 | 0.38 - 2.37 |
| La Rioja | 1.72 | 1.13 - 2.62 | 1.88 | 1.08 - 3.27 | 16.6 | 5.49 - 47.6 | 16.5 | 5.03 - 54.4 | 0.94 | 0.62 - 1.43 | 1.03 | 0.58 - 1.83 | 1.24 | 0.65 - 2.36 | 1.35 | 0.54 - 3.34 |
| Majorca | 3.69 | 2.40 - 5.68 | 4.13 | 2.42 - 7.05 | 22.1 | 7.49 - 65.3 | 26.0 | 7.93 - 85.3 | 3.28 | 2.14 - 5.02 | 3.72 | 2.15 - 6.43 | 3.26 | 1.69 - 6.27 | 4.00 | 1.67 - 9.57 |
| Las Palmas | 2.46 | 1.46 - 4.15 | 2.26 | 1.19 - 4.30 | 20.8 | 6.09 - 71.2 | 16.3 | 4.08 - 64.9 | 2.56 | 1.53 - 4.30 | 2.23 | 1.15 - 4.31 | 2.38 | 1.08 - 5.24 | 2.12 | 0.73 - 6.17 |
| Interview date at baseline (January and February) | 1.21 | 0.89 - 1.63 | 1.29 | 0.90 - 1.85 | 1.73 | 0.94 - 3.19 | 2.08 | 1.07 - 4.07 | 1.04 | 0.78 - 1.38 | 1.10 | 0.76 - 1.58 | 0.83 | 0.54 - 1.27 | 1.05 | 0.60 - 1.82 |
| Sex (male) | 1.29 | 1.14 - 1.47 | 1.32 | 1.03 - 1.68 | 1.40 | 1.11 - 1.77 | 1.23 | 0.89 - 1.69 | 1.43 | 1.26 - 1.61 | 1.59 | 1.25 - 2.02 | 1.34 | 1.09 - 1.64 | 1.31 | 0.94 - 1.82 |
| Age (years) | 0.992 | 0.988 - 0.996 | 0.987 | 0.977 - 0.997 | 0.984 | 0.977 - 0.991 | 0.992 | 0.980 - 1.005 | 0.990 | 0.986 - 0.994 | 0.978 | 0.969 - 0.988 | 0.986 | 0.980 - 0.992 | 0.978 | 0.965 - 0.992 |
| Marital status | | | | | | | | | | | | | | | | |
| Married | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | | |
| Separated | 1.45 | 1.10 - 1.92 | 0.82 | 0.43 - 1.57 | 1.75 | 1.10 - 1.79 | 1.48 | 0.62 - 3.55 | 1.40 | 1.06 - 1.84 | 0.78 | 0.42 - 1.45 | 1.21 | 0.75 - 1.94 | 0.85 | 0.33 - 2.22 |
| Widowed | 1.11 | 0.87 - 1.43 | 1.51 | 0.78 - 2.94 | 1.02 | 0.63 - 1.67 | 0.42 | 0.05 - 3.31 | 1.01 | 0.80 - 1.29 | 1.59 | 0.84 - 2.97 | 1.00 | 0.67 - 1.49 | 0.99 | 0.27 - 3.68 |
| Divorced | 1.40 | 0.95 - 2.05 | 1.07 | 0.49 - 2.34 | 0.97 | 0.44 - 2.14 | 0.49 | 0.11 - 2.24 | 1.58 | 1.09 - 2.29 | 0.78 | 0.35 - 1.86 | 1.75 | 1.96 - 3.18 | 0.91 | 0.29 - 2.85 |
| Single | 1.59 | 1.37 - 1.84 | 1.74 | 1.26 - 2.41 | 1.92 | 1.47 - 2.50 | 1.64 | 1.03 - 2.61 | 1.56 | 1.35 - 1.80 | 1.45 | 1.05 - 2.01 | 1.38 | 1.09 - 1.75 | 0.81 | 0.52 - 1.26 |
| Occupation | | | | | | | | | | | | | | | | |
| Employed | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | |
| Unemployed | 1.13 | 0.89 - 1.45 | 0.99 | 0.60 - 1.64 | 1.21 | 0.78 - 1.87 | 1.17 | 0.62 - 2.22 | 1.25 | 0.98 - 1.58 | 1.51 | 0.93 - 2.46 | 1.22 | 0.84 - 1.78 | 1.51 | 0.81 - 2.80 |
| Retired | 0.89 | 0.75 - 1.06 | 0.87 | 0.54 - 1.41 | 1.02 | 0.75 - 1.39 | 1.71 | 0.99 - 2.95 | 0.88 | 0.75 - 1.05 | 1.18 | 0.74 - 1.88 | 0.79 | 0.60 - 1.04 | 1.23 | 0.65 - 2.32 |
| Unable to work | 0.91 | 0.71 - 1.15 | 0.76 | 0.48 - 1.23 | 0.76 | 0.48 - 1.21 | 1.15 | 0.60 - 2.22 | 0.94 | 0.75 - 1.18 | 0.74 | 0.47 - 1.18 | 0.90 | 0.62 - 1.30 | 0.87 | 0.47 - 1.58 |
| Looking after family or home | 0.72 | 0.61 - 0.85 | 0.82 | 0.52 - 1.27 | 0.58 | 0.41 - 0.82 | 0.99 | 0.61 - 1.60 | 0.65 | 0.56 - 0.77 | 0.92 | 0.60 - 1.42 | 0.59 | 0.45 - 0.78 | 0.82 | 0.45 - 1.47 |
| In full-time education | 0.66 | 0.43 - 1.01 | 0.48 | 0.22 - 1.02 | 1.30 | 0.64 - 2.60 | 1.00 | 0.36 - 2.71 | 0.65 | 0.43 - 0.97 | 0.32 | 0.14 - 0.75 | 0.85 | 0.46 - 1.57 | 0.57 | 0.20 - 1.59 |
| Other | 1.13 | 0.39 - 3.25 | 0.74 | 0.13 - 4.05 | 4.25 | 0.93 - 19.4 | 2.26 | 0.19 - 26.6 | 0.85 | 0.29 - 2.45 | 0.59 | 0.11 - 3.17 | 0.52 | 0.06 - 4.42 | 1.03 | 0.09 - 11.4 |
| Country of birth (foreign) | 1.51 | 1.16 - 1.96 | 1.65 | 1.06 - 2.57 | 2.87 | 1.89 - 4.34 | 2.81 | 1.51 - 5.25 | 1.57 | 1.22 - 2.03 | 1.51 | 0.97 - 2.34 | 1.77 | 1.18 - 2.66 | 1.51 | 0.81 - 2.82 |
| Ethnicity (not white) | 1.84 | 1.20 - 2.82 | 1.39 | 0.68 - 2.86 | 3.70 | 2.28 - 5.99 | 1.49 | 0.60 - 3.65 | 1.74 | 1.14 - 2.64 | 1.19 | 0.58 - 2.49 | 2.27 | 1.19 - 4.32 | 0.96 | 0.31 - 2.96 |
| Level of education ¹ | 1.07 | 1.00 - 1.15 | 1.23 | 1.08 - 1.39 | 0.95 | 0.84 - 1.06 | 1.12 | 0.91 - 1.38 | 1.07 | 1.00 - 1.15 | 1.20 | 1.06 - 1.36 | 1.00 | 0.90 - 1.12 | 1.26 | 1.03 - 1.53 |
| Annual Income after taxes ² | 1.11 | 1.03 - 1.20 | 0.87 | 0.77 - 0.98 | 0.91 | 0.79 - 1.04 | 0.84 | 0.71 - 1.01 | 0.93 | 0.86 - 0.99 | 0.84 | 0.75 - 0.94 | 1.04 | 0.93 - 1.17 | 0.93 | 0.82 - 1.05 |
| Difficulty managing financially ³ | 1.02 | 0.93 - 1.14 | 0.86 | 0.71 - 1.04 | 1.04 | 0.84 - 1.28 | | | 1.08 | 0.98 - 1.19 | 0.91 | 0.76 - 1.10 | 1.19 | 1.02 - 1.40 | 1.04 | 0.80 - 1.35 |
| Difficulty affording food or clothing ³ | 1.01 | 0.94 - 1.09 | 1.02 | 0.89 - 1.17 | 0.94 | 0.81 - 1.08 | | | 1.08 | 1.00 - 1.16 | 1.03 | 0.90 - 1.18 | 1.14 | 1.02 - 1.28 | 1.06 | 0.86 - 1.28 |
| Difficulty meeting payment of bills ⁴ | 0.97 | 0.93 - 1.02 | 1.01 | 0.92 - 1.11 | 1.00 | 0.90 - 1.10 | | | 0.92 | 0.88 - 0.97 | 0.95 | 0.87 - 1.04 | 0.87 | 0.81 - 0.94 | 0.90 | 0.78 - 1.01 |
| Dissatisfaction with unpaid work scale ⁵ | 1.10 | 0.93 - 1.31 | 1.04 | 0.79 - 1.38 | 1.23 | 0.88 - 1.72 | | | 1.04 | 0.88 - 1.23 | 1.01 | 0.77 - 1.32 | 1.06 | 0.81 - 1.40 | 1.03 | 0.40 - 2.65 |
| Dissatisfaction with paid work scale ⁵ | 1.06 | 1.01 - 1.12 | 0.93 | 0.79 - 1.11 | 1.04 | 0.94 - 1.15 | | | 1.09 | 1.03 - 1.15 | 1.05 | 0.89 - 1.24 | 1.14 | 1.04 - 1.24 | 0.99 | 0.79 - 1.23 |

Multilevel logistic regression. ^a (Interviewed=3,804 / Not interviewed=1,638); ^b [Interviewed = 3,804 / Not located(313) + moved (57) = 370]; ^c(Interviewed =3,567 / Not interviewed =1,875); ^d(Interviewed = 3,300 / not interviewed = 504).CI: Confidence Intervals; OR: Odds ratio. ¹ Codes: 1 (university), 2 (secondary), 3 (primary), 4 (< primary). ² Codes: 1(<15,000€), 2 (15,000 – 30,000€), 3 (30,001 – 45,000€), 4 (>45,000€). ³Codes: 1 (never), 2 (seldom), 3 (sometimes), 4 (often), 5 (always). ⁴ Codes: 1 (always), 2 (often), 3 (sometimes), 4 (seldom), 5 (never). ⁵Ranged 0-23 and transformed by logarithm (x+1). Figures in bold p<0.05.

TABLE 3: Crude and adjusted odds ratios of attrition in relation to relational and stressful factors measured at baseline.

| VARIABLES | Attrition at 6 months (Model 1) ^a | | | | Not located at 6 months (Model 4) ^b | | | | Attrition at 12 months (Model 2) ^c | | | | Attrition at 12 months (Model 6) ^d | | | |
|---|--|-------------|-------------|-------------|--|-------------|-------------|-------------|---|-------------|-------------|----------------|---|-------------|--------------------------|-------------|
| | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR ³ | |
| | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. |
| Living alone (yes) | 0.92 | 0.74 - 1.15 | 0.62 | 0.34 - 1.15 | 1.01 | 0.68 - 1.49 | | | 0.92 | 0.74 - 1.13 | (β) | | 1.03 | 0.74 - 1.45 | 0.78 | 0.35 - 1.76 |
| Satisfied with living together at home ¹ | 1.06 | 0.99 - 1.13 | 1.05 | 0.95 - 1.17 | 1.02 | 0.90 - 1.15 | | | 1.04 | 0.98 - 1.11 | 1.05 | 0.94 - 1.18 | 1.03 | 0.92 - 1.14 | | |
| Dissatisfaction with neighborhood ¹ | 1.08 | 1.02 - 1.15 | 1.13 | 1.02 - 1.25 | 1.08 | 0.97 - 1.22 | 1.12 | 0.97 - 1.31 | 1.14 | 1.08 - 1.22 | 1.18 | 1.07 - 1.30 | 1.17 | 1.07 - 1.29 | 1.12 | 0.98 - 1.28 |
| Feel unsafe inside home ² | 0.81 | 0.64 - 1.03 | 0.85 | 0.72 - 1.01 | 0.79 | 0.66 - 0.95 | 0.81 | 0.63 - 1.03 | 0.99 | 0.91 - 1.09 | 0.85 | 0.73 - 1.01 | 1.11 | 0.91 - 1.28 | 0.99 | 0.79 - 1.24 |
| Feel unsafe traveling to and from home ² | 0.98 | 0.91 - 1.06 | 1.00 | 0.87 - 1.14 | 0.93 | 0.80 - 1.08 | | | 1.03 | 0.96 - 1.11 | 1.00 | 0.88 - 1.14 | 1.08 | 0.96 - 1.22 | 1.00 | 0.83 - 1.22 |
| Good family and friends support ³ | 0.80 | 0.66 - 0.96 | 0.88 | 0.65 - 1.18 | 0.72 | 0.52 - 0.99 | 0.79 | 0.50 - 1.25 | 0.82 | 0.68 - 0.98 | 1.06 | 0.79 - 1.43 | 0.92 | 0.68 - 1.25 | 1.07 | 0.62 - 1.84 |
| List of threatening experiences | | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | | | 1.00 | | | |
| • None | 1.00 | | 0.93 | 0.75 - 1.16 | 0.94 | 0.71 - 1.24 | 1.02 | 0.72 - 1.45 | 0.99 | 0.85 - 1.14 | 1.00 | | 1.05 | 0.81 - 1.36 | 1.00 | |
| • 1 | 0.96 | 0.82 - 1.12 | 0.87 | 0.66 - 1.14 | 1.02 | 0.73 - 1.42 | 1.04 | 0.67 - 1.60 | 0.96 | 0.81 - 1.15 | 0.91 | 0.73 - 1.12 | 0.94 | 0.70 - 1.26 | 1.12 | 0.81 - 1.57 |
| • 2 | 0.98 | 0.82 - 1.17 | 0.89 | 0.61 - 1.31 | 1.23 | 0.79 - 1.91 | 1.13 | 0.63 - 2.04 | 1.15 | 0.91 - 1.44 | 0.82 | 0.62 - 1.07 | 1.28 | 0.88 - 1.87 | 0.85 | 0.55 - 1.33 |
| • 3 | 1.17 | 0.92 - 1.49 | 1.23 | 0.77 - 1.98 | 1.45 | 0.88 - 2.41 | 1.04 | 0.47 - 2.30 | 1.67 | 1.29 - 2.27 | 0.72 | 0.49 - 1.05 | 1.61 | 1.03 - 2.50 | 1.49 | 0.85 - 2.60 |
| • >3 | 1.62 | 1.24 - 2.11 | | | | | | | | | 1.20 | 0.76 - 1.90 | | | 0.70 | 0.28 - 1.74 |
| Serious problems in very close persons | | | | | | | | | | | | | | | | |
| Alcohol-drugs | 1.19 | 1.01 - 1.40 | 1.23 | 0.94 - 1.59 | 0.97 | 0.70 - 1.36 | | | 1.22 | 1.03 - 1.43 | 1.26 | 0.97 - 1.64 | 1.19 | 0.92 - 1.56 | 1.06 | 0.75 - 1.50 |
| Psychological | 0.88 | 0.75 - 1.04 | 1.00 | 0.78 - 1.29 | 0.77 | 0.56 - 1.05 | | | 0.96 | 0.82 - 1.12 | 0.83 | 0.65 - 1.07 | 1.09 | 0.85 - 1.40 | | |
| Physical | 0.92 | 0.78 - 1.09 | 1.09 | 0.84 - 1.40 | 0.86 | 0.62 - 1.19 | | | 0.96 | 0.82 - 1.12 | 1.09 | 0.85 - 1.39 | 1.05 | 0.82 - 1.34 | | |
| Disability | 0.87 | 0.72 - 1.05 | 0.87 | 0.65 - 1.15 | 0.80 | 0.55 - 1.17 | | | 0.96 | 0.81 - 1.15 | 1.04 | 0.79 - 1.36 | 1.07 | 0.80 - 1.42 | | |
| Satisfaction with sexual relationships with partner | | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | | | 1.00 | | | |
| • dissatisfied ⁴ | 1.00 | | 1.50 | 1.08 - 2.08 | 1.61 | 1.12 - 2.30 | 1.48 | 0.98 - 2.24 | 1.20 | 1.01 - 1.42 | 1.00 | | 1.11 | 0.84 - 1.46 | 1.00 | |
| • very or fairly satisfied | 1.17 | 0.99 - 1.40 | 6.0e-06 | 0.00 - . | 0.73 | 0.09 - 5.97 | 1.24 | 0.14 - 10.9 | 0.81 | 0.48 - 1.37 | 1.47 | 1.06 - 2.03 | 0.51 | 0.17 - 1.49 | 0.64 | 0.40 - 1.00 |
| • I don't have a partner | 0.84 | 0.48 - 1.48 | 1.00 | | 1.00 | | | | 1.00 | | 6.9e-17 | 0.00 - . | 1.00 | | 0.28 | 0.06 - 1.34 |
| Emotional relationships with partner | | | 0.70 | 0.51 - 0.97 | 0.90 | 0.60 - 1.34 | | | 0.89 | 0.73 - 1.09 | | | 0.84 | 0.60 - 1.17 | | |
| • dissatisfied ⁴ | 1.00 | | 1.4e+08 | 0.00 - . | 0.46 | 0.06 - 3.82 | | | 0.66 | 0.39 - 1.12 | 1.00 | | 0.42 | 0.14 - 1.24 | | |
| • very or fairly satisfied | 0.90 | 0.73 - 1.06 | | | | | | | | | 0.68 | 0.50 - 0.94 | | | | |
| • I don't have a partner | 0.68 | 0.39 - 1.23 | 0.92 | 0.82 - 1.04 | 1.09 | 0.97 - 1.22 | | | 1.00 | 0.95 - 1.05 | 1.1e+16 | 0.00 - | 1.00 | 0.91 - 1.09 | | |
| Overall sex life ⁵ | 0.97 | 0.92 - 1.03 | | | | | | | | | 0.94 | 0.84 - 1.06 | | | | |
| Difficulty getting on with people | | | | | | | | | | | | | | | | |
| In general ⁶ | 0.95 | 0.84 - 1.06 | 1.26 | 0.96 - 1.65 | 0.99 | 0.79 - 1.24 | | | 0.92 | 0.82 - 1.03 | 1.06 | 0.82 - 1.36 | 0.99 | 0.82 - 1.18 | | |
| Close relationships ⁶ | 0.91 | 0.81 - 1.02 | 0.95 | 0.72 - 1.26 | 0.96 | 0.76 - 1.21 | | | 0.92 | 0.82 - 1.03 | 1.12 | 0.86 - 1.47 | 1.00 | 0.83 - 1.22 | 1.06 | 0.79 - 1.41 |

Multilevel logistic regression. ^a(Interviewed = 3,804 / Not interviewed = 1,638); ^b[Interviewed = 3,804 / Not located (313) + moved (57) = 370]; ^c(Interviewed = 3,567 / Not interviewed = 1,875); ^d(Interviewed = 3,300 / not interviewed = 504). CI: Confidence Intervals; OR: Odds ratio. ¹Codes: 1 (very satisfied), 2 (fairly satisfied), 3 (neither satisfied nor dissatisfied), 4 (fairly dissatisfied), 5 (very dissatisfied). ²Codes: 1 (very safe), 2 (fairly safe), 3 (not very safe), 4 (not at all safe). ³Score >16 (range 7-21). ⁴Neither satisfied nor dissatisfied, fairly dissatisfied, or very dissatisfied. ⁵Codes: 1 (very dissatisfied), 2 (fairly dissatisfied), 3 (neither satisfied nor dissatisfied), 4 (fairly satisfied), 5 (very satisfied). ⁶Codes: 1 (Most of the time), 2 (frequently), 3 (sometimes), 4 (no problem). (β) Dropped because of collinearity. Figures in bold p<0.05.

TABLE 4: Crude and adjusted odds ratios of attrition in relation to psychological and physical illnesses, and other variables measured at baseline.

| VARIABLES | Attrition at 6 months (Model 1) ^a | | | | Not located at 6 months (Model 4) ^b | | | | Attrition at 12 months (Model 2) ^c | | | | Attrition at 12 months (Model 6) ^d | | | |
|---|--|---------------|-------------|---------------|--|---------------|-------------|---------------|---|---------------|-------------|---------------|---|---------------|-------------|---------------|
| | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | |
| | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. |
| Major depression at baseline | 1.08 | 0.90 - 1.29 | 0.94 | 0.68 - 1.29 | 1.40 | 1.01 - 1.95 | 1.28 | 0.80 - 2.03 | 1.14 | 0.96 - 1.36 | 1.07 | 0.79 - 1.45 | 1.23 | 0.93 - 1.62 | 0.88 | 0.58 - 1.33 |
| Anxiety | | | | | | | | | | | | | | | | |
| Panic Attack | 1.08 | 0.84 - 1.39 | 1.23 | 0.84 - 1.79 | 1.18 | 0.73 - 1.90 | | | 1.08 | 0.85 - 1.37 | 1.16 | 0.80 - 1.67 | 0.97 | 0.64 - 1.47 | | |
| Generalized Anxiety Disorder | 1.08 | 0.84 - 1.39 | 1.17 | 0.78 - 1.78 | 0.88 | 0.53 - 1.46 | | | 1.01 | 0.79 - 1.29 | 0.94 | 0.62 - 1.42 | 0.96 | 0.62 - 1.45 | | |
| Other Anxiety Disorders | 0.96 | 0.74 - 1.25 | 0.99 | 0.66 - 1.48 | 1.23 | 0.76 - 1.98 | | | 1.04 | 0.81 - 1.33 | 0.98 | 0.66 - 1.47 | 1.23 | 0.83 - 1.84 | | |
| Alcohol problems | | | | | | | | | | | | | | | | |
| No problem | 1.00 | | | | 1.00 | | 1.00 | | 1.00 | | | | 1.00 | | 1.00 | |
| Misuse | 1.40 | 1.05 - 1.86 | 0.76 | 0.46 - 1.27 | 1.67 | 0.98 - 2.84 | 0.79 | 0.35 - 1.79 | 1.66 | 1.26 - 2.18 | 0.90 | 0.55 - 1.46 | 1.46 | 0.94 - 2.29 | 0.85 | 0.43 - 1.68 |
| Dependant | 1.49 | 0.89 - 2.50 | 1.92 | 0.83 - 4.43 | 0.94 | 0.31 - 2.83 | 0.66 | 0.13 - 3.32 | 2.17 | 1.31 - 3.59 | 2.76 | 1.18 - 6.44 | 2.17 | 0.99 - 4.71 | 2.12 | 0.75 - 6.02 |
| Long-standing illness, disability or infirmity | 0.96 | 0.86 - 1.09 | 0.98 | 0.79 - 1.22 | 0.85 | 0.67 - 1.08 | 0.96 | 0.68 - 1.36 | 0.96 | 0.85 - 1.09 | 1.05 | 0.85 - 1.30 | 0.92 | 0.76 - 1.12 | | |
| Quality of life (SF-12) | | | | | | | | | | | | | | | | |
| Physical (ranged 0-100) | 1.001 | 0.995 - 1.006 | 0.993 | 0.984 - 1.003 | 1.011 | 1.001 - 1.022 | 1.001 | 0.991 - 1.021 | 0.998 | 0.993 - 1.004 | 0.992 | 0.983 - 1.002 | 0.993 | 0.985 - 1.002 | 0.990 | 0.978 - 1.003 |
| Mental (ranged 0-100) | 0.994 | 0.989 - 0.999 | 0.997 | 0.988 - 1.006 | 1.000 | 0.991 - 1.010 | | | 0.994 | 0.990 - 0.999 | 0.997 | 0.988 - 1.006 | 0.995 | 0.986 - 1.003 | 0.998 | 0.986 - 1.010 |
| Lifetime depression | 0.87 | 0.77 - 0.98 | 0.82 | 0.67 - 0.99 | 0.73 | 0.58 - 0.92 | 0.60 | 0.43 - 0.84 | 0.93 | 0.83 - 1.05 | 0.90 | 0.74 - 1.10 | 1.08 | 0.89 - 1.32 | 1.11 | 0.81 - 1.53 |
| Serious psychological problems in family members | | | | | | | | | | | | | | | | |
| Father | 0.96 | 0.78 - 1.24 | 0.78 | 0.53 - 1.14 | 0.70 | 0.42 - 1.15 | 0.36 | 0.16 - 0.82 | 1.00 | 0.80 - 1.25 | 0.85 | 0.59 - 1.23 | 1.01 | 0.71 - 1.45 | | |
| Mother | 0.99 | 0.85 - 1.17 | 0.99 | 0.77 - 1.28 | 1.07 | 0.79 - 1.46 | | | 0.95 | 0.81 - 1.11 | 0.98 | 0.77 - 1.26 | 1.08 | 0.84 - 1.39 | | |
| Brothers | 1.05 | 0.86 - 1.29 | 0.99 | 0.72 - 1.35 | 1.10 | 0.76 - 1.61 | | | 0.97 | 0.80 - 1.18 | 0.94 | 0.69 - 1.28 | 0.97 | 0.68 - 1.36 | | |
| Sisters | 0.91 | 0.76 - 1.09 | 1.08 | 0.83 - 1.40 | 0.70 | 0.49 - 1.01 | 0.75 | 0.47 - 1.20 | 0.90 | 0.75 - 1.06 | 1.14 | 0.89 - 1.48 | 0.90 | 0.66 - 1.17 | 1.00 | 0.68 - 1.48 |
| Family suicide | | | | | | | | | | | | | | | | |
| Father | 0.63 | 0.26 - 1.52 | 0.49 | 0.13 - 1.86 | 1.09 | 0.30 - 3.98 | | | 0.55 | 0.23 - 1.32 | 0.40 | 0.10 - 1.49 | 0.54 | 0.12 - 2.44 | | |
| Mother | 1.18 | 0.27 - 5.19 | 0.75 | 0.07 - 8.26 | 2.10 | 0.21 - 21.2 | | | 0.99 | 0.26 - 4.36 | 0.54 | 0.04 - 6.47 | 1.88 | 0.20 - 18.0 | | |
| Brothers | 1.21 | 0.62 - 2.37 | 1.43 | 0.57 - 3.59 | 1.16 | 0.32 - 4.23 | | | 1.00 | 0.51 - 1.95 | 1.36 | 0.55 - 3.36 | 0.70 | 0.20 - 2.37 | | |
| Sisters | 0.91 | 0.33 - 2.54 | 1.32 | 0.32 - 5.50 | 0.67 | 0.08 - 5.68 | | | 0.42 | 0.13 - 1.32 | 0.31 | 0.06 - 1.73 | 1.10 | 0.23 - 5.21 | | |
| Religious-Spiritual beliefs | | | | | | | | | | | | | | | | |
| Religious | 1.00 | | | | 1.00 | | | | 1.00 | | | | 1.00 | | 1.00 | |
| Spiritual | 1.15 | 0.97 - 1.36 | 1.21 | 0.95 - 1.53 | 0.86 | 0.62 - 1.18 | | | 1.15 | 0.98 - 1.35 | 1.15 | 0.91 - 1.46 | 1.12 | 0.86 - 1.45 | 0.62 | 0.43 - 0.88 |
| Neither religious nor spiritual | 1.14 | 0.97 - 1.35 | 1.01 | 0.60 - 1.71 | 1.11 | 0.83 - 1.50 | | | 1.21 | 1.03 - 1.42 | 0.92 | 0.55 - 1.51 | 1.18 | 0.91 - 1.54 | 0.98 | 0.69 - 1.40 |
| Higher religious-spiritual intensity ¹ | 1.02 | 0.97 - 1.07 | 1.09 | 1.02 - 1.17 | 0.98 | 0.89 - 1.07 | | | 1.04 | 0.99 - 1.09 | 1.18 | 1.10 - 1.26 | 1.00 | 0.93 - 1.08 | 1.07 | 0.90 - 1.29 |
| Discrimination experienced ² | | | | | | | | | | | | | | | | |
| None | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | |
| One | 1.30 | 1.05 - 1.60 | 1.34 | 1.00 - 1.90 | 1.84 | 1.29 - 2.62 | 1.62 | 1.10 - 2.40 | 1.35 | 1.11 - 1.66 | 1.16 | 0.82 - 1.64 | 1.35 | 0.96 - 1.89 | 1.16 | 0.72 - 1.86 |
| Two | 1.35 | 0.91 - 2.03 | 1.21 | 0.66 - 2.24 | 1.70 | 0.83 - 3.49 | 1.55 | 0.72 - 3.34 | 1.61 | 1.09 - 2.38 | 1.61 | 0.89 - 2.91 | 2.03 | 1.14 - 3.62 | 1.18 | 0.53 - 2.61 |
| Higher than two | 0.85 | 0.47 - 1.93 | 0.20 | 0.02 - 1.91 | 1.12 | 0.25 - 5.03 | 0.68 | 0.14 - 3.28 | 1.13 | 0.56 - 2.19 | 0.26 | 0.05 - 1.40 | 1.88 | 0.75 - 4.72 | 1.24 | 0.81 - 1.15 |
| Childhood abuse | | | | | | | | | | | | | | | | |
| Physical ³ | 1.03 | 0.96 - 1.11 | 1.04 | 0.90 - 1.20 | 1.12 | 0.98 - 1.27 | 1.10 | 0.87 - 1.39 | 1.09 | 1.02 - 1.17 | 1.07 | 0.94 - 1.24 | 1.14 | 1.02 - 1.27 | 0.96 | 0.81 - 1.15 |
| Psychological ³ | 1.01 | 0.95 - 1.07 | 0.94 | 0.83 - 1.07 | 1.08 | 0.97 - 1.20 | 1.06 | 0.87 - 1.30 | 1.02 | 0.96 - 1.08 | 0.90 | 0.80 - 1.01 | 1.01 | 0.92 - 1.11 | | |
| Sexual ³ | 0.85 | 0.69 - 1.03 | 0.81 | 0.59 - 1.13 | 0.75 | 0.49 - 1.15 | 0.67 | 0.37 - 1.19 | 1.08 | 0.90 - 1.28 | 1.02 | 0.77 - 1.35 | 1.44 | 1.16 - 1.79 | 1.32 | 0.99 - 1.77 |

Multilevel logistic regression. ^a (Interviewed = 3,804 / Not interviewed = 1,638); ^b [Interviewed = 3,804 / Not located (313) + moved (57) = 370]; ^c (Interviewed = 3,567 / Not interviewed = 1,875); ^d (Interviewed = 3,300 / not interviewed = 504). CI: Confidence Intervals; OR: Odds ratio. ¹ Range: from 1 (weakly held) to 6 (strongly held). ² The type of discrimination included: skin color or ethnicity, sex, age, appearance, handicap or sexual orientation. ³ Codes 1 (Never), 2 (seldom), 3 (sometimes), 4 (often), 5 (frequently). Figures in bold p < 0.05.

336 Finally, we studied the attrition at 12 months including only those patients who were interviewed at 6 months and
337 included predictors measured at baseline (Model 6) and 6 months (Model 7; tables A, B and C; web only). In Model 7 the
338 importance of the variables single, unemployed, born outside Spain, level of education and income decreased, whilst
339 looking after family or home and being a student increased regarding less attrition, and divorced and dissatisfaction
340 with unpaid work increased with regard to greater attrition. The psychosocial profile changed after adjusting for
341 variables measured at 6 months: a higher proportion of patients not interviewed were living alone, had discrimination
342 experiences (two discriminations) and sexual childhood abuse, but less family and friend support and fewer threatening
343 experiences; moreover, they felt safer inside their homes, though more unsafe traveling to and from home. Lastly, attrition was
344 associated with a lower mental quality of life in Model 7 versus a lower physical quality of life in Model 6.
345
346

347 **DISCUSSION**

348 Statement of principal findings

349 We recruited a cohort of 5,442 primary care attendees distributed nationwide throughout Spain. Of these, 34.5% were lost
 350 during the first year (9.3% occurred in the second semester). Province and socio-demographic factors were strong
 351 predictors of this loss. Major depression and anxiety had no effect but other psychosocial factors predicted attrition, with
 352 these factors changing for those patients who were not located or refused. Interview date was a relevant predictor, particularly
 353 for patients not located. We also found different profiles for the patients lost at 12 months after including predictors
 354 measured at baseline or at 6 months among those patients who were interviewed at 6 months.

356 Strengths and weaknesses

357 Multilevel logistic regression allowed us to adjust for two types of intracluster variability, namely doctor and health
 358 center. To our knowledge, this approach has not been attempted in other studies.

359 The primary aim of the predictD study was not to study attrition per se, and for this reason we were restricted to
 360 examining the variables used in this research. Thus, we may have missed other possible factors and residual
 361 confounding is a possibility. Furthermore, because we analyzed a large number of independent variables, some
 362 associations might be significant by chance. The method we used to measure the difference between models at each time
 363 is less powerful than others (Generalized Estimating Equation Model, for example); with this option interaction terms
 364 should appear between each one of the covariables and time. However, we believe the method we used is easier to
 365 interpret.

366 We recruited a systematic random sample of family physician attendees because we hoped to generalize our results to
 367 primary care. We used a criterion of stratification to include urban and rural health centers in each province and
 368 included provinces from different geographical areas in both mainland Spain (north, central and south) and the Spanish
 369 islands. Although we did not select practices randomly and our sample could under-represent patients who attend very
 370 infrequently, [42] the study population is likely to be representative of primary care attendees in Spain.

372 Comparison with existing literature

373 Compared to cohort studies of depressed patients in general practice, [9] in our study there was a large difference
 374 between the dropouts at 6 and 12 months. This may be because our participants were a random sample of all
 375 attendees rather than patients with depression. It may also have occurred because the baseline recruitment of patients was
 376 conducted through their family physicians, when patients may feel obliged to participate. When they were asked by the
 377 research team for a second interview at 6 months they felt freer to refuse. Analysis of the reasons why some patients
 378 were not interviewed during the follow-up supports this hypothesis. If we include in what we can call the 'refused to
 379 participate' group those patients who failed to attend their appointments, did not want to participate further, or had no time
 380 available, we obtain the figure of 52.4% (discounting missing values). Patients who refused at 6 months included a higher
 381 proportion of employed and tended to be more satisfied with their jobs; therefore, they might have been busy and had
 382 less time and motivation to attend interviews. Additionally, their psychosocial profile showed a tendency to isolation
 383 and poorer quality of life in mental health.

384 Patients who were not located amounted to 23.6%. This could be due not only to true absences and failures in the
 385 recruitment strategies, but also because the patients did not want to be located and pretended to be away. Patients
 386 interviewed in January and February were interviewed again at six months, in July and August, so some of the
 387 interviews were carried out in summer when many people leave their homes to go on holiday, which contributed to the increase
 388 in the non-located patients. A similar situation occurred with the Spanish sample in the predictD international study; [3]
 389 among all six participating European countries we obtained the best baseline recruitment but the worst response at
 390 the 6-month follow-up, which also included interviews in summer. The predictD international study was able to
 391 interview 90% of the patients at 6 months, although the baseline refusal was higher (about 30%), rising to over 50% in
 392 the UK and the Netherlands. These last two countries recruited the patients in surgery waiting rooms with no family
 393 physician participation. Both recruitment methods, in the waiting room or after discussion with the family physician,
 394 have advantages and disadvantages. The former may be associated with higher response to follow-up but may introduce
 395 a selection bias due to greater initial refusal. Furthermore, it is not possible to determine the magnitude and direction of this
 396 bias as we do not have information on study variables for the patients who refused to participate at baseline; therefore it is
 397 not possible to use weighting or other methods for controlling selection bias that could be introduced.

398 Sex (male) and age (younger) were variables that were associated in nearly all types and times of attrition, even with
 399 patients who refused to participate at baseline. Similar findings were seen with patients with a lower level of education, a
 400 low income and born outside Spain. Consequently, this type of patient should be considered a priority to implement
 401 retention strategies. The province was the main predictor of attrition at 6 and 12 months. This may occur in multicenter studies
 402 as a result of the variability introduced by different population characteristics. However, the attitudes,
 403 organizations and resources of the research teams in each province may be more decisive. [43] Additional support for this
 404 is that the magnitude and direction of their effects varied depending on time of evaluation and even if patients were not located

or refused. This takes on still more importance if (as in the predictD international study with the variable country) [4] we include province in our equation for predicting the onset and persistence of depression in Spain.

Our socio-demographic predictors of attrition were very similar to those of the Netherlands Mental Health Survey and Incidence Study (NEMESIS), [14] the Epidemiologic Catchment Area Surveys (ECA) [15] and the Study of the Mental Health of Adults Living in Private Households in Great Britain (NPMB). [16] In common with the first two of these, we also found that alcohol dependence predicted non-response; however, unlike them, we did not find effects of depression and anxiety on attrition; although such effects were only weak-to-moderate in these studies. In the NPMB study there was little difference between responders and non-responders in terms of the level of symptoms of common mental disorders reported in the baseline survey. However, the target populations of these three studies were community-based populations, whereas our population was primary care attendees. A prospective cohort study [44] to estimate risk factors associated with the incidence of psychiatric disorders in consecutive primary care attendees found that men (but not women) lost to follow-up were younger and had lower Revised Clinical Interview Schedule scores. However, the limited number of non-responses at 12 months made it difficult to obtain significant differences between the study variables. Certain psychosocial factors were associated with non-response: dissatisfaction with the neighborhood, higher religious-spiritual intensity, discrimination experienced and satisfaction with sexual relationships with a partner were associated with both types of attrition, at 6 months and 12 months; while lower lifetime depression was associated preponderantly at 6 months. We have found no reference in the literature to the influence of these variables on attrition. Although the associations found were weak-to-moderate, they are suggestive of factors linked to personality and lifestyle, which may be worthy of further exploration in future studies of attrition in cohort studies.

The profile of patients who were lost at 12 months differed depending on whether we included the whole sample or only those who were interviewed at 6 months, as expected. For example, in the patients interviewed at 6 months, dissatisfaction with sexual relationships with partner and sexual childhood abuse were variables related to attrition in an opposite direction (Model 2 versus Model 6 and 7). These differences increased regarding sexual childhood abuse when we used independent variables measured at baseline versus 6 months.

Implications

In order to reduce the proportion of patients who are not located, interviews should not be scheduled in July and August, whilst more attention should be paid to employed patients who are satisfied with their jobs in order to avoid patient refusal. Socio-demographic variables such as male sex, born outside the country, a lower age, level of education and income and several psychosocial variables, such as problems with alcohol, very close persons with serious alcohol and drug problems, a higher perception of discrimination, dissatisfaction with neighborhood or higher intensity of religious beliefs, could be used as indicators of an increased risk of attrition, applying special measures to retain them in longitudinal studies. Our findings also show that baseline characteristics are not sufficient to analyse

non-response in longitudinal studies, suggesting that different retention strategies should be applied for patients interviewed at 6 and 12 months.

Patients who were not interviewed were different to those who were interviewed concerning a number of possible predictor variables of the onset and persistence of depression in primary care. In these cases, and whenever possible, the selection bias needs to be explicitly corrected in the analysis. [1] We shall use “inverse probability weighting” to take account of these factors in our risk analysis of the onset and persistence of depression, as this approach can provide unbiased estimates of causal effects, even in the presence of selection bias. [45]

462 Acknowledgements

463 The authors thank the Primary Care District of Malaga, particularly Dr. Jose Miguel Morales and Dr. Maximiliano
464 Vilaseca. We are also grateful to the PREDICT-Europe Core group members: Dr. Miguel Xavier, Dr. Igor Svad,
465 Dr. Heidi-Ingrid Maaros, Dr. Jan Neelman, Dr. Francisco Torres-González, Dr. Irwin Nazareth and Dr. Michael King.
466

467 Conflict of interest

468 The authors all declare they have no competing interests. Grants

469 This work was supported in Spain by grants from the Spanish Ministry of Health [grant FIS references:
470 PI041980, PI041771, PI042450, and PI06/1442]; the Andalusian Council of Health [grant references: 05/403, and
471 06/278]; the Spanish Network of Primary Care Research “redIAPP” (RD06/0018), the “Aragón group”
472 (RD06/0018/0020), the “Balears group” (RD07/0018/0033), and the “SAMSERAP group” (RD06/0018/0039). The
473 Malaga sample, as part of the predictD-International study, was also co-funded by a grant from The European
474 Commission [reference QL4- CT2002-00683].
475

476 Author contributions

477 JAB is guarantor for the predictD-Spain study. JAB, B M-K, F T-G, and C M-F obtained funding for implementing the
478 study in Spain. JAB coordinated the predictD-Spain study. B M-K, F G-T, C M-F, MJ GdG-B, M S-C, MA D-B,
479 and CV coordinated the study in each Spanish province. MT M-C, B O-B, A V-M, MS S-A, S M, E M-M, MM M-
480 G, and P M-P collaborated implementing the study in each province. MK and IN developed the idea and obtained
481 funding for the predictD International study. JDL collaborated in the design, and JAB and JDL analysed the data. JAB
482 drafted the paper and all authors agreed the final version.
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"What this paper adds"

What is already known on this subject?

Factors associated with attrition in longitudinal surveys have been investigated in several studies, but few data are available on the psychosocial factors associated with loss of respondents, and even fewer concerning primary care cohorts.

What does this study add?

Socio-demographic and factors related to the participant centers (provinces) were more strongly associated with attrition than psychosocial factors.

Major depression and anxiety had no effect but other psychosocial factors did have an effect on attrition. We also found different profiles for the patients lost at 12 months when included predictors measured at baseline versus 6 months.

We identify several factors and strategies that might reduce the number of patients who are not located or refuse to remain in longitudinal studies

TABLE A: Crude and adjusted odds ratios of attrition in relation to social, demographic and work variables. (WEB ONLY)

| VARIABLES | Refused at 6 months (Model 5) ^a | | | | Attrition at 12 months (Model 3) ^b | | | | Attrition at 12 months (Model 7) ^c | | | |
|---|--|---------------|-------------|---------------|---|---------------|-------------|---------------|---|---------------|-------------|---------------|
| | Independent variables measured at baseline | | | | Independent variables measured at baseline | | | | Independent variables measured at 6 months | | | |
| | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | |
| | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. |
| Attrition at 6 months | | | | | 48.4 | 39.7 - 59.1 | 54.4 | 42.2 - 70.1 | | | | |
| Province | | | | | | | | | | | | |
| Malaga | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | | |
| Granada | 0.24 | 0.10 - 0.55 | 0.25 | 0.11 - 0.57 | 1.05 | 0.69 - 1.58 | 0.90 | 0.42 - 1.92 | 1.38 | 0.74 - 2.57 | 1.65 | 0.66 - 4.15 |
| Zaragoza | 0.14 | 0.06 - 0.35 | 0.17 | 0.07 - 0.42 | 1.45 | 0.95 - 2.22 | 1.72 | 0.79 - 3.73 | 2.51 | 1.34 - 4.67 | 2.89 | 1.16 - 7.22 |
| Madrid | 0.54 | 0.23 - 1.24 | 0.49 | 0.22 - 1.11 | 1.71 | 1.11 - 2.62 | 0.75 | 0.35 - 1.59 | 1.02 | 0.51 - 2.05 | 1.00 | 0.37 - 2.66 |
| La Rioja | 0.89 | 0.42 - 1.92 | 0.92 | 0.42 - 1.99 | 0.94 | 0.62 - 1.43 | 0.36 | 0.16 - 0.79 | 1.24 | 0.65 - 2.36 | 1.24 | 0.47 - 3.24 |
| Majorca | 0.72 | 0.32 - 1.65 | 0.71 | 0.31 - 1.61 | 3.28 | 2.14 - 5.02 | 1.51 | 0.70 - 3.25 | 3.26 | 1.69 - 6.27 | 3.42 | 1.32 - 8.85 |
| Las Palmas | 1.15 | 0.44 - 3.04 | 0.95 | 0.36 - 2.46 | 2.56 | 1.53 - 4.30 | 1.58 | 0.62 - 4.02 | 2.38 | 1.08 - 5.24 | 2.80 | 0.90 - 8.78 |
| Interview date at baseline (January to March) | 1.24 | 0.84 - 1.82 | 1.11 | 0.74 - 1.65 | 1.04 | 0.78 - 1.38 | 0.79 | 0.49 - 1.27 | 0.83 | 0.54 - 1.27 | 0.67 | 0.37 - 1.20 |
| Sex (male) | 1.23 | 1.02 - 1.47 | 1.30 | 1.03 - 1.63 | 1.43 | 1.26 - 1.61 | 1.58 | 1.22 - 2.03 | 1.34 | 1.09 - 1.64 | 1.29 | 0.95 - 1.75 |
| Age (years) | 0.992 | 0.987 - 0.998 | 0.995 | 0.985 - 1.004 | 0.990 | 0.986 - 0.994 | 0.982 | 0.972 - 0.994 | 0.987 | 0.980 - 0.993 | 0.977 | 0.964 - 0.991 |
| Marital status | | | | | | | | | | | | |
| Married | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | | |
| Separated | 1.06 | 0.69 - 1.61 | 0.98 | 0.62 - 1.54 | 1.40 | 1.06 - 1.84 | 1.02 | 0.51 - 2.02 | 1.24 | 0.75 - 2.03 | 0.69 | 0.35 - 1.37 |
| Widowed | 1.12 | 0.79 - 1.57 | 1.39 | 0.93 - 2.06 | 1.01 | 0.80 - 1.29 | 1.88 | 0.91 - 3.88 | 1.07 | 0.72 - 1.58 | 0.93 | 0.51 - 1.67 |
| Divorced | 1.07 | 0.61 - 1.87 | 0.99 | 0.55 - 1.80 | 1.58 | 1.09 - 2.29 | 0.94 | 0.42 - 2.13 | 2.04 | 1.19 - 3.51 | 1.59 | 0.77 - 3.35 |
| Single | 1.38 | 1.11 - 1.70 | 1.38 | 1.05 - 1.82 | 1.56 | 1.35 - 1.80 | 1.06 | 0.75 - 1.49 | 1.44 | 1.14 - 1.83 | 0.97 | 0.68 - 1.40 |
| Occupation | | | | | | | | | | | | |
| Employed | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | | |
| Unemployed | 0.94 | 0.67 - 1.32 | 0.66 | 0.42 - 1.05 | 1.25 | 0.98 - 1.58 | 1.52 | 0.91 - 2.55 | 1.19 | 0.81 - 1.75 | 0.90 | 0.47 - 1.73 |
| Retired | 0.68 | 0.53 - 0.89 | 0.50 | 0.31 - 0.79 | 0.88 | 0.75 - 1.05 | 1.12 | 0.67 - 1.88 | 0.78 | 0.59 - 1.01 | 1.06 | 0.56 - 1.99 |
| Unable to work | 0.81 | 0.59 - 1.11 | 0.62 | 0.40 - 0.95 | 0.94 | 0.75 - 1.18 | 0.86 | 0.53 - 1.39 | 0.88 | 0.59 - 1.31 | 0.85 | 0.43 - 1.69 |
| Looking after family or home | 0.73 | 0.58 - 0.91 | 0.59 | 0.39 - 0.90 | 0.65 | 0.56 - 0.77 | 0.78 | 0.48 - 1.26 | 0.51 | 0.39 - 0.67 | 0.54 | 0.30 - 0.98 |
| In full-time education | 0.48 | 0.24 - 0.94 | 0.31 | 0.15 - 0.67 | 0.65 | 0.43 - 0.97 | 0.32 | 0.14 - 0.74 | 0.48 | 0.20 - 1.13 | 0.19 | 0.05 - 0.72 |
| Other | 0.33 | 0.04 - 2.62 | 0.32 | 0.04 - 2.66 | 0.85 | 0.29 - 2.45 | 0.60 | 0.09 - 3.91 | 0.61 | 0.07 - 5.50 | 0.83 | 0.06 - 10.6 |
| Country of birth (foreign) | 1.00 | 0.67 - 1.50 | 1.06 | 0.62 - 1.11 | 1.57 | 1.22 - 2.03 | 1.32 | 0.81 - 2.16 | 1.56 | 1.03 - 2.35 | 1.18 | 0.64 - 2.17 |
| Ethnicity (not white) | 1.59 | 0.86 - 2.95 | 1.41 | 0.75 - 2.66 | 1.74 | 1.14 - 2.64 | 1.15 | 0.51 - 2.58 | 2.31 | 1.26 - 4.24 | 1.23 | 0.48 - 3.15 |
| Level of education ¹ | 1.14 | 1.03 - 1.25 | 1.28 | 1.14 - 1.44 | 1.07 | 1.00 - 1.15 | 1.15 | 1.01 - 1.31 | 0.97 | 0.87 - 1.08 | 1.08 | 0.92 - 1.28 |
| Annual Income after taxes ² | 0.93 | 0.84 - 1.03 | 0.95 | 0.85 - 1.06 | 0.93 | 0.86 - 0.99 | 0.94 | 0.83 - 1.06 | 0.97 | 0.87 - 1.08 | 0.97 | 0.84 - 1.11 |
| Difficulty managing financially ³ | 0.92 | 0.80 - 1.05 | | | 1.08 | 0.98 - 1.19 | 0.99 | 0.63 - 1.19 | 1.16 | 0.98 - 1.36 | 1.15 | 0.88 - 1.50 |
| Difficulty affording food or clothing ³ | 0.97 | 0.87 - 1.08 | | | 1.08 | 1.00 - 1.16 | 1.03 | 0.87 - 1.23 | 1.20 | 1.07 - 1.35 | 1.17 | 0.97 - 1.41 |
| Difficulty meeting payment of bills ⁴ | 1.00 | 0.94 - 1.07 | | | 0.92 | 0.88 - 0.97 | 0.92 | 0.81 - 1.03 | 0.94 | 0.87 - 1.02 | 1.09 | 0.95 - 1.24 |
| Dissatisfaction with unpaid work scale ⁵ | 0.97 | 0.77 - 1.23 | | | 1.04 | 0.88 - 1.23 | | | 1.70 | 0.85 - 3.42 | 1.40 | 0.54 - 3.59 |
| Dissatisfaction with paid work scale ⁵ | 1.10 | 1.02 - 1.18 | 0.88 | 0.75 - 1.03 | 1.09 | 1.03 - 1.15 | 0.96 | 0.81 - 1.15 | 1.42 | 1.15 - 1.76 | 0.88 | 0.49 - 1.59 |

^a [Interviewed = 3,804 / refused (285) + not time (231) + failed to attend appointments (178) = 694]; ^b(Interviewed = 3,567 / Not interviewed = 1,875 and adjusted for the variable "attrition at 6 months"); ^c(Interviewed = 3,300 / not interviewed = 504). ¹ Codes: 1 (university), 2 (secondary), 3 (primary), 4 (< primary). ² Codes: 1 (<15,000€), 2 (15,000 – 30,000€), 3 (30,001 – 45,000€), 4 (>45,000€). ³, codes: 1 (never), 2 (seldom), 3 (sometimes), 4 (often), 5 (always). ⁴ Codes: 1 (always), 2 (often), 3 (sometimes), 4 (seldom), 5 (never). ⁵(range 0-23) Transformed by logarithm (x+1). Figures in bold p<0.05.

TABLE B: Crude and adjusted odds ratios of attrition in relation to relational and stressful factors. (WEB ONLY)

| VARIABLES | Refused at 6 months (Model 5) ^a | | | | Attrition at 12 months (Model 3) ^b | | | | Attrition at 12 months (Model 7) ^c | | | |
|---|--|-------------|-------------|-------------|---|-------------|-------------|-------------|---|-------------|-------------|-------------|
| | Independent variables measured at baseline | | | | Independent variables measured at baseline | | | | Independent variables measured at 6 months | | | |
| | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | |
| | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. |
| Living alone (yes) | 0.79 | 0.56 - 1.12 | 0.70 | 0.47 - 1.03 | 0.92 | 0.74 - 1.13 | | | 1.49 | 1.06 - 2.08 | 1.25 | 0.71 - 2.18 |
| Satisfied with living together at home ¹ | 1.04 | 0.95 - 1.13 | | | 1.04 | 0.98 - 1.11 | 0.97 | 0.86 - 1.10 | 1.03 | 0.93 - 1.14 | | |
| Dissatisfaction with neighborhood ¹ | 1.06 | 0.97 - 1.16 | 1.00 | 0.91 - 1.10 | 1.14 | 1.08 - 1.22 | 1.19 | 1.05 - 1.34 | 1.14 | 1.03 - 1.26 | 1.01 | 0.88 - 1.17 |
| Feel unsafe inside home ² | 0.92 | 0.81 - 1.05 | | | 0.99 | 0.91 - 1.09 | | | 1.11 | 0.95 - 1.28 | 0.81 | 0.63 - 1.03 |
| Feel unsafe traveling to and from home ² | 1.00 | 0.91 - 1.12 | | | 1.03 | 0.96 - 1.11 | | | 1.18 | 1.04 - 1.33 | 1.22 | 1.00 - 1.48 |
| Good family and friends support ³ | 0.75 | 0.59 - 0.97 | 0.81 | 0.62 - 1.06 | 0.82 | 0.68 - 0.98 | 1.10 | 0.80 - 1.52 | 0.64 | 0.47 - 0.87 | 0.76 | 0.50 - 1.15 |
| List of threatening experiences | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | |
| • None | 0.83 | 0.67 - 1.04 | 0.79 | 0.63 - 1.00 | 0.99 | 0.85 - 1.14 | 0.90 | 0.72 - 1.15 | 1.22 | 0.97 - 1.54 | 1.05 | 0.79 - 1.39 |
| • 1 | 0.89 | 0.70 - 1.15 | 0.82 | 0.63 - 1.07 | 0.96 | 0.81 - 1.15 | 0.80 | 0.59 - 1.07 | 1.00 | 0.74 - 1.35 | 0.71 | 0.48 - 1.04 |
| • 2 | 1.02 | 0.73 - 1.43 | 0.83 | 0.59 - 1.20 | 1.15 | 0.91 - 1.44 | 0.55 | 0.34 - 0.89 | 1.34 | 0.90 - 2.00 | 0.75 | 0.44 - 1.27 |
| • 3 | 1.37 | 0.96 - 1.97 | 1.12 | 0.76 - 1.65 | 1.67 | 1.29 - 2.27 | 1.22 | 0.74 - 2.02 | 1.66 | 1.06 - 2.60 | 0.73 | 0.37 - 1.43 |
| • >3 | | | | | | | | | | | | |
| Serious problems in very close persons | | | | | | | | | | | | |
| Alcohol-drugs | 1.15 | 0.91 - 1.45 | | | 1.22 | 1.03 - 1.43 | 1.16 | 0.83 - 1.62 | 1.31 | 1.00 - 1.73 | 1.09 | 0.76 - 1.55 |
| Psychological | 0.90 | 0.72 - 1.12 | | | 0.96 | 0.82 - 1.12 | 0.77 | 0.56 - 1.06 | 1.08 | 0.83 - 1.40 | | |
| Physical | 0.77 | 0.61 - 0.98 | 0.75 | 0.58 - 0.96 | 0.96 | 0.82 - 1.12 | | | 0.87 | 0.67 - 1.11 | | |
| Disability | 0.86 | 0.67 - 1.10 | | | 0.96 | 0.81 - 1.15 | 1.45 | 1.04 - 2.01 | 0.92 | 0.68 - 1.24 | | |
| Satisfaction with sexual relationships | 1.00 | | | | 1.00 | | 1.00 | | 1.00 | | | |
| • dissatisfied ⁴ | 1.04 | 0.82 - 1.32 | | | 1.20 | 1.01 - 1.42 | 1.21 | 0.93 - 1.57 | 0.68 | 0.53 - 0.89 | 1.00 | |
| • very or fairly satisfied | 0.91 | 0.51 - 1.64 | | | 0.81 | 0.48 - 1.37 | 0.73 | 0.34 - 1.54 | 0.22 | 0.05 - 0.94 | 0.69 | 0.50 - 0.96 |
| • I don't have a partner | 1.00 | | | | 1.00 | | | | 1.00 | | 0.17 | 0.04 - 0.80 |
| Emotional relationships with partner | 1.09 | 0.81 - 1.47 | | | 0.89 | 0.73 - 1.09 | | | 0.72 | 0.53 - 0.98 | 1.00 | |
| • dissatisfied ⁴ | 0.98 | 0.53 - 1.81 | | | 0.66 | 0.39 - 1.12 | | | 0.22 | 0.05 - 0.95 | 0.97 | 0.65 - 1.45 |
| • very or fairly satisfied | | | | | | | | | | | (β) | |
| • I don't have a partner | 0.95 | 0.88 - 1.02 | | | 1.00 | 0.95 - 1.05 | | | 0.90 | 0.82 - 0.98 | | |
| Overall sex life ⁵ | | | | | | | | | | | 0.96 | 0.86 - 1.07 |
| Difficulty getting on with people | | | | | | | | | | | | |
| In general ⁶ | 1.00 | 0.84 - 1.18 | | | 0.92 | 0.82 - 1.03 | 0.87 | 0.63 - 1.19 | 0.93 | 0.76 - 1.13 | | |
| Close relationships ⁶ | 0.97 | 0.82 - 1.16 | | | 0.92 | 0.82 - 1.03 | 1.34 | 0.94 - 1.92 | 0.83 | 0.68 - 1.00 | 1.04 | 0.82 - 1.33 |

^a [Interviewed = 3,804 / refused (285) + not time (231) + failed to attend appointments (178) = 694]; ^b(Interviewed = 3,567 / Not interviewed = 1,875, and adjusted for the variable "attrition at 6 months"); ^c(Interviewed = 3,300 / not interviewed = 504). CI: Confidence Intervals; OR: Odds ratio. ¹Codes: 1 (very satisfied), 2 (fairly satisfied), 3 (neither satisfied nor dissatisfied), 4 (fairly dissatisfied), 5 (very dissatisfied). ²Codes: 1 (very safe), 2 (fairly safe), 3 (not very safe), 4 (not at all safe). ³ Score >16 (range 7-21). ⁴Neither satisfied nor dissatisfied, fairly dissatisfied, or very dissatisfied. ⁵Codes: 1 (very dissatisfied), 2 (fairly dissatisfied), 3 (neither satisfied nor dissatisfied), 4 (fairly satisfied), 5 (very satisfied). ⁶Codes: 1 (Most of the time), 2 (frequently), 3 (sometimes), 4 (no problem). (β) Dropped because of collinearity. Figures in bold p<0.05.

TABLE C: Crude and adjusted odds ratios of attrition in relation to psychological and physical illnesses, and other variables. (WEB ONLY)

| VARIABLES | Refused at 6 months (Model 5) ^a | | | | Attrition at 12 months (Model 3) ^b | | | | Attrition at 12 months (Model 7) ^c | | | |
|---|--|---------------|-------------|---------------|---|---------------|-------------|---------------|---|---------------|-------------|---------------|
| | Independent variables measured at baseline | | | | | | | | Independent variables measured at 6 months | | | |
| | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | | Unadjusted OR | | Adjusted OR | |
| | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. | OR | 95% C.I. |
| Major depression (DSM-IV) | 0.88 | 0.68 - 1.15 | | | 1.14 | 0.96 - 1.36 | 1.18 | 0.80 - 1.73 | 1.15 | 0.84 - 1.58 | 0.90 | 0.61 - 1.30 |
| Anxiety | | | | | | | | | | | | |
| Panic Attack | 1.07 | 0.77 - 1.49 | | | 1.08 | 0.85 - 1.37 | | | 1.30 | 0.87 - 1.94 | | |
| Generalized Anxiety Disorder | 1.06 | 0.76 - 1.48 | | | 1.01 | 0.79 - 1.29 | | | 1.30 | 0.83 - 2.03 | | |
| Other Anxiety Disorders | 0.91 | 0.64 - 1.30 | | | 1.04 | 0.81 - 1.33 | | | 1.10 | 0.70 - 1.73 | | |
| Alcohol problems | | | | | | | | | | | | |
| No problem | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | |
| Misuse | 1.63 | 1.13 - 2.34 | 1.30 | 0.87 - 1.95 | 1.66 | 1.26 - 2.18 | 1.09 | 0.61 - 1.95 | 1.53 | 0.90 - 2.57 | 0.96 | 0.47 - 1.98 |
| Dependant | 1.60 | 0.82 - 3.13 | 1.23 | 0.61 - 2.49 | 2.17 | 1.31 - 3.59 | 2.47 | 0.80 - 7.62 | 2.93 | 1.12 - 7.65 | 2.80 | 0.88 - 8.96 |
| Long-standing illness, disability or infirmity | 1.02 | 0.86 - 1.22 | | | 0.96 | 0.85 - 1.09 | | | 0.93 | 0.76 - 1.13 | 0.99 | 0.73 - 1.34 |
| Quality of life (SF-12) | | | | | | | | | | | | |
| Physical (ranged 0-100) | 1.002 | 0.995 - 1.010 | | | 0.998 | 0.993 - 1.004 | | | 1.000 | 0.992 - 1.010 | 0.997 | 0.984 - 1.010 |
| Mental (ranged 0-100) | 0.991 | 0.985 - 0.999 | 0.992 | 0.985 - 1.000 | 0.994 | 0.990 - 0.999 | 0.999 | 0.988 - 1.010 | 0.988 | 0.980 - 0.996 | 0.990 | 0.979 - 1.002 |
| Lifetime depression | 0.90 | 0.76 - 1.07 | | | 0.93 | 0.83 - 1.05 | 1.10 | 0.86 - 1.41 | 1.10 | 0.90 - 1.34 | 1.09 | 0.82 - 1.48 |
| Serious psychological problems in family members | | | | | | | | | | | | |
| Father | 1.07 | 0.79 - 1.45 | | | 1.00 | 0.80 - 1.25 | | | 1.03 | 0.71 - 1.49 | | |
| Mother | 0.94 | 0.75 - 1.17 | | | 0.95 | 0.81 - 1.11 | | | 0.94 | 0.73 - 1.22 | | |
| Brothers | 0.91 | 0.69 - 1.21 | | | 0.97 | 0.80 - 1.18 | | | 1.01 | 0.74 - 1.38 | | |
| Sisters | 1.10 | 0.87 - 1.39 | | | 0.90 | 0.75 - 1.06 | | | 0.72 | 0.53 - 0.96 | 0.85 | 0.57 - 1.28 |
| Family suicide | | | | | | | | | | | | |
| Father | 0.46 | 0.11 - 2.01 | | | 0.55 | 0.23 - 1.32 | 0.63 | 0.14 - 2.80 | 0.30 | 0.04 - 2.34 | | |
| Mother | 1.65 | 0.30 - 9.07 | | | 0.99 | 0.26 - 4.36 | | | 2.29 | 0.22 - 23.5 | | |
| Brothers | 1.15 | 0.46 - 2.86 | | | 1.00 | 0.51 - 1.95 | | | 0.59 | 0.13 - 2.64 | | |
| Sisters | 1.40 | 0.37 - 5.20 | | | 0.42 | 0.13 - 1.32 | 0.19 | 0.03 - 1.24 | 1.06 | 0.22 - 5.04 | | |
| Religious-Spiritual beliefs | | | | | | | | | | | | |
| Religious | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | | 1.00 | |
| Spiritual | 1.15 | 0.90 - 1.46 | 1.23 | 0.95 - 1.60 | 1.15 | 0.98 - 1.35 | 0.96 | 0.71 - 1.29 | 0.87 | 0.67 - 1.12 | 0.67 | 0.48 - 0.94 |
| Neither religious nor spiritual | 1.19 | 0.96 - 1.50 | 1.10 | 0.85 - 1.42 | 1.21 | 1.03 - 1.42 | 1.03 | 0.54 - 1.93 | 1.28 | 0.99 - 1.65 | 1.09 | 0.79 - 1.51 |
| Higher religious-spiritual intensity ¹ | 1.04 | 0.97 - 1.12 | | | 1.04 | 0.99 - 1.09 | 1.18 | 0.09 - 1.28 | 0.96 | 0.88 - 1.04 | (β) | |
| Discrimination experienced ² | | | | | | | | | | | | |
| None | 1.00 | | | | 1.00 | | 1.00 | | 1.00 | | 1.00 | |
| One | 1.02 | 0.75 - 1.39 | | | 1.35 | 1.11 - 1.66 | 1.09 | 0.75 - 1.58 | 1.26 | 0.88 - 1.82 | 0.90 | 0.56 - 1.45 |
| Two | 1.20 | 0.67 - 2.14 | | | 1.61 | 1.09 - 2.38 | 1.21 | 0.63 - 2.31 | 2.59 | 1.32 - 5.00 | 1.80 | 0.73 - 4.43 |
| Higher than two | 0.49 | 0.15 - 1.64 | | | 1.13 | 0.56 - 2.19 | 1.48 | 0.45 - 4.86 | 1.61 | 0.59 - 4.40 | 1.24 | 0.31 - 5.02 |
| Childhood abuse | | | | | | | | | | | | |
| Physical ³ | 0.96 | 0.86 - 1.07 | | | 1.09 | 1.02 - 1.17 | 1.01 | 0.88 - 1.17 | 1.13 | 1.01 - 1.27 | 1.08 | 0.60 - 1.95 |
| Psychological ³ | 0.94 | 0.86 - 1.03 | | | 1.02 | 0.96 - 1.08 | | | 1.06 | 0.96 - 1.17 | | |
| Sexual ³ | 0.84 | 0.63 - 1.12 | | | 1.08 | 0.90 - 1.28 | | | 1.39 | 1.12 - 1.73 | 4.10 | 1.12 - 15.0 |

^a [Interviewed = 3,804 / refused (285) + not time (231) + failed to attend appointments (178) = 694]; ^b (Interviewed = 3,567 / Not interviewed = 1,875, and adjusted for the variable "attrition at 6 months"); ^c (Interviewed = 3,300 / not interviewed = 504). CI: Confidence Intervals; OR: Odds ratio. ¹ Range: from 1 (weakly held) to 6 (strongly held). ² The type of discrimination included: skin color or ethnicity, sex, age, appearance, handicap or sexual orientation. ³ Codes 1 (Never), 2 (seldom), 3 (sometimes), 4 (often), 5 (frequently). (β) Dropped because of collinearity. Figures in bold p < 0.05.

Figure 1: Flowchart of the predictD-Spain study (2006 – 2007).

