The stratified medicalisation of mental health symptoms: educational inequalities in the use of psychotropic medication in Belgium

L. Colman · K. Delaruelle · P. Bracke

Corresponding author:

Lisa Colman, PhD-student

Department of Sociology, HeDeRa (Health and Demographic Research), Ghent University, Sint-Pietersnieuwstraat 41 B1, 9000 Ghent

E-mail: Lisa.Colman@UGent.be

ORCID: https://orcid.org/0000-0002-1321-330

Affiliations:

L. Colman · K. Delaruelle · P. Bracke

Department of Sociology, HeDeRa (Health and Demographic Research), Ghent University, Korte Meer 5, 9000 Ghent

Total number of words (main text): 3977

Total number of words (abstract): 246

Keywords: 5

The stratified medicalisation of mental health symptoms: educational inequalities in the use of psychotropic medication in Belgium

Colman, L., Delaruelle, K., Bracke, P.

Abstract

Purpose. Several studies have shown socioeconomic inequalities in psychotropic medication use, but most of these studies are inspired by Andersen's behavioural model of health care use, which strongly focusses on individuals' needs. Andersen's model pays little attention to health care use that is not based on need and insubstantially recognises the context dependentness of individuals. Medicalisation, however, is a context-dependent interactive process that not only interacts with need determinants, but also with non-need determinants that affect health care use. Therefore, this study will examine if psychotropic medication use is stratified, and whether this is not simply the result of differences in need for care, but also influenced by factors not based on need, initiating the stratified medicalisation of mental health symptoms.

Methods. Data from the Belgian Health Interview Survey (BHIS) is used. This study covers information from 5 successive waves: 2001, 2004, 2013, 2018. The weighted data represent a sample of the adult Belgian population. The research aims are analysed using stepwise Poisson regression models, where the models are also plotted to detect evolutions over time, using marginal means postestimation.

Results. The results reveal that educational inequalities in psychotropic medication use are significant and persistently visible over time. Even after entering need for care, educational inequalities remain significant.

Conclusion. This study shows that psychotropic medication use is stratified and that this is not simply the result of differences in need for care, but also influenced by factors linked to the stratified medicalisation of mental health symptoms.

Keywords. Health Care Use - Psychotropic Medication Use - Health Care Use Inequalities - Educational Inequalities - Medicalisation

Introduction

Psychotropic medications are among the most prescribed medications in Europe [1]. In recent decades, there has been a general increase in their use in Europe [2]. Also in Belgium, use rates have risen over time [3]. Latest figures show that about 21.5% of the Belgian population in 2019 used psychotropic medications [4], making Belgium one of the leading countries within Europe as concerns psychotropic medication use.

To date, several studies have shown socioeconomic inequalities in the use of psychotropic medication, with people with a lower socioeconomic background having higher uses rates compared to people with a higher socioeconomic background. The majority of these studies are inspired by Andersen's [5] behavioural model of health care use and inequalities therein and focus on horizontal equity [6], based on the principle of equal access for equal need [7,8]. In his original model, Andersen differentiates between predisposing (e.g., education, gender, age) and enabling

factors (consisting of community and family enabling resources, e.g., health insurance, social support), which both determine perceptions of need and subsequent health care use.

Despite its widespread use, Andersen's model of health care use is often criticised for its individualistic orientation, mainly because of its strong focus on individuals' needs [9,10]. The initial model has therefore been refined over the years, with the current modified model paying more attention to contextual factors, such as the organisation of the health care system. Nevertheless, health care use is still seen as an individual choice and responsibility [10-12], with need having a determining role. Little attention is paid to interactive processes that can influence health care use, recognising the context-dependentness of individuals, and insufficient attention is paid to health care use that is not based on need.

Medicalisation, however, is one example of an interactive process, focussing on the social context, that impacts both need and non-need determinants of health care use. Conrad [13] depicts medicalisation as a social process in which normal biological processes or behaviours are increasingly described, accepted and treated as medical problems, leading to increased attention for- and growing consumption of medical treatments [14,15]. Medicalisation, as a critical theory, also points to the presence of inequalities in the process of medicalisation [16]. It recognises that medicalisation is a heterogenous process that affects socioeconomic groups in different ways. This is referred to as stratified medicalisation.

Furthermore, medicalisation interacts with what is declared and experienced as 'need for care', since tolerance towards health-related problems and discomfort has lowered [17,14]. Increased feelings and observations of need have an impact on health care use. But medicalisation processes also interact with non-need determinants that affect health care use. For example, the interaction with institutional factors.

To elaborate; two important institutional factors that might interact with the medicalisation of mental health symptoms, are discussed. Both factors are typical of the Belgian case. First, the organisation of the Belgian health care system in which general practitioners (GPs) play an important key position. For instance, GPs prescribe the most of the psychotropic medication in Belgium [18,19], and figures show that there is a pro-low socioeconomic status (SES) bias in GP contact in Belgium [3], which means that people with a lower SES have higher chances of being prescribed medication. In addition, there are also differences in GP-patient interaction, with patients with a lower SES being more likely to be prescribed medical treatment because GPs perceive those patients as lacking the financial but also social and personal resources to handle a more 'active' treatments [20,21].

The second important factor relates to the reimbursement structure of the Belgian health care system. In Belgium, psychopharmaceutical treatments are reimbursed on prescription, but active treatments, such as psychotherapy, are only reimbursed for a small proportion and a limited number of sessions [22]. The extensive reimbursement of psychotropic medication makes them a straightforward prescribing option, especially since GPs often consider the socioeconomic context of their patients when prescribing [23]. Prescribing usually happens without first having psychological counselling about the underlying causes of the complaints.

Both factors lead to the hypothesis that the institutional context may affect the medicalisation of mental health symptoms (due to the great accessibility of GPs and the comprehensive reimbursement of psychotropic medications) and more important inequalities therein. Therefore, this study will examine if psychotropic medication use is stratified, and whether this is not simply the results of differences in need for care but also

influenced by factors not based on need, initiating the stratified medicalisation of mental health symptoms. Medicalisation is thus interpreted and measured as psychotropic medication use beyond actual 'need'. Moreover, if psychotropic medication use differs between socioeconomic groups, and it can only be partly ascribed to differences in need, whilst also controlling for enabling determinants of relevance, evidence is proven for the stratified medicalisation of mental health symptoms. However, as mentioned earlier, we do recognise that medicalisation processes also interact with what is experienced and declared as 'need'. For example, treatment may affect problem definition and therefore assessed need. As such, we do recognise that 'need' is only partially addressed. Since (stratified) medicalisation is an ongoing process, time trends are also incorporated, analysing inequalities in use over time.

Methods

Sample

Data are obtained from the Belgian Health Interview Survey (BHIS). The BHIS is a repeated cross-sectional survey coordinated by Sciensano, the Scientific Institute of Public Health of the federal Belgian State. This study covers information from five successive waves: 2001, 2004, 2008, 2013, 2018. Households and their members are selected from the National Register following a multi-stage stratified sampling procedure. Information is collected through face-to-face interviews, as well as through a self-administered questionnaire. This study includes 31,493 Belgian respondents aged between 25 and 85 years old. Information on data-cleaning is available in appendix (see appendix 1).

Variables

Dependent variable. The question used to operationalise psychotropic medication use gauges the use of prescribed psychotropic medication in the past two weeks, where psychotropic medication consists of antidepressants, sleeping medication and tranquillizers. The variable is recoded as dichotomous (0=no).

Independent variable. Education is used as independent variable. Education has become the most commonly used indicator of SES in health research for several reasons [24,25]; its stable, less subject to reverse causality and acquired first over the life course. Education is measured as the highest level of education completed and is recoded into three categories according to the International Standard Classification of Education of 1997: 0=shorter education (pre-primary or primary education), 2=moderate education (lower- and upper secondary education), and 3=longer education (post-secondary or tertiary education) [ref.cat].

Mediating variables. Mediating variables are grouped into 'enabling' and 'need' determinants, where enabling determinants - encompassing community and family enabling resources - consist of GP-contact in the past twelve months (0=yes), regular GP (0=yes), frequency of social contact (0=less than once a week) and household composition (0=single [ref.cat], 1=partner, 2=other). Need determinants are the mental health scale, measured by respondents' score on the GHQ-12 (Cronbach's alpha=0.88). Likert operationalisation is used, with higher scores indicating lower mental health. The GHQ-12 is a standard and extensively used measure of general well-being [26,27]. Also, a variable of whether respondents suffer from a chronic disease and/or long-term illness is added (0=no).

Control variables. To control for associations with psychotropic medication use, following sociodemographic control variables are added: gender, nationality, region, urbanisation and wave. Gender is included as a dichotomous variable (0=male), together with nationality (0=Belgian). Region is recoded into three categories: 0=Flanders [ref.cat], 1=Brussels, 2=Wallonia, as well as urbanisation: 0=cities-agglomerates [ref.cat], 2=urban-suburban, 3=rural. Wave is incorporated as a categorical variable: 0=2001 [ref.cat], 1=2004, 2=2008, 3=2013, 4=2018.

Statistical procedure

Prevalence rates of psychotropic medication use are reported using weighted proportions and are stratified by wave. After carrying out bivariate statistics, Poisson regression models are tested by estimating adjusted prevalence ratios (APRs) and their corresponding *P*-values. Robust variance estimators are used to ensure that errors are not heteroskedastic. Since psychotropic medication use is highly dependent on age, analyses are run separately for three different age categories (25-44 year, 45-64 year, 65-85 year). However, analyses with the three age categories together are available in appendix (see appendix 2). Models are built stepwise; where the first model contains the dependent variable education and the control variables; in the second model the enabling determinants are added; and in the third model the need determinants are included. Each model is plotted to detect evolutions over time, using marginal means postestimation. Analyses are weighted for survey sampling and non-participation bias and conducted with SPSS 22 and STATA 15.

Results

Bivariate results (see **table 1**) show that overall psychotropic medication use is lower among those with the longest education, compared to those with moderate or shorter education. This educational gradient is persistent over time. Further, psychotropic medication use strongly increases with age. Although time trends partially differ between age categories, we notice an overall increase of psychotropic medication use during the observed period, with a hint towards a decrease in the latest wave. In addition, educational inequalities in use are more pronounced in the youngest age category (odds shorter vs. longer education: 13.1/7.1=1.85), compared to the middle age category (odds shorter vs. longer education: 23.7/16.3=1.45) and oldest age category (odds shorter vs. longer education: 34.4/24.0=1.43). Nevertheless, in all age categories a clear educational gradient is observed.

Table 1. Weighted proportions[a] of psychotropic medication use in the past two weeks among the different age categories, according to education.

	2001-2018	2001	2004	2008	2013	2018	
25-44 year							
N	11,793	2,970	2,507	2,181	1,903	2,232	
	%	%	%	%	%	%	*P*-values[b]: <0.001
Shorter education	13.1	14.8	12.4	9.9	9.1	16.7	
Moderate education	9.8	9.0	8.7	10.4	11.8	10.1	
Longer education	7.1	6.0	8.5	8.3	6.1	6.7	
45-64 year							
N	11,941	2,512	2,383	2,183	2,098	2,765	
	%	%	%	%	%	%	
							P-values[b]: <0.001
Shorter education	23.7	20.4	26.5	25.0	28.7	18.9	
Moderate education	19.9	18.4	19.7	21.0	21.8	19.4	
Longer education	16.3	17.0	16.4	15.7	16.2	16.4	
65-85 year							
N	7,759	1,549	1,866	1,395	1,284	1,665	
	%	%	%	%	%	%	
							P-values[b]: <0.001
Shorter education	34.4	31.7	37.4	36.3	34.7	29.0	
Moderate education	29.6	27.4	32.9	30.1	32.0	25.5	
Longer education	24.0	23.4	27.7	22.5	23.0	23.6	

a: Crude rates, unadjusted for other indicators.
b: Weighted Pearson chi-square test for the entire studies period. *P*-values are lower than 0.001, which indicate that the categories of education are significantly different from each other.

The Poisson regression results (see **table 2**) reveal several common trends visible in all three age categories. To begin with, and in line with the descriptive statistics, those with the longest education report lower levels of psychotropic medication use compared to those with moderate or shorter education. Next, women and people with a Belgian nationality report higher use rates compared to men and people with a non-Belgian nationality. Further, regional differences show that in Brussels and Wallonia use rates are higher compared to Flanders. Concerning the enabling determinants, the results show that having contact with a GP relates to more use. On the other hand, having social contact and living with a partner or having another household composition apart from being single, relates to less use. Regarding the need determinants, the results show the importance of mental health in relation to psychotropic medication use, where people with poorer mental health status report significantly higher levels of use. Also, having a chronic condition and/or longstanding illness highly impacts the use of psychotropic medication.

As for the age-specific Poisson regression results; in the youngest age category, educational differences are no longer significant after entering the need determinants (model 3_a), which makes clear that educational inequalities in psychotropic medication use are mostly related to the shorter educated having a worse mental health, a longstanding illness and/or chronic condition. In the middle and oldest age category, educational inequalities remain significant even after entering the enabling and need determinants (model 3_b and model 3_c). Also, in the middle age category, a significant increase in use over time becomes visible in models 1_b and 2_b, whereas this is not the case in the other age categories.

The plotted graphs of the Poisson regressions (see **figure 1-9**), displaying trends over time, also reveal some common and age specific results. In general, the graphs show that the education gradient is clearly visible and persistent over time (see figure 1, 4 and 7). After entering the enabling determinants, educational inequalities diminish but remain evident (see figure 2, 5 and 8). When the need determinants are inserted, educational inequalities strongly decrease (see figure 3, 6 and 9), indicating the importance of (mental) health in relation to psychotropic medication use. Besides, the effect of entering the enabling and need determinants remains stable over time. Further, the graphs show that psychotropic medication use steadily increases by age, with the oldest age category having visibly higher uses rates compared to the other age categories. In addition, the graphs reveal an overall increase in use, but that increase flattens and is even replaced by a decrease when the need determinants are entered. The decrease in use is most visible in the youngest and middle age category, starting from 2008. In the oldest age category, time trends are less clear, however, the level of use and inequalities in use are most prominent here.

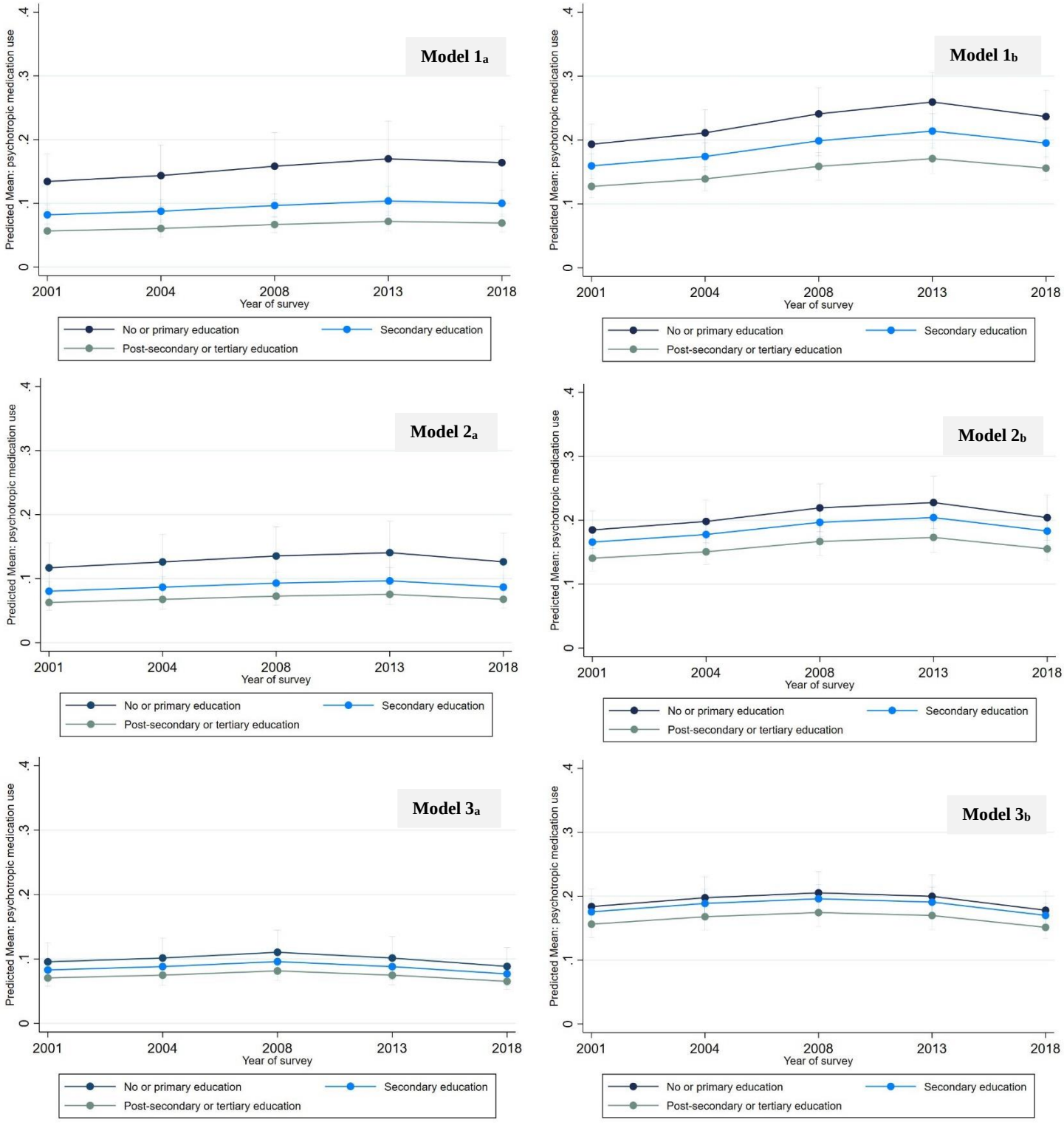
Table 2. Weighted APRs and corresponding *P*-values for psychotropic medication use in the past two weeks among the different age categories, according to characteristics of relevance.

Psychotropic medication use	**25-44 year**			**44-64 year**			**65-85 year**		
	Model 1_a APR *P*-values	Model 2_a APR *P*-values	Model 3_a APR *P*-values	Model 1_b APR *P*-values	Model 2_b APR *P*-values	Model 3_b APR *P*-values	Model 1_c APR *P*-values	Model 2_c APR *P*-values	Model 3_c APR *P*-values
Education *(ref.cat.: longer education)*									
Moderate education	1.45 ***	1.28 **	1.18	1.25 ***	1.18 **	1.12 *	1.28 ***	1.23 **	1.15 *
Shorter education	2.37 ***	1.86 ***	1.35	1.52 ***	1.32 **	1.18 *	1.49 ***	1.37 ***	1.22 **
Control variables									
Gender *(ref.cat.: man)*	1.54 ***	1.40 ***	1.30 **	1.73 ***	1.65 ***	1.55 ***	1.53 ***	1.44 ***	1.36 ***
Nationality *(ref.cat.: Belgian)*	0.54 ***	0.58 ***	0.67 **	0.60 ***	0.63 ***	0.67 ***	0.68 **	0.69 **	0.72 **
Urbanisation *(ref.cat.: cities-agglomerates)*									
Suburban-urban	1.03	1.07	1.13	0.86 *	0.90	0.91	1.07	1.11	1.08
Rural	0.93	0.99	1.11	0.93	1.02	1.06	1.05	1.08	1.09
Region *(ref.cat.: Flanders)*									
Brussels	1.66 ***	1.57 ***	1.22	1.43 ***	1.42 ***	1.22 **	1.36 ***	1.37 ***	1.22 **
Wallonia	1.48 ***	1.48 ***	1.14	1.55 ***	1.51 ***	1.26 ***	1.17 **	1.15 **	1.05
Wave *(ref.cat.: 2001)*									
2004	1.07	1.08	1.06	1.09	1.07	1.07	1.10	1.10	1.14
2008	1.18	1.16	1.16	1.25 **	1.19 *	1.12	1.04	1.04	1.04
2013	1.26	1.20	1.06	1.34 ***	1.23 *	1.09	1.11	1.09	1.07
2018	1.22	1.08	0.93	1.22 *	1.10	0.97	1.03	1.02	1.00
Enabling determinants									
GP contact past 12 months *(ref.cat.: yes)*		0.21 ***	0.31 ***		0.26 ***	0.36 ***		0.29 **	0.36 ***
Regular GP *(ref.cat.: yes)*		0.70	0.85		0.75	0.79		0.67	0.71
Social contact *(ref.cat: less than once a week)*		0.64 ***	0.96		0.70 ***	0.87 *		0.87 *	0.97
Household composition *(ref.cat.: single)*									
Partner		0.50 ***	0.66 ***		0.75 ***	0.88 *		0.84 **	0.85 **
(Other)		0.52 ***	0.64 **		0.80 *	0.89		1.01	0.98
Need determinants									
Mental health status			1.09 ***			1.06 ***			1.05 ***
Chronic condition or longstanding illness *(ref.cat.: no)*			2.50 ***			2.01 ***			1.53 ***
Intercept	0.04 ***	0.13 ***	0.01 ***	0.09 ***	0.02 ***	0.00 ***	0.15 ***	0.21 ***	0.06 ***

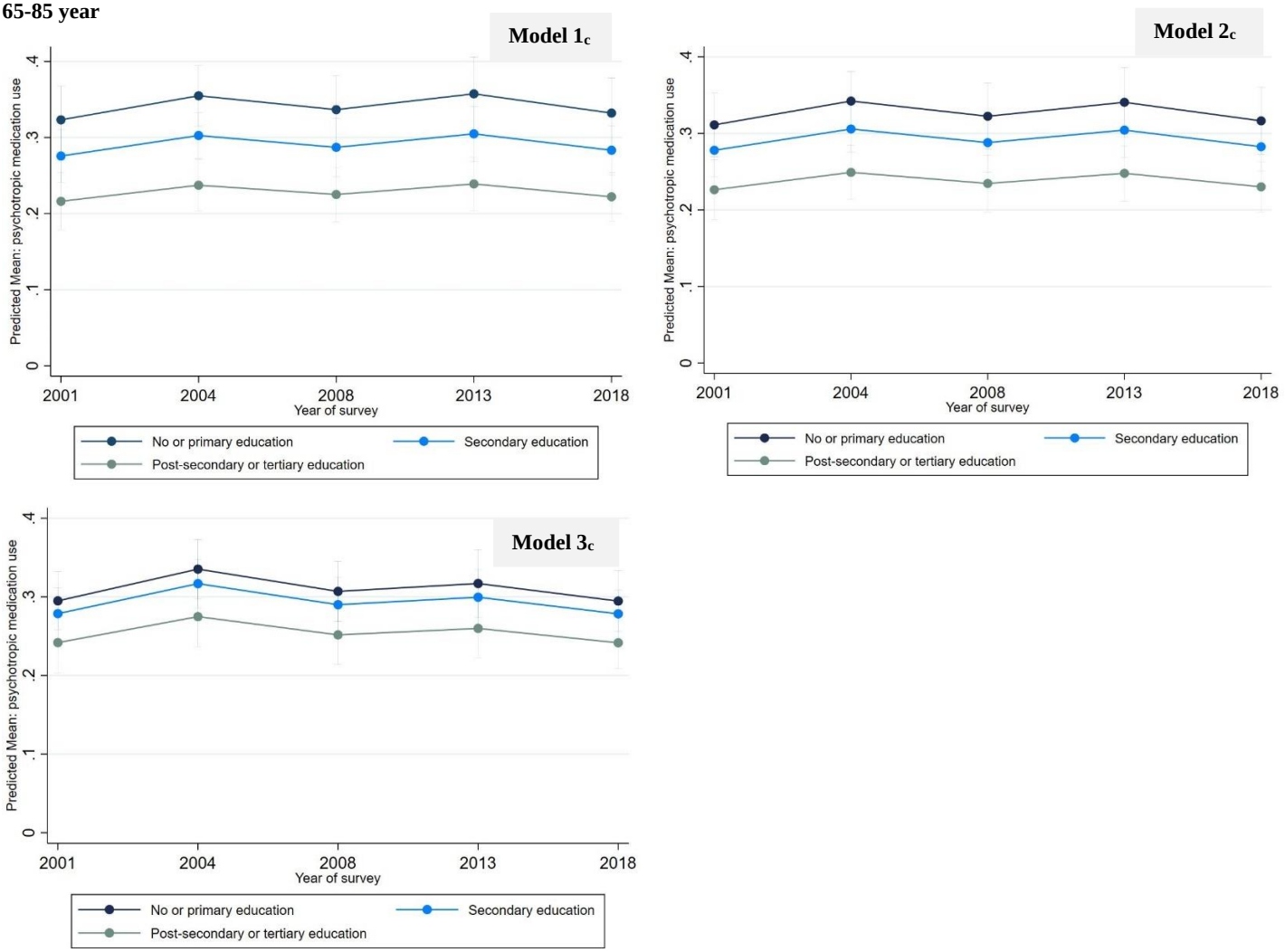
Note. * *P*-value < 0.05. ** *P*-value < 0.01. *** *P*-value < 0.001.

Figure 1-9. Psychotropic medication use in the past two weeks according to education, weighted prevalence (min.-max.: 0-1) among the different age categories for each tested Poisson regression model (see **table 2**).

25-44 year | **45-64 year**



65-85 year



Note. Models 1: APRs adjusted for education and socio-demographic control variables; Models 2: APRs adjusted for education, socio-demographic control variables and enabling determinants; Models 3: APRs adjusted for education, socio-demographic control variables, enabling and need determinants.

Discussion

Before discussing the main findings, some limitations of this study should be addressed. First; the dichotomous character of the dependent variable 'prescribed medication use'; the variable does not provide information about duration and amount of use. Information on both indicators would provide a more accurate operationalisation. Also, the variable does not offer information about non-prescribed use. The second limitation concerns the measurement of 'need'; information about mental health is self-reported. The use of self-reported health has been subject of controversy, as its origins lie in the perceptual framework of the individual respondent [28]. Nevertheless, many studies support the validity and reliability of self-reported health [29,30]. Also, no information was provided on the intensity or possible comorbidity of chronic conditions and/or long-term illnesses. Last, the time period between the scale that assesses mental health and the dependent variable psychotropic medication use is rather limited. The mental health scale gauges mental health complaints in the last month, while the dependent variable asks for psychotropic medication use in the past two weeks.

Despite these limitations, our study provides evidence that educational inequalities in psychotropic medication use are significant and persistently visible over time. In the middle and oldest age category, educational inequalities remain significant even after entering need for care. Moreover, as concerns our operationalisation of medicalisation, evidence is proven for the stratified medicalisation mental health symptoms. However, entering the need determinants lead to a strong reduction in inequalities in use, showing the importance of differences in need in relation to inequalities in psychotropic medication use.

Second; after entering the need determinants, the visible increase in psychotropic medication use over time is being flattened and even replaced by a decrease in use over time. The initial increase in use might thus be explained by an increase in need for care. However, medicalisation processes also impact feelings and observations of need, since medicalisation also happens at the interactional level where complaints are increasingly defined as medical [14,13], indirectly influencing health care use. In consequence, 'medicalisation of needs' may also be involved here. Despite that, regarding absolute numbers, psychotropic medication use declined in the last wave.

Third; this study reveals the importance of age specific analyses. Age differences in psychotropic medication use are clearly observable, where use rates in the oldest age category are rather high comparing to the other age categories. This finding is in accordance with existing research from Belgium [31], as well as from other European countries [32-34]. Even with need for care incorporated, use rates remain remarkably high in the oldest age category. The worryingly high level of use by older people is also supported by several Belgian researchers and experts stressing the misuse and overuse of psychotropics in that age category [35,36].

Fourth; the results reveal consistent regional differences in psychotropic medication use, with Brussels and Wallonia having higher levels of use compared to Flanders, even when controlling for socio-demographic and composition determinants of relevance. This might partly be the result of regional differences in institutional arrangements, such as the organisation of mental health care, which is a regionalised policy domain in Belgium [37].

Fifth; GP contact significantly relates to psychotropic medication use. In line with previous Belgian research [18,19], the influential role of GPs in prescribing psychotropic medication is again confirmed. Also in other European countries, GPs prescribing behaviour receives attention [38-42]. In Belgium, health experts and policy

makers have joined forces to address GPs prescribing behaviour regarding psychotropic medication. For example, Belgian GPs repeatedly receive voluminous reports with individual scores on different consciously chosen domains, where psychotropic medication prescribing is often one of them [43]. The scores allow them to compare their own prescribing behaviour with that of their colleagues, with the aim of bringing GPs to repentance where necessary.

To conclude, our study shows that psychotropic medication use is indeed stratified, and that this is not simply the result of differences in need, but also influenced by factors linked to the stratified medicalisation of mental health symptoms. Therefore, research should move beyond analysing inequalities in psychotropic medication use merely in relation to differences in individual needs. Future studies need to reflect upon non-need determinants that can impact psychotropic medication use too, as this study tried to stress the importance of the institutional context. Incorporating a multilevel approach in future studies, stressing the institutional context in relation to the stratified medicalisation of mental health symptoms use might be useful [44]. However, research also needs to recognise that 'need' in itself can also be medicalised. This study only partially addresses medicalisation, since all needs are considered as 'real complaints', and medicalisation processes only take place irrespective of 'needs'. As such, medicalisation is not totally measured; For example, if someone feels tired all the time, it may be thought of as a physical health problem, but if a GP prescribes antidepressants as response, the individual might come to define the problem as depression. Future research should incorporate a measure of medicalisation which recognizes that need for care may also be medicalised and that it may also be subject to inequalities.

Another suggestion for future research is to focus on the recent downward trend in absolute numbers of psychotropic medication use. In recent years, more attention is being paid to the side effects of psychotropic medication [45,46,33]. Medical treatments are therefore less often chosen as ideal treatment option, where alternative treatment options, such as psychotherapy, are promoted. The decline in use could indicate that this attention is effective. Psychotherapy is also becoming institutionally stimulated in Belgium. For example, recently, a new policy initiative came into practice in which the reimbursement of psychotherapy is being raised, together with the number of sessions that is being reimbursed [22]. The aim is to make psychotherapy more accessible because currently individuals face significant financial barriers to accessing it. Future research might thus also incorporate psychotherapy in its analyses, by investigating how psychotherapy use evolves over time and how this interacts with psychotropic medication use, and more particular how inequalities in both processes relate to each other and evolve over time.

Appendixes

Appendix 1. Respondent selection criteria

The initial sample size of the BHIS included 73,681 respondents. After excluding year 1997, because there was no data on the dependent variable (N=10,786), and respondents not aged between 25 and 85 years old (N=20,285), 42,610 respondents remained. After further excluding missing values on the dependent and independent variables (N=11,117), the presents study holds data from 31,493 respondents.

Appendix 2. Weighted APRs and corresponding *P*-values for psychotropic medication use in the past two weeks among the entire sample, according to characteristics of relevance.

Psychotropic medication use

	Model 1 APR *P*-values	Model 2 APR *P*-values	Model 3 APR *P*-values
Education *(ref.cat.: longer education)*			
Moderate education	1.31 ***	1.24 ***	1.16 ***
Shorter education	1.61 ***	1.40 ***	1.20 ***
Socio-demographics			
Gender *(ref.cat.: man)*	1.61 ***	1.49 ***	1.40 ***
Nationality *(ref.cat.: Belgian)*	0.61 ***	0.64 ***	0.69 ***
Urbanisation *(ref.cat.: cities-agglomerates)*			
Suburban-urban	0.98	1.01	1.01
Rural	0.98	1.35	1.07
Region *(ref.cat.: Flanders)*			
Brussels	1.46 ***	1.45 ***	1.23 ***
Wallonia	1.39 ***	1.35 ***	1.16 ***
Wave *(ref.cat.: 2001)*			
2004	1.09	1.09	1.11 *
2008	1.15 *	1.12 *	1.09
2013	1.23 ***	1.17 **	1.08
2018	1.15 **	1.07	0.98
Age *(ref.cat.: 25-44)*			
45-64	2.08 ***	1.94 ***	1.80 ***
65-85	3.04 ***	2.59 ***	2.45 ***
Enabling determinants			
GP contact past 12 months *(ref.cat.: yes)*		0.25 ***	0.33 ***
Regular GP *(ref.cat.: yes)*		0.72 *	0.79
Social contact *(ref.cat: less than once a week)*		0.75 ***	0.92
Household composition *(ref.cat.: single)*			
Partner		0.72 ***	0.81 ***
(Other)		0.80 **	0.85 *
Need determinants			
Mental health status			1.07 ***
Chronic condition or longstanding illness *(ref.cat.: no)*			1.91 ***
Intercept	0.04 ***	0.09 ***	0.01 ***

Note. * *P*-value < 0.05. ** *P*-value < 0.01. *** *P*-value < 0.001.

Declarations

Conflict of interest. On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethics approval. No ethics committee approval needed.

Availability of data and material. The data will not be deposited, since its subject to a contract with Sciensano (The Scientific Institute of public health of the federal Belgian State).

Code availability. Codes are available upon request from the corresponding author.

Authors' contributions. The first author (LC) designed the study, had primary responsibility for the writing and editing of the manuscript and performed the data analysis. The co-authors critically reviewed the manuscript. All authors gave final approval for the article to be published.

References

1. Chiappini S, Schifano F, Martinotti G (2021) Prescribing Psychotropics: Misuse, Abuse, Dependence, Withdrawal and Addiction. Frontiers in Psychiatry 12:597

2. Estrela M, Herdeiro MT, Ferreira PL, Roque F (2020) The use of antidepressants, anxiolytics, sedatives and hypnotics in Europe: focusing on mental health care in Portugal and prescribing in older patients. International journal of environmental research and public health 17 (22):8612

3. Gisle L, Drieskens, S., Demarest, S., & Van der Heyden, J. (2020) Mental health: Health Interview Survey 2018. Sciensano.

4. Federal Planning Bureau (FPB) (2021) Good health and well-being: reimbursed psychotropic medication. Retrieved from https://indicators.be/en/i/G03_RPM/Reimbursed_psychotropic_medication

5. Andersen RM (1995) Revisiting the behavioral model and access to medical care: does it matter? Journal of health and social behavior:1-10

6. Lorant V, Boland B, Humblet P, Deliège D (2002) Equity in prevention and health care. Journal of Epidemiology & Community Health 56 (7):510-516

7. Hanratty B, Zhang T, Whitehead M (2007) How close have universal health systems come to achieving equity in use of curative services? A systematic review. International Journal of Health Services 37 (1):89-109

8. Morris S, Sutton M, Gravelle H (2005) Inequity and inequality in the use of health care in England: an empirical investigation. Social science & medicine 60 (6):1251-1266

9. Mechanic D, McAlpine DD (2010) Sociology of health care reform: building on research and analysis to improve health care. Journal of health and social behavior 51 (1_suppl):S147-S159

10. Missinne S (2015) Moving towards a better understanding of socioeconomic inequalities in preventive health care use: A life course perspective. A life course perspective on health trajectories and transitions:111-131

11. Cockerham WC (2005) Health lifestyle theory and the convergence of agency and structure. Journal of health and social behavior 46 (1):51-67

12. Cockerham WC (2007) The social causes of health and disease. Policy Press, Cambridge

13. Conrad P (1992) Medicalization and social control. Annual review of Sociology 18 (1):209-232

14. Conrad P (2005) The shifting engines of medicalization. Journal of health and social behavior 46 (1):3-14

15. Conrad P, Leiter V (2004) Medicalization, markets and consumers. Journal of health and social behavior:158-176

16. Clarke AE, Shim JK, Mamo L, Fosket JR, Fishman JR (2010) Biomedicalization Technoscientific Transformations of Health, Illness, and US Biomedicine. Biomedicalization:47-87

17. Zheng H (2015) Why has medicine expanded? The role of consumers. Social science research 52:34-46

18. Boffin N, Bossuyt N, Declercq T, Vanthomme K, Van Casteren V (2012) Incidence, patient characteristics and treatment initiated for GP-diagnosed depression in general practice: results of a 1-year nationwide surveillance study. Family practice 29 (6):678-687

19. Fraeyman J, Van Hal G, De Loof H, Remmen R, De Meyer G, Beutels P (2012) Potential impact of policy regulation and generic competition on sales of cholesterol lowering medication, antidepressants and acid blocking agents in Belgium. acta clinica Belgica 67 (3):160-171

20. Butterworth P, Olesen SC, Leach LS (2013) Socioeconomic differences in antidepressant use in the PATH Through Life Study: evidence of health inequalities, prescribing bias, or an effective social safety net? Journal of affective disorders 149 (1-3):75-83

21. Comino EJ, Harris E, Silove D, Manicavasagar V, Harris MF (2000) Prevalence, detection and management of anxiety and depressive symptoms in unemployed patients attending general practitioners. Australian & New Zealand Journal of Psychiatry 34 (1):107-113

22. Rijksinstituut voor ziekte- en invalideitsverzekering (RIZIV) (2021) Start van een toegankelijker psychologisch zorgmodel met geleidelijke uitrol in het hele land [Start of a more accessible psychological care model with gradual roll-out across the country]. Retrieved from https://www.riziv.fgov.be/nl/nieuws/Paginas/versterkt-psychologisch-zorgaanbod-voor-iedereen-september.aspx

23. Johnson CF, Williams B, MacGillivray SA, Dougall NJ, Maxwell M (2017) 'Doing the right thing': factors influencing GP prescribing of antidepressants and prescribed doses. BMC family practice 18 (1):1-13

24. Shavers VL (2007) Measurement of socioeconomic status in health disparities research. Journal of the national medical association 99 (9):1013

25. Psacharopoulos G, Patrinos HA (2018) Returns to investment in education: a decennial review of the global literature. Education Economics 26 (5):445-458

26. Goldberg D, Williams P (2000) General health questionnaire (GHQ). NferNelson, Swindon, Wiltshire, UK

27. del Pilar Sánchez-López M, Dresch V (2008) The 12-Item General Health Questionnaire (GHQ-12): reliability, external validity and factor structure in the Spanish population. Psicothema 20 (4):839-843

28. Jylhä M (2009) What is self-rated health and why does it predict mortality? Towards a unified conceptual model. Social science & medicine 69 (3):307-316

29. Halford C, Wallman T, Welin L, Rosengren A, Bardel A, Johansson S, Eriksson H, Palmer E, Wilhelmsen L, Svärdsudd K (2012) Effects of self-rated health on sick leave, disability pension, hospital admissions and mortality. A population-based longitudinal study of nearly 15,000 observations among Swedish women and men. BMC Public Health 12 (1):1-11

30. Pu C, Bai YM, Chou YJ (2013) The impact of self-rated health on medical care utilization for older people with depressive symptoms. International journal of geriatric psychiatry 28 (5):479-486

31. Wauters M, Elseviers M, Peeters L, De Meester D, Christiaens T, Petrovic M (2019) Reducing psychotropic drug use in nursing homes in Belgium: an implementation study for the roll-out of a practice improvement initiative. Drugs & aging 36 (8):769-780

32. Lindsey PL (2009) Psychotropic medication use among older adults: what all nurses need to know. Journal of gerontological nursing 35 (9):28-38

33. Ćurković M, Dodig-Ćurković K, Petek Erić A, Kralik K, Pivac N (2016) Psychotropic medications in older adults: a review. Psychiatria Danubina 28 (1):0-24

34. Téllez-Lapeira J, López-Torres Hidalgo J, García-Agua Soler N, Gálvez-Alcaraz L, Escobar-Rabadán F, García-Ruiz A (2016) Prevalence of psychotropic medication use and associated factors in the elderly. The European Journal of Psychiatry 30 (3):183-194

35. Popelier K, & Peeters, L. (2018) Psychofarmaca in woonzorgcentra. Samen op weg naar minder [Psychotropic medication in residential care. Together on the road to less]. Retrieved from https://www.vad.be/assets/vad026_a4_psychofarmaca_in_woonzorgcentra

36. Belgian Psychotropics Experts Platform (BelPEP) (2014) Globale visienota en actieplan van de drie werkgroepen [Global vision statement and action plan of the three working groups]. Retrieved from https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/visienota_nl_april_2015.pdf

37. Belgian Health Care Knowledge Center (KCE) (2019) Organisation of mental health care for adults in Belgium. Retrieved from https://kce.fgov.be/sites/default/files/atoms/files/KCE_318_Mental_Health_care_Report_0.pdf

38. Ohayon MM, Lader MH (2002) Use of psychotropic medication in the general population of France, Germany, Italy, and the United Kingdom. The Journal of clinical psychiatry 63 (9):0-0

39. Hansen DG, Søndergaard J, Vach W, Gram LF, Rosholm J-U, Kragstrup J (2003) Antidepressant drug use in general practice: inter-practice variation and association with practice characteristics. European journal of clinical pharmacology 59 (2):143-149

40. Mercier A, Benichou J, Auger-Aubin I, Lebeau J-P, Houivet E, Van Royen P, Peremans L (2015) How do GP practices and patient characteristics influence the prescription of antidepressants? A cross-sectional study. Annals of general psychiatry 14 (1):1-10

41. Anthierens S, Habraken H, Petrovic M, Christiaens T (2007) The lesser evil? Initiating a benzodiazepine prescription in general practice: a qualitative study on GPs' perspectives. Scandinavian journal of primary health care 25 (4):214-219

42. Anrys PM, Strauven GC, Foulon V, Degryse J-M, Henrard S, Spinewine A (2018) Potentially inappropriate prescribing in Belgian nursing homes: prevalence and associated factors. Journal of the American Medical Directors Association 19 (10):884-890

43. Lambooij A, Essink, R., de Metz, J., Schippers, M., & Zwikker, H. (2017) Monitor Voorschrijfgedrag Huisartsen 2017 [Monitor General Practitioners Prescribing Behaviour]. Instituut voor Verantwoord Medicijngebruik. Utrecht.

44. Buffel V, Beckfield J, Bracke P (2017) The institutional foundations of medicalization: A cross-national analysis of mental health and unemployment. Journal of health and social behavior 58 (3):272-290

45. Goldberg JF, Ernst CL (2018) Managing the side effects of psychotropic medications. American Psychiatric Association Publishing, Washington D.C.

46. Cummings NA, Wiggins JG (2016) A Collaborative Primary Care/Behavioral Healthcare Model for the Use of Psychotropic Medication with Children and Adolescents: The Report of a National Retrospective Study. In: Psyche's Prophet. Routledge, pp 103-115