Changing family trajectories and their impact on men's and women's mental health. The case of 1958 and 1970 British cohorts

Roberta Rutigliano[1,2], Anna Barbuscia[1,2], Danilo Bolano[3], and Maria Sironi[4]

Abstract

Over the past century, individuals' family trajectories have become more complex, dramatically changing their prevalence, timing, and complexity. Extensive literature has documented how family trajectories have changed over time, however, very few studies have analyzed the impact of these trajectories on different health outcomes. No study has checked whether more diverse family formation trajectories are associated with different levels of mid-life mental health outcomes. In the current study, we aim to fill this gap. Using data from the British Cohort Study, and adopting a holistic approach, we implement sequence analysis to identify changes in family trajectories over time. Thus, we analyze the impact on mental health of family trajectories separately for men and women born in 1958 and 1970, respectively. In line with previous literature, we find more diverse family trajectories in the most recent cohort with the emergence of new types of unions (e.g., cohabitation), the decline of single motherhood, and the spread of childlessness for men. In the multivariate analysis, we find that family trajectories negatively impacted men's mental health only in 1970, with singlehood and childlessness being the most detrimental trajectories. We find a negative impact of family trajectories for women in both cohorts. mainly driven by nontraditional trajectories.

1 OPIK, Department of Sociology and Social Work, University of the Basque Country UPV/EHU, Leioa Bizkaia, Spain.
2 Ikerbasque, Basque Foundation for Science, Bilbao, Spain.
3 Dondena Center – Bocconi University
4 University College London

Introduction

Partnership and parenthood represent the main domains defining individuals' family-formation trajectories. Losing, having, or not having a partner as well as entering parenthood are life-changing events associated with variations in individuals' health and well-being (Keenan and Grundy 2019). Extensive literature has explored the association between parenthood, partnership, and individuals' well-being separately (e.g., Brown 2000; Grundy 2010; Myrskylä and Margolis 2014; Perelli-Harris et al. 2019). This literature confirms the impact of main family events on individuals' health and well-being, however, its findings are mixed and inconclusive. There might be several reasons driving this mixed evidence, some of them not empirically verifiable.

First, not modeling the joint impact of partnership and fertility on well-being might lead to mixed findings. Few studies, in fact, have analyzed the joint impact of partnership and fertility histories, addressing their interdependence. In a study about family transitions of individuals aged 26 to 33, early or *non-normative* transitions are associated with negative health outcomes (Barban 2013). In another study about Australia, family trajectories of individuals aged 18 to 50 are strongly correlated with later life health of men but not of women (O'Flaherty et al. 2016). These studies signal the interconnection between family trajectories and health outcomes, despite their focus on specific moments of life course, i.e. early adulthood (Barban 2013) and later life (O'Flaherty et al. 2016). Little is known about the impact of family trajectories on mid-life health outcomes, despite the importance of this phase of life for future individuals' development. The current study aims to investigate the joint impact of family trajectories on health.

Second, over the past century, the increasing diversification of individuals' family trajectories has led to a dramatic change in their prevalence, timing, and complexity (Billari and Liefbroer 2010; Pesando et al. 2021; Van Winkle 2018). These studies show that key family transitions occur later in individuals' life course and that the variety of events experienced by individuals has increased over time and differs enormously across different European regions (Van Winkle 2018). Despite these robust findings, little is known about the impact of these diverse trajectories on health. Only one study explores the impact of life course diversification (Mayer 1991) on subjective well-being in later life finding a negative association between less prevalent family trajectories and subjective well-being (e.g., Arpino et al., 2020). The current study acknowledges family trajectory diversification over time and its possible impact on mid-life health.

Finally, combining the three strands of literature about (1) the joint impact of parenthood and fertility on health; (2) the diversification of individuals' life course over time; and (3) the impact of such a diversification on health, the current study addresses an additional gap: the focus on mental health. A strand of literature shows the impact on mental health of different partnership statuses (Wright and Brown 2017). At later ages, having a partner is beneficial for men's mental health but it does not impact women's mental health (Wright and Brown 2017). Furthermore, men's mental health is more sensitive than women's at different partnership statuses (Yucel and Latshaw 2023). A set of studies has explored the relationship between

fertility histories and mental health with parenthood leading to lower mental health (Ruppanner et al. 2019), especially for women (Metzger and Gracia 2023) or early parents (Sironi et al.2020). However, little is known about the joint impact of partnership and parenthood trajectories on men's and women's mental health.

The current study investigates (1) whether individual family trajectories have become more diverse over time, and (2) how these diverse trajectories are associated with different levels of mid-life mental health for men and women separately. Specifically, we answer the following research questions: what are the most prevalent family trajectories over time, and how have they changed? How do different partnership and parenthood trajectories contribute to predicting men's and women's mid-life mental health?

To answer our research questions, we use data from the British Study Cohort (BSC) from 1958 and 1970. Adopting a holistic perspective, we run sequence analyses to identify different types of family trajectories in each birth cohort and across genders. Once we classify different individuals' trajectories, we use clusters from sequence analysis as the main predictor for men's and women's mental health- measured via malaise score. We find no impact of family trajectories on men's mental health in the 1958 cohort. However, in the 1970 cohort, being single and childless, and being divorced exerts a negative impact on men's mental health. For women, being a single mother in the 1958 cohort is associated with low mental health. In the 1970 cohort being a separated mother, childless, or single has a negative impact on women's mental health.

DATA AND METHODS

Data

We use data from the 1958 National Survey of Health and Development Study (NCDS) and the 1970 British Cohort Study.

The NCDS started in 1958 and follows the lives of more than 17,000 infants born in England, Scotland, and Wales in a single week in March 1958. The data include detailed information on mental health, fertility, and partnership histories beyond standard demographics. Other than the baseline survey in 1958, other additional sweeps have been collected when respondents were aged 7, 11, 16, 23, 33, 42, 44, 46, 50, and 55. The BCS70 started in 1970 and follows around 17,000 people born in England, Scotland, and Wales in a single week of 1970. Since the birth survey in 1970, there have been nine 'sweeps' of all cohort members, at ages 5, 10, 16, 26, 30, 34, 38, 42, 46.

Method

We divide the analysis into two parts. In the first part, we aim to document whether family trajectories have changed across genders and cohorts. In this first part, adopting a holistic approach, we implement sequence analysis to identify the most prevalent family trajectories over time and for both men and women separately.

In the second part, we aim to measure the impact of family trajectories on mental health over time and for both men and women separately. Thus, once established the most appropriate number of clusters, we use these clusters as main predictors for mental health outcomes.

Sequence Analysis

We select, for each dataset, all individuals aged 14 to 41. We combine information collected in different sweeps of the two datasets to build fertility and partnership histories. To run the sequence analysis, we have monthly observations but we use quarters to make computation faster. To define sequences, we use the following states:

- Single; Single with 1 child; Single with more than one child
- Cohabiting, cohabiting with 1 child, cohabiting with more than one child
- Married, married with 1 child, married with 2 children, married with more than 3 children
- Separated/Divorced/Widowed, Separated/Divorced/Widowed with 1 child, Separated/Divorced/Widowed with more than 1 child

To identify different clusters, we carried out separate sequence analyses for men and women and for each birth cohort. We aim to document possible differentiations of family trajectories across the 1958 and 1970 cohorts and for men and women separately. Forcing these dimensions together implies losing unique detailed information available in our data and possibly mixing together different mechanisms with less accurate estimates as a result.

Multivariate Analysis

Consistently with the sequence analysis, we perform separate models for the 1958 and the 1970 cohorts, and within each cohort, we separated the analyses for men and women. For each cohort, we have two sets of models for a total of four models (1958 men, 1958 women, 1970 men, 1970 women). The main reason to run separated models is to maximize the detailed information from our data and obtain as much as specific trajectories as possible.

Our dependent variable is mental health. Following Sironi et al. (2021), to proxy mental health, we use a nine-item version of the M*alaise Inventory score (Rutter et al. 1970; Rodgers et al. 1999)*. This score is obtained by summing the answers to nine different questions. It takes values from 0 to 9, with higher values corresponding to worse mental health conditions. The threshold for identifying depressive symptoms is equal to three. In this version of the analysis, we use a dummy variable equal to 1 if the nine-item Malaise Inventory Score is larger than 3 and 0 otherwise (Sironi and Ploubidis 2021).

We implement logistic regression for each cohort and for men and women separately. We run two model specifications, (1) a null model in which we do not include any control, and (2) a model with some controls. Specifically, in the second set of models we control for social class at birth, parents' education, number of times hospitalized as a child, cognitive ability at age 10/11, and ethnicity.

RESULTS

Sequence analysis

We identify 10 different clusters for each cohort and for men and women. For the sake of brevity, instead of reporting sequences, Table 1 summarizes the characteristics of each cluster for every sequence analysis, i.e., for each birth cohort and for men and women (Table 1). Results across cohorts show the emergence of new types of partnerships and fertility arrangements. Table 1 shows how cohabitation and separation/divorce became more common life trajectories for both men and women born in 1970, these types of unions were almost nonexistent in the 1958 cohort.

Turning to gender differences, among women single motherhood disappeared with time. In fact, there are two clusters of single mothers (clusters n. 9 and 10) in the 1958 cohort, but none in the 1970 cohort (Table 1). Nonetheless, motherhood continues to be an important transition in defining women's trajectories across time. Indeed, the number of clusters with children is almost constant across the two cohorts (6, 7 clusters – Table 1).

Among men, single fatherhood disappeared with time. In fact, the cluster of single fathers (cluster n. 10) in the 1958 cohort disappeared in the 1970 cohort (Table 1). Furthermore, Table 1 shows a drastic reduction in the number of clusters of fathers over time. Specifically, in the 1958 cohort, there are 8 clusters characterized by fatherhood, whereas there are only 4 in the 1970 cohort.

Multivariate Results

Figure 1 and Figure 2 show the odds ratios of experiencing depressive symptoms (on the y-axis) for each cluster derived from the sequence analysis (on the x-axis) for the 1958 and the 1970 cohorts, respectively. Results are presented by gender. For each cohort, we present two model specifications: the null model (Panel A in Figure 1 and Figure 2) and the model with controls (Panel B in Figure 1 and Figure 2). Before describing the results, it is important to highlight that clusters are different for each cohort and across men and women. Therefore, a direct comparison across genders and cohorts is only possible qualitatively.

In the 1958 cohort (Figure 1), in both specifications (Panel A and B), family-formation trajectories do not seem to have any impact on men's mental health. For women, having children outside normative unions, i.e., cohabitating or separated/widow mothers (cluster n. 2), being a single mother (cluster 9 and 10), and not having children (cluster n 7) have a long-lasting negative effect on women's mental health compared with women with high fertility (cluster n. 5). These negative associations stay significant even after controlling for the socio-demographic women's characteristics.

In the 1970 cohort (Figure 2), childless men either single (cluster 5) or divorced/widow (cluster n. 3) have worse mid-life mental health compared with men who are fathers and cohabit (cluster 4). For women, being childless (cluster n 6), single (cluster n 8), or divorced/widow (cluster n 7) has a detrimental impact on the odds ratio of experiencing depression compared to those

who have children within a union (cluster n 1). These negative associations stay significant in the model specification with controls.

DISCUSSION AND FUTURE STEPS

This study contributes to the life course studies, shedding light on the joint impact of parenthood and partnership trajectories on mid-life mental health. Studies investigating these two domains of individuals' life together are scarce and, to our knowledge, no study analyzes the joint impact of family trajectory on mid-life mental health. Existing research on mental health outcomes has traditionally focused on adolescents, children, and old people. Furthermore, this work contributes also to the literature about life course diversification (Van Winkle 2017) as we explore how family trajectories have changed over time.

Taking advantage of rich data from two different British cohorts, 1958 and 1970, this study investigates how family trajectories have changed over time for both men and women and to what extent diverse family trajectories are associated with different levels of individuals' mental health. We find that family trajectories negatively impacted men's mental health only in 1970, with singlehood and childlessness being the most detrimental trajectories. We find a negative impact of family trajectories for women in both cohorts. mainly driven by nontraditional trajectories.

Future steps:

In future steps, we plan to improve the visualization of our results from the first descriptive part of sequence analysis by including a chronogram of our results and the specific figures for the sequence. The advantage of this approach is to better exploit the multidimensionality of the sequence analysis and give more importance, not only to the different family transitions observed in each cluster (current version) but also to the timing and length of such transitions.

Furthermore, in the multivariate analysis, we plan to include different sensitivity tests (we already perform some of them) to show the robustness of our results.

References

Barban, N. (2013). Family Trajectories and Health: A Life Course Perspective. *European Journal of Population / Revue européenne de Démographie*, *29*(4), 357–385. https://doi.org/10.1007/s10680-013-9296-3

Billari, F. C., & Liefbroer, A. C. (2010). Towards a new pattern of transition to adulthood? *Advances in Life Course Research*, *15*(2), 59–75. https://doi.org/10.1016/j.alcr.2010.10.003

Brown, S. L. (2000). The Effect of Union Type on Psychological Well-Being: Depression among Cohabitors versus Marrieds. *Journal of Health and Social Behavior*, *41*(3), 241. https://doi.org/10.2307/2676319

Keenan, K., & Grundy, E. (2019). Fertility History and Physical and Mental Health Changes in European Older Adults. *European Journal of Population*, *35*(3), 459–485. https://doi.org/10.1007/s10680-018-9489-x

Metzger, S., & Gracia, P. (2023). Gender differences in mental health following the transition into parenthood: Longitudinal evidence from the UK. *Advances in Life Course Research*, *56*, 100550. https://doi.org/10.1016/j.alcr.2023.100550

Myrskylä, M., & Margolis, R. (2014). Happiness: Before and After the Kids. *Demography*, *51*(5), 1843–1866. https://doi.org/10.1007/s13524-014-0321-x

O'Flaherty, M., Baxter, J., Haynes, M., & Turrell, G. (2016). The Family Life Course and Health: Partnership, Fertility Histories, and Later-Life Physical Health Trajectories in Australia. *Demography*, *53*(3), 777–804. https://doi.org/10.1007/s13524-016-0478-6

Perelli-Harris, B., Hoherz, S., Lappegård, T., & Evans, A. (2019). Mind the "Happiness" Gap: The Relationship Between Cohabitation, Marriage, and Subjective Well-being in the United Kingdom, Australia, Germany, and Norway. *Demography*, *56*(4), 1219–1246. https://doi.org/10.1007/s13524-019-00792-4

Pesando, L. M., Barban, N., Sironi, M., & Furstenberg, F. F. (2021). A Sequence-Analysis Approach to the Study of the Transition to Adulthood in Low- and Middle-Income Countries. *Population and Development Review*, *47*(3), 719–747. https://doi.org/10.1111/padr.12425

Ruppanner, L., Perales, F., & Baxter, J. (2019). Harried and Unhealthy? Parenthood, Time Pressure, and Mental Health: Parenthood, Time Pressure, and Mental Health. *Journal of Marriage and Family*, *81*(2), 308–326. https://doi.org/10.1111/jomf.12531

Van Winkle, Z. (2018). Family Trajectories Across Time and Space: Increasing Complexity in Family Life Courses in Europe? *Demography*, *55*(1), 135–164. https://doi.org/10.1007/s13524-017-0628-5

Wright, M. R., & Brown, S. L. (2017). Psychological Well-being Among Older Adults: The Role of Partnership Status: Psychological Well-being Among Older Adults. *Journal of Marriage and Family*, *79*(3), 833–849. https://doi.org/10.1111/jomf.12375

Yucel, D., & Latshaw, B. A. (2023). Mental Health Across the Life Course for Men and Women in Married, Cohabiting, and Living Apart Together Relationships. *Journal of Family Issues*, *44*(8), 2025–2053. https://doi.org/10.1177/0192513X211068038

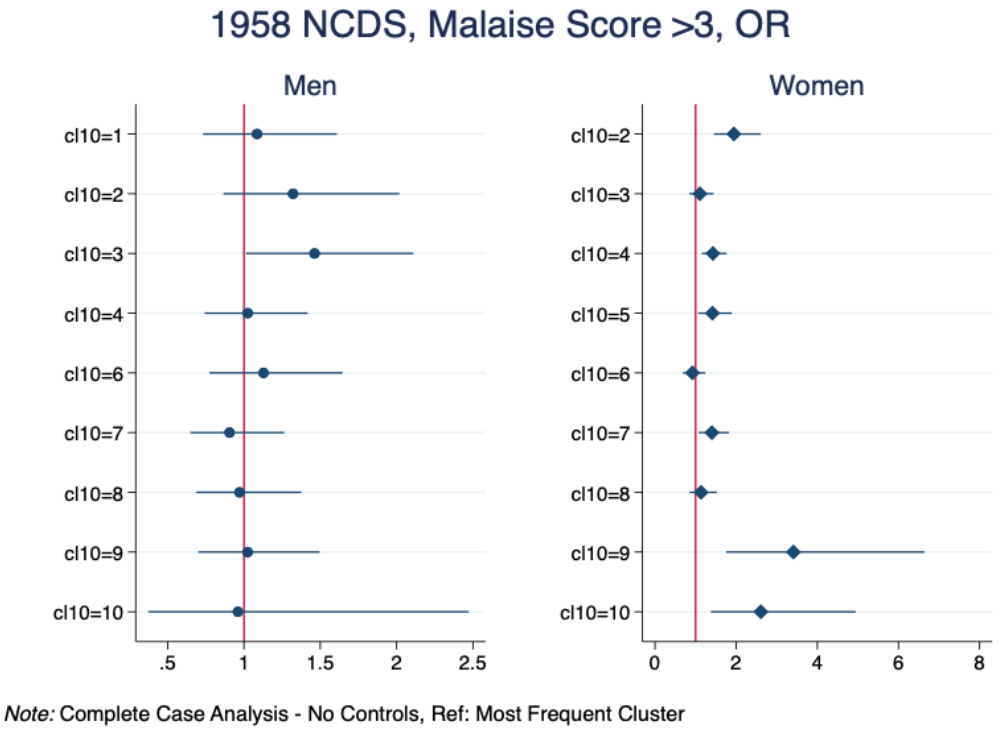
TABLES AND FIGURES

Table1. Clusters description for each birth cohort and for men and women separately- number of clusters=10.

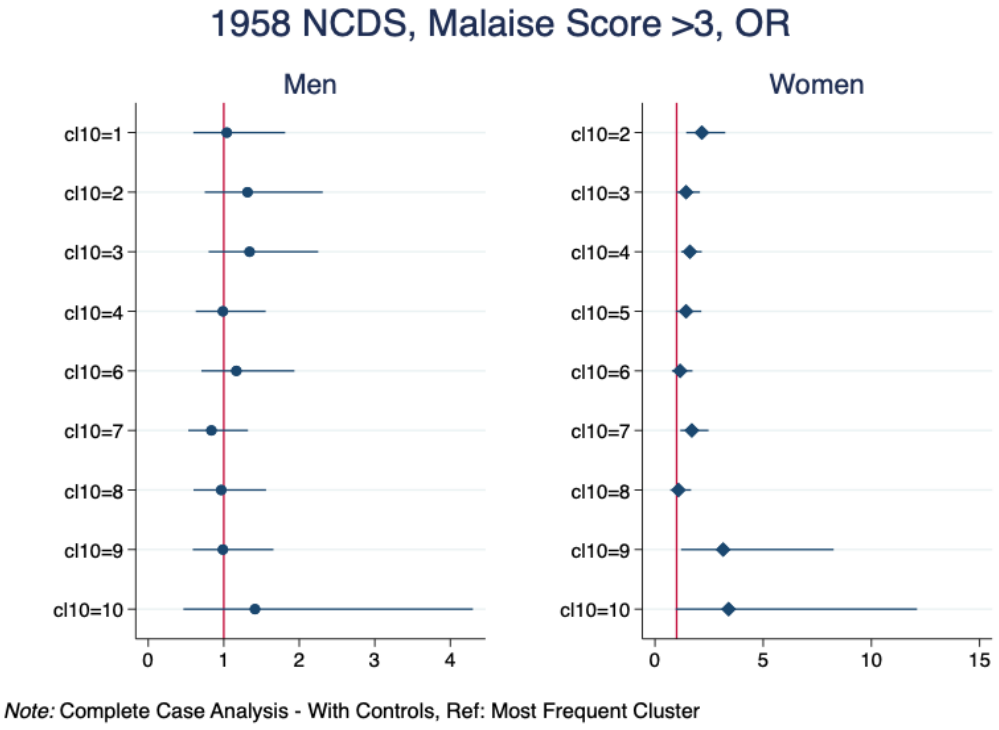
	NCLS 1958	
	Male	Female
Clluster number		
1	Delayed transition to union formation	Early motherhood (REF)
2	High fertility	2 children outside marriage or as separated/divorced
3	Mainly single	Married childless
4	Married childless or late father	Mothers of 3
5	High fertility within marriage (REF)	Mothers with one child
6	High partnership instability/ few. or no child	Late motherhood with 2 children
7	Early fatherhood with more than one kid	Few or no children, single or outside of marriage
8	Late fatherhood with more than one kid	Single and late cohabitors
9	Fathers with one child	Single mothers of 2 children
10	Single fathers with children	Single mothers of 1 child
	BCS 1970	
Clluster number		
1	High fertility within a union	Mothers of 2 in a partnership (REF)
2	Childless with partner	One child within cohabitation
3	Divorced	Single and separated with kids
4	Fathers of two and married (REF)	Late mothers of 2
5	Single childless	Separated, childless
6	Late entry into partnership	Married, childless
7	Cohabiters with kids	Cohabiting, separated/widows with children
8	Cohabiters/Divorced	Single
9	Late transition to cohabitation	Cohabiting, childless
10	Fathers of one child	Mothers of 3

Figure 1. Odds ratios of experiencing malaise inventory score larger than 3 for each cluster of men and women born in 1958.

Panel A



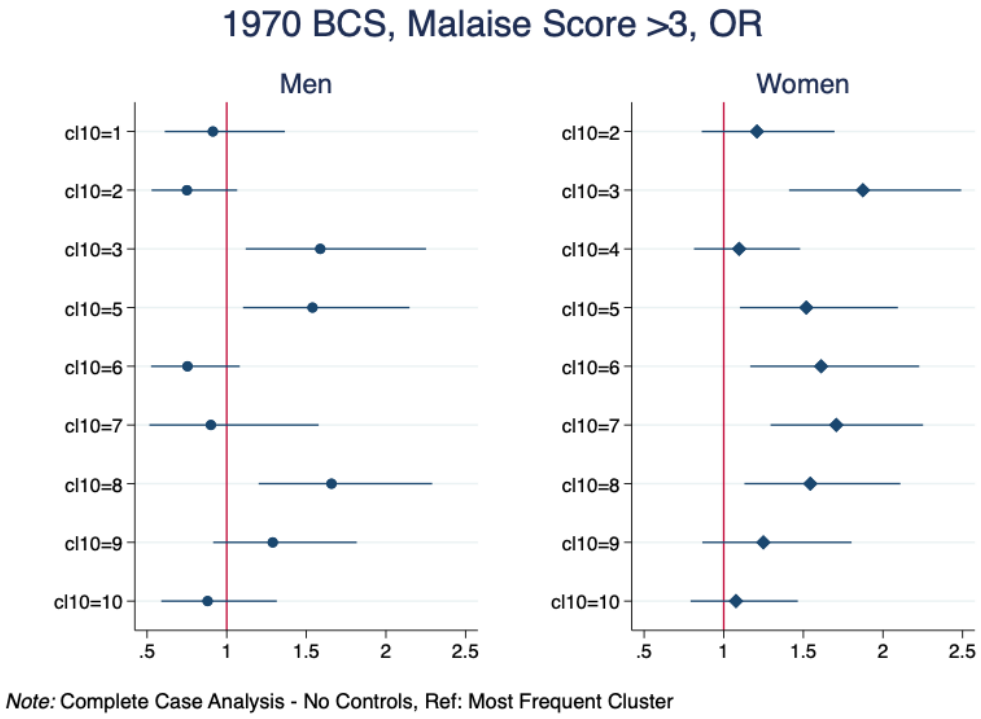
Panel B



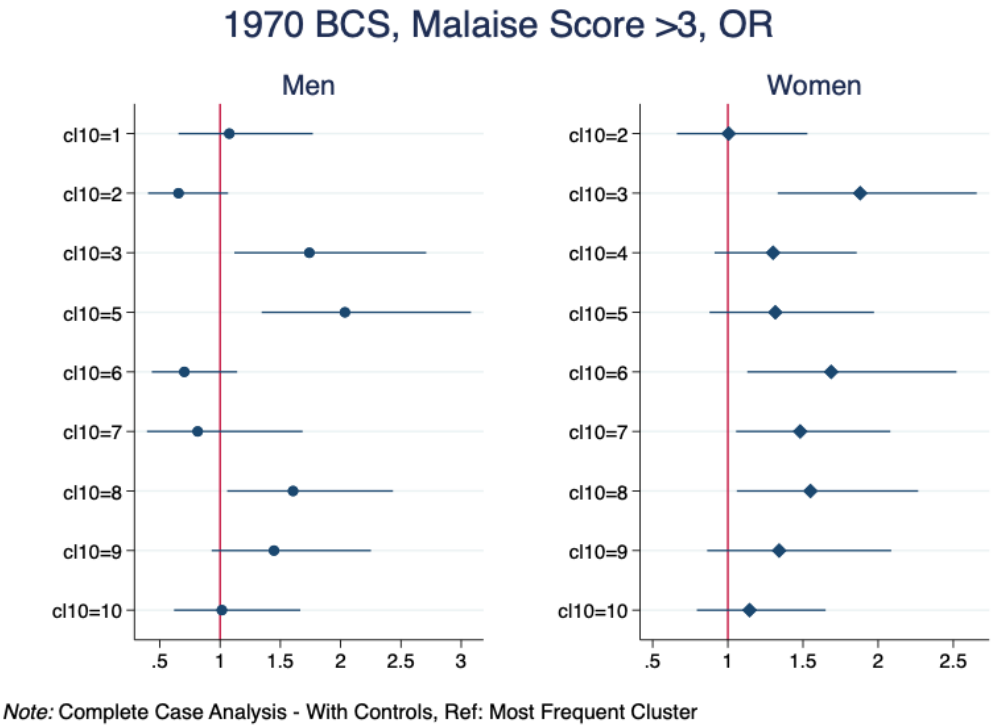
Note: for each model the clusters represent different trajectories (see Table 1 for easier interpretation)

Figure 2. Odds ratios of experiencing malaise inventory score larger than 3 for each cluster of men and women born in 1958.

Panel A



Panel B



Note: for each model the clusters represent different trajectories (see Table 1 for easier interpretation)