Social inequalities in the impact of flexible employment on different domains of psychosocial health

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**Study objectives:** (1) To analyse the impact of flexible employment on mental health and job dissatisfaction; and (2) to examine the constraints imposed by flexible employment on men’s and women’s partnership formation and people’s decision to become parents. For the two objectives the potentially different patterns by sex and social class are explored.

**Design:** Cross sectional health survey. Multiple logistic regression models separated for sex and social class (manual and non-manual workers) and controlling for age were fitted. Four types of contractual arrangements have been considered: permanent, fixed term temporary contract, non-fixed term temporary contract, and no contract.

**Setting:** Catalonia (a region in the north east of Spain).

**Participants:** Salaried workers interviewed in the 2002 Catalonian health survey with no longstanding limiting illness, aged 16–64 (1474 men and 998 women).

**Main results:** Fixed term temporary contracts were not associated with poor mental health status. The impact of other forms of flexible employment on mental health depended on the type of contractual arrangement, sex, and social class and it was restricted to less privileged workers, women, and manual male workers. The impact of flexible employment on living arrangements was higher in men. Among both manual and non-manual male workers, those with fixed term temporary contracts were less likely to have children when married or cohabiting and, additionally, among non-manual male workers they also were more likely to remain single (aOR = 2.35; 95%CI = 1.13 to 4.90).

**Conclusion:** Some forms of temporary contracts are related to adverse health and psychosocial outcomes with different patterns depending on the outcome analysed and on sex and social class. Future research should incorporate variables to capture situations of precariousness associated with flexible employment.
flexible employment on health,\textsuperscript{20} others have reported less noticeable differences for women\textsuperscript{21} \textsuperscript{22} and some have simply adjusted the analysis for sex.\textsuperscript{11} \textsuperscript{13} Moreover, even though it has been reported that social class modifies the effect of unemployment on mental health,\textsuperscript{23} as far as we know, this issue has not been explored in the research about flexible employment. Less qualified workers could be more vulnerable to flexible employment because of their lower employability and less power to negotiate their employment conditions.

The objectives of this study are (1) to analyse the impact of flexible employment on mental health and job dissatisfaction; and (2) to examine the constraints imposed by flexible contractual arrangements on men’s and women’s partnership formation and people’s decision to become parents. For the two objectives the potentially different patterns by sex and social class will be explored.

\section*{Methods}

\textbf{Data}

The data for this study were derived from the 2002 Catalan health survey (CHS), a cross sectional study based on a representative sample of 8400 members of the non-institutionalised population of Catalonia, a region in north eastern of Spain with about seven million inhabitants. The survey gathered self reported information on morbidity, health status, health related behaviours, as well as socio-demographic data. Participants were randomly selected via a multiple stage random sampling strategy. In the initial sampling stage, municipalities were selected from each of the eight regions of Catalonia (or municipal districts in the case of the Barcelona City health region) according to their population size. In each of the resulting strata cluster random sampling involving proportional probabilities and municipality (or district) weights, was used to select people for participation. Only 12.7\% of respondents were replaced as a result of refusal or absence. Full details of the survey have been reported elsewhere.\textsuperscript{24}

For the purposes of this study we selected a subsample of all salaried workers aged 16–64. To avoid possible reverse causation effects, we excluded from our analysis those people reporting a longstanding limiting illness (LLI) in the 12 months preceding the survey. 9.3\% of men and 11.5\% of women. LLI was asked with the question “During the past 12 months have you had any trouble or difficulty for gainful employment, housework, schooling, studying, because of a chronic health problem (that has lasted or it is expected to last three or more months)?” The final sample under analysis was composed of 1474 men and 998 women.

\section*{Dependent variables}

\begin{itemize}
  \item Poor mental health was measured with the 12 item version of the general health questionnaire (12-GHQ),\textsuperscript{25} included in the CHS questionnaire. This is a screening instrument widely used to detect current, diagnosable psychiatric disorders. It focuses on breaks in normal functioning rather than on lifelong traits; therefore it covers personality disorders or patterns of adjustment when these are associated with distress. Here we used a two point scoring method, rating a problem as absent (0) or present (1) according to the method recommended by the GHQ. Responses were summed and those scoring 3 or more were classified as cases.\textsuperscript{26}
  \item Job dissatisfaction was measured with the question “All in all, how satisfied would you say you are with your job?”, with four categories, from “very satisfied” to “very dissatisfied”. This question was dichotomised by combining the categories “dissatisfied” and “very dissatisfied” to indicate job dissatisfaction.
  \item Limitations in partnership formation and parenthood:
    \begin{itemize}
      \item Marital status was categorised as never married compared with married or cohabiting. For this analysis, previously married people were excluded.
      \item Parental status was categorised as living with children at home or not. This analysis was restricted to people married or cohabiting.
    \end{itemize}
\end{itemize}

\section*{Flexible employment}

Flexible employment was assessed through the type of contract. The question had four categories: permanent, fixed term contract, non-fixed term temporary contract, and

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|c|}
\hline
\textbf{Type of contract} & \textbf{Men} & & \textbf{Women} & & \\
& \textbf{n = 581} & \textbf{n = 893} & \textbf{n = 520} & \textbf{n = 478} & \\
\hline
Poor mental health status & 6.7 & 6.8 & 12.9 & 13.8 & \\
Job satisfaction & & & & & \\
Very satisfied & 21.3 & 13.2 & 25.2 & 11.7 & \\
Satisfied & 71.4 & 77.6 & 69.6 & 76.6 & \\
Dissatisfied & 7.1 & 7.7 & 4.6 & 9.8 & \\
Very dissatisfied & 0.2 & 1.5 & 0.6 & 1.9 & \\
\hline
Type of contract & & & & & \\
Permanent & 85.2 & 71.7 & 75.6 & 60.0 & \\
Fixed term temporary contract & 10.6 & 20.4 & 18.8 & 27.8 & \\
Non-fixed term temporary contract & 3.3 & 6.3 & 4.2 & 3.8 & \\
No contract & 0.9 & 1.6 & 1.4 & 8.4 & \\
\hline
Marital status & & & & & \\
Single & 29.0 & 39.2 & 41.9 & 31.9 & \\
Married or cohabiting & 68.0 & 58.1 & 52.7 & 59.5 & \\
Previously married & 3.0 & 2.7 & 5.4 & 8.6 & \\
Living with children at home & 53.4 & 45.4 & 40.2 & 45.8 & \\
Mean age (SD) & 39.4 (11.0) & 36.0 (12.5) & 35.2 (10.3) & 35.7 (11.9) & \\
\hline
\end{tabular}
\caption{General description of the population (in percentages). Catalonia health survey, 2002}
\end{table}

Non-manual workers includes managerial and senior technical staff, freelance professionals, intermediate occupations, managers in commerce, and skilled non-manual workers; manual workers includes skilled, partly skilled, and unskilled manual workers.
working with no contract. The three latter types of contracts were considered as of objective flexible employment.

Measurement of occupational social class

Occupational social class, assigned according to the respondent’s current occupation was measured with a widely used Spanish adaptation of the British classification. Class I includes managerial and senior technical staff and freelance professionals; class II, intermediate occupations and managers in commerce; class III, skilled non-manual workers; class IV, skilled (IVA) and partly-skilled (IVB) manual workers; and class V, unskilled manual workers. Because of the low number of people in some categories, the six original social classes were collapsed into two broad classes: non-manual (I and II, III) and manual (IVA-IVB-V).

Data analysis

Multiple logistic regression models were fitted to calculate adjusted odds ratios (aOR) and 95% confidence intervals (CI). Models were separated for sex and social class and adjusted for age. Goodness of fit was obtained using the Hosmer-Lemeshow test. The analysis included the weights derived from the complex sample design.

RESULTS

General description of the population by sex and social class

Table 1 shows the general description of the population. Whereas mental health status was better among men, no class differences were found either for men or for women. Job dissatisfaction was higher among manual female workers. Working with temporary contracts was more frequent among manual workers and among women. Moreover, more than 8% of female manual workers were employed with no contract. Being married or cohabiting was more frequent among non-manual male workers, whereas female non-manual workers were more likely to remain single. This pattern was consistent with that of living with children at home.

Poor mental health, job dissatisfaction, and type of contract by sex and occupational social class

Table 2 shows the association of type of contract with poor mental health and job dissatisfaction. Working with fixed term contracts was not associated with poor mental health status in any sex and social class combination. Among non-manual female workers and manual male workers non-fixed term temporary contracts were positively associated with poor mental health (aOR = 3.87; 95% CI = 1.52 to 9.85 and aOR = 4.30; 95% CI = 1.96 to 9.44 respectively). Among manual workers, both men and women, people with no contract were more likely to report poor mental health status (aOR = 6.34; 95% CI = 1.89 to 21.22 and aOR = 3.27; 95% CI = 1.54 to 6.94 respectively).

The pattern of association between job dissatisfaction and type of contract was different than that for mental health. As with mental health, among manual workers working with no contract was positively associated with job dissatisfaction both among men (aOR = 3.88; 95% CI = 1.19 to 12.68) and women (aOR = 4.91; 95% CI = 2.25 to 10.71). Additionally, among non-manual men those with fixed term contracts were more likely to report job dissatisfaction (aOR = 2.72; 95% CI = 1.16 to 6.37).

Limitations in partnership formation and parenthood

Table 3 shows the association of type of contract with marital and parental status. In all groups except manual female workers all forms of non-permanent jobs were associated with non-partnership formation although few associations were statistically significant. Limitations in parenthood were only found among men, both manual and non-manual, with fixed term temporary contracts (aOR = 1.97; 95% CI = 1.10 to 3.53 and aOR = 2.94; 95% CI = 1.16 to 7.47 respectively).

DISCUSSION

Our study produced three main findings: (1) whereas non-fixed term contracts and working with no contract were associated with poor mental health status, no association with fixed term temporary contracts was seen; (2) the effect
of flexible contractual arrangements, other than fixed term temporary contracts, on mental health was higher among less privileged groups (women and manual male workers); and (3) the impact of flexible employment, either fixed term or non-fixed term contracts, in family formation was more pronounced among men.

**Sex differences in health and employment conditions**

As expected, mental health status was poorer and flexible employment more common among women and manual workers. The more frequent type of non-permanent contract was fixed term temporary contracts. In both sexes, flexible employment increased among manual workers. It is important to note that 8.4% of female manual workers had no contract. Most of them (63%) worked as cleaners or carers and others that after many temporary contracts for a long period, often in several companies, are unable to get a permanent contract and live with a high uncertainty and concern about their working future. This heterogeneity could be a reason for not finding any association between working with fixed term temporary contracts and mental health.

**Impact of flexible employment on mental health and job dissatisfaction**

Several studies have shown the negative impact of job insecurity on mental health. However, we have found no relation between working with fixed term temporary contracts and mental health or job dissatisfaction. In contrast with our result, a higher risk of poor self perceived health status among German workers with fixed term temporary contracts has been reported.13 There are several reasons that could explain these contradictory results. The health indicator analysed in the study of Rodriguez,14 self perceived health status, is different, reverse causation was not controlled for and, finally, differences between geographical contexts can exist. Actually, in that study no association between fixed term temporary contracts and poor self perceived health status was found in Britain. That is consistent with our results and with another study based on the British household panel survey.14

To the extent that work related insecurity limits workers’ perception of control over their lives, when this is a permanent situation it is likely to be related to chronic stress disorders. Unfortunately, the category of fixed term temporary contract is too heterogeneous, including workers perceiving their situation as a transition to a stable situation, as for example those in the initial steps of their working life, and others that after many temporary contracts for a long period, often in several companies, are unable to get a permanent contract and live with a high uncertainty and concern about their working future. This heterogeneity could be a reason for not finding any association between working with fixed term temporary contracts and mental health.

In future research, new variables should be considered to capture situations of precariousness, often associated with flexible employment arrangements, such as the uninterrupted time working with non-voluntary temporary

**Table 3** Limitations in family formation by type of contract and sex. Age adjusted odds ratios (aOR) and 95% confidence intervals (CI). Catalonia health survey, 2002

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
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<tbody>
<tr>
<td></td>
<td><strong>%</strong></td>
<td><strong>aOR [95% CI]</strong></td>
</tr>
<tr>
<td><strong>Remaining single</strong></td>
<td></td>
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<tr>
<td>Non-manual</td>
<td>23.9</td>
<td>1</td>
</tr>
<tr>
<td>Type of contract</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td>23.9</td>
<td>1</td>
</tr>
<tr>
<td>Fixed term temporary contract</td>
<td>65.5</td>
<td>2.35 [1.13 to 4.90]</td>
</tr>
<tr>
<td>Non-fixed term temporary contract</td>
<td>70.0</td>
<td>3.00 [0.80 to 11.20]</td>
</tr>
<tr>
<td>No contract</td>
<td>†</td>
<td>†</td>
</tr>
<tr>
<td><strong>Manual</strong></td>
<td>32.0</td>
<td>1</td>
</tr>
<tr>
<td>Type of contract</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td>32.0</td>
<td>1</td>
</tr>
<tr>
<td>Fixed term temporary contract</td>
<td>64.6</td>
<td>1.36 [0.85 to 2.18]</td>
</tr>
<tr>
<td>Non-fixed term temporary contract</td>
<td>49.1</td>
<td>1.10 [0.54 to 2.26]</td>
</tr>
<tr>
<td>No contract</td>
<td>†</td>
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<tr>
<td><strong>Non-manual</strong></td>
<td>60.0</td>
<td>8.72 [1.24 to 61.59]</td>
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<tr>
<td>Type of contract</td>
<td></td>
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</tr>
<tr>
<td>Permanent</td>
<td>20.1</td>
<td>1</td>
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<tr>
<td>Fixed term temporary contract</td>
<td>45.0</td>
<td>2.94 [1.16 to 7.47]</td>
</tr>
<tr>
<td>Non-fixed term temporary contract</td>
<td>50.0</td>
<td>3.70 [0.72 to 18.91]</td>
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<tr>
<td>No contract</td>
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<td>†</td>
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<tr>
<td><strong>Manual</strong></td>
<td>20.2</td>
<td>1</td>
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<tr>
<td>Type of contract</td>
<td></td>
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<tr>
<td>Permanent</td>
<td>20.2</td>
<td>1</td>
</tr>
<tr>
<td>Fixed term temporary contract</td>
<td>36.5</td>
<td>1.97 [1.10 to 3.53]</td>
</tr>
<tr>
<td>Non-fixed term temporary contract</td>
<td>25.0</td>
<td>1.17 [0.47 to 2.86]</td>
</tr>
<tr>
<td>No contract</td>
<td>†</td>
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*p<0.05. †Fewer than 10 people in the category; ‡analysis restricted to salaried workers single and married or cohabiting; §analysis restricted to salaried workers married or cohabiting.

**Key points**

- Working with non-fixed term temporary contracts is associated with poor mental health status among non-manual female workers and manual male workers.
- Among manual workers, both men and women, working with no contract is related to poor mental health and job dissatisfaction.
- Working with fixed term temporary contracts is not related to poor mental health status in any combination of sex and social class, thus suggesting a need to better characterise situations of precariousness included in this heterogeneous group of workers.
- Working with temporary contracts is associated with delay in partnership formation and the decision to become parents, primarily among men.
contracts, the number of companies or workplaces where the person has been working in a defined period of time or the number of contracts in the past months, for example.

We have found some evidence of poor health outcomes in those forms of flexible employment more likely to be associated with poor employment conditions, such as working with non-fixed term temporary contracts and being employed with no contract. These results are consistent with those of Bardasi et al14 who did not find any association between fixed term temporary contracts and poor mental health but, in both sexes, found some evidence of poor mental health among workers with casual contracts. Moreover, we have also examined the role of social inequalities and we have additionally shown that the negative impact of these forms of contractual arrangements have a higher impact among less privileged workers—that is, women and manual male workers. These results challenge the view that the health effects of flexible employment emerge in a universalistic manner through individual perceptions that bear little relation to social structure.35

In Spain the proportion of employees working with temporary contracts is almost three times that of the EU-15.15 There is a general concern about the fraud in the use of these kinds of contractual arrangements, and primarily about the abuse of non-fixed term contracts as an easy form for employers to adjust the size or composition of their work forces to changing economic conditions. Job flexibility is used as a means of reducing labour costs and increasing control over workers. Although these contracts were originally created for use exclusively in activities of uncertain and limited duration, they are currently associated with precarious work. For example, large construction firms undertake different projects each one easily identifiable and it is the sum of all of them that guarantees the continuity of their economic activity. However, for each project the employer can make non-fixed term contracts and even legally make successive contracts to the same persons for different projects.

In our study 63% of manual male workers with non-fixed term contracts were employed in the construction sector. A significant proportion of persons worked more than 40 hours a week (46% compared with 26% in persons with permanent contracts). It is probable that people with contracts of unknown duration accept hard working conditions and different forms of exploitation, such as long hours, to keep their job (actually, it has been reported that employees with temporary contracts are less likely to have sickness absences).16 17 This can be even more frequent in the Spanish labour market with a high unemployment and growing rates of immigrant workers rate. These results suggest that it is not only the uncertainty about job future that relates to poor mental health status but also the poor working conditions associated with some temporary contracts. However, this is just a speculation that deserves further attention in future research.

The pattern of association of type of contract with job dissatisfaction was different than that for mental health status. However, consistently with the results for mental health, those manual workers with no contract, either men or women, were more likely to report job dissatisfaction. On the other hand, among men, non-manual workers with fixed term contracts showed a higher risk of job dissatisfaction. No association was found with non-fixed term temporary contracts.

Temporary work and limitations in partnership formation and parenthood

As hypothesised, workers with temporary contracts, either fixed term or non-fixed term, were less likely to decide partnership formation and entry into parenthood, but this association was more pronounced among men. It is important to notice that whereas mental health was not related to fixed term temporary contracts, the delay in partnership formation and parenthood is primarily related to this type of contract. This finding suggests that whereas working in a temporary job is not a cause of poor mental health in itself and that more attention should be paid to the poor working conditions associated with flexible employment arrangements, uncertainty about the future related to temporary work delays family formation. Married men with fixed term temporary contracts, either of high or of low social class, were less likely to have children. Moreover, among non-manual male workers these contracts were also associated with a lower probability of being married. Conversely, among manual male workers not being married was related to working with no contract.

In Spain holding a job is an important predictor for union formation and parenthood among men.18 In such a country with a strong version of the male breadwinner model, long term and full time employment for men are considered necessary to consolidate an economic basis that is regarded as a necessary prerequisite for these transitions. Among women an association between not being married and working with a non-fixed term temporary contract was only found among non-manual workers. This finding could be explained, among other reasons, by the higher attachment of women of higher education levels to the labour market.29 Besides the impact of flexible employment in shaping the capacity of both women and men to realise

What this paper adds

- As far as we know, this study based on a representative sample of workers in Catalonia, a region of Spain, is the first one examining the impact of flexible employment on workers’ health and wellbeing in Spain, the country with the highest rate of temporary contracts in the EU-15. In contrast with many studies based of self perception of job instability, this study focuses on an objective indicator, type of contract.
- We have shown that the impact of flexible employment on psychosocial health depends on the type of contractual arrangement, the health indicator analysed, and on the interaction between sex and social class. Some specific proposals are provided that may help future research to better characterise the precariousness associated with temporary contracts.
their potential for health, these results illustrate its contribution in the low birth rate in Spain, the lowest in the EU-15 after Ireland,40 and emphasises the need for political interventions to reduce the abuses of temporary forms of employment arrangements.

Limitations
This study is limited by its cross sectional design. Although we cannot entirely rule out the possibility that poor mental health causes flexible employment, we reduced the reverse causation effect by excluding those workers who reported a LLI the past 12 months. Thus, it seems reasonable to think that, in most cases, flexible employment was not caused by a health problem. Therefore, we have studied a selected population of “healthy” workers and still we have found a poorer mental health status, higher job dissatisfaction, and limitations in living arrangements in selected groups of workers with flexible contractual arrangements. Moreover, we have used an objective measure of flexible employment, the type of contract, therefore avoiding an overestimation of the associations between subjective dependent and independent variables due to sharing part of the same variance.

We are also limited by the use of secondary data. So, we have considered living with children at home as a proxy of parental status, but in some cases children could have left home. However, the probability of leaving home does not seem to be related to the type of contract of parents or to be related in a different way depending on whether it is the mother or the father who has a temporary contract. Moreover, one of the main characteristics of Spanish society is the delay of the young in leaving the parent’s home because, among other reasons, of difficulties of the labour market and to the high cost of dwellings.

Finally, another limitation is the lack of a sufficient number of people of some categories that has prevented us from analysing them. Moreover, partially because of the same reason, we could not examine the role of part time work, frequently considered as a form of atypical or precarious employment, because it is still rather uncommon in Spain (only 3.6% of men and 14.9% of women in the sample had this kind of contracts) and it is highly correlated with non-permanent contracts (whereas among full time workers the proportion of people with flexible contractual arrangements was 22% and 28% in men and women respectively, among part time workers it increased to 56%, with no sex differences).

Conclusion
We have shown that the impact of temporary work on mental health is related to those forms of employment arrangements that are potentially associated with precariousness, working with non-fixed term contracts, and with no contract, but not with fixed term contracts. We have also shown that this impact is restricted to less privileged workers such as women and manual male workers. Finally, we have found that, primarily among men, temporary work, either fixed term or non-fixed term, is associated with limitations in partnership formation and the decision to become parents.

Future research should characterise the forms of precariousness associated with flexible contractual arrangements, such as the number of contracts or the firms or workplaces where workers have stayed in the past months and the uninterrupted time working with temporary contracts, as well as the potential sex and social class differences.

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