



# The Impact of Temporary Employment and Social Protection on Sickness Absence

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May 4, 2010

Funding provided by the Canadian Institutes for Health Research (Grant #FRN 5773), and the Ontario Workplace Safety & Insurance Board Research Advisory Council (Grant #02 006)



## Background

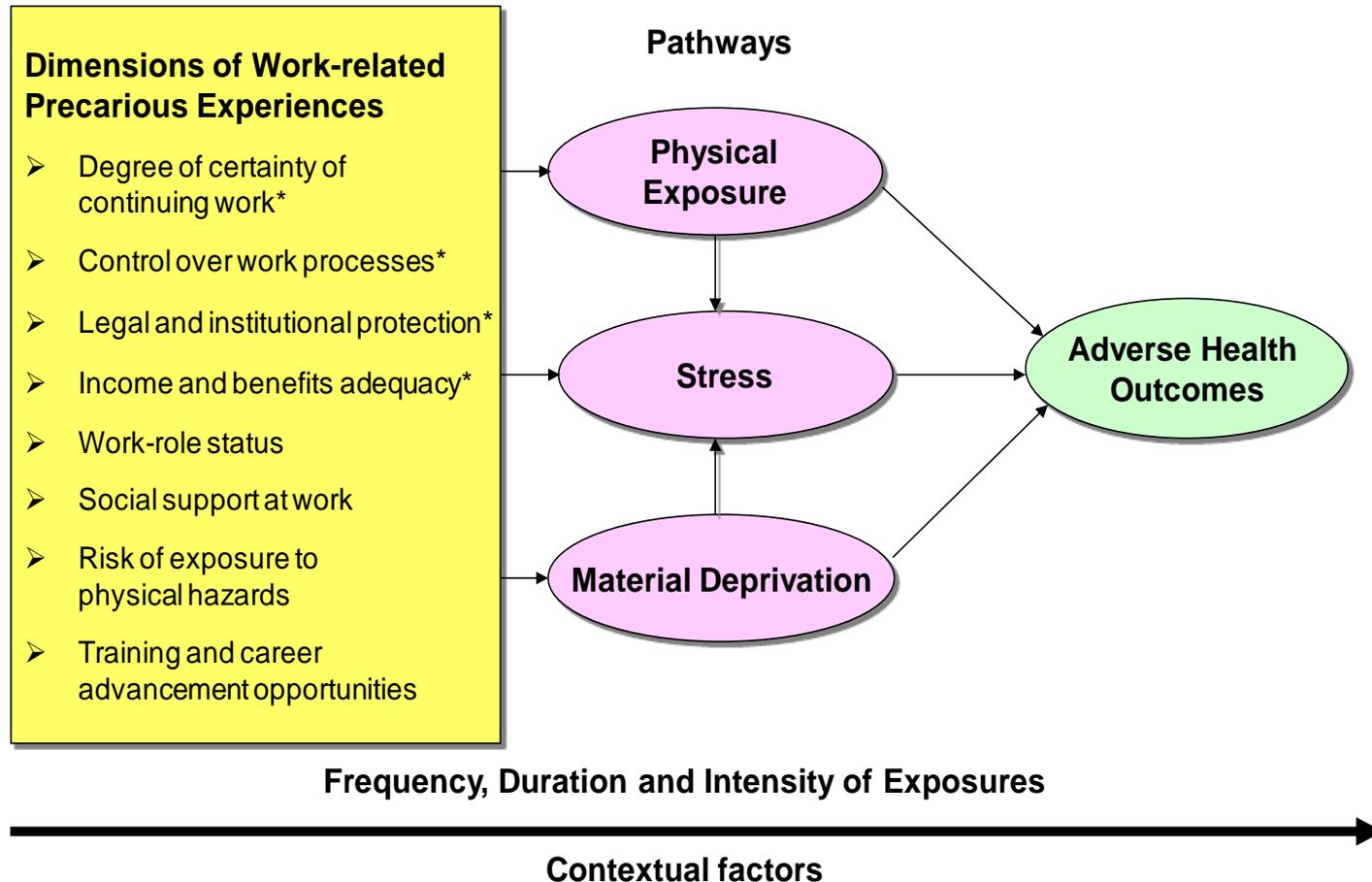
- Presentation based on two research manuscripts
  - OEM manuscript (2008) on work-related sickness absence
  - Work manuscript (forthcoming in 2010) on all-cause sickness absence
- Part of a larger research initiative on precarious employment experiences
- Defined as experiences that give rise to instability, lack of protection, insecurity, and social and economic vulnerability
- Growing literature that investigates the health implications of work forms and arrangements different from the post-war standard
- Key issue is insecurity across a number of dimension
  - Often identified with the employment contract



## Precarious Employment Experiences

- Originally labelled as nonstandard or atypical work
- Based on notion that post-war standard for large segment of the working population (white males) was full-time permanent work
- Other features of standard work include regular hours, benefits, fixed location of work, training and advancement opportunities
- Key issue was security associated with continuity of employment
- Researchers have focused on various work forms and arrangement thought to be less secure—non-standard, contingent, temporary work
- But security/insecurity not just about continuity of employment
- Other aspects—OHS exposure, hours of work, earnings and benefits, location of work, etc.

## Conceptual Framework





## Key Issues Relevant to the Current Studies (1)

- Reasons why temporary employment may lead to greater risk of adverse health outcomes
  - Insecurity arising from concerns about employment and earnings continuity– stress and strain
  - Type of work and related exposures different for individuals in temporary work– higher levels of OHS risks
- Systematic review by Quinlan et al. (2001)
  - over 80% of studies found that precarious work arrangements were associated with inferior OHS outcomes
- Growing concern because of decline in permanent, full-time work and increased use of temporary/contract employment (including labour supplied by temporary agencies)



## Key Issues Relevant to the Current Studies (2)

- Expansion of precarious employment threatens regulatory regimes designed to protect workers
  - Labour and OHS regulation
    - Difficulties associated with OHS enforcement
    - Fear or lack of knowledge about OHS issues
    - Triangulated employment relationships fracturing statutory responsibilities
  - Workers' compensation
    - Excluded from coverage
    - If covered, less likely to claim
    - Difficulties identifying source of exposures with multiple short-term employment contracts



## Reasons for Not Applying for Workers' Compensation

- Study by Quinlan and Mayhew (1999) report on survey undertaken in Australia of 8,800 workers
- 8.3% reported a work-related injury over the past 12 months, only 47% made a workers' compensation claim
- Shannon and Lowe (2002) found similar proportion in a Canadian study (40%)
- Reasons for not making a claim (from Quinlan and Mayhew, 1999):
  1. Self-employed– not eligible
  2. Minor injury– not necessary
  3. Not aware of workers' compensation
  4. Afraid of possible retrenchment
  5. Did not think eligible
  6. Concern about what others would think
  7. Other reasons



## Temporary Employment and Sickness Absence Studies

- Several studies have investigated the relationship between temporary employment and OHS outcomes
  - Literature review by Virtanen et al. (2005)
  - Temporary workers have a higher risk of occupational injury
- Fewer studies investigate relationship between temporary employment and sickness absence
  - Generally consider all-cause sickness absences
  - A few consider absence due to work exposures
    - Mixed results—depends on nature of the employment contract
    - All-cause sickness generally lower
    - Work-related sickness absence less clear because of fewer studies, but also generally lower

## Overview of Findings from Key Studies

- Virtanen et al. (2005): reviewed published evidence of a relationship between temporary employment and health
  - Major finding: temporary workers have a higher risk of occupational injuries, though tend to have lower rates of sickness absence
- Benavides et al. (2000): investigated the relationship between temporary/fixed-term employment and absence due to “health problems caused by the main job” in 15 EU countries
  - Major finding: rate of absence was generally higher for those in permanent employment
- Gimeno et al. (2004): investigated differences in the rate of work-related sickness absence in temporary versus permanent workers across 15 EU countries.
  - Major finding: lower rates of absence among temporary workers compared to permanent workers.



## Threshold for Absence Taking

- Paradox of higher probability of injury/illness and lower probability of absence
- Criteria for taking absence varies across individuals (Kristensen, 1991)
- Positive and negative incentives for temporary workers to have higher threshold for absence taking
  - Lack of wage-replacement benefits
  - Desire to have contract renewed or secure a permanent job
  - Fear of dismissal
  - Avoiding negative impressions of coworkers and managers
- Recent study found that permanent employment protects workers from termination when they have high absence rates (Virtanen et al. 2006)
- Key issue is differences in social protection

## Methodological Issues

- Most studies use cross sectional data
- Presents difficulties with determining direction of effect  
     health → employment type *or* employment type → health
- Health selection effects not addressed in the literature
- Important contextual factors change with time in a job (job tenure)
  - Firm specific knowledge that bears on risk exposures
  - Evidence that newness on the job increases risk of OHS injury (Breslin and Smith, 2006)
  - Ability to take absence without reprisal associated with seniority
  - Specifically, probationary period with new job
- Individuals in temporary employment generally have lower tenure

## Framing of the Studies (1)

**Primary Hypothesis:** Individuals in temporary employment have a higher risk of serious injuries/illnesses and higher probability sickness absence due to higher exposures

- After control for tenure, other aspects of social protection and relevant contextual factors
- Focus on sickness absences of one week or more
- Assume threshold effects less relevant for more serious injuries/illness associated with longer absences
- Most work-related sickness absence covered by workers' compensation
- Attribution error possible with multi-factorial, cumulative trauma and long-latency conditions
- We consider both work-related and all-cause sickness absences

## Framing of the Studies (2)

### Sub-hypotheses (related to social protection):

1. Short-tenure workers will have a higher probability of sickness absence of one week or more
  - Due to exposure such as inadequate training and/or more dangerous task assignments
2. Unionized workers will have a lower probability of work-related sickness absence
  - Protection through training and pressure for safer work conditions
3. Workers in larger firms will have a lower probability of work-related sickness absence
  - Standardized and well-developed HR practices, OHS training, and monitoring

Survey



## Data Source

- Canadian Survey of Labour and Income Dynamics (SLID)
- Nationally representative longitudinal survey with six-year overlapping panels (first panel began in 1993)
- Our study draws from the third panel: 1999-2004
- Third panel was first to include a question on the nature of the employment contract (i.e., permanent versus temporary)
- Each panel comprises about 15,000 households, with one individual undergoing more in-depth interview (e.g., socio-demographic characteristics, labour-market activity, income sources and amounts, self-reported health status)
- Survey inquires about absences of one week or longer in each of six jobs



## Sample

- Individuals who began a new job after 1999, and within the time period of the panel (five-year time frame)
- Aged 25-54 at the start of the job (prime-age workers)
- Full-time students and the self-employed were not included
- Final sample sizes
  - Work-related sickness absences (WSA) study (Study 1) N=4,777
  - All-cause sickness absences (ACSA) study (Study 2) N=5,307

## SLID Sickness Absence Question

- Event/outcome of interest was the first occurrence of an absence of one week or greater due to an illness or disability (i.e., work-related sickness absence [WSA], or all-cause sickness absence [ACSA])
- Question from the SLID: **Not counting fully paid vacations, were you absent from the job for a period of one-week or longer?**

ACSA

- [If yes,], what was the main reason for this absence [12-response categories provided with the first option being “own illness or disability”]?

WSA

- [If own illness or disability], was this due to a work-related illness or injury [yes/no]?

- WSA measure has been compared to WSIB lost-time claim rates of one week or longer (Mustard et al. 2003)– found comparable trend

## Explanatory Variables

- Key explanatory variables were:
  - i) Variable indicating if job is temporary or permanent (Q: Is your job permanent, or is there some way that it is not permanent (e.g., seasonal, temporary, term, casual etc?))
  - ii) Set of variables indicating number of months on the job (1-3, 4-6, 6+)
  - iii) Proxies for social protection:
    - a) member of a union(y/n)
    - b) firm size (<20/=>20)
- Other variables: job-type (manual, mixed, non-manual); number of hours/month; multiple jobholder; age; sex; and educational attainment; self-reported health status (fair/poor vs. good/very good/excellent) prior to commencement of job



## Statistical Methodology

- Unit of analysis was person-job-month
- Duration modeling to examine the probability of exit to a work absence (WSA or ACSA) in each month
- Complementary log-log link function for continuous time processes with clustered data
- Used scaled weights derived from population weights
- Corrected for correlated errors due to multiple observations within each person-job episode



## Descriptive Statistics

|  | <b>Study 1 (WSA)</b> | <b>Study 2 (ACSA)</b> |
|--|----------------------|-----------------------|
| calendar years of sample                         | 2000-2003            | 2000-2004             |
| Number of persons                                | 4,771                | 5,307                 |
| Number of person-jobs                            | 7,953                | 9,574                 |
| Total observations (person-job-months)           | 115,488              | 144,046               |
| Number of absences                               | 167                  | 635                   |
| Percentage of jobs with absences                 | 2.1%                 | 6.6%                  |
| Percentage of jobs that were temporary           | 34%                  | 40%                   |
| Percentage of jobs 6+ months that were temporary | 23%                  | 22%                   |



## Duration Modeling Results

| Explanatory Variables                  | Study 1 (WSA) | Study 2 (ACSA) |    |
|--|---------------|----------------|----|
|  | % Change      | % Change       |    |
| Temporary job                          | -36%          | -37%           | *  |
| Duration 1-3 months                    | -33%          | -27%           | *  |
| Duration 4-6 months                    | -64% **       | -27%           |    |
| Union member                           | 58% *         | 40%            | ** |
| Firm size of 19 or less                | -29%          | -21%           |    |
| Manual job                             | 151% **       | 39%            | *  |
| Mixed job (some manual work)           | 51%           | 19%            |    |
| Hours worked in month (10 hour units)  | 2%            | 0%             |    |
| Multiple job holder                    | -77% **       | -54%           | ** |
| Age (in years)                         | 1%            | 0%             |    |
| Male                                   | -4%           | -29%           | ** |
| Less than high school                  | 21%           | 72%            | *  |
| High school diploma                    | 25%           | 75%            | ** |
| Fair/poor health prior to start of job | 227% **       | 164%           | ** |



## Results Summary for Study 1

- Probability of WSA similar for temporary and permanent job holders
- 1-3 months tenure no more likely to have a WSA than 6+ months group
- 4-6 months tenure were 64% less likely to exit to a WSA (compared to 6+ months group)
- Union membership associated with 58% higher risk of WSA
- No effect of firm size on WSA
- Other significant variables: manual job (higher risk), multiple job holding (lower risk), and low prior health status (higher risk)



## Results Summary for Study 2

- Probability of ACSA 37% lower for temporary job holders
- 1-3 months tenure were 27% less likely to have an ACSA than the 6+ months group
- 4-6 months tenure were equally as likely to exit to a ACSA (compared to 6+ months group)
- Union membership associated with 40% higher risk of ACSA
- No effect of firm size on WSA
- Socio-demographic characteristics: sex (men had lower risk); lower educational attainment (higher risk)
- Other significant variables: manual job (higher risk), multiple job holding (lower risk), and low prior health status (higher risk)



## Implications

- Temporary employment not associated with increased WSA of one week or longer
- Possibly exposure and disincentive are greater and cancel each other
- Possibly too few WSA to detect an effect
- Temporary employment associated with decreased ACSA
- Suggests lack of social protection outweighs individual health concerns
- Lack of social protection as a disincentive for absence taking also apparent with short tenure
- Social protection provided by union membership dominates possible reductions in risk exposure that may be associated with unionization
- Need to further investigate prevalence of higher exposures among temporary workers



## Manuscript Citation References

Tompa E, Scott-Marshall H, Fang M. 2008. The Impact of Temporary Employment and Job Tenure on Work-related Sickness Absences. *Occupational and Environmental Medicine*, 65.12:801-807.

Tompa E, Scott-Marshall H, Fang M. 2010. Social Protection and the Employment Contract: The Impact on Work Absence. forthcoming in *Work: A Journal of Prevention, Assessment and Rehabilitation*, 37.3.



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