Non-standard employment and mortality in Belgian workers: A census-based investigation[1]

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1. *Supplementary tables*
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Table S1 - Associations between weekly working hours and work schedule in 2001 and all-cause and cause-specific mortality 2001-2014 among men after full adjustment. Hazard ratios (and 95% confidence intervals) from Cox proportional hazards regressions

	All-cause (n= 29 072)	Circulatory diseases (n=5791)	Cancer (n=12 075)	All external causes (n=4534)	Transport accidents (n=1036)	Suicide (n=2378)	Fall (n=359)
Work schedule							
Staggered (sliding hours) (N=128 949)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fixed (N=471 242)	1.07 (1.03-1.10)	1.03 (0.95-1.11)	1.09 (1.03-1.15)	1.08 (0.98-1.19)	1.13 (0.92-1.39)	1.14 (0.99-1.30)	0.81 (0.60-1.09)
Interrupted (N=25 814)	1.09 (1.01-1.17)	1.22 (1.04-1.42)	1.06 (0.94-1.19)	1.08 (0.90-1.30)	0.98 (0.66-1.45)	1.14 (0.88-1.46)	0.97 (0.52-1.83)
Flexible (set by the employer) (N=112 102)	1.09 (1.04-1.14)	1.01 (0.92-1.12)	1.06 (0.99-1.14)	1.20 (1.07-1.35)	1.18 (0.93-1.51)	1.31 (1.12-1.53)	0.73 (0.49-1.11)
Shift work (N= 70 403)	1.08 (1.02-1.14)	0.92 (0.81-1.04)	1.07 (0.98-1.16)	1.21 (1.06-1.38)	1.09 (0.82-1.45)	1.32 (1.11-1.59)	1.01 (0.64-1.58)
Other (N=2471)	1.07 (0.86-1.33)	1.03 (0.63-1.69)	0.82 (0.55-1.21)	1.02 (0.57-1.80)	0.75 (0.19-3.03)	1.17 (0.55-2.48)	0.88 (0.12-6.35)

Working hours							
More than 48 (N= 109 862)	0.95 (0.91-0.98)	0.93 (0.85-1.02)	0.98 (0.92-1.05)	0.85 (0.76-0.95)	0.99 (0.80,1.23)	0.83 (0.71-0.96)	0.74 (0.49-1.10)
41 to 48 (N=90 293)	0.89 (0.86-0.93)	0.84 (0.76-0.93)	0.98 (0.92-1.05)	0.82 (0.73-0.92)	0.80 (0.63,1.03)	0.83 (0.71-0.98)	1.08 (0.74-1.56)
35 to 40 (N=568 250)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20 to 34 (N=32 264)	1.00 (0.94-1.06)	0.99 (0.87-1.12)	0.98 (0.89-1.07)	1.08 (0.93-1.25)	0.91 (0.65-1.28)	1.17 (0.96-1.42)	1.22 (0.74-1.98)
Less than 20 (N=10 312)	0.98 (0.90-1.08)	1.07 (0.89-1.29)	0.90 (0.78-1.03)	1.03 (0.81-1.32)	1.01 (0.59-1.72)	1.01 (0.72-1.44)	1.09 (0.48-2.48)

adjusted for employment form, age, educational attainment, living in urban agglomeration, partner in household, migration background, economic sector, housing tenure and multiple job-holding.

N/A: no point estimate was calculated due to lack of events

Table S2 - Associations between total working hours and work schedule in 2001 and all-cause and cause-specific mortality 2001-2014 among women after full adjustment. Hazard ratios (and 95% confidence intervals) from Cox proportional hazards regressions.

	All-cause (n= 10 951)	Circulatory diseases (n=1300)	Cancer (n=6484)	All external causes (n=1158)	Transport accidents (n=227)	Suicide (n=619)	Fall (n=90)
Work schedule							
Staggered (sliding hours) (N=106 968)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fixed (N = 409 885)	0.99 (0.94-1.05)	1.03 (0.88-1.21)	0.98 (0.92-1.05)	0.93 (0.79-1.10)	0.79 (0.55-1.15)	1.09 (0.86-1.39)	0.78 (0.45-1.36)
Interrupted (N=27 783)	1.00 (0.90-1.11)	0.97 (0.72-1.31)	0.91 (0.79-1.04)	1.30 (0.98-1.72)	1.31 (0.72-2.38)	1.48 (1.00-2.18)	0.41 (0.09-1.80)
Flexible (set by the employer) (N=72 517)	0.96 (0.89-1.04)	0.87 (0.70-1.10)	0.96 (0.87-1.06)	1.02 (0.81-1.27)	1.04 (0.63-1.70)	1.15 (0.84-1.57)	0.88 (0.39-1.99)
Shift work (24 344)	1.01 (0.90-1.13)	1.11 (0.80-1.53)	0.88 (0.75-1.03)	1.29 (0.95-1.74)	0.82 (0.39-1.72)	1.62 (1.09-2.41)	0.92 (0.26-3.23)
Other (N=1555)	0.80 (0.51-1.25)	1.58 (0.59-4.27)	0.56 (0.28-1.12)	2.46 (1.15-5.24)	3.44 (0.83-14.35)	3.55 (1.44-8.78)	N/A
Working hours							
More than 48 (N=26 627)	0.90 (0.81-1.00)	0.97 (0.71-1.31)	0.91 (0.79-1.04)	0.82 (0.60-1.14)	0.80 (0.38-1.67)	0.75 (0.47-1.21)	0.23 (0.03-1.67)
41 to 48 (35 264)	0.96 (0.88-1.05)	0.90 (0.68-1.20)	1.03 (0.91-1.15)	0.73 (0.54-0.99)	0.70 (0.35-1.40)	0.82 (0.55-1.23)	0.35 (0.08-1.49)
35 to 40 (303 399)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20 to 34 (N=199 046)	0.90 (0.86-0.94)	0.86 (0.75-0.98)	0.91 (0.85-0.96)	0.90 (0.78-1.03)	0.80 (0.58-1.10)	0.98 (0.81-1.18)	0.86 (0.52-1.41)

Less than 20 (78 716)	0.91 (0.85-0.96)	0.85 (0.72-1.02)	0.90 (0.83-0.98)	0.98 (0.82-1.19)	0.91 (0.59-1.39)	1.20 (0.94-1.53)	0.86 (0.44-1.70)

adjusted for employment form, age, educational attainment, living in urban agglomeration, partner in household, migration background, economic sector, housing tenure and multiple job-holding.

N/A: no point estimate was calculated due to lack of events

Table S3 - Type of employment in 2001 and all-cause and cause-specific mortality 2001-2014 on matched samples (binary matching) after full adjustment. Hazard ratios (and 95% confidence intervals) from Cox proportional hazards regressions

MEN							
	All-cause	Circulatory diseases	Cancer	All external causes	Transport accidents	Suicide	Fall
Permanent empl. (N= 970 775)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Temporary agency work (N= 9064)	1.41 (1.29-1.54)	1.46 (1.20-1.77)	1.31 (1.12-1.53)	1.85 (1.54-2.22)	1.90 (1.30-2.78)	1.70 (1.31-2.20)	1.81 (0.89-3.66)
N	*979 839*	*979 839*	*979 839*	*979 839*	*979 839*	*979 839*	*979 839*
Permanent empl. (N= 950 104)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seasonal work (N=947)	1.16 (0.90-1.49)	1.26 (0.74-2.13)	1.16 (0.77-1.75)	1.56 (0.88-2.75)	3.36 (1.38-8.16)	1.20 (0.50-2.89)	3.59 (0.88-14.63)
N	*951 051*	*951 051*	*951 051*	*951 051*	*951 051*	*951 051*	*951 051*
Permanent empl. (N=972 774)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fixed-term work (N= 25 748)	1.22 (1.15-1.29)	1.06 (0.92-1.21)	1.21 (1.10-1.33)	1.17 (1.02-1.36)	1.14 (0.83-1.56)	1.19 (0.98-1.44)	1.24 (0.75-2.06)
N	*998 522*	*998 522*	*998 522*	*998 522*	*998 522*	*998 522*	*998 522*
Permanent empl. (N= 969 215)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Empl. program (N=9017)	1.22 (1.12-1.32)	1.19 (1.00-1.42)	1.18 (1.03-1.35)	1.22 (0.99-1.50)	1.50 (0.98-2.32)	1.09 (0.81-1.46)	0.84 (0.37-1.91)
N	*978 232*	*978 232*	*978 232*	*978 232*	*978 232*	*978 232*	*978 232*
Permanent empl. (N=964 861)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Casual work or other (N=1291)	0.99 (0.79-1.24)	0.86 (0.51-1.46)	0.87 (0.59-1.29)	0.99 (0.53-1.85)	N/A	1.10 (0.49-2.47)	1.13 (0.16-8.12)
N	*966 152*	*966 152*	*966 152*	*966 152*	*966 152*	*966 152*	*966 152*

WOMEN							
	All-cause	Circulatory diseases	Cancer	All external causes	Transport accidents	Suicide	Fall
Permanent empl. (N=693 666)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Temporary agency work (N=9691)	1.14 (0.99-1.30)	1.51 (1.07-2.13)	0.91 (0.74-1.11)	1.69 (1.22-2.35)	2.73 (1.51-4.93)	1.25 (0.75-2.10)	1.36 (0.33-5.57)
N	*703 357*	*703 357*	*703 357*	*703 357*	*703 357*	*703 357*	*703 357*
Permanent empl. (N=684 014)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Seasonal work (N=1300)	0.88 (0.61-1.27)	1.17 (0.48-2.83)	0.67 (0.38-1.18)	1.83 (0.81-4.14)	N/A	1.83 (0.58-5.79)	N/A
N	*685 314*	*685 314*	*685 314*	*685 314*	*685 314*	*685 314*	*685 314*
Permanent empl. (N=694 209)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fixed-term work (N=41 548)	1.11 (1.04-1.19)	1.18 (0.97-1.43)	1.01 (0.92-1.11)	1.14 (0.93-1.38)	1.09 (0.68-1.73)	1.06 (0.80-1.39)	1.45 (0.75-2.79)
N	*735 757*	*735 757*	*735 757*	*735 757*	*735 757*	*735 757*	*735 757*
Permanent empl. (N= 693 486)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Empl. program (N=24 453)	1.02 (0.94-1.11)	1.15 (0.91-1.45)	1.08 (0.97-1.21)	0.74 (0.55-0.98)	0.75 (0.38-1.50)	0.78 (0.53-1.14)	0.34 (0.08-1.42)
N	*717 939*	*717 939*	*717 939*	*717 939*	*717 939*	*717 939*	*717 939*
Permanent empl. (N= 676 902)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Casual work or other (N=2841)	1.05 (0.84-1.32)	0.92 (0.46-1.86)	0.94 (0.68-1.29)	1.54 (0.82-2.89)	0.74 (0.10-5.32)	1.85 (0.82-4.18)	N/A
N	*679 743*	*679 743*	*679 743*	*679 743*	*679 743*	*679 743*	*679 743*

Matching was conducted on age at baseline, educational attainment, living in urban agglomeration, partner in household, migration background, economic sector, housing tenure, weekly working hours, multiple job-holding, self-rated health, long-term illness. Fully adjusted model: regression adjusted by all matching variables and work schedule

N/A: no estimate calculated due to lack of events in either of the groups