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LONG WORKING HOURS AND ITS ASSOCIATION WITH MUSCULOSKELETAL PAIN AMONG INTERNS/RESIDENTS IN SOUTH KOREA. Hyoju Sung*, Hyemin Lee, Ja Young Kim, Yugyun Kim, Seung-Sup Kim (BK21PLUS Program in Embodiment: Health-Society Interaction, Department of Public Health Sciences, Graduate School of Korea University)

Objective: It has been reported that interns/residents in South Korea are working extreme long hours on average of more than 90 hours per week. This study sought to examine the association between long working hours and musculoskeletal pains among Korean interns/residents. **Methods:** We analyzed a cross-sectional survey of 1,619 Korean Interns and Residents (2014). Working hours per week was categorized into five groups: less than 60, 60-79, 80-99, 100-119, 120 or more. Experience of three different musculoskeletal pains (i.e. upper limb, low-back, and lower limb pains) over the past 3 months were measured through self-reports. Based on whether the pain interferes with work, each musculoskeletal pain was categorized into three groups: (1) no pain, (2) pain without interfering with work (3) pain interfering with work. **Results:** After adjusting for potential confounders including medical specialties and self-reported physical work factors, long-working hours were associated with upper limb pain and low-back pain, particularly when those pains interfered with work. Compared to 'working less than 60 hours', long-working hours had a dose-response relationship with upper limb pain interfering with work: 60-79 hours (OR: 1.46, 95% CI: 0.89, 2.40), 80-99 hours (OR: 2.38, 95% CI: 1.43, 3.95), 100-119 hours (OR: 3.06, 95% CI: 1.76, 5.31), and 120 hours or more (OR: 4.39, 95% CI: 2.52, 7.65). Similar dose-response relationship was observed in the analyses with low back pain. However, no significant relationship was observed in the analyses with lower limb pains except the association between 'working 120 hours or more per week' and lower limb pain interfering with work (OR: 2.34, 95% CI: 1.22, 4.49). **Conclusions:** Long working hours may increase risk of musculoskeletal pains among interns/residents in South Korea. Interns/residents who are working 120 hours or more per week was significantly at higher risk of having all three different musculoskeletal pains interfering with work.

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WHO IS WORKING WHILE SICK?: NON-STANDARD EMPLOYMENT AND ITS ASSOCIATION WITH ABSENTEEISM AND PRESENTEEISM IN SOUTH KOREA. Seung-Sup Kim*, Ja Young Kim, Hyoju Sung, Joohee Lee, Carles Muntaner (Department of Public Health Sciences, Korea University, South Korea)

Objectives: Previous studies have reported that non-standard employment is not or negatively associated with absenteeism. This study sought to examine the relationship of non-standard employment with presenteeism as well as absenteeism in South Korea. **Methods:** We analyzed a cross-sectional survey of 26,611 full-time employees from the third wave of the Korean Working Conditions Survey (2011). Experience of absenteeism and presenteeism during the past 12 months were assessed through self-reports. And employment condition was classified into six categories based on two contract types (parent firm Vs subcontract) and three different contract durations [permanent, long-term (longer than 1 year, but fixed), short-term (1 year or less, but fixed)]: 1) 'parent firm-permanent', which has been traditionally regarded as a standard employment, 2) 'parent firm-long term', 3) 'parent firm-short term', 4) 'subcontract-permanent', 5) 'subcontract-long term', and 6) 'subcontract-short term.' **Results:** We found opposite trend between absenteeism and presenteeism analyses after adjusting for potential confounders including working hours, having labor union at workplace, and company size. Absenteeism was not or negatively associated with all form of employment condition except 'parent firm-long term' (OR: 1.87, 95% CI: 1.56, 2.25), compared to 'parent firm-permanent'. However, presenteeism was positively associated with 'parent firm-long term' (OR: 1.65, 95% CI: 1.42, 1.92), 'subcontract-long term' (OR: 1.63, 95% CI: 1.13, 2.36), and 'subcontract-short term' (OR: 1.29, 95% CI: 1.04, 1.60). **Conclusion:** This study found that most non-standard employment may increase risk of presenteeism, not absenteeism. The results suggest that previous findings about the protective effects of non-standard employment on absenteeism may be explained by that non-standard workers were enforced to work although they were sick because of job insecurity and disempowerment at workplace.

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MATERNAL WORK IN A TECHNICAL FIELD IS ASSOCIATED WITH AUTISM SPECTRUM DISORDER. EC McCanlies; C Ma, J Gu; D Fekedulegn, and I Hertz-Picciotto (National Institute for Occupational Safety and Health)

Previous research indicated that paternal occupation in a technical field is positively associated with autism spectrum disorder (ASD). However, another report only found this relationship with maternal occupation. We conducted a case-control study to determine if parent occupation in a technical field was associated with ASD in 978 children (556 ASD, 423 typically developing). Our participants consisted of families enrolled in the Childhood Autism Risks from Genetics and Environment (CHARGE) study. Parental occupational information up to six months prior to pregnancy until birth was analyzed. Using Standard Occupational Classification codes occupational data were divided into white collar technical or nontechnical and blue collar technical or nontechnical groups. ORs and 95% CIs were calculated using logistic regression controlling for child age, race, regional center catchment area, parent's age and education level. Fathers of children with ASD were more likely to work in business and finance (7.5% vs. 2.8%, $p=0.002$) and less likely to work in construction and extraction (5.9% vs. 11.3%; $p=0.004$) compared to fathers of typically developing children. Mothers of children with ASD were more likely to work in computer and mathematical sciences compared to mothers of typically developing children (4.2% vs. 1.2%; $p=0.02$). Among parents who only worked in a white collar occupation, mothers who worked in computer and mathematical sciences were more likely to have a child with ASD (OR=3.6; 95% CI=1.2-11.0) compared to mothers who worked in white collar non-technical jobs. This relationship was not observed for fathers. These results support previous research showing that ASD is associated with maternal, but not paternal occupation in a technical field, after controlling for parental education and age. This study is limited by a small sample size; further prospective research is needed to confirm these results and help explain the etiology underlying these associations.