S-469 AN INTEGRATED DATABASE OF OCCUPATIONAL INFORMATION FROM O*NET-SOC AND THE CANADIAN CAREER HANDBOOK

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Introduction Information about occupations and job attributes is available in siloed databases. The lack of integrated data precludes ad-hoc querying and research investigating occupational determinants of health e.g. COVID-19 or stress. Core to integration of occupation data is taxonomic representation of job categories. In North America the official occupational taxonomies are the Canadian National Occupational Classification (NOC) and the United States Standard Occupational Classification (SOC).

Objectives This study aimed to integrate job attribute data from the Canadian Career Handbook (CH) and O*NET database to facilitate cross-classification query capabilities and to prototype the creation of metrics for comparing occupations based on job attributes.

Methods

The integrated database was completed hierarchical structures of both occupational taxonomies were represented; job attributes were selected from the CH and O*NET-SOC; the database was populated with occupational descriptions; occupational codes from the CH and O*NET-SOC were linked using the Brookfield Institute NOC to O*NET-SOC crosswalk.

Results The database consists of 1679 rows with unique occupations and 181 columns with occupational attributes. Rows contain a unique combination of hierarchical structures from the CH and O*NET-SOC. Rows also contain detailed occupational descriptions from CH and O*NET-SOC. We queried the integrated data checking O*NET-SOC to CH equivalence and cross-taxonomy selection of job attributes, e.g. Retrieve all or selected attributes for an occupation by CH code or equivalent code in O*NET-SOC. We ran queries for targeted scenarios to retrieve occupations: i) where work is done in physical proximity to others, ii) where incumbents are exposed to disease or infections, iii) at risk of back pain due to physical work factors, iv) where incumbents experience high work-related stressors.

Conclusion We report a database combining selected information from the CH and O*NET-SOC that facilitates complex occupational health queries. Further we investigated work-related stressors on low back pain risk by occupation.

S-487 YOUNG PEOPLE'S DEPRESSIVE SYMPTOM TRAJECTORIES AND THEIR EDUCATION AND EMPLOYMENT. COMPARING CANADA AND THE UNITED STATES

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Objective This study examines how trajectories of depressive symptoms from the age of 16–25 are related to early adult education and employment outcomes in Canada and the United States.

Methods Data came from the Canadian National Longitudinal Survey of Children and Youth (n=2348) and the American National Longitudinal Survey of Youth 1979 Child/Young Adult Survey (n=3961). Depressive symptom trajectories from the age of 16–25 were identified separately for each country using growth-mixture modeling, and linked to respondents' education and employment status (working with a post-secondary degree; working with no degree; working with a high school degree; in school; and, not in employment, education, or training i.e., NEET), and part/full-time employment (less than 30 hours/week, 30–40 hours/week, more than 40 hours/week). We assessed the association of depressive symptom trajectories with these outcomes using multivariable multinomial logistic regressions, calculating the adjusted predicted probability of each outcome using marginal standardization.

Results In both countries four similar depressive symptom trajectories were identified: low-stable, increasing, decreasing, and first increasing then decreasing symptoms (i.e., mid-peak). In both countries, increasing, decreasing, and mid-peak trajectories were associated with higher odds of working with low educational credentials, and/or NEET relative to low-stable trajectories. In Canada, however, all trajectories had a higher predicted probability of either being in school or working with a post-secondary degree than the other outcomes; in the USA, all trajectory groups were most likely to be working with a high school degree. In the USA but not in Canada, increasing and decreasing trajectories were associated with higher odds of part-time work than full-time work.

Conclusions Higher levels of depressive symptoms during the transition to adulthood are associated with working with no or low credentials, NEET, and working part-time in young adulthood. Country-level differences may modify the influence of depressive symptoms.

S-490 EXPOSOME METHODS IN OCCUPATIONAL EPIDEMIOLOGY: USE OF TEXT MINING FOR DEVELOPING JOB EXPOSURE MATRICES

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Within the EXPOSOME PROJECT FOR HEALTH AND OCCUPATIONAL RESEARCH (EPHOR) project we aim to develop a protocol to enable efficient update of job exposure matrices so that they can include the latest available information of highest quality possible. The protocol will include methods for searching and collecting new data from literature (assisted by text mining WP4), exposure databases (e.g. ECHA REACH database, reports) and (Bayesian) decision criteria to determine if and how to revise exposure estimates in the JEM. As part of this work we have started to develop a framework of semi- and fully-automated approaches for identification of relevant literature and extraction of occupational exposure measurements, which in turn may be used in creating and updating JEMs. Currently both content-level and document-level approaches are being explored. The content-level approach utilizes text-mining and machine learning to interpret, analyse, and return relevant information from a text corpus (e.g. manuscripts in the PubMed Central (PMC) archive). In addition to retrieval of user-specified information (e.g. 'literature with occupational benzene measurements in