The complex interplay between socioeconomic position, substance use and psychological distress among young adults in the Brussels-Capital Region

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Introduction

Emerging adulthood is an especially vulnerable transition period in terms of health risks as healthy behaviours tend to decrease (Tanner, 2012). The transition to and the beginning of young adulthood brings along changes that can trigger mental health problems (Aggleton, Hurry, & Warwick, 2000). Psychiatric disorders are common in emerging adulthood, with 40-50% of 18–29-year-olds meeting the criteria for a psychiatric disorder in the US, which is the highest level compared to all other adult age groups (Tanner, 2012). Furthermore, it has been shown that mental health problems are related to other health and developmental concerns in adolescence, such as educational achievements, getting a job and substance use (Armstrong & Costello, 2002; Wittchen, Nelson & Lachner, 1998). Many studies have focused on the relation between mental health and substance use (Armstrong & Costello, 2002; Patton et al., 2002), others on the association between mental health and socioeconomic position (SEP) (Amone-P'Olak et al., 2009; Park, Fuhrer & Quesnel-Vallée, 2013; Wickrama, Noh & Elder, 2009), but little research has focused on the interrelatedness of mental health, substance use and SEP. This paper explores these associations into depth in early adulthood.

Research on the relation between substance use and mental health problems is mainly focused on adolescents or adults rather than on the transition period to adulthood. The results are however fairly consistent: associations are found between several psychiatric disorders/psychological distress and various substances (Armstrong & Costello, 2002; Dawson et al., 2005; Degenhardt, Hall, & Lynskey, 2001; Patton et al., 2002; Verger, et al., 2010). The debate remains on the direction of the relation, although there is greater evidence that drug use is increasing the risk of mental health problems than the other way around (Macleod et al., 2004; Patton et al., 2002).

A range of studies identified social inequalities among young persons for different health outcomes (De Grande, Deboosere & Vandenheede, 2013; Due et al., 2011; Holstein et al., 2009). However, the relation between SEP and mental health in young adulthood is not clear-cut. A number of studies find an inverse relation between SEP and mental health among adolescents, mostly measured through SEP characteristics of the parents (Amone-P'Olak et al., 2009; Park et al., 2013) or find that youth culture characteristics are more important than family SEP (Wickrama et al., 2009). In young adulthood the results are mixed. It highly depends on the measurement of mental health problems. Miech and colleagues (1999) found that the relation between SEP and mental health is unique for each psychological disorder: anxiety is inversely related with SEP, while there is no relation between depression and SEP in early adulthood. Verger et al. (2009) found that subgroups of young adults, such as college students, have an increased risk of psychological problems.

Many socioeconomic differences in health are mainly determined by socioeconomic differences in unhealthy behaviours, such as excessive alcohol consumption, tobacco or illicit drug use (Degenhardt et al., 2001; Droomers et al., 1999). In line with research on SEP differences in mental health, the relation between SEP and substance use in early adulthood is not univocal (Humensky, 2010). While several studies found an inverse relation between educational level and substance use (Droomers et al., 1999; Macleod et al., 2004), other studies observe increased risks among young persons from higher social backgrounds, especially concerning alcohol consumption (Berten, Cardoen, Brondeel, & Vettenburg, 2012; Humensky, 2010). One of the oft-mentioned explanations for the higher risk among higher-educated young persons is that they have the necessary financial means, whereas young persons from lower social backgrounds are often seen as having the right connections, which

may be important in obtaining cannabis. Other studies found that while high-educated young adults often experiment with various substances, more problematic use exists among the lower educated (Berten et al., 2012; Legleye, Janssen, Beck, Chau, & Khlat, 2011; Legleye et al., 2013).
This paper highlights the association between SEP and both substance use and mental health. Since debate on the direction of these relations in young adulthood is ongoing, we are interested to see how these associations are crystalized in the multicultural context of a metropolitan area. Following Macintyre's hypothesis (Macintyre, 1997), we investigate whether differences in personal health-risk behaviours, such as substance use, across different SEPs explain part of the observed social differentials in mental health.

Methods

Study population & sampling
The present study reports results from the Health Interview Survey (HIS) Belgium, collected by the Scientific Institute of Public Health (WIV-ISP). The pooled data of three waves (2001, 2004 and 2008) will be analysed. The sampling frame consists of all households listed in the National Register. The Brussels-Capital Region (BCR) is oversampled to reach a similar sample size as the other Belgian regions. The present study is restricted to young persons aged 18 to 30 of the BCR who completed both the face-to-face interview (consisting of SEP indicators such as education and employment) and the self-administered questionnaire (consisting of questions on risk-taking behaviour and mental health) (N=1,187).

Instruments
Psychological distress and impairment are assessed with the General Health Questionnaire (GHQ-12) (Goldberg & Williams, 1988). This measure is internationally validated (Hankins, 2008; Sweeting, Young, & West, 2009) and consists of a list of 12 items of health complaints answered on a four-point-scale. A score of 2+ on this measure indicates psychological distress; a score of 4+ indicates psychological impairment, or a high probability of having a mental disorder.
Three different substances are analysed. *Alcohol use* is measured through frequency of weekly drinking. *Tobacco use* is cut down into four categories: never smoker, former smoker, occasional smoker and daily smoker. *Cannabis use* is divided into three categories: never used, at least once in lifetime and at least once in last month. A *composite measure* was developed on theoretical grounds, identifying four types of substance users: (1) total abstainers (never used any of the above-mentioned substances), (2) only using alcohol, (3) using all three substances or showing problematic drinking behaviour and (4) rest category.
Three measures are used to depict the socioeconomic situation of the young adults. One household socioeconomic indicator is used, measuring the *equivalent household income* using the quartile distribution among households with young adults. Two socioeconomic variables are measured on the individual level: *highest educational level* obtained or enrolled in (for those who are still studying) (no/primary education, lower secondary education, higher secondary education, higher education) and *activity status* (studying, employed, not employed).
Two other socio-demographic measures completed the model: gender and nationality of origin (Belgian, Turkish/Moroccan, European or other).

Statistical analysis
To analyse the profile of the different types of substance users, we use multinomial logistic regression, the most appropriate technique for handling a non-ordered categorical dependent variable (Borooah, 2001). The "total abstainers"- group is used as reference category. To analyse the relation of SEP, substance use and psychological distress, we use binary logistic regression analysis with psychological distress and impairment as dependent variables. Robust variation estimation clustering was used to control for the possibility that multiple

young adult members of the same household completed the questionnaire. It can be assumed that two young adults of the same household have a higher probability of displaying the same (risk) behaviour, violating the assumption of independence of each observation. This variance estimation clustering relaxes this assumption and only requires the independence of observations across clusters (StataCorp, 2011), which means across households in our example. This led to a small adjustment of the confidence intervals without influencing any of the interpretations. Relative risk ratios (RRR), odds ratios (OR) and 95%-confidence intervals (CI) are reported. All analyses were conducted with STATA MP 12.1.

Preliminary results

First, we depict the most substantial finding from the multinomial regression analysis. Almost one in four of the Brussels' young adults are total abstainers: they neither consumed alcohol in the last year, nor smoked nor used cannabis. This is remarkably higher than in other Belgian regions and can be linked to the multicultural context of the BCR: a high percentage is of foreign descent and Muslim, and their substance use levels are lower than these of native Belgians. Among Turks/Moroccans, relative risk ratios for multi-use or problematic drinking compared to abstainers from all substances are 0.09 [CI 0.04-0.23] compared to Belgians. Tobacco use is predominant among the lower educated, while use of alcohol and cannabis is more common among the higher educated and those in households with an above average income. Psychological distress is associated with each of the substances, but the strongest link is with cannabis use ($RRR_{\text{at least used cannabis once in last month}}$=1.95 [1.31-2.88]).
Secondly, we consider the models with psychological distress as dependent variable. One third of the young adults have psychological distress, while slightly less than one in five have a strong likelihood towards a mental disorder. Small but significant differences are found according to activity status, household income and education. While the lack of material resources increases the likelihood of psychological distress ($OR_{\text{unemployed men}}$=2.30 [CI 1.18-4.48]; $OR_{\text{low income women}}$=1.75 [0.92-3.32]), a higher education was associated with more psychological distress among men (OR=2.93 [1.29-6.68]). No significant differences could be found according to educational level among women. When controlling for substance use in the logistic regression model, educational differences are no longer significant among young men. Substance use is quite strongly associated with psychological distress: those using only alcohol have a 3.6 times higher risk of psychological distress compared to abstainers (OR=3.63[1.57-8.40]), while those using all three substances have a 5.8 times higher risk (OR=5.89 [2.67-13.00]). Among women, only multi-users have an increased risk of psychological distress [$OR_{\text{multi-use}}$=3.10[1.69-5.66]).

Conclusion

The results confirm the association between psychological distress and substance use in young adulthood. In line with other research, we also found increased risks for alcohol use among the higher educated (Humensky, 2010; Berten et al. 2012), and evidence of its association with financial means, as equivalent household income was significantly related to alcohol use. Higher risks among the higher educated were also observed for cannabis use and multiple substance use/problematic alcohol consumption, for which less support exists in the literature. Further examination of the relations between SEP, substance use and psychological distress in early adulthood is needed.

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