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The combined effects of parental divorce and parental history of depression on cannabis use in young adults in France

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ABSTRACT

Background: The joint effects of multiple social risk factors on substance use, such as parental divorce and parental history of depression, have rarely been studied in young adult offspring.
Methods: We examined the combined effects of parental divorce and parental history of depression on current cannabis use among a community sample of young adults in France. Parental divorce was ascertained as divorce or separation before 2009. Parental history of depression based on parental reports of depression (1989–2009) and offspring reports of parental lifetime history of depression. Current cannabis use was defined as use at least once in the preceding 12 months. Data were analyzed using multiple logistic regression models controlling for young adult and parental socio-demographic variables.
Results: Approximately one fourth of youth (23%) reported consuming cannabis at least once in the past year. At the same time, 15% had parents who were divorced and 30% parents with a history of depression. The association between parental divorce and cannabis use in young adults was not statistically significant (adjusted OR: 1.50; 95% CI: 0.97–2.31). History of parental depression conferred a marginally statistically significant 42% higher odds of young adult cannabis use (adjusted OR: 1.42; 95% CI: 1.00–2.01). Young adults who experienced both parental history of divorce and depression were more than two times as likely to be current cannabis users compared to those who experienced neither of these (adjusted OR: 2.38; 95% CI: 1.26–4.48).
Conclusion: Our findings highlight the critical importance of considering familial context in understanding cannabis use in young adults.

1. Introduction

Cannabis is the most frequently used illegal drug in industrialized countries (European Monitoring Center for Drugs and Drug Addition, 2010). In France, cannabis use levels are among the highest in Europe and comparable to rates observed in the US (Legleye et al., 2009; Melchior et al., 2008; Redonnet et al., 2011). In a large, nationally representative sample of French youth, aged 12–26 years, 42% of the youth sampled had used cannabis (Melchior et al., 2008).

This high usage of cannabis is a concern, as a number of studies have demonstrated adverse effects of cannabis on respiratory function (Aldington et al., 2007; Taylor et al., 2000, 2002), psychosocial wellbeing (Arseneault et al., 2002; Hall and Solowij, 1998; McGee et al., 2000; Patton et al., 2002), traffic injuries (Asbridge et al., 2005; Gerberich et al., 2003; Ramaekers et al., 2004) and serious mental disorders (Arseneault et al., 2002). In a meta-analysis of longitudinal studies, lifetime cannabis use was associated with a 41% increased risk of any psychotic outcome (Moore et al., 2007). In a sample of 10,748 French drivers, cannabis users were about three times more likely to be responsible for vehicle crashes when compared to non-users (Laumon et al., 2005).

To understand familial risk and protective factors associated with cannabis use, a number of longitudinal and cross-sectional studies have examined parental marital status (Amato and Keith, 1991; Hayatbakhsh et al., 2006; Ledoux et al., 2002; Needle et al., 1990), parental mental health status, (Weissman et al., 1997; Cortes et al., 2009) and their respective associations with illegal substance use (including cannabis) in children. These studies have largely focused on adolescents (Cortes et al., 2009; Hayatbakhsh et al., 2006; Ledoux et al., 2002; Needle et al., 1990; Neher and Short, 1998) compared to young adults (Leib et al., 2002; Hayatbakhsh et al., 2009).

In these studies, parental history of depression and parental divorce has been shown to be independently associated with illicit drug use in children. In a cross-sectional community sample of adolescents and young adults, offspring of parents with major depressive disorders had a 40% higher risk of illicit drug use

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(including cannabis) compared to those whose parents did not have any depressive disorders (Leib et al., 2002). Cortes et al. (2009) reported that similar to major depression, maternal depressive mood was also significantly associated with adolescent cannabis use.

In a longitudinal survey, Needle et al. (1990) found that offspring of parents who were divorced reported increased rates of overall drug involvement than those whose parents were married. In France, Ledoux et al. (2002) also observed that offspring of parents from non-intact homes were more likely to report higher use of cannabis compared to those who did not come from such a home. The association between parental divorce and illicit drug use has been suggested as being weak (Amato and Keith, 1991).

Our work seeks to fill the gap identified in the literature on cannabis use and contributes to a better understanding of the familial environment as a contributor to the parent–child transactional processes underscoring substance use (Kumpfer and Bluth, 2004). Currently, the effect of both parental divorce and parental history of depression on cannabis use has not been examined. The combined effect of these two parental variables on cannabis use in young adults has only been speculated (Hayatbakhsh et al., 2006). The aim of this study was to evaluate the individual and combined effect of parental divorce and parental history of depression on current cannabis use in a community sample of French young adults. We hypothesized that each would be independent risk factors, and that young adults who have been exposed to both parental divorce and parental history of depression will be more likely to be current users of cannabis compared to those who have not had these two risk factors.

2. Methods

The Trajectoires Épidémiologiques en Population (TEMPO) study based in France began in 2009 among young adults aged 22–35 years. These young adults are children of participants of the ongoing GAZEL cohort study (1989–2009; Goldberg et al., 2007). In 1991, all GAZEL participants took part in the GAZEL Youth Study, which aimed to assess the prevalence of mental health problems and access to health care in children (Fombonne and Vermeersch, 1997). The original sample included one 4–16 year old child per family and was stratified in order to match the number of children per family and socio-economic position of children in France. In 2009, all GAZEL Youth Study participants were invited to take part in the TEMPO study via their parents.

A total of 1103 out of 2498 eligible young adults (44.2%) returned the study questionnaire forwarded by their parent, a response rate that is comparable to other mental health surveys conducted in France (Alonso et al., 2004). Of the 2498 eligible youth, four were too ill or disabled to answer and 16 had died since 1991. Approximately 27% of the non-respondents had a parent who had not completed the GAZEL questionnaire in 2009; thus it is unlikely that parents of these children forwarded the TEMPO questionnaire to their children, partially explaining non-response. Of the non-respondents, 28.1% indicated they were not interested in the study and 6.9% could not be reached (e.g. due to lack of contact with their parents). Non-response was 8.9% when the parent had forwarded the study questionnaire. Respondents were more likely to be female, have high socio-economic position, and higher education. They were also less likely to come from divorced parent households and have depressed parents or parents with alcohol problems. In terms of ethical approval, the TEMPO study was approved by the Comité Consultatif sur le Traitement de l'Information en Matière de Recherche dans le domaine de la Santé (CCTIRS) and by the French National Committee for Data Protection (CNIL: Commission Nationale Informatique et Liberté).

The outcome of interest, current cannabis use, was assessed by asking participants the number of times they had used cannabis in the 12 months prior to the 2009 survey. Participants who had consumed cannabis at least once were classified as current cannabis users.

Parental divorce/separation and parental depression were assessed using data from both the GAZEL and the TEMPO studies. Parental divorce/separation (referred to as parental divorce from here onward) was ascertained as the occurrence of divorce or separation before and including 2009, as reported by the parents in the yearly GAZEL study questionnaire. Parental history of depression was based on (1) at least two parental self-reports of depression or treated depression in the yearly GAZEL study questionnaire between 1989 and 2009, and (2) offspring reports of parental history of depression on a questionnaire based on the Family Interview for Genetic Studies (FIGS) in the TEMPO 2009 survey.

Socio-demographic variables included age (used as a continuous variable), sex (male vs. female), living with partner (yes vs. no), socio-economic position was ascertained based on educational status, occupational level, unemployment, and job instability (dichotomized at the bottom quartile of the distribution into low vs. intermediate/high; Melchior et al., 2007), academic difficulties (dichotomized as having repeated at least two grades at school vs. less than two) and emotional stability was measured using the Ten Item Personality Inventory (TIPI) based on a scale ranging from 1("not at all") to 7 ("yes, very") as a continuous variable (Rammstedt and John, 2007).

Participants' psychopathology was assessed using the Young Adult Self-Report from ASEBA (Achenbach system of empirically-based assessment) (Achenbach, 2007). This largely used psychometric instrument assesses youth emotional and behavioral problems over a six months period and has previously been validated in French (Fombonne, 1991, 1994; Stranger et al., 1994). Young adults' externalizing symptoms, most likely to be related to cannabis use, were assessed through a measure of aggressive behavior, based on 15 items which, according to previously published guidelines were summed and standardized (Achenbach, 2007).

Parental variables included parental sex (male vs. female) and parental smoking assessed through parental self-report in the yearly GAZEL study questionnaires between 1989 and 2009. This was dichotomized into two groups: yes (defined as smoked in any one assessment year) and no (never smoked).

2.1. Statistical analysis

Descriptive statistics were calculated including bivariate chi-square tests for the categorical variables and *t*-tests for the continuous variables. Then, bivariate logistic regression models were used to test associations between each variable and the outcome of current cannabis use. Multiple logistic regression was used to assess the relationship between the parental history of depression and divorce and current cannabis use, adjusting for socio-demographic characteristics that were significant in bivariate tests (age, gender, academic difficulty, socio-economic and civil status), along with history of parental smoking, and sex of the parent.

In our final model, history of parental divorce and parental depression variables were combined into four groups: (1) no parental divorce/no parental depression, (2) no parental divorce/parental depression, (3) parental divorce/no parental depression, and (4) parental divorce/parental depression. There were 61 missing values after this categorization, mainly from the parental divorce variable. Participants with missing data on parental divorce or parental history of depression did not significantly vary from the rest of the sample in terms of current use of cannabis, socio-economic position, living with partner or age. The final model included our combined parental divorce and parental depression exposure variable in relation to participants' current cannabis use, while making the same adjustments. The Hosmer–Lemshow chi-square goodness of fit test was used to check the fit of the model. The model was judged to be a good fit if the *p*-value associated with this test was greater than 0.05. All data were analyzed using Stata 11 (StataCorp, 2009).

3. Results

Participant characteristics are presented in Table 1. Our sample had a mean age of 29 years and approximately 59% were female. Fifteen percent had parents who were divorced and 30% had parents with a history of depression. Young adult mean age at the time of parental divorce, excluding those whose parents were divorced in 1989, was 17 years (range 3–32). Six percent of young adults who had parents with a history of depression were also divorced. Sixty-one percent of young adults experienced neither parental divorce nor parental history of depression. Twenty-three percent of youth reported consuming cannabis at least once in the past year (data not shown). Crude analyses showed that male gender, low socio-economic position, not living with a spouse/partner, younger age, academic difficulties, parental divorce and parental depression were related to a higher odds of being a current cannabis user ($p < 0.05$ for all). When comparing young adults with parents with no history of divorce and depression to those who had both, young adults who had parents with both problems were at higher risk of current cannabis use in crude analyses (unadjusted OR = 2.31; 95% CI: 1.31–4.06; $p < 0.01$).

Parental history of divorce fell short of statistically significance but was associated with a 50% increased odds of being a current cannabis user among the young adults, after controlling for socio-demographic factors (age, sex, academic difficulties, socio-economic position, and living with partner) and parental variables