

Psychiatric Risk Factors for Motor Vehicle Fatalities in Young Men

Alexandre Dumais, MSc¹, Alain D Lesage, MD, MPhil², Richard Boyer, PhD², Aleksandra Lalovic, MSc³, Nadia Chawky, MPs⁴, Carole Ménard-Buteau, MD⁵, Caroline Kim, MSc³, Gustavo Turecki, MD, PhD⁶

Background: Motor vehicle accident (MVA) fatalities are an important cause of death in young men. Psychiatric disorders have been shown to be risk factors for MVA, but only a few studies have investigated MVA fatalities.

Method: A case–control study was carried out comparing 61 young male MVA fatalities in which the subject was the driver with an equal number of living male subjects matched for age (case by case with no more than 1 year’s difference between case subjects and control subjects) with the accident group. We assessed both groups, using structured interviews and psychological autopsies.

Results: Our results suggest that cluster B personality disorders (borderline and [or] antisocial) (OR 3.54; 95%CI, 1.38 to 16.01) and substance use disorders in the last 6 months (OR 4.33; 95%CI, 1.42 to 9.25) increased the risk of dying in MVAs. In addition, we observed an age effect, where differences in cluster B personality disorders and substance use disorders in the last 6 months were only significantly more prevalent in case subjects aged 26 years or over, compared with control subjects of the same age. Drivers under age 25 years appeared to be comparable with control subjects on all measures of psychopathology. Finally, this interaction between cluster B personality disorders and age over 26 years was the only significant predictor of car fatalities (adjusted OR 16.25; 95%CI, 1.67 to 158.10).

Conclusion: Borderline and antisocial personality disorders in which impulsive-aggressive behaviours play a central role and substance use disorders appear to be risk factors for young male deaths in MVAs. Interestingly, this effect seems to be specific to MVA case subjects aged 26 years or over.

(Can J Psychiatry 2005;50:838–844)

Information on funding and support and author affiliations appears at the end of the article.

Clinical Implications

- The presence of a cluster B personality disorder (borderline and [or] antisocial) may increase the risk of young men dying in an MVA.
- Having an alcohol or drug-related disorder may increase young men’s risk of dying in an MVA.
- We observed an age effect, which could lead to more precise prevention programs targeting specific psychiatric problems in individuals aged over 25 years.

Limitations

- Sample size decreased statistical power owing to our stringent matching of cases and control subjects.
- This was a postmortem study.
- The generalization of findings may be limited.

Key Words: motor vehicle accident, borderline personality disorder, antisocial personality disorder, alcohol abuse and dependence, drug abuse and dependence, psychopathology

Motor vehicle accidents are the leading cause of death for individuals aged under 35 years and are a particularly important source of injury for young men (1). Accordingly, men have a threefold increased risk of being involved in a fatal crash, compared with women (1).

Several studies have been carried out to assess psychiatric risk factors in MVAs. These studies have shown that having an alcohol and (or) drug problem (2–5) and having a personality disorder increase the risk of road accidents (3,4,6). In addition, several pathological personality traits have been associated with MVAs. Among them, extreme social deviance or antisocial traits, low tension tolerance, impulsiveness, aggression or hostility, and emotional instability were shown to increase the risk of an MVA (3,4,7–10). However, because these studies have mostly been done on MVA survivors, the question still remains about the accuracy of generalizing these individuals' psychopathology to that of MVA driver fatalities.

Moreover, it has recently been proposed that these psychiatric risk factors may play a different role according to age, even among young adults (that is, those aged 35 years and under). In this age group, inexperience, which makes the person less proficient in detecting and responding to hazards, controlling the vehicle, and integrating speed, has been shown to better explain traffic crashes than risky behaviours in younger drivers (11). It has also been shown that drivers aged between 25 and 34 years experience the highest rate of alcohol and (or) drug involvement in an MVA (12). If this were correct, in our study, we would have expected to observe an increase in the frequency of substance abuse or dependence and also in cluster B personality disorders in older drivers (aged between 25 and 35 years), compared with their younger counterparts.

To test this hypothesis and to confirm previous results from data based on MVA survivors in MVA driver fatalities, we conducted a case–control study, using the psychological

autopsy methodology. To our knowledge, this is the first study using such methodology to study psychopathology in drivers who died in MVAs.

Method

Subjects

We selected 122 subjects in the Greater Montreal area for this study. Cases were 61 young male drivers (aged 18 to 36 years) who died in a road accident and who were identified through the Montreal Central Morgue under a collaborative agreement with the Quebec Coroner's Office. We excluded from the study MVA cases classified as suicides on the basis of the coroner's assessments. We made this decision to avoid possible biases concerning intent to die; that is, death was accidental and not sought through an MVA. Participation rate for families of accident victims was 55.4%, and we obtained written informed consent from all participating families. Control subjects were an equal number of living male subjects matched for age (case by case with no more than 1 year's difference between case subjects and control subjects) with the accident group. Control subjects were selected from the greater Montreal area and from the same time period as accident subjects and were originally recruited for a main study investigating young men who had completed suicide (14). This control group was matched for sex, age, employment, and marital status with the group who completed suicide but not for education level. The suicide and control groups were more likely to be single and not working, both of which are risk factors for such common mental disorders as anxiety, depression, and substance abuse. Indeed, we showed that the control group's level of distress was higher than that of the general population of young men from Quebec and that the prevalence of depression and anxiety was higher than expected from psychiatric community surveys available in Canada in the 1990s (14). The procedure for selecting control subjects is described in detail elsewhere (14). This study was approved by our local institutional review board, and signed informed consent was obtained from all subjects or from the subject's next of kin.

Diagnostic Procedure

Psychiatric diagnoses were made with the psychological autopsy method. This technique, well-validated in the suicide literature (15–17), consists partly of selecting a family member who is best acquainted with the deceased to serve as an informant to undergo an interview process. Previously reported data on people who have completed suicide, from studies using similar methods, suggest that the type of informant makes no significant difference in the rate of specific disorders identified (14). To guarantee comparability, we used the same procedures to assess control subjects.

Abbreviations used in this article

CI	confidence interval
ISC	Interview Schedule for Children
K-SADS	Schedule for Affective Disorders and Schizophrenia for School-Age Children
MVA	motor vehicle accident
OR	odds ratio
SCID-I	Structured Clinical Interview for the DSM-IV
SD	standard deviation

Table 1 Demographic data on accident victims and control subjects

	Accident victims, % (n = 61)	Control subjects, % (n = 61)	χ^2	df	P
Occupation			8.738	2	0.013
Working	72.1	49.2			
School	6.6	23.0			
Unemployed	21.3	27.9			
Marital status			0.442	2	0.802
Married	9.8	9.8			
Separated or divorced	24.6	19.7			
Other ¹	65.6	70.5			
College education completed	27.9	57.4	10.859	1	0.001

¹Single or has a girlfriend without being married

Psychiatric interviews were conducted by trained clinicians (a clinical psychologist, a psychiatric resident, and a psychiatrist), using the K-SADS (18). This version of the K-SADS was modified to include questions assessing the presence of personality disorders, which were adapted from the ISC (19). Although the sample comprised young adults, we chose the K-SADS because 1) it is particularly useful in carrying out interviews with informants, 2) it allows a better knowledge of individuals' developmental histories by assessing childhood psychiatric disorders, and 3) our group has extensive experience with this instrument (14,20). In addition, we interviewed a subsample of 11 random cases, using the SCID-I. We obtained 100% diagnostic concordance for major psychiatric disorders with both instruments (20). Following the interview, to complete the information collected on the deceased, we reviewed the coroner's notes and all relevant medical records. The information was collected through the K-SADS interviews and from the coroner's notes. Interviewers then used medical records to write a case history for each subject. To avoid potential biases, case histories were purged from all references to outcome (accident or control subjects) and were then analyzed by a panel of psychiatrists that reached a final consensus on DSM-IV diagnosis for each subject.

Interrater Reliability

Kappa coefficients were estimated in a larger sample, from which the current sample was drawn. The kappa coefficients for the key diagnoses were as follows: major depression, 0.98; alcohol dependence, 0.94; psychoactive substance dependence, 0.97; schizophrenia, 0.98; and borderline personality disorder, 0.81.

Statistical Analysis

We used SPSS Version 11.5 (21) to evaluate categorical (with chi-square) and continuous (with the Student's *t* test) demographic variables. In addition, we used Epi Info 6 (22) to calculate ORs to evaluate the magnitude of the effect of prevalence estimates on psychiatric disorders; we used the exact limit test to determine the 95%CI. Subsequently, we performed a univariate analysis to explore possible age effects between younger and older case subjects on psychiatric disorders. As suggested by previous studies (11,12), we chose a cut-off age of 25 years and dichotomized the sample: age 18 to 25 years and age 26 years and over. Finally, we carried out a logistic regression to obtain adjusted risks and to control for potential confounders.

Results

Sample Characteristics

Mean ages for MVA case subjects (25.97, SD 4.91 years) and control subjects (26.15, SD 4.73 years) were comparable ($t = -0.207, P = 0.837$). In addition, MVA case subjects and control subjects were comparable in terms of marital status. However, we found a significant difference between groups on occupation and level of education. MVA cases were more likely to be employed, whereas control subjects were more likely to be students and to have a higher level of education (Table 1).

Axis I Disorders

Prevalence rates of substance use disorders in the last 6 months (alcohol and [or] drug abuse or dependence) were significantly higher in MVA cases, compared with control subjects, as were lifetime prevalence rates of substance use

Table 2 Axis I and Axis II disorders for accident victims and control subjects				
	Accident victims, % (n = 61)	Control subjects, % (n = 61)	OR	95%CI
Last 6 months				
Mood disorder ^a	14.8	11.5	1.34	(0.41–4.54)
Substance use disorder ^b	27.9	8.2	4.33	(1.38–16.01)
Anxiety disorder ^c	6.6	9.8	0.64	(0.13–2.89)
Lifetime				
Mood disorder ^a	16.4	27.9	0.51	(0.19–1.32)
Substance use disorder ^b	42.6	24.6	2.28	(0.99–5.34)
Anxiety disorder ^c	8.2	11.5	0.69	(0.16–2.71)
Personality disorders				
Cluster A ^d	0	9.8	Indefinite*	
Cluster B ^e	41.0	16.4	3.54	(1.42–9.25)
*Fisher's exact test (2-tailed) = 0.027				
^a Mood disorder = major depression, bipolar, dysthymia, adaptation disorder with depressed mood				
^b Substance use disorder = alcohol and (or) drug abuse or dependence				
^c Anxiety disorder = generalized anxiety, obsessive–compulsive disorder, social phobia, anxiety disorder not otherwise specified, panic disorder				
^d Cluster A = schizoid, schizotypal				
^e Cluster B = borderline, antisocial				

disorders. Conversely, we found no significant differences between MVA case subjects and control subjects for the presence of anxiety disorders, mood disorder, somatoform disorder (which was absent in both groups), or schizophrenia (also absent in both groups) (Table 2).

Taking age into account, only last 6-month prevalence rates and lifetime prevalence rates of substance use disorders in MVA case subjects aged 26 years or over, compared with control subjects of the same age, were significantly different. MVA case subjects aged 18 to 25 years were comparable to younger control subjects on every Axis I measure (Table 3).

Axis II Disorders

Prevalence rates of cluster B personality disorders were significantly higher in MVA cases, compared with control subjects. However, prevalence rates of cluster A personality disorders were significantly higher in control subjects, compared with MVA cases. An age effect was also observed for personality disorders. Prevalence rates of cluster B personality disorders were only significantly higher in older MVA case subjects, compared with older control subjects. However, prevalence rates of cluster A personality disorders were

only significantly higher in younger control subjects, compared with younger MVA case subjects.

Multivariate Analysis

We performed a logistic regression with all significant variables (that is, age, education level, occupation, prevalence rates of lifetime and last 6-months substance abuse, and cluster A and cluster B personality disorders); the only significant predictor of car fatalities was the interaction between age and cluster B personality disorders (adjusted OR 16.25; 95%CI, 1.67 to 158.10).

Discussion

Results of our study suggest that individuals with a cluster B personality disorder are more prone to MVA death. Interestingly, our findings suggest that this association seems to be related to individuals aged between 26 and 36 years. The effect of age may be mediated by inexperience with driving, as suggested in the literature (11). To our knowledge, this study is the first to investigate psychopathology in young male driver MVA fatalities with a case–control design with standardized psychological autopsies.

Table 3 Axis I and Axis II disorders for accident victims and control subjects over and under age 25 years

	Accident victims %	Control subjects %	OR	95%CI
Age under 25 (n = 31)		(n = 29)		
Last 6 months				
Mood disorder ^a	3.2	6.9	0.45	(0.01–9.22)
Substance use disorder ^b	12.9	10.3	1.28	(0.20–9.59)
Anxiety disorder ^c	6.5	6.9	0.93	(0.06–13.70)
Lifetime				
Mood disorder ^a	9.7	13.8	0.67	(0.09–4.41)
Substance use disorder ^b	12.9	10.3	0.48	(0.13–1.68)
Anxiety disorder ^c	6.5	10.3	0.67	(0.05–6.32)
Personality disorders				
Cluster A ^d	0	17.2	indefinite*	
Cluster B ^e	22.6	10.3	2.53	(0.50–16.63)
Age over 26 years				
Last 6 months				
Mood disorder	26.7	15.6	1.96	(0.48–8.70)
Substance use disorder	43.3	6.3	11.47	(2.12–112.13)
Anxiety disorder	6.7	12.5	0.50	(0.04–3.86)
Lifetime				
Mood disorder	23.3	40.6	0.44	(0.12–1.51)
Substance use disorder	63.3	12.5	12.09	(2.96–57.48)
Anxiety disorder	10.0	12.5	0.78	(0.10–5.09)
Personality disorders				
Cluster A ^d	0	3.1	indefinite**	
Cluster B ^e	60.0	21.9	5.36	(1.56–19.17)
*Fisher's exact test (2 tailed) = 0.02				
**Fisher's exact test (2 tailed) = 1.00				
^a Mood disorder = major depression, bipolar, dysthymia, adaptation disorder with depressed mood				
^b Substance use disorder = alcohol and (or) drug abuse or dependence				
^c Anxiety disorder = generalized anxiety, obsessive-compulsive disorder, social phobia, anxiety disorder not otherwise specified, panic disorder				
^d Cluster A = schizoid, schizotypal				
^e Cluster B = borderline, antisocial				

Sample Characteristics

In spite of matching for age and sex, case subjects and control subjects were significantly different in level of education. This finding could be causally related to MVAs, a fact that is consistent with other research showing that a lower level of education is associated with a higher risk of MVA (8). Conversely, it could be a more direct consequence of the higher prevalence of cluster B personality disorders (that is, a higher

level of impulsivity and instability) which, in turn, has led to school drop-out in MVA cases.

Axis I Disorders

Our results suggest that alcohol and (or) drug problems increase the risk of dying in a road accident. More specifically, our findings suggest that this association may be more specific to older accident victims, because we found significant prevalence differences only among MVA case subjects

aged over 26 years. Further, the coroner's notes indicate that more than one-half (57%) of the subjects in this group were impaired by alcohol or drugs at the time of their fatal crash. Our results are consistent with the literature (3,4,23,24) and confirm well-known associations that alcohol and (or) drug problems increase the risk of driving while impaired and, subsequently, of dying in an MVA. However, our results suggest that this relation may be age-dependent: we found that alcohol or drug problems were associated with increased risk of dying in an MVA, specifically among older subjects. A possible explanation for the high prevalence (37% of younger MVA cases) of excessive alcohol or drug intake at the time of death may be related to the younger MVA cases' initial experiences with alcohol and (or) drugs, which do not necessarily represent alcohol or drug problems.

Axis II Disorder

Cluster B personality disorders were associated with an increased risk of dying in an MVA. This effect was especially important in subjects aged over 26 years, whereas younger accident cases (aged between 18 and 25 years) were not significantly different from control subjects. Impulsivity and aggression, behaviours that are central in borderline and antisocial personality disorder, likely increase the chance of having a road accident, as shown in other studies (3,4,8). In addition, older cluster B MVA case subjects had a high prevalence rate (56%) of comorbid substance use disorder in the month preceding death. As demonstrated elsewhere, cluster B personality disorders increase the likelihood of developing a substance use disorder (25), which can subsequently lead to an increased risk of dying in an MVA. Finally, in drivers aged over 26 years, an interaction between substance use and impulsivity and (or) aggression probably exists; alcohol or drug problems may enhance or release underlying pathological personality traits of impulsivity and aggression (3,8), increasing the likelihood of dying in an MVA.

Limitations

The limitations associated with the methodology in this study are inherent in postmortem studies involving proxy-based interviews. However, we partly controlled for possible biases by using a proxy-based interview technique in both groups. Another shortcoming concerns sample size, which limited our power for more precise univariate analysis by age. In addition, small sample size may have hidden some differences in psychopathology between accident and control subjects aged under 25 years. That not all families from MVA fatalities agreed to participate in our study (55.4% participation rate) renders the generalization of our findings uncertain. Also, because the control subjects used in this study were originally collected for suicide research, information on driving status was not available for this group. However, it is possible to

speculate that at least 80% probably had a driving license. This assumption is based on data from the *Société de l'assurance automobile du Québec*'s report on drivers' licences in the general Quebec population (26). Finally, our method of recruiting control subjects has probably led to potential biases, because the subjects were originally matched with suicide victims on sex, age, occupation, and marital status. If anything, this matching procedure led to a decrease in power by increasing the likelihood of finding levels of psychological distress in our control sample that were higher than might be expected from a random sample of the general population (14). Thus this could account for the relatively high prevalence of psychiatric disorders found in control subjects, for example, the high prevalence of cluster A personality disorders. Notwithstanding the increased level of psychopathology among control subjects, which, if anything, leads to a conservative test of the hypotheses by reducing the power of this study to detect differences between groups, we were able to show evidence supporting the role of significant effects of such variables as substance use disorder and cluster B personality disorder.

Conclusion

By investigating a sample of young male MVA fatalities and young population-based control subjects, using a psychological autopsy method, we found that cluster B personality disorders (borderline and [or] antisocial) and alcohol and (or) drug use problems were associated with an increased risk of MVA death. More specifically, the interaction between an age of 26 years and over and cluster B personality disorders was found to be the only significant predictor of MVA fatalities in young men. However, younger drivers (aged 18 to 25 years) were comparable to the control group on all measures of psychiatric disorders. Early experiences with driving and with alcohol or drugs may be a more significant factor in MVA deaths than psychopathology in these younger case subjects.

Acknowledgements

This study was supported by the Fonds de la Recherche Santé du Québec (FRSQ) and the Conseil Québécois de la recherche sociale. Aleksandra Lalovic and Richard Boyer are FRSQ scholars. Gustavo Turecki is a Canadian Institutes of Health Research scholar.

References

1. National Center for Statistics and Analysis of the National Highway Traffic Safety Administration. Traffic safety facts 2001: a compilation of motor vehicle crash data from the fatality analysis reporting system and the general estimates system. Washington (DC): US Department of Transportation; 2002.
2. Selzer ML. Alcoholics at fault in fatal accidents and hospitalized alcoholics: a comparison. *QJ Stud Alcohol* 1969;30:883-7.
3. Noyes R Jr. Motor vehicle accidents related to psychiatric impairment. *Psychosomatics* 1985;26:569-79.
4. Tsuang MT, Boor M, Fleming JA. Psychiatric aspects of traffic accidents. *Am J Psychiatry* 1985;142:538-46.

5. McMillen DL, Adams MS, Wells-Parker E, Pang MG, Anderson BJ. Personality traits and behaviors of alcohol-impaired drivers: a comparison of first and multiple offenders. *Addict Behav* 1992;17:407–14.
6. Hollister LE. Automobile driving by psychiatric patients. *Am J Psychiatry* 1992;149:274.
7. McGuire FL. Personality factors in highway accidents. *Hum Factors* 1976;18:433–41.
8. Donovan DM, Marlatt GA, Salzman PM. Drinking behavior, personality factors, and high-risk driving. A review and theoretical formulation. *J Stud Alcohol* 1983;44:395–428.
9. Cremona A. Mad drivers: psychiatric illness and driving performance. *Br J Hosp Med* 1986;35:193–5.
10. Meadows ML, Stradling SG, Lawson S. The role of social deviance and violations in predicting road traffic accidents in a sample of young offenders. *Br J Psychol* 1998;89(Pt 3):417–31.
11. Ballesteros MF, Dischinger PC. Characteristics of traffic crashes in Maryland (1996–1998): differences among the youngest drivers. *Accid Anal Prev* 2002;34:279–84.
12. Abdel-Aty MA, Abdelwahab HT. Exploring the relationship between alcohol and the driver characteristics in motor vehicle accidents. *Accid Anal Prev* 2000;32:473–82.
13. Isometsa ET. Psychological autopsy studies—a review. *Eur Psychiatry* 2001;16:379–85.
14. Lesage AD, Boyer R, Grunberg F, Vanier C, Morissette R, Menard-Buteau C, and others. Suicide and mental disorder: a case-control study of young men. *Am J Psychiatry* 1994;151:1063–8.
15. Kelly TM, Mann JJ. Validity of DSM-III-R diagnosis by psychological autopsy: a comparison with clinician ante-mortem diagnosis. *Acta Psychiatr Scand* 1996;94:337–43.
16. Conner KR, Conwell Y, Duberstein PR. The validity of proxy-based data in suicide research: a study of patients 50 years of age and older who attempted suicide. II. Life events, social support and suicidal behavior. *Acta Psychiatr Scand* 2001;104:452–7.
17. Zhang J, Conwell Y, Wiczorek WF, Jian C, Jia S, Zhou L. Studying Chinese suicide with proxy-based data: reliability and validity of the methodology and instruments in China. *J Nerv Ment Dis* 2003;191:450–7.
18. Chambers WJ, Puig-Antich J, Hirsch M, Paez P, Ambrosini PJ, Tabrizi MA, and others. The assessment of affective disorders in children and adolescents by semistructured interview. Test-retest reliability of the schedule for affective disorders and schizophrenia for school-age children, present episode version. *Arch Gen Psychiatry* 1985;42:696–702.
19. Kovacs M. The Children's Depression Inventory (CDI). *Psychopharmacol Bull* 1985;21:995–8.
20. Kim C, Lesage A, Seguin M, Chawky N, Vanier C, Lipp O, and others. Patterns of co-morbidity in male suicide completers. *Psychol Med* 2003;33:1299–309.
21. SPSS Inc. SPSS for Windows. Version II. Chicago (IL): SPSS Inc; 2002.
22. Epi Info Version 6.0. Atlanta (GA): Centers for Disease Control and Prevention; 1996.
23. Waller JA, Turkel HW. Alcoholism and traffic deaths. *N Engl J Med* 1966;8:275:532–6.
24. Brenner B, Selzer ML. Risk of causing a fatal accident associated with alcoholism, psychopathology, and stress: further analysis of previous data. *Behav Sci* 1969;14:490–5.
25. Fergusson DM, Horwood LJ, Lynskey MT. The effects of unemployment on psychiatric illness during young adulthood. *Psychol Med* 1997;27:371–81.
26. Société de l'assurance automobile du Québec, Dossier statistique: bilan 2003 – Accidents, parc automobile, permis de conduire, p 125.

Manuscript received November 2004, revised, and accepted May 2005.

¹Graduate Student, Université de Montréal, 2900 blvd Édouard-Montpetit, Pavillon Roger-Gaudry, Montreal, Quebec.

²Professor, Department of Psychiatry, Université de Montréal, 2900 blvd Édouard-Montpetit, Pavillon Roger-Gaudry, Montreal, Quebec.

³Graduate Student, McGill University, 1033 Pine Avenue West, Montreal Quebec.

⁴Clinical Coordinator, McGill Group for Suicide Studies, Douglas Hospital, 6875 Lasalle blvd, Montreal, Quebec.

⁵Psychiatrist, Centre de Recherche Fernand Seguin, 7331 rue Hochelaga, Montreal, Quebec.

⁶Director, McGill Group for Suicide Studies, Douglas Hospital, 6875 Lasalle blvd, Montreal, Quebec; Associate Professor, Department of Psychiatry, McGill University, 1033 Pine Avenue West, Montreal Quebec.

Address for correspondence: Gustavo Turecki MD PhD, Director, McGill Group for Suicide Studies, Douglas Hospital, McGill University, 6875 LaSalle blvd, Montreal QC H4H 1R3
e-mail: gustavo.turecki@mcgill.ca

Résumé : Les facteurs de risque psychiatriques d'accidents d'automobile mortels chez les jeunes hommes

Contexte : Les accidents d'automobile (AA) mortels sont une importante cause de décès chez les jeunes hommes. On a démontré que les troubles psychiatriques sont des facteurs de risque des AA, mais seules quelques études ont exploré les AA mortels.

Méthode : Une étude cas-témoin a été menée comparant 61 jeunes hommes victimes d'accidents mortels, où le sujet était le conducteur, avec un nombre égal de sujets masculins vivants jumelés selon l'âge (au cas par cas, avec une différence d'un an au plus entre les sujets cas et les sujets témoins). Nous avons évalué les deux groupes, à l'aide d'entrevues structurées au moyen d'autopsies psychologiques.

Résultats : Nos résultats indiquent que les troubles de la personnalité du groupe B (limite et/ou antisociale) (OR 3,54; CI 95 %, 1,38–16,01) et les troubles liés à l'utilisation d'une substance dans les 6 mois (OR 4,33; CI 95 %, 1,42–9,25) augmentaient le risque de mourir dans un AA. En outre, nous avons observé un effet de l'âge, où les différences de troubles de la personnalité du groupe B et de troubles liés à l'utilisation d'une substance dans les 6 mois étaient seulement plus significativement prévalentes chez les sujets cas de 26 ans ou plus, comparativement aux sujets témoins du même âge. Les conducteurs de moins de 25 ans semblent comparables aux sujets témoins à toutes les mesures de psychopathologie. Enfin, cette interaction entre les troubles de la personnalité du groupe B et l'âge de plus de 26 ans était le seul prédicteur significatif d'accidents mortels (OR ajusté 16,25; CI 95 %, 1,67–158,10).

Conclusion : Les troubles de la personnalité limite et antisociale, où les comportements impulsifs-agressifs jouent un grand rôle, et les troubles liés à l'utilisation d'une substance semblent être des facteurs de risque de décès des jeunes hommes dans des AA. Il est intéressant de noter que cet effet semble être propre aux sujets cas des AA âgés de 26 ans et plus.