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Self-Reported Childhood Abuse and Illicit Drug Abuse/Dependence

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ABSTRACT

The association of childhood sexual abuse (CSA) and physical abuse (PA) with subsequent substance abuse and dependence risk was initially recognized in treatment samples. More recently, epidemiologic studies have confirmed these findings.¹⁻⁴ We have reported⁵ on the association between CSA and negative outcomes in data from a recently completed diagnostic telephone assessment of a volunteer panel of young adult Australian twins and confirmed the association between a history of CSA and alcohol dependence. In the current analyses, we attempted to extend these findings by examining the effects of a history of childhood abuse (CA), either CSA or PA, on the risks for the use and abuse/dependence of various drugs, and on the onset of drug-related outcomes.

A history of CA was reported by 22.6% of women and 14.9% of men. A consistent pattern of elevated hazard ratios representing the risk of subsequently-occurring drug use and abuse/dependence was associated with a history of CA were observed in women and men. In analyses controlling for gender and respondents' report of maternal and paternal alcohol problems, a history of CA was associated with a significantly earlier onset of drug use. In discordant pair analyses, the twin with a history of CA was noted to have significantly increased risk for opioid, sedative, and stimulant abuse/dependence versus their CA-negative co-twin. The highest Odds Ratios were seen for opioid (OR 5.00; 95% CI 1.45-17.27) and sedative abuse/dependence (OR 16.00; 95% CI 2.12-120.65). Our results offer strong support for an association between CA and drug-related outcomes and suggest one route of mediation may occur via an earlier use of substances.



INTRODUCTION

Initially observed in samples ascertained via clinical presentation, the association of childhood sexual abuse (CSA) or physical abuse (PA) with increased risk for subsequent substance dependence has more recently been confirmed in general population studies.¹⁻⁴ We have reported⁵ on the association between CSA and negative outcomes (including alcohol dependence) in data from a recently completed diagnostic telephone assessment of a volunteer panel of young adult Australian twins. We used analyses uniquely available within the twin study design (e.g. comparisons of risks for outcomes in pair members who are discordant for abuse history, but share other aspects of the family environment) to disentangle the risks related to the abuse from other family background risk factors. In the discordant pair analyses, we found an odds ratio of 1.56 (1.01-2.40) for the risk for alcohol dependence associated with a history of CSA. In the current analyses, we attempted to extend these findings by examining the effects of a history of childhood abuse (CA) defined as either CSA or PA, on the risks for the use and abuse/dependence of various drugs, and on the onset of drug-related outcomes.



METHODS

Participants

The young adult '1989' cohort of the Australian Twin Register (born 1964-1971) is a volunteer twin panel registered as children by their parents, who were approached through Australian school systems, and via mass media appeals, between 1980 and 1982. Twins were first contacted (as young adults) in 1989 by means of mailed questionnaire. In a recently completed investigation (AA10249; Heath, PI) (1996-2000), a standardized psychiatric diagnostic assessment was administered via telephone. Data presented here are from this standardized interview, designed both to make DSM-IV diagnoses and to provide a preliminary characterization of various aspects of the subjects' childhood and adolescence (including their home environment).

Interviewed subjects (N=6265) had a mean age of 29.94 years (SD 2.47). 55.3% were female. A broad range of socioeconomic levels was represented in the sample. The median level of education was 11-12 years of school with an apprenticeship or diploma. At least an undergraduate university degree had been completed by 25.8% of respondents and another 8.6% had completed technical or teacher's college. The median yearly household income was \$US 20,000-\$US 24,500.



A standardized psychiatric assessment, an adaptation of the Semi-Structured Assessment of Alcoholism (SSAGA-OZ) was administered via telephone. This interview enabled lifetime DSM-IV diagnoses to be made including major depressive disorder, alcohol dependence, and nicotine dependence. In a separate non-diagnostic section, participants were asked about their early home environment, their history of substance use, whether their mother or father had problems with alcohol, and whether they had experienced various traumatic events.

All interviews were conducted by interviewers who had completed an extensive training course. Interviewers who supervised telephone diagnostic interviews with community members from the same pair were never assessed by the same interviewer. Interviewers were blind to the results of the interviews of other family members.

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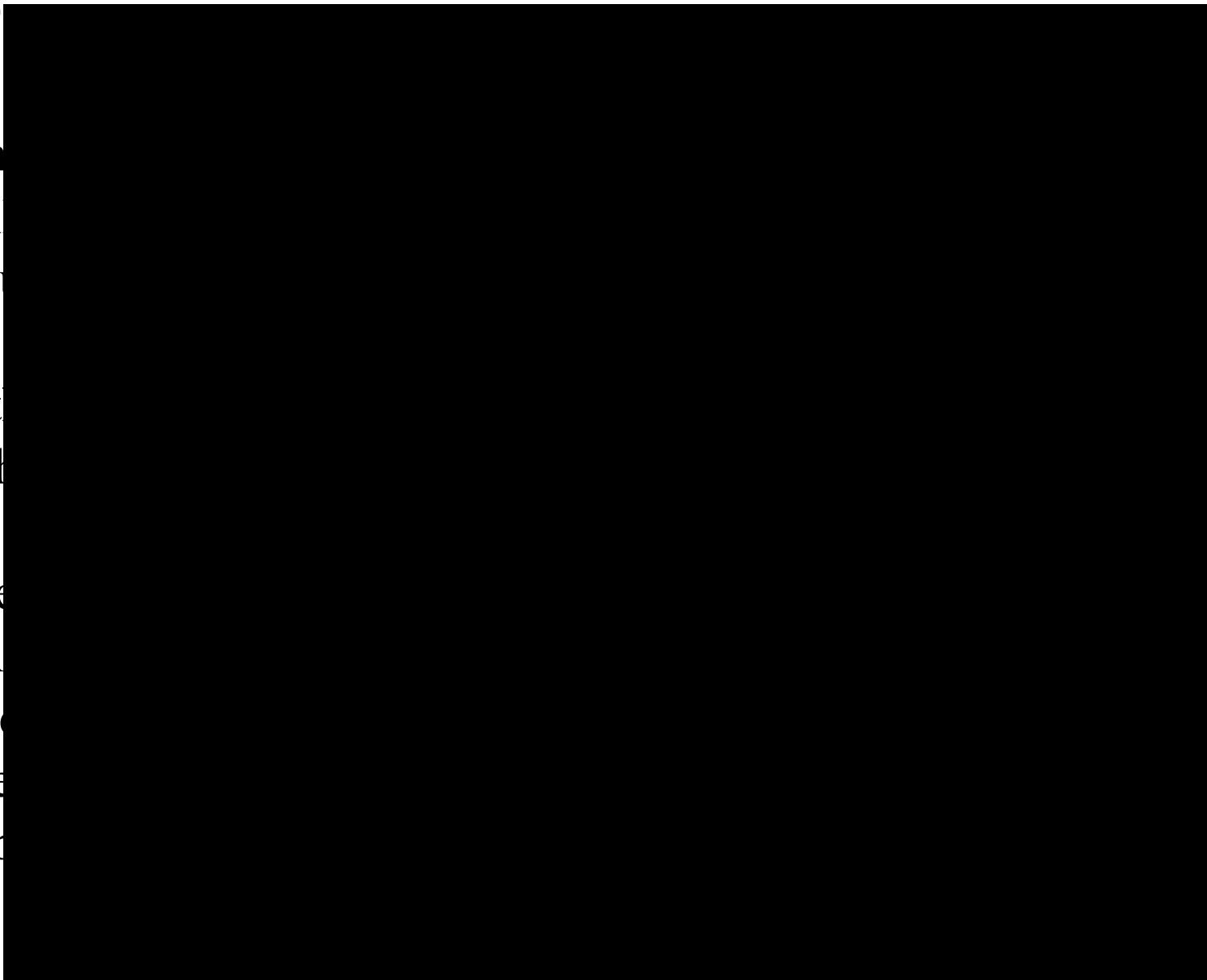
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Primary statistical analyses were conducted using either SAS Version 6.12⁶ or STATA.⁷ All estimates of 95% confidence intervals (95% CI) were adjusted for the non-independence of observations using the use of robust variance estimators.

In Cox Regression analyses, the hazard ratio was chosen as a conservative estimate for the onset of drug use. The following questions contributing to the PA composite failed to ask for age at first occurrence of PA onset was missing in more than half of PA-positive subjects. These variables were reported a history of both CSA and PA, age at first occurrence of PA onset was missing. For the multivariate regression analyses, the hazard ratio represent the impact in years of that variable on the onset of the drug use. The intercept reflects the mean value for the dependent variable for the mean of endorsement of any of the independent variables. Because parental drug use about parental drug use (this was also rare in the parental sample), these analyses instead control for parental alcohol problem trends), these analyses instead

The discordant pair analyses were conducted on same-sex pairs. Separate tests for heterogeneity were performed on the discordant data could be combined on the basis of gender and zygosity.

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RESULTS

Endorsement of Childhood Sexual Abuse (CSA) Components and Composite

Abuse components and composite	Total (N=6265)	Women (N=3462)	Men (N=2803)
Forced sex	10.0%	14.5%	4.4%
Sexual contact (non-family)	3.8%	4.5%	3.0%
Sexual contact (family)	4.4%	7.0%	1.1%
Rape before age 18 years	3.5%	5.2%	1.4%
Molested	9.2%	13.0%	4.4%
CSA composite	12.3%	17.3%	6.0%

Cronbach's alpha for



RESULTS

Childhood Physical Abuse

Endorsement of Physical Abuse (PA) Components and Composite

Abuse components and composite	Total (N=6265)	Women (N=3462)	Men (N=2803)
Mother hit - hurt next day	4.6%	5.1%	3.9%
Father hit - hurt next day	5.1%	5.5%	4.6%
Purposely hurt by adult	8.0%	7.7%	8.4%
Physical abuse	3.6%	4.2%	2.9%
PA composite	10.7%	10.3%	11.1%

Cronbach's alpha for the 5 PA items was 0.80.

RESULTS

Childhood Abuse (CA)

Overlap of Composite Variables, CSA and PA

	Total (N=6265)	Women (N=3462)	Men (N=2803)
CA (either CSA or PA)	19.2%	22.6%	14.9%
Both CSA and PA	3.6%	4.8%	2.1%
CSA only	8.7%	12.5%	3.9%
PA only	7.0%	5.5%	8.9%

The mean age at first occurrence of CA was age 9.9 years (SD 4.2).

Illicit drug use associated with CA

Substance-related outcome	Risk associated with CA history in:			
	Women		Men	
	HR	95% CI	HR	95% CI
Cannabis use	1.77	1.58 - 1.99	1.61	1.36 - 1.91
Opioid use	2.97	2.17 - 4.08	3.41	2.41 - 4.83
Sedative use	2.75	2.16 - 3.52	4.26	3.07 - 5.90
Stimulant use	2.43	2.02 - 2.91	2.56	2.05 - 3.21
Cocaine use	2.28	1.63 - 3.19	3.61	2.61 - 4.98
Cannabis ab/dep	2.72	2.20 - 3.37	2.47	1.94 - 3.15
Opioid ab/dep	4.99	2.79 - 8.94	9.77	4.44 - 21.53
Sedative ab/dep	5.16	2.29 - 11.63	14.30	5.87 - 34.83
Stimulant ab/dep	3.32	2.20 - 5.01	3.99	2.66 - 5.99
Cocaine ab/dep	3.26	1.14 - 9.33	4.23	1.67 - 10.73



Discordant Pair Analyses

Substance (abuse/dependence)	OR	95% CI
Cannabis[^]	1.35	0.87-2.11
Opioid	5.00	1.45 - 17.27
Sedative	16.00	2.12 - 120.65
Stimulant	2.15	1.12 - 4.16
Cocaine	3.00	0.61 - 14.86
Non-cannabis illicit drug	2.64	1.43 - 4.89
Any illicit drug*	2.03	1.32 - 3.12

[^]MZ OR 0.65 (95%CI 0.32-1.31); DZ OR 2.36 (95%CI 1.26-4.40)

*MZ OR 1.06 (95%CI 0.55-2.05); DZ OR 3.21 (95%CI 1.76-5.86)



Effect of CA status on the onset of drug use

Drug Use (in years)	Regression results (betas and 95%CI's)				
	CA	Mother alcohol probs	Father alcohol probs	Male gender	Intercept
Cannabis	-1.18 (-1.48 - -0.89)	-0.59 (-1.12 - -0.05)	-0.14 (-0.42- 0.13)	-0.77 (-1.01- -0.52)	19.63 (19.42-19.84)
Opioid	-1.21 (-2.24 - -0.19)	-1.27 (-3.17 - 0.64)	-0.46 (-1.59- 0.68)	0.01 (-0.92- 0.94)	22.92 (22.11-23.73)
Sedative	-1.23 (-2.12 - -0.34)	-1.01 (-2.50 - 0.48)	0.18 (-0.79- 1.15)	-0.67 (-1.53- 0.18)	22.07 (21.42-22.73)
Stimulant	-0.55 (-1.03 - -0.07)	-0.41 (-1.23 - 0.41)	-0.20 (-0.68- 0.27)	0.08 (-0.36- 0.52)	21.49 (21.10-21.88)
Cocaine	-0.44 (-1.31 - 0.43)	-0.20 (-1.59 - 1.19)	-0.59 (-1.53- 0.34)	0.94 (0.15 - 1.73)	23.11 (22.41-23.81)



CONCLUSIONS

- **22.6% of women and 14.9% of men reported a history of CA**
- **A history of CA was associated with significant risk for subsequently-occurring drug use and ab/dep in men and women with the strongest effects were seen for opioids and sedatives.**
- **In discordant pair analyses, significantly greater risk for ab/dep of opioids, sedatives, and stimulants was found in CA-positive individuals compared to their CA-negative co-twins.**
- **In analyses controlling for gender and respondents' report of maternal and paternal alcohol problems, a history of CA was associated with a significantly earlier onset of use across drugs**
- **These results offer strong support for an association between CA and drug-related outcomes and suggest one route of possible mediation may occur via an earlier use of substances (perhaps in an attempt to regulate negative affect).**



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