

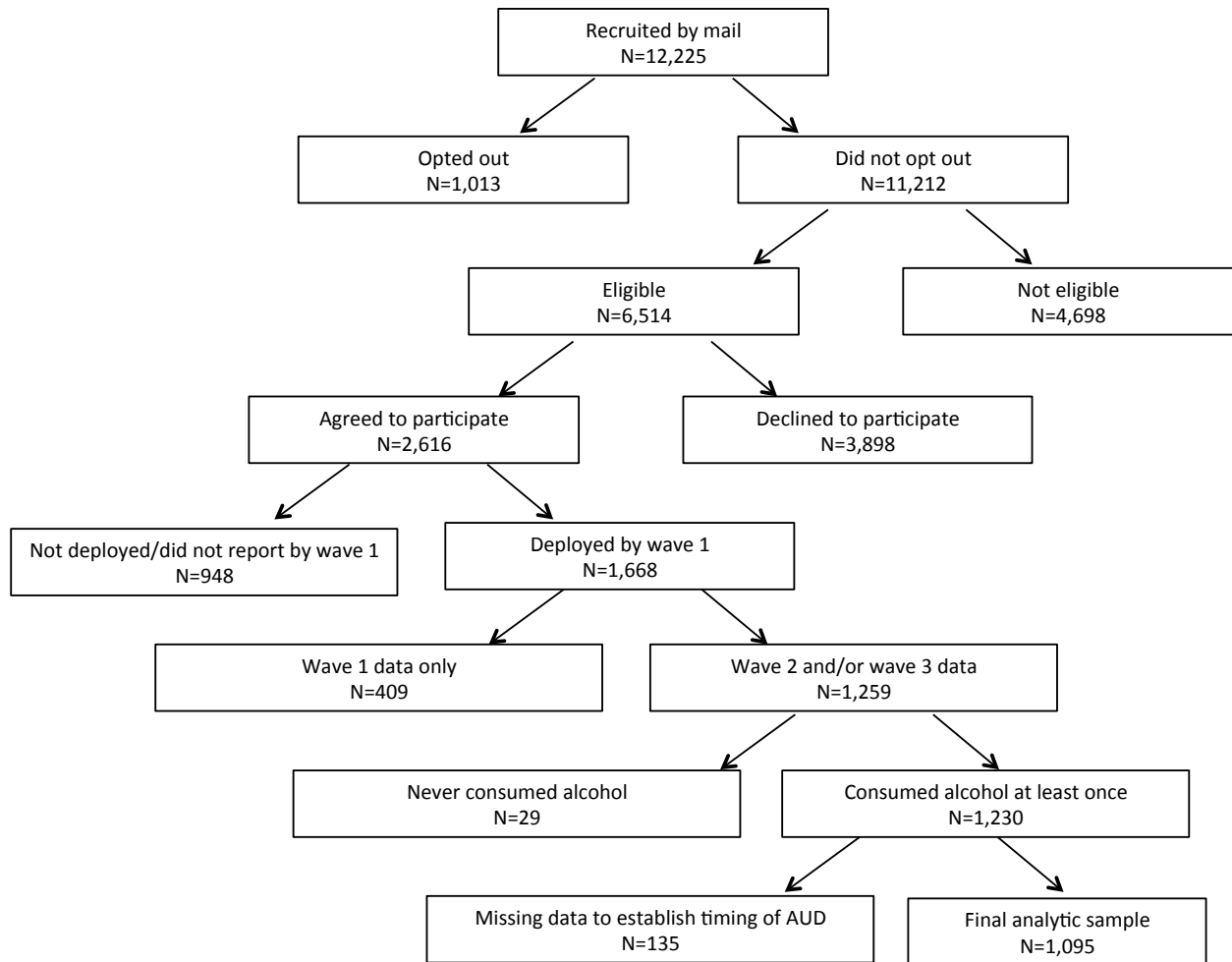
## Appendix Supplementary data

**Appendix 1.** Demographic characteristics of the Ohio Army National Guard Study participants, compared to the Ohio National Guard population

	Study sample		Ohio National Guard, 2008–2009		<i>p</i> -value <sup>1</sup>
	N	%	N	%	
<b>Age</b>					<0.01
17–24	878	33.64	4043	37.50	
25–34	848	32.49	3746	34.80	
35–44	634	24.29	2143	19.90	
45+	250	9.58	846	7.80	
<b>Sex</b>					0.16
Female	388	14.83	1485	13.80	
Male	2228	85.17	9293	86.20	
<b>Race</b>					<0.01
Non-Hispanic white	2295	87.80	9512	88.30	
Non-Hispanic black	195	7.50	1083	10.00	
Other	123	4.70	183	1.70	
<b>Marital status</b>					
Married	1227	47.00	4154	38.50	<0.01
Divorced/separated/widowed	252	9.60	657	6.10	
Never married	1134	43.40	5967	55.40	

<sup>1</sup>*p*-value from chi-square test comparing ONG population to study sample

**Appendix 2.** Flow diagram for the selection of the final analytic sample



**Appendix 3.** Frequency of civilian stressors related to the most recent deployment

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	<b>N</b>	<b>%</b>
Experienced mental illness personally or the mental illness of someone close to you	106	9.73
Had a parent who had a problem with drugs or alcohol	4	0.37
Had a family member other than a parent with a serious drug or alcohol problem	10	0.92
Been through a divorce or “break up” with a partner or significant other	156	14.30
Lost your job	53	4.85
Been emotionally mistreated – for example, shamed, embarrassed, ignored, or repeatedly told you were no good	63	5.77
Seen or heard physical fighting between your parents or caregivers	5	0.46
Experienced stressful legal problems – for example, being sued or suing someone else	37	3.39
Been unemployed and seeking employment for at least 3 months	105	9.64
Had serious financial problems	69	6.32
Been robbed or had your home broken into	27	2.47
Had problems getting access to adequate healthcare	47	4.30

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**Appendix 4.** Frequency of deployment related traumas and stressors

	<b>N</b>	<b>%</b>
<b>Combat Traumas</b>		
Did you or members of your unit encounter land or water mines or booby traps?	364	33.58
Did you or members of your unit receive hostile incoming fire from small arms, artillery, rockets, mortars, bombs, or I.E.D.'s (Improvised Explosive Devices)?	573	52.71
Did you or members of your unit receive "friendly" incoming fire from small arms, artillery, rockets, mortars, or bombs?	106	9.93
Were you in a vehicle, for example, a truck, tank, A.P.C. (Armored Personnel Carrier), helicopter, plane, or boat that was under fire?	334	30.64
Were you or members of your unit attacked by terrorists, insurgents, or civilians?	471	44.02
Did your unit engage in battle in which it suffered casualties?	204	18.84

Did you personally witness someone from your unit or an ally unit being seriously wounded or killed?	222	20.37
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Did you personally witness soldiers from enemy troops being seriously wounded or killed?	219	20.09
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Did you kill or think you killed someone in combat?	116	11.12
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Were you injured or wounded during combat?	35	3.20
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### **Post-battle Traumas**

Did you see enemy soldiers after they had been severely wounded or disfigured in combat?	245	22.46
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Did you see the bodies of dead enemy soldiers?	210	19.34
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Did you see civilians after they had been severely wounded or disfigured?	278	25.57
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Did you see the bodies of dead civilians?	219	20.18
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Did you see Americans or allies after they had been severely wounded or disfigured in combat?	295	27.06
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Did you see the bodies of dead Americans or allies?	186	17.05
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### **Sexual Harassment**

Make crude and offensive sexual remarks directed at you, either publicly or privately	178	16.26
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Offer you some sort of reward or special treatment to take part in	11	1.00
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sexual behavior

Threaten you with some sort of retaliation for not being sexually cooperative for example, the threat of a negative review, physical violence, or to ruin your reputation	7	0.64
Make unwanted attempts to stroke or fondle you for example, stroking your leg or neck	24	2.19
Make unwanted attempts to have sex with you	20	1.83
Force you to have sex	1	0.09

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**Appendix 5.** Characteristics of Ohio National Guard members who have ever been deployed, wave 1, by alcohol use disorder status

	No alcohol disorder waves 1–3		Alcohol disorder ≥ 1 wave		<i>p</i> -value
	No.	%	No.	%	
<b>Age</b>					<0.01
17–24	122	13.72	54	26.34	
25–34	346	38.92	85	41.46	
35–44	295	33.18	51	24.88	
45+	126	14.17	15	7.32	
<b>Sex</b>					0.01
Female	97	10.90	10	4.88	
Male	793	89.10	195	95.12	
<b>Marital Status</b>					<0.01
Currently divorced/separated/widowed	97	10.91	26	12.68	
Never married	221	24.86	85	41.46	
Currently married	571	64.23	94	45.85	
<b>Race</b>					0.06
Non-Hispanic white	783	90.52	190	95.00	
Non-Hispanic black	60	6.94	5	2.50	

Other	22	2.54	5	2.50	
<b>Household Income</b>					0.04
≥20,000 to 60,000	441	50.69	118	58.71	
> 60,000	429	49.31	83	41.29	
<b>Education</b>					0.09
< High school, high school graduate or GED	176	19.78	43	20.98	
Some college or technical school	423	47.53	111	54.15	
College graduate or graduate degree	291	32.70	51	24.88	
<b>Family history of drug or alcohol abuse</b>					<0.01
Yes	405	45.61	114	55.88	
No	483	54.39	90	44.12	
<b>Enlisted</b>					0.02
Yes	717	80.56	180	87.80	
No	173	19.44	25	12.20	
<b>Civilian stressors</b>					<0.01
Any	280	31.46	113	55.12	
None	610	68.54	92	44.88	
<b>Peri-deployment events</b>					



<b>Combat</b>					0.02
High	281	31.64	82	40.00	
Medium	225	25.34	56	27.32	
Low	382	43.02	67	32.68	
<b>Post-Battle</b>					0.01
High	189	21.28	56	27.32	
Medium	181	20.38	53	25.85	
Low	518	58.33	96	46.83	
<b>Sexual Harassment</b>					0.01
Any	139	15.62	47	23.93	
None	751	84.38	158	77.07	

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**Appendix 6.** Civilian stressors associated with alcohol use disorders among Ohio National Guard members<sup>a</sup>

<b>Civilian Stressor</b>	<b>Crude<sup>b</sup></b>	<b>Adjusted<sup>c</sup></b>
	<b>OR (95% CI)</b>	<b>OR (95% CI)</b>
Experienced mental illness personally or the mental illness of someone close to you	0.98 (0.69–1.39)	0.85 (0.58–1.24)
Had a parent who had a problem with drugs or alcohol	1.37 (0.94–2.02)	1.15 (0.76–1.78)
Had a family member other than a parent with a serious drug or alcohol problem	1.52 (1.09–2.11)	1.36 (0.96–1.94)
Been through a divorce or “break up” with a partner or significant other	1.02 (0.73–1.45)	1.02 (0.71–1.47)
Lost your job	0.87 (0.60–1.26)	0.83 (0.54–1.27)
Been emotionally mistreated – for example, shamed, embarrassed, ignored, or repeatedly told you were no good	1.09 (0.72–1.65)	0.93 (0.59–1.47)
Seen or heard physical fighting between your parents or caregivers	1.19 (0.84–1.68)	0.95 (0.65–1.39)
Experienced stressful legal problems – for example, being sued or suing someone else	1.16 (0.76–1.77)	1.02 (0.65–1.61)
Been unemployed and seeking employment for at least 3 months	0.82 (0.57–1.20)	0.70 (0.46–1.07)
Had serious financial problems	1.35 (0.94–1.93)	1.29 (0.86–1.93)
Been Robbed or had your home broken into	1.63 (1.15–2.31)	1.48 (1.02–2.21)
Had problems getting access to adequate healthcare	2.07 (1.18–3.63)	1.97 (1.07–3.63)

<sup>a</sup>All models are adjusted for alcohol use disorder history at the prior wave, study wave, age, sex, and marital status

<sup>b</sup>Models include single civilian stressors

<sup>c</sup>All civilian stressors are included in the same model

**Appendix 7.** Combat traumatic events associated with alcohol use disorders among Ohio National Guard members<sup>a</sup>

<b>Combat Traumas</b>	<b>Crude<sup>b</sup></b>	<b>Adjusted<sup>c</sup></b>
	<b>OR (95% CI)</b>	<b>OR (95% CI)</b>
Did you or members of your unit encounter land or water mines or booby traps?	1.37 (0.98–1.91)	1.16 (0.72–1.84)
Did you or members of your unit receive hostile incoming fire from small arms, artillery, rockets, mortars, bombs, or I.E.D.'s (Improvised Explosive Devices)?	1.29 (0.93–1.79)	0.83 (0.46–1.50)
Did you or members of your unit receive “friendly” incoming fire from small arms, artillery, rockets, mortars, or bombs?	0.98 (0.58–1.70)	0.80 (0.44–1.42)
Were you in a vehicle, for example, a truck, tank, A.P.C. (Armored Personnel Carrier), helicopter, plane, or boat that was under fire?	1.19 (0.84–1.67)	0.68 (0.40–1.16)
Were you or members of your unit attacked by terrorists, insurgents, or civilians?	1.56 (1.12–2.18)	1.78 (0.99–3.20)
Did your unit engage in battle in which it suffered casualties?	1.32 (0.90–1.96)	1.13 (0.67–1.89)
Did you personally witness someone from your unit or an ally unit being seriously wounded or killed?	1.43 (0.97–2.08)	1.05 (0.63–1.75)
Did you personally witness soldiers from enemy troops being seriously wounded or killed?	1.62 (1.11–2.34)	1.85 (1.06–3.23)
Did you kill or think you killed someone in combat?	1.17 (0.72–1.89)	0.73 (0.39–1.39)
Were you injured or wounded during combat?	0.58 (0.22–1.56)	0.43 (0.14–1.32)

<sup>a</sup>All models are adjusted for alcohol use disorder history at the prior wave, study wave, age, sex, and marital status

<sup>b</sup>Models include single civilian stressors

<sup>c</sup>All civilian stressors are included in the same model

**Appendix 8.** Post-battle traumatic events associated with alcohol use disorders among Ohio National Guard members<sup>a</sup>

	<b>Crude<sup>b</sup></b>	<b>Adjusted<sup>c</sup></b>
<b>Post-battle Traumas</b>	<b>OR (95% CI)</b>	<b>OR (95% CI)</b>
Did you see enemy soldiers after they had been severely wounded or disfigured in combat?	1.80 (1.26–2.58)	1.80 (1.05–3.06)
Did you see the bodies of dead enemy soldiers?	1.57 (1.08–2.29)	1.05 (0.59–1.86)
Did you see civilians after they had been severely wounded or disfigured?	1.50 (1.05–2.14)	1.36 (0.83–2.23)
Did you see the bodies of dead civilians?	1.28 (0.87–1.88)	0.80 (0.47–1.37)
Did you see Americans or allies after they had been severely wounded or disfigured in combat?	1.17 (0.82–1.68)	0.68 (0.41–1.11)
Did you see the bodies of dead Americans or allies?	1.53 (1.03–2.29)	1.39 (0.82–2.35)

<sup>a</sup>All models are adjusted for alcohol use disorder history at the prior wave, study wave, age, sex, and marital status

<sup>b</sup>Models include single civilian stressors

<sup>c</sup>All civilian stressors are included in the same model

**Appendix 9.** Sexual harassment events associated with alcohol use disorders among Ohio National Guard members<sup>a</sup>

	<b>Crude<sup>b</sup></b>	<b>Adjusted<sup>c</sup></b>
<b>Sexual harassment</b>	<b>OR (95% CI)</b>	<b>OR (95% CI)</b>
Make crude and offensive sexual remarks directed at you, either publicly or privately	1.47 (0.96–2.25)	1.43 (0.93–2.20)
Offer you some sort of reward or special treatment to take part in sexual behavior	2.65 (0.53–13.11)	1.81 (0.29–11.26)
Threaten you with some sort of retaliation for not being sexually cooperative for example, the threat of a negative review, physical violence, or to ruin your reputation	1.32 (0.11–14.89)	0.77 (0.06–10.03)
Make unwanted attempts to stroke or fondle you for example, stroking your leg or neck	1.14 (0.31–4.20)	0.59 (0.13–2.60)
Make unwanted attempts to have sex with you	2.46 (0.79–7.69)	2.44 (0.63–9.48)
Force you to have sex	0.02 (0.00–20.00)	0.02 (0.00–20.00)

<sup>a</sup>All models are adjusted for alcohol use disorder history at the prior wave, study wave, age, sex, and marital status

<sup>b</sup>Models include single civilian stressors

<sup>c</sup>All civilian stressors are included in the same model