

Multimedia Appendix 1: Table of Ecological Momentary Assessment (EMA) items.^a

Variable	Item	Response options
(A) Social context	(1) Over the past 2 hours, who have you interacted with in any way? (Check all)	<ul style="list-style-type: none"> • [Alter 1] • [Alter 2] • [Alter 3] • [Alter 4] • [Alter 5] • Someone else not listed here • I have not interacted with anyone
(A) Social context	[Display if “someone else not listed here is selected for A-1] (1.1.) Over the past 2 hours, who else have you interacted with? (Check all)	<ul style="list-style-type: none"> • Friends from home/before you were homeless • Friends or peers from the street or an agency • Family (biological or foster) • Romantic/sexual partner • Case worker or agency staff/volunteer • People from work or school • Law enforcement (police, security, etc.) • Someone I don’t know well/random person
(B) Location	(1) Where are you currently?	<ul style="list-style-type: none"> • My apartment/residence • Someone else’s residence • In transit (bus, car, etc.) • Outdoors (park, beach, sidewalks, etc.) • School or work • Social service agency (drop-in, shelter, DPSS, etc.) • Place of business (restaurant, bar, mall, etc.) • Other
(C) Activity	(1) Just before the phone went off, what was the main thing you were doing?	<ul style="list-style-type: none"> • Going somewhere • Hanging out • Working/job/school • Meal/eating food • Sleeping/resting • Appointment/meeting • Other
(D) Affect	(1) Just before the phone went off, how HAPPY were you feeling? (2) Just before the phone went off, how STRESSED were you feeling? (3) Just before the phone went off, how SAD/DEPRESSED were you feeling? (4) Just before the phone went off, how IRRITATED were you feeling? (5) Just before the phone went off, how CALM/RELAXED were you feeling?	<ul style="list-style-type: none"> • Slightly/not at all • A little • Moderately • Quite a bit • Extremely

Variable	Item	Response options
	(6) Just before the phone went off, how EXCITED were you feeling? (7) Just before the phone went off, how BORED were you feeling?	
(E) Hunger	(1) Just before the phone went off, how HUNGRY were you feeling?	<ul style="list-style-type: none"> • Slightly/not at all • A little • Moderately • Quite a bit • Extremely
(F) Important event	(1) Over the past 2 hours, did any of these things happen to you? (Check all)	<ul style="list-style-type: none"> • I felt threatened or harassed • Verbal fight or argument • Physical fight • I got injured or became ill • Received bad news about something important • Received good news about something important • Interaction with security/law enforcement • None of the above
(G) Tobacco	(1) Over the past 2 hours, have you used... (Check all)	<ul style="list-style-type: none"> • I have not used tobacco • Smoked tobacco (cigarettes, cigars/cigarillos, pipes, hookah, etc.) • E-cigarettes/vaped tobacco • Chewing tobacco/dip • A tobacco product not listed here
(H) Alcohol	(1) Over the past 2 hours, how many alcoholic drinks did you have?	<ul style="list-style-type: none"> • 0 • 1 • 2 • 3 • 4 • 5 or more
(H) Alcohol	[Display if "0" is NOT selected for H-1] (1.1.) Where were you when you used alcohol? (Check all)	<ul style="list-style-type: none"> • My apartment/residence • Someone else's residence • In transit (bus, car, etc.) • Outdoors (park, beach, sidewalks, etc.) • School or work • Social service agency (drop-in, shelter, DPSS, etc.) • Place of business (restaurant, bar, mall, etc.) • Other
(H) Alcohol	[Display if "0" is NOT selected for H-1] (1.2.) Who were you with when you used alcohol? (Check all)	<ul style="list-style-type: none"> • [Alter 1] • [Alter 2] • [Alter 3] • [Alter 4] • [Alter 5] • Someone else not listed here

Variable	Item	Response options
		<ul style="list-style-type: none"> Nobody
(H) Alcohol	<p>[Display if "Someone else not listed here" is selected for H-1.2.] (1.2.1.) Who else were you with when you used alcohol? (Check all)</p>	<ul style="list-style-type: none"> Friends from home/before you were homeless Friends or peers from the street or an agency Family (biological or foster) Romantic/sexual partner People from work or school Someone I don't know well/random person
(H) Alcohol	<p>[Display if "Nobody" is NOT selected for H-1.2.] (1.2.2.) Were any of the people with you using alcohol?</p>	<ul style="list-style-type: none"> Yes No Not sure
(I) Drugs	<p>(1) Over the past 2 hours, have you used any drugs?</p>	<ul style="list-style-type: none"> Yes No
(I) Drugs	<p>[Display if "Yes" is selected for I-1] (1.1.) Which drugs did you use over the past 2 hours? (Check all)</p>	<ul style="list-style-type: none"> Marijuana Meth Ecstasy/ MDMA/ "Molly" Synthetic marijuana (K2, Spice, etc.) Hallucinogens/ psychedelics Prescription drugs, not as prescribed (Rx cough syrup, Oxycontin, Xanax, etc.) Heroin Other
(I) Drugs	<p>[Display if "Other" is selected for I-1.1.] (1.1.1.) What other drug did you use? (Please specify)</p>	[Text Entry]
(I) Drugs	<p>[Display if "Yes" is selected for I-1] (1.2.) Where were you when you used drugs? (Check all)</p>	<ul style="list-style-type: none"> My apartment/residence Someone else's residence In transit (bus, car, etc.) Outdoors (park, beach, sidewalks, etc.) School or work Social service agency (drop-in, shelter, DPSS, etc.) Place of business (restaurant, bar, mall, etc.) Other
(I) Drugs	<p>[Display if "Yes" is selected for I-1] (1.3.) Who were you with when you used drugs? (Check all)</p>	<ul style="list-style-type: none"> [Alter 1] [Alter 2] [Alter 3] [Alter 4] [Alter 5] Someone else not listed here Nobody
(I) Drugs	<p>[Display if "Someone else not listed here" is selected for I-1.3.] (1.3.1.) Who else were you with when you used</p>	<ul style="list-style-type: none"> Friends from home/before you were homeless Friends or peers from the street or an

Variable	Item	Response options
	drugs? (Check all)	agency <ul style="list-style-type: none"> Family (biological or foster) Romantic/sexual partner People from work or school Someone I don't know well/random person
(I) Drugs	[Display if "Nobody" is NOT selected for I-1.3.] (1.3.2.) Were any of the people you were with using drugs?	<ul style="list-style-type: none"> Yes No Not sure
(J) Craving	[Display variable J only if "0" is selected for H-1 AND "No" is selected for I-1] (1) Over the past 2 hours, did you think about using drugs or alcohol?	<ul style="list-style-type: none"> Yes No
(J) Craving	[Display if "Yes" is selected for J-1] (1.1.) Where were you when you thought about using drugs or alcohol? (Check all)	<ul style="list-style-type: none"> My apartment/residence Someone else's residence In transit (bus, car, etc.) Outdoors (park, beach, sidewalks, etc.) School or work Social service agency (drop-in, shelter, DPSS, etc.) Place of business (restaurant, bar, mall, etc.) Other
(J) Craving	[Display if "Yes" is selected for J-1] (1.2.) Who were you with when you thought about using drugs or alcohol? (Check all)	<ul style="list-style-type: none"> [Alter 1] [Alter 2] [Alter 3] [Alter 4] [Alter 5] Someone else not listed here Nobody
(J) Craving	[Display if "Someone else not listed here" is selected for J-1.2.] (1.2.1.) Who else were you with when you thought about using drugs or alcohol?	<ul style="list-style-type: none"> Friends from home/before you were homeless Friends or peers from the street or an agency Family (biological or foster) Romantic/sexual partner People from work or school Someone I don't know well/random person
(J) Craving	[Display if "Nobody" is NOT selected for J-1.2.] (1.2.2.) When you thought about using drugs or alcohol, were any of the people you were with using drugs or alcohol?	<ul style="list-style-type: none"> Yes No Not sure

^aNames entered during the baseline survey for alters 1-5 are piped in as response options for each participant.