

Multimedia Appendix 3: Table of Daily log items.

Variable	Item	Response options
(A) Sleep	(1) What time did you wake-up today?	[Possible times in 15 min intervals on scroll wheel] <ul style="list-style-type: none"> <li>I did not sleep last night</li> </ul>
(A) Sleep	[Display if "I did not sleep last night" is NOT selected for A-1.] (1.1.) What time did you go to sleep yesterday?	[Possible times in 15 min intervals on scroll wheel]
(A) Sleep	[Display if "I did not sleep last night" is NOT selected for A-1.] (1.2.) Where did you sleep last night?	<ul style="list-style-type: none"> <li>My own apartment/residence</li> <li>Home of someone I know (family, friend, partner, etc.)</li> <li>Stranger's home/residence</li> <li>Shelter/transitional living program</li> <li>Hotel/motel</li> <li>Abandoned building, squat, public transit, or other place inside</li> <li>Street, park, bench, roof, or other place outside</li> <li>Car, RV, van, or other vehicle</li> <li>Other, please specify</li> </ul>
(A) Sleep	[Display if "Other" is selected for A-1.2.] (1.2.1.) What other place did you sleep last night?	[Text entry]
(A) Sleep	[Display if "I did not sleep last night" is NOT selected for A-1.] (1.3.) Last night, my sleep quality was:	<ul style="list-style-type: none"> <li>Very poor</li> <li>Poor</li> <li>Fair</li> <li>Good</li> <li>Very good</li> </ul>
(B) Social Context	(1) At any point yesterday, did you interact with any of these people in any way? (Check all)	<ul style="list-style-type: none"> <li>[Alter 1]</li> <li>[Alter 2]</li> <li>[Alter 3]</li> <li>[Alter 4]</li> <li>[Alter 5]</li> <li>I did not interact with any of these people yesterday</li> </ul>
(C) Substances	(1) At any point yesterday, did you use any of these substances? (Check all)	<ul style="list-style-type: none"> <li>Alcohol</li> <li>Marijuana</li> <li>Synthetic marijuana (K2, spice, etc.)</li> <li>Meth</li> <li>Prescription drugs, not as prescribed (Rx cough syrup, Oxycontin, Xanax, etc.)</li> <li>Other illicit drugs</li> <li>I did not use any drugs yesterday</li> </ul>
(C) Substances	[Display if "Other illicit drug" is selected for C-1.] (1.1.) What other illicit drug(s) did you use yesterday? (Check all)	<ul style="list-style-type: none"> <li>Ecstasy/ MDMA/ "Molly"</li> <li>Hallucinogens/ psychedelics</li> <li>Heroin</li> <li>Cocaine or crack</li> <li>Something else not listed here</li> </ul>

Variable	Item	Response options
<b>(C) Substances</b>	[Display if "Something else not listed here" is selected for C-1.1.] (1.1.1.) You indicated that you used something else that wasn't listed. How did you use that/those other drug(s) yesterday? (Check all)	<ul style="list-style-type: none"> <li>• Swallowed</li> <li>• Smoked</li> <li>• Snorted</li> <li>• Injected</li> <li>• Other</li> </ul>
<b>(C) Substances - Alcohol</b>	[Display if "Alcohol" is selected for C-1.] (1.2.) How many alcoholic drinks did you have yesterday? Note: "One drink" is: -a 12-oz beer -1/5 of a 40-oz bottle of malt liquor -a 5-oz glass of wine -a 1.5 oz "shot" of 80-proof liquor	[Number picker; range = 0-99]
<b>(C) Substances - Alcohol</b>	[Display if response is $\geq 4/5$ (4 for women/5 for men) for C-1.2.] (1.2.1.) At any point yesterday, did you drink 4/5 [4 for women/5 for men] or more drinks in less than a 2-hour period?	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• Not sure</li> </ul>
<b>(C) Substances - Alcohol</b>	[Display if "Alcohol" is selected for C-1.] (1.3.) At any point yesterday, did you drink alcohol with any of these people? (Check all)	<ul style="list-style-type: none"> <li>• [Alter 1]</li> <li>• [Alter 2]</li> <li>• [Alter 3]</li> <li>• [Alter 4]</li> <li>• [Alter 5]</li> <li>• I did not drink alcohol with any of these people yesterday</li> </ul>
<b>(C) Substances - Marijuana</b>	[Display if "Marijuana" is selected for C-1.] (1.4.) How many times did you use marijuana or marijuana products yesterday?	[Number picker; range = 0-99]
<b>(C) Substances - Marijuana</b>	[Display if "Marijuana" is selected for C-1.] (1.5.) At any point yesterday, did you use marijuana concentrates? (hashish, hash oil, "dabs," etc.)	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• Not sure</li> </ul>
<b>(C) Substances - Marijuana</b>	[Display if "Marijuana" is selected for C-1.] (1.6.) At any point yesterday, did you use marijuana or marijuana products with any of these people? (Check all)	<ul style="list-style-type: none"> <li>• [Alter 1]</li> <li>• [Alter 2]</li> <li>• [Alter 3]</li> <li>• [Alter 4]</li> <li>• [Alter 5]</li> <li>• I did not use marijuana or marijuana products with any of these people yesterday</li> </ul>
<b>(C) Substances - Synthetic Marijuana</b>	[Display if "Synthetic marijuana" is selected for C-1.] (1.7.) How many times did you use synthetic marijuana yesterday? (K2, spice, fake weed, etc.)	[Number picker; range = 0-99]
<b>(C) Substances - Synthetic Marijuana</b>	[Display if "Synthetic marijuana" is selected for C-1.] (1.8.) At any point yesterday, did you use synthetic marijuana with any of these people? (Check all)	<ul style="list-style-type: none"> <li>• [Alter 1]</li> <li>• [Alter 2]</li> <li>• [Alter 3]</li> <li>• [Alter 4]</li> <li>• [Alter 5]</li> </ul>

Variable	Item	Response options
		<ul style="list-style-type: none"> <li>I did not use synthetic marijuana with any of these people yesterday</li> </ul>
<b>(C) Substances – Meth</b>	[Display if “Meth” is selected for C-1.] (1.9.) How many times did you use meth yesterday?	[Number picker; range = 0-99]
<b>(C) Substances – Meth</b>	[Display if “Meth” is selected for C-1.] (1.10.) How did you use meth yesterday? (Check all)	<ul style="list-style-type: none"> <li>Smoked</li> <li>Snorted</li> <li>Injected</li> <li>Swallowed</li> </ul>
<b>(C) Substances – Meth</b>	[Display if “Meth” is selected for C-1.] (1.11.) At any point yesterday, did you use meth with any of these people? (Check all)	<ul style="list-style-type: none"> <li>[Alter 1]</li> <li>[Alter 2]</li> <li>[Alter 3]</li> <li>[Alter 4]</li> <li>[Alter 5]</li> <li>I did not use meth with any of these people yesterday</li> </ul>
<b>(C) Substances – Prescription Drugs</b>	[Display if “Prescription drugs...not prescribed...” is selected for C-1.] (1.12.) How many times did you use prescription drugs that were not prescribed, or in higher doses than prescribed, yesterday?	[Number picker; range = 0-99]
<b>(C) Substances – Prescription Drugs</b>	[Display if “Prescription drugs...not prescribed...” is selected for C-1.] (1.13.) How did you use prescription drugs, not as prescribed yesterday? (Check all)	<ul style="list-style-type: none"> <li>Swallowed</li> <li>Snorted</li> <li>Injected</li> <li>Smoked</li> </ul>
<b>(C) Substances – Prescription Drugs</b>	[Display if “Prescription drugs...not prescribed...” is selected for C-1.] (1.14.) At any point yesterday, did you use prescription drugs, not as prescribed with any of these people? (Check all)	<ul style="list-style-type: none"> <li>[Alter 1]</li> <li>[Alter 2]</li> <li>[Alter 3]</li> <li>[Alter 4]</li> <li>[Alter 5]</li> <li>I did not use prescription drugs, not as prescribed with any of these people yesterday</li> </ul>
<b>(C) Substances – Ecstasy</b>	[Display if “Ecstasy/ MDMA/ Molly” is selected for C-1.] (1.15.) How many times did you use Ecstasy/ MDMA/ “Molly” yesterday?	[Number picker; range = 0-99]
<b>(C) Substances – Ecstasy</b>	[Display if “Ecstasy/ MDMA/ Molly” is selected for C-1.] (1.16.) How did you use Ecstasy/ MDMA/ “Molly” yesterday? (Check all)	<ul style="list-style-type: none"> <li>Swallowed</li> <li>Snorted</li> <li>Injected</li> </ul>
<b>(C) Substances – Ecstasy</b>	[Display if “Ecstasy/ MDMA/ Molly” is selected for C-1.] (1.17.) At any point yesterday, did you use Ecstasy/ MDMA/ “Molly” with any of these people? (Check all)	<ul style="list-style-type: none"> <li>[Alter 1]</li> <li>[Alter 2]</li> <li>[Alter 3]</li> <li>[Alter 4]</li> <li>[Alter 5]</li> <li>I did not use Ecstasy/ MDMA/ “Molly” with any of these people yesterday</li> </ul>
<b>(C) Substances –</b>	[Display if “Hallucinogens/ psychedelics” is	[Number picker; range = 0-99]

Variable	Item	Response options
<b>Hallucinogens</b>	selected for C-1.] (1.18.) How many times did you use hallucinogens/ psychedelics (LSD/acid, "shrooms", etc.) yesterday?	
<b>(C) Substances – Hallucinogens</b>	[Display if "Hallucinogens/ psychedelics" is selected for C-1.] (1.19.) At any point yesterday, did you use hallucinogens/ psychedelics (LSD/acid, "shrooms", etc.) with any of these people? (Check all)	<ul style="list-style-type: none"> <li>• [Alter 1]</li> <li>• [Alter 2]</li> <li>• [Alter 3]</li> <li>• [Alter 4]</li> <li>• [Alter 5]</li> <li>• I did not use hallucinogens/ psychedelics with any of these people yesterday</li> </ul>
<b>(C) Substances – Heroin</b>	[Display if "Heroin" is selected for C-1.] (1.20.) How many times did you use heroin yesterday?	[Number picker; range = 0-99]
<b>(C) Substances – Heroin</b>	[Display if "Heroin" is selected for C-1.] (1.21.) How did you use heroin yesterday?	<ul style="list-style-type: none"> <li>• Snorted</li> <li>• Injected</li> <li>• Smoked</li> </ul>
<b>(C) Substances – Heroin</b>	[Display if "Heroin" is selected for C-1.] (1.22.) At any point yesterday, did you use heroin with any of these people? (Check all)	<ul style="list-style-type: none"> <li>• [Alter 1]</li> <li>• [Alter 2]</li> <li>• [Alter 3]</li> <li>• [Alter 4]</li> <li>• [Alter 5]</li> <li>• I did not use heroin with any of these people yesterday</li> </ul>
<b>(C) Substances – Cocaine</b>	[Display if "Cocaine or crack" is selected for C-1.] (1.23.) You indicated that you used cocaine or crack yesterday. Which type(s) did you use?	<ul style="list-style-type: none"> <li>• Powdered cocaine</li> <li>• Crack or freebase cocaine</li> <li>• Both</li> </ul>
<b>(C) Substances – Cocaine</b>	[Display if "Cocaine or crack" is selected for C-1.] (1.24.) How many times did you use cocaine or crack yesterday? (Check all)	[Number picker; range = 0-99]
<b>(C) Substances – Cocaine</b>	[Display if "Cocaine or crack" is selected for C-1.] (1.25.) How did you use cocaine or crack yesterday? (Check all)	<ul style="list-style-type: none"> <li>• Orally (swallowed, chewed, rubbed on gums, etc.)</li> <li>• Smoked</li> <li>• Snorted</li> <li>• Injected</li> </ul>
<b>(C) Substances – Cocaine</b>	[Display if "Cocaine or crack" is selected for C-1.] (1.26.) At any point yesterday, did you use cocaine or crack with any of these people? (Check all)	<ul style="list-style-type: none"> <li>• [Alter 1]</li> <li>• [Alter 2]</li> <li>• [Alter 3]</li> <li>• [Alter 4]</li> <li>• [Alter 5]</li> <li>• I did not use cocaine or crack with any of these people yesterday</li> </ul>
<b>(D) Sexual Activity</b>	(1) How many people did you have vaginal or anal sex with yesterday?	<ul style="list-style-type: none"> <li>• 0</li> <li>• 1</li> <li>• 2</li> <li>• 3</li> <li>• 4 or more</li> </ul>

Variable	Item	Response options
<b>(D) Sexual Activity</b>	[D-1.1. – D-1. are displayed if response is > 0 for D-1 and looped based on # of partners.] (1.1.) Please provide initials or a nickname for the first person you had vaginal or anal sex with yesterday:	[Text entry]
<b>(D) Sexual Activity</b>	(1.2.) How would you describe [Partner 1]?	<ul style="list-style-type: none"> <li>• Serious partner (husband, wife, life partner, girlfriend, boyfriend, etc.)</li> <li>• Casual partner (hookup, friends with benefits, one-night stand, etc.)</li> </ul>
<b>(D) Sexual Activity</b>	(1.3.) How long have you been engaged in a sexual relationship with [Partner 1]? (in total)	<ul style="list-style-type: none"> <li>• 1 day or less</li> <li>• 1-30 days</li> <li>• 1-6 months</li> <li>• 6-12 months</li> <li>• 1-3 years</li> <li>• More than 3 years</li> </ul>
<b>(D) Sexual Activity</b>	(1.4.) What is [Partner 1]'s gender identity?	<ul style="list-style-type: none"> <li>• Male</li> <li>• Female</li> <li>• Trans male/ Trans man</li> <li>• Trans female/ Trans woman</li> <li>• Genderqueer/ Gender non-conforming</li> <li>• Different identity (please specify_____)</li> </ul>
<b>(D) Sexual Activity</b>	[Do not display if both respondent and partner are women] (1.4.1.) At any point while having sex with [Partner 1], did you have vaginal or anal sex without a condom?	<ul style="list-style-type: none"> <li>• No</li> <li>• Yes, both anal and vaginal sex without a condom</li> <li>• Yes, vaginal without a condom only</li> <li>• Yes, anal without a condom only</li> </ul>
<b>(D) Sexual Activity</b>	[Display if "No" is NOT selected for D-1.4.1.] (1.4.1.1.) Did you know [Partner 1]'s HIV status before having vaginal or anal sex without a condom with them?	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
<b>(D) Sexual Activity</b>	[Display if "No" is NOT selected for D-1.4.1.] (1.4.1.2.) Did you drink alcohol or use drugs before you had sex (vaginal or anal sex) with [Partner 1]?	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
<b>(D) Sexual Activity</b>	(1.5.) Where were you when you engaged in sex with [Partner 1]? (Check all)	<ul style="list-style-type: none"> <li>• My home/ residence</li> <li>• The home of someone I know</li> <li>• The home of someone I don't know or barely know</li> <li>• Hotel/ motel</li> <li>• Outside (park, bench)</li> <li>• Tent or improvised shelter</li> <li>• Car, RV, or other vehicle</li> <li>• Abandoned building or squat</li> <li>• Shelter or drop-in</li> <li>• Other (please specify_____)</li> </ul>
<b>(D) Sexual Activity</b>	(2) At any point yesterday, did you trade any type of sex (oral, vaginal, or anal) for: (Check all)	<ul style="list-style-type: none"> <li>• I did not trade sex</li> <li>• Money</li> <li>• Drugs</li> </ul>

Variable	Item	Response options
		<ul style="list-style-type: none"> <li>• A place to stay</li> <li>• Food or meals</li> <li>• Something else</li> </ul>
<b>(D) Sexual Activity</b>	<p>[Display if "I did not trade sex" is NOT selected for D-2.]</p> <p>(2.1.) Where were you when you traded sex for money, drugs, a place to stay, food or meals, or something else? (Check all)</p>	<ul style="list-style-type: none"> <li>• My home/ residence</li> <li>• The home of someone I know</li> <li>• The home of someone I don't know or barely know</li> <li>• Hotel/ motel</li> <li>• Outside (park, beach)</li> <li>• Tent or improvised shelter</li> <li>• Car, RV, or other vehicle</li> <li>• Abandoned building or squat</li> <li>• Shelter or drop-in</li> <li>• Other (please specify_____)</li> </ul>

<sup>a</sup>Names entered during the baseline survey for alters 1-5 are piped in as response options for each participant.