# Attachment 1 Simulations for Drug Related Science Education (NIDA)

Submission date 7/20/11

Expiration Date: mm/yyyy

**Pre Test** 

## **Burden Disclosure Statement for References**

Public reporting burden for this collection of information is estimated to average 25-minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: NIH, Project Clearance Branch, 6705 Rockledge Drive, MSC 7974, Bethesda, MD 20892-7974, ATTN: PRA (0925-XXXX). Do not return the completed form to this address.

## Instructions (PRE-TEST):

The purpose of this questionnaire is to get some information about your knowledge and attitudes related to biology and drug use on the body. It should take about 25 minutes to complete. PLEASE CIRCLE ONLY ONE ANSWER FOR EACH QUESTION, UNLESS THE QUESTION SAYS OTHERWISE. Please answer each question as best and as honestly as you can. Thank you for your time and participation in this important evaluation.

### **BIOGRAPHICAL INFORMATION**

# YOUR DATE OF BIRTH:

Month day year

LAST 4 DIGITS OF YOUR PHONE NUMBER



\*\*If no home phone number, please use locker number.

1. YOUR GRADE:

A. 10<sup>TH</sup> B. 11<sup>TH</sup>

2. YOUR GENDER:

A. Male B. Female

3. RACE/ETHNICITY:

Please select one one or more categories

Ethnicity:

--

Hispanic or Latino Not Hispanic or Latino

\_\_

Please select one or more categories

Race:

- --

American Indian or Alaska Native

-- Asian

-- Black or African American

-- Native Hawaiian or Other Pacific Islander

-- White

Knowledge Questions Match the various parts	of the brain are r	esponsible for t	he various funct	ion:
1. Cerebral Cor 2. Amygdala 3. Brain stem 4. Cerebellum		A. Balance B. Breathing C. Fear D. Higher learr	ning	
5. Neurons are the net	work of specialize B	С	ıe	D
Heart	Lungs	Brain		Kidney
6. The synapse is the sp	_	):		_
A Adjacent heart beats	B Adjacent neur	ons Adja	C acent lungs	D Adjacent blood vessels
8. An example of a neur	_	_		_
A Dopamine	B ADH	C Steroid	S	D TCH
9. The organs of the bo	-			_
A Arteries	B Nerves	C Veins		D Airways
10. The organ responsil A Heart	ole for drawing ox B Lung	ygen into the b C Brain	ody is:	D Kidney
11. Cocaine stimulates		_	cal (neurotransm	· _
A Oxygen	B Adrenaline	C Dopam	ine	D Carbon
<ul><li>12. The way that cocain</li><li>A. Large amounts of do</li><li>B. Brain cells(neurons)</li><li>C. It sends excessive a</li><li>D. It restricts the amount</li></ul>	ppamine leak out absorb the exces mounts of oxyge	of the bloodstre ss dopamine, w n into the blood	hich causes the stream	neurons to be re-stimulated
13. The "low" of cocain A. Lowered dopamine s B. Lowered dopamine s C. Lowered dopamine s D. Lowered dopamine s	stores in the brair stores in the hear stores in the lung	İ		
14. Cocaine's stimulant	t effect on the bra B	in can lead to:	С	D

Seizures	Muscle pain	Trouble	e breathing	Double vision
<ul><li>A. Blood vessels in th</li><li>B. Blood vessels in th</li><li>C. Too much oxygen</li></ul>		ing decreased blood	d flow to a portion of the	e brain
	se the following sympto		5	
A Nosebleed	B Itchy rash	C Hair Loss	D Yellow Skin	
A	drenaline release leadi B	ng to:	С	
Slowing of the heart ra oxygen in the bloodst		ss Rapid and i	rregular heart beating	Decreased
	od vessel within the hear I vessel within the hear ressels in the kidney			
<ul><li>A. Causing the airway</li><li>B. Causing the heart</li><li>C. The lungs becoming</li></ul>	ems can result from sm ys of the lungs to wider to slow down ng overfilled with oxyge ys of the lungs to sque	n Tarana an		
<ul><li>A. A rapid rise in bloc</li><li>B. A rapid decrease i</li><li>C. A rapid increase o</li></ul>	e brain after taking coco od pressure causing blo n blood pressure f oxygen levels in the b g the brain and breaking	ood vessels in the bi	rain to burst	
<ul><li>21. Cocaine can caus</li><li>A. Oversized baby</li><li>B. Bleeding</li><li>C. Too much oxygen</li><li>D. Excess weight gai</li></ul>		g problems pregnan	су:	
22.Marijuana exerts it A. Dissolving cannab B. Binding to cannab C. Multiplying cannab D. Dissolving opium i	oid receptors poid receptors	y:		
23. THC,the active co A. A liquid B. A molecule C. A protein D. An acid	mponent in marijuana i	s:		

<ul><li>24. Which areas of the bra</li><li>A. Cerebellum(balance ce</li><li>B. Gyri</li><li>C. Spinal Cord</li><li>D. Brain stem</li></ul>		e amounts of car	nnaboid receptors?	?		
<ul><li>25. Marijuana can effect th</li><li>A. Causing blindness</li><li>B. Causing redness</li><li>C. Improving vision</li><li>D. Causing eye pain</li></ul>	e eyes by:					
<ul><li>A. Lowering heart rate and</li><li>B. Increasing heart rate ar</li><li>C. Increasing oxygen in bl</li></ul>	26. Smoking marijuana can increase risk of heart attack by: A. Lowering heart rate and blood pressure B. Increasing heart rate and blood pressure C. Increasing oxygen in blood D. Increasing alcohol levels in blood					
<ul><li>A. Stomach ulcers</li><li>B. Rashes</li><li>C. Lung tumors(cancer)</li></ul>	B. Rashes					
28. Lung effects of marijua A. Increased breathing ra B. Increased cough,phleg C. Increased oxygen in th D. Decreased number of	te ym and lung inf ie lungs	ections				
<ul> <li>29. Marijuana weakens the immune system by:</li> <li>A. Raising the body's temperature</li> <li>B. Decreasing the number of cells that fight infection</li> <li>C. Increasing the number of cells that fight infection</li> <li>D. Lowering the body's temperature</li> </ul>						
Drug use attitudinal question	<u>ons</u>					
30. I believe using drugs is A	s <b>harmful to m</b> B	ny health C	D	E		
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree		
31. I believe that drug use	can have a ne B	egative <b>impact</b> o	on school perforr D	mance. E		
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree		
32. I would be <b>comfortab</b>	le refusing dru B	ugs if they were C	offered to me.	E		

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree					
33.	I believe that drug use A	can have a neç B	gative <b>impact on p</b> C	<b>ersonal relatio</b> D	onships. E					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree					
0.4										
34.	I believe that <b>using dr</b> A	u <b>gs</b> is okay eve B	ery once and awnii C	e. D	E					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree					
35.	I believe that using dru	ıgs with friends	is a <b>good way to</b>	socialize on th	e week-ends.					
	Α	В	С	D	Е					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree					
36.	I believe that <b>using dr</b>	<b>ugs</b> is part of g	rowing up.							
	Α	В	С	D	E					
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree					
Coid	anaa Attitudinal Quastia	une.								
	ence Attitudinal Questio									
	ence Attitudinal Question I enjoy science classes A		С	D	E					
	I enjoy science classes		C Neutral	D Disagree	E Strongly Disagree					
37.	I enjoy science classes A Strongly Agree I would like to continue	B Agree to take science	Neutral classes after this	Disagree year	Strongly Disagree					
37.	I enjoy science classes A Strongly Agree	B Agree	Neutral	Disagree						
<ul><li>37.</li><li>38.</li></ul>	I enjoy science classes A Strongly Agree I would like to continue A	B Agree to take science B Agree	Neutral classes after this C Neutral	Disagree year D Disagree	Strongly Disagree					
<ul><li>37.</li><li>38.</li></ul>	I enjoy science classes A Strongly Agree I would like to continue A Strongly Agree I would like to study so	B Agree to take science B Agree	Neutral classes after this C Neutral aduate from high se	Disagree year D Disagree	Strongly Disagree  E Strongly Disagree					
<ul><li>37.</li><li>38.</li><li>39.</li></ul>	I enjoy science classes A Strongly Agree I would like to continue A Strongly Agree I would like to study so	B Agree to take science B Agree sience after I gra B Agree	Neutral classes after this C Neutral aduate from high se C Neutral	Disagree  year Disagree  chool D Disagree	E Strongly Disagree  E Strongly Disagree  E Strongly Disagree					
<ul><li>37.</li><li>38.</li><li>39.</li></ul>	I enjoy science classes A Strongly Agree I would like to continue A Strongly Agree I would like to study so A Strongly Agree In the future, I would like	B Agree to take science B Agree sience after I gra B Agree ke to have a job	Neutral  classes after this C  Neutral  aduate from high so C  Neutral  that involves som	Disagree  year Disagree  chool D Disagree  e type of science	E Strongly Disagree  E Strongly Disagree  E Strongly Disagree  e (ex. Nurse, XXX)					
<ul><li>37.</li><li>38.</li><li>39.</li><li>40.</li></ul>	I enjoy science classes A Strongly Agree I would like to continue A Strongly Agree I would like to study sc A Strongly Agree In the future, I would like A Strongly Agree Science classes are fu	B Agree to take science B Agree sience after I gra B Agree ke to have a job B Agree	Neutral  classes after this C  Neutral  duate from high so C  Neutral  that involves som C  Neutral	Disagree  year Disagree  chool D Disagree  e type of science D Disagree	E Strongly Disagree  E Strongly Disagree  E Strongly Disagree  E (ex. Nurse, XXX)  E Strongly Disagree					
<ul><li>37.</li><li>38.</li><li>39.</li><li>40.</li></ul>	I enjoy science classes A Strongly Agree I would like to continue A Strongly Agree I would like to study so A Strongly Agree In the future, I would like A Strongly Agree	B Agree to take science B Agree sience after I gra B Agree ke to have a job B Agree	Neutral  classes after this C  Neutral  duate from high so C  Neutral  that involves som C	Disagree  year Disagree  chool D Disagree  e type of science D	E Strongly Disagree  E Strongly Disagree  E Strongly Disagree  te (ex. Nurse, XXX) E					

42	. I like the activities w A	e do in science B	class C	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
43	. Science classes are	interactive			
	Α	В	С	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
44	. I see the benefit of s	studying science	e		
	Α	В	С	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
45	5. I understand how so A	eience is a part B	of everyday life an C	d the activities I p	articipate in E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
46	i. I enjoy learning on t A	he computer B	С	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
47	. I like using compute	rs in school			
	Α	В	С	D	Е
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
48	s. I believe that compu	iters can be god	od educational too	ls	
	Α	В	С	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
49	. Sometimes I get cor A	nfused when us B	ing a computer	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
50	. Using a computer b	ased education	is fun		
	Α	В	С	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

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### Post Test

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Please select one one or more categories

Ethnicity:

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Please select one or more categories

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  			American or Other Pacific Is	lander
Knowledge Questions Match the various parts	of the brain that	are respon	isible for the various	function:
1. Cerebral Cor2. Amygdala3. Brain stem4. Cerebellum 5. Neurons are the netA Heart	rtex	A. Balanc B. Breath C. Fear D. Higher	e ing learning	D Kidney
6. The synapse is the s A Adjacent heart beats	В		C Adjacent lungs	D Adjacent blood vessels
8. An example of a neu	rotransmitter is:			
A Dopamine	B ADH	St	C eroids	D TCH
9. The organs of the bo A Arteries	ody receive blood B Nerves		C eins	D Airways
10. The organ responsi	ble for drawing ox	kygen into	the body is:	
A Heart	B Lung	Br	C ain	D Kidney
11. Cocaine stimulates A Oxygen	the release of wh B Adrenaline		hemical (neurotrans C opamine	mitter) D Carbon
12. The way that cocai A. Large amounts of do	ne causes stimula opamine leak out absorb the exces amounts of oxyge	ation is: of the bloc ss dopamii n into the l	odstream ne, which causes the blood stream	e neurons to be re-stimulated
13. The "low" of cocain A. Lowered dopamine B. Lowered dopamine	stores in the brair			

C. Lowered dopamine D. Lowered dopamine				
14. Cocaine's stimulan	nt effect on the brain can B	n lead to:	С	D
Seizures	Muscle pain	Tre	ouble breathing	Double vision
<ul><li>15. A stroke can occur</li><li>A. Blood vessels in the</li><li>B. Blood vessels in the</li><li>C. Too much oxygen is</li><li>D. Too much alcohol is</li></ul>	e heart expand e brain constrict, causin s released into the bloo	ng decreased l odstream	plood flow to a portion (	of the brain
16. Cocaine can cause	e the following symptom B	n: C	D	
Nosebleed	Itchy rash	Hair Loss	Yellow S	Skin
17. Cocaine causes add	renaline release leadin B	g to:	С	
Slowing of the heart rat oxygen in the bloodstre	-	s Rapid a	and irregular heart beat	ing Decreased
<ul><li>18. Cocaine can cause</li><li>A. Constricting a blood</li><li>B. Expanding a blood</li><li>C. Expanding blood ve</li><li>D. Causing the lungs t</li></ul>	d vessel within the hear vessel within the heart essels in the kidney			
<ul><li>19. Respiratory problem</li><li>A. Causing the airways</li><li>B. Causing the heart to</li><li>C. The lungs becoming</li><li>D. Causing the airways</li></ul>	s of the lungs to widen o slow down g overfilled with oxygen	1	oy:	
<ul><li>20. Bleeding within the</li><li>A. A rapid rise in blood</li><li>B. A rapid decrease in</li><li>C. A rapid increase of</li><li>D. Dopamine entering</li></ul>	d pressure causing bloon to blood pressure toxygen levels in the bl	od vessels in t lood	the brain to burst	
<ul><li>21. Cocaine can cause</li><li>A. Oversized baby</li><li>B. Bleeding</li><li>C. Too much oxygen fo</li><li>D. Excess weight gain</li></ul>	or the baby	problems preç	gnancy:	
22.Marijuana exerts its A. Dissolving cannaboi B. Binding to cannaboi C. Multiplying cannabo D. Dissolving opium re	id receptors id receptors oid receptors	:		

<ul> <li>23. THC,the active component in marijuana is:</li> <li>A. A liquid</li> <li>B. A molecule</li> <li>C. A protein</li> <li>D. An acid</li> </ul>	
<ul> <li>24. Which areas of the brain contain large amounts of cannaboid receptors?</li> <li>A. Cerebellum(balance center)</li> <li>B. Gyri</li> <li>C. Spinal Cord</li> <li>D. Brain stem</li> </ul>	
<ul><li>25. Marijuana can effect the eyes by:</li><li>A. Causing blindness</li><li>B. Causing redness</li><li>C. Improving vision</li><li>D. Causing eye pain</li></ul>	
<ul> <li>26. Smoking marijuana can increase risk of heart attack by:</li> <li>A. Lowering heart rate and blood pressure</li> <li>B. Increasing heart rate and blood pressure</li> <li>C. Increasing oxygen in blood</li> <li>D. Increasing alcohol levels in blood</li> </ul>	
<ul> <li>27. Which of the following are increased with marijuana use:</li> <li>A. Stomach ulcers</li> <li>B. Rashes</li> <li>C. Lung tumors(cancer)</li> <li>D. Excess oxygen in the lungs</li> </ul>	
<ul> <li>28. Lung effects of marijuana use include:</li> <li>A. Increased breathing rate</li> <li>B. Increased cough,phlegm and lung infections</li> <li>C. Increased oxygen in the lungs</li> <li>D. Decreased number of lung infections</li> </ul>	
<ul> <li>29. Marijuana weakens the immune system by:</li> <li>A. Raising the body's temperature</li> <li>B. Decreasing the number of cells that fight infection</li> <li>C. Increasing the number of cells that fight infection</li> <li>D. Lowering the body's temperature</li> </ul>	
Drug use attitudinal questions	
30. I believe using drugs is <b>harmful to my health</b> A  B  C  D	<u>:</u>
Strongly Agree Agree Neutral Disagree Stron	ngly Disagree
31. I believe that drug use can have a negative <b>impact on school performance</b> .  A B C D E	
Strongly Agree Agree Neutral Disagree Stron	ngly Disagree

32. IW	vouid be <b>comforta</b> A	uble refusing d B	Irugs if they were C	offered to me. D	E
St	trongly Agree	Agree	Neutral	Disagree	Strongly Disagr
33. Ib	elieve that drug us A	se can have a r B	negative <b>impact o</b> C	<b>n personal relat</b> i D	ionships. E
St	trongly Agree	Agree	Neutral	Disagree	Strongly Disagr
34. Ib	pelieve that <b>using</b> A	<b>drugs</b> is okay 6 B	every once and av C	vhile. D	E
St	trongly Agree	Agree	Neutral	Disagree	Strongly Disag
35. Ib	elieve that using o	drugs with friend	ds is a <b>good way</b>	to socialize on t	he week-ends.
	Α	В	С	D	Е
St	trongly Agree	Agree	Neutral	Disagree	Strongly Disag
36. Ib	elieve that <b>using</b>	<b>drugs</b> is part o	f growing up.		
	A	В	C	D	Е
St	trongly Agree	Agree	Neutral	Disagree	Strongly Disag
Science	e Attitudinal Ques	tions			
	<u>e Attitudinal Ques</u> njoy science class A		С	D	E
37. I er	njoy science class	es	C Neutral	D Disagree	E Strongly Disag
37. I er St	njoy science class A trongly Agree ould like to continu	es B Agree ue to take scien	Neutral ace classes after t	Disagree	Strongly Disag
37. I er St 38. I w	njoy science class A trongly Agree ould like to continu A	es B Agree ue to take scien B	Neutral ace classes after th C	Disagree nis year D	Strongly Disag
37. I er St 38. I w	njoy science class A trongly Agree ould like to continu	es B Agree ue to take scien	Neutral ace classes after t	Disagree	Strongly Disag
37. I er St 38. I we St	njoy science class A trongly Agree ould like to continu A	es B Agree ue to take scien B Agree	Neutral ace classes after th C Neutral	Disagree nis year D Disagree	Strongly Disag
37. I er St 38. I we St 39. I w	njoy science class A trongly Agree ould like to continu A trongly Agree	es B Agree ue to take scien B Agree science after I	Neutral  ce classes after the C  Neutral  graduate from hig	Disagree his year D Disagree h school	Strongly Disag  E Strongly Disag  E
37. I er St 38. I wo St 39. I w	njoy science class A trongly Agree ould like to continu A trongly Agree vould like to study A trongly Agree	es B Agree  ue to take scien B Agree  science after I B Agree	Neutral  Ice classes after the  C  Neutral  graduate from hig  C  Neutral	Disagree his year D Disagree h school D Disagree	Strongly Disag  E  Strongly Disag
37. I er St 38. I wo St 39. I w St 40. In	njoy science class A trongly Agree ould like to continu A trongly Agree vould like to study A trongly Agree the future, I would	es B Agree  ue to take scien B Agree  science after I B Agree	Neutral  C  Neutral  graduate from hig  C  Neutral	Disagree  nis year D Disagree  h school D Disagree  ome type of scier	E Strongly Disag  E Strongly Disag  E Strongly Disag  nce (ex. Nurse, XX
37. I er St 38. I wo St 39. I w St 40. In	njoy science class A trongly Agree ould like to continu A trongly Agree vould like to study A trongly Agree the future, I would A trongly Agree	es B Agree  ue to take scien B Agree  science after I B Agree  I like to have a j B Agree  fun	Neutral  Ice classes after the C  Neutral  Graduate from hig C  Neutral  job that involves s C  Neutral	Disagree  nis year D Disagree  h school D Disagree  ome type of scier D Disagree	E Strongly Disag  E Strongly Disag  E Strongly Disag  nce (ex. Nurse, XX  E Strongly Disag
37. I er St 38. I wo St 39. I w St 40. In St 41. Sc	njoy science class A trongly Agree ould like to continu A trongly Agree vould like to study A trongly Agree the future, I would A trongly Agree	es B Agree  ue to take scien B Agree  science after I B Agree I like to have a B Agree	Neutral  C  Neutral  graduate from hig  C  Neutral  job that involves s  C	Disagree  nis year D Disagree  h school D Disagree  ome type of scier D	E Strongly Disag  E Strongly Disag  E Strongly Disag  nce (ex. Nurse, X)  E

42.	I like the activities we d	o in science clas B	ss C	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
43.	Science classes are int A	eractive B	С	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
44.	I see the benefit of stud	lying science B	С	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
45.	I understand how scien A	ce is a part of e	veryday life and th C	e activities I par D	rticipate in E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
46.	I enjoy learning on the A	computer B	С	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
47.	I like using computers in A	n school B	С	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
48.	I believe that computers	s can be good e B	ducational tools C	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
49.	Sometimes I get confus A	sed when using B	a computer C	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
50.	Using a computer base A	d education is fo B	un C	D	E
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree