Marijuana: the gateway drug?

New Mexico

Supercomputing Challenge

Final Report

April 2, 2014

Centennial High School

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Executive Summary:.

INTRODUCTION:

Problem: the problem for our experiment is if the drug marijuana could be considered the gateway

drug, in comparison to harsher drugs such as cocaine, heroin, and methamphetamines.

Purpose: the purpose is if the marijuana can be considered the gateway drug, and if it is possible to

remove this and to devise preventative measures that remove the possibility of teen use of the drug.

Background: Although people who do use the drug marijuana rarely become addicted to it there is the

process after using the drug for a extended period of time the user can build a tolerance to it's effects

the user may or may not decide to move onto other means to achieve those same effects caused in

harsher drugs such as heroin, cocaine, and methamphetamines where 90% of the users of these drugs

reported having at least once trying marijuana.

DESCRIPTION:

Scope: our code has a limited life for our turtles and we can only at present include a single breed of

turtles or our "junkies". We also cannot create more than a set amount of breeds than we had started

with so the moment a "Junkie" is changed there will be no constant replacements meaning the

experiment will continue only with the turtles it began with and will end when there are no more turtles remaining.

Materials and Methods: For our materials we used NetLogo version 5.0.2 for Microsoft Windows

CONCLUSIONS: Our results show what we think happens when a person is introduced to a hardcore drug after regularly using marijuana. One thing we noticed was when we set the energy that the user started with lower than 10000, the user eventually died. To fix this we had to experiment with different numbers to see what number worked the best. After we fixed that problem we had to figure out how to change the breed. To solve it we looked at previous models that involved changing breeds (i.e. Vampires and Zombies, Zombie Turtles, and Get Them Humans) and modeled our code from previous work.

RECOMMENDATIONS:

Something we were unable to do in our code was to make our junkies "die" and change to another turtle breed we had some trouble with this as we could only control the turtles to a extent which we couldn't make the turtles choose to become one of the other breeds instead of just having a breed come in contact with the "junkies" to change their breed.

ACKNOWLEDGEMENTS:

We as a team would like to thank our teacher Ms.Hagaman, our mentor Matthew Leon Curry, and the administrators and judges that help make this event possible.

REFERENCES:

http://www.drugfreeworld.org/drugfacts/drugs/marijuana.html

http://www.drugpolicy.org/drug-facts/10-facts-about-marijuana

 http://teens.drugabuse.gov/drug-facts/marijuana

Netlogo 5.0.2

APPENDIX: This is the final code we used.

```
;; Cari Ceballos, Brooke Rael, Angel Valencia
;; 2-1-14
;; Marijuana: The gateway drug?
turtles-own [energy]
 breed [junkies junkie];; this is our subject. they are a regular marijuana user and they will be introduced
to other drugs like cocaine, ecstasy, herione, and methamphetamines
 breed [burn.outs burn.out]

to setup;; this is the procedure that sets up the entire expirament
  clear-all;; this will clear all our previous work in our interface
  reset-ticks
  create-junkies junkieslider;; this creates the subject "junkies"
  [
    setxy random ycor random xcor
    set shape "charles";; sets the turtles shape
    set size 2;; sets the size of the turtle
    set color white;; sets the color of the turtle to white
    set energy energyslider
  ]
  ask patches
  [
    if random 10 > 20
     [
      set pcolor green
     ]
  ]
end

to go
  ask turtles
  [
    walk
    deal
    burn-out
  ]
  ask patches
```

```
  [
    if random 100 = 1
  [
    set pcolor green
  ]
]
tick
end

to walk
  forward 1
  right random 30
  left random 30
  set energy energy - 1
  if energy <= 0
  [
    die
  ]
  if pcolor = green
  [
    set energy energy - 1
    set pcolor black
  ]
end

to deal
  if energy > 10
  [
    hatch 1
    [
      right 30
      set energy 10
      set energy 5
    ]
  ]
end

to burn-out

  if energy < 20
  [
    set breed burn.outs
    set shape "jamal"
  ]
end
```