



1
00:00:05,150 --> 00:00:02,540
thinking higher thoughts core connection

2
00:00:08,360 --> 00:00:05,160
to the absolute the opposite of stress I

3
00:00:09,860 --> 00:00:08,370
should also point out that there were

4
00:00:11,540 --> 00:00:09,870
people who said they couldn't really put

5
00:00:12,830 --> 00:00:11,550
into words some of these states so they

6
00:00:14,839 --> 00:00:12,840
did their best that that's of course

7
00:00:17,900 --> 00:00:14,849
always a problem in describing higher

8
00:00:19,970 --> 00:00:17,910
consciousness group results for

9
00:00:21,800 --> 00:00:19,980
perceived relationship between the

10
00:00:23,330 --> 00:00:21,810
adjectives that I provided in the 40

11
00:00:26,000 --> 00:00:23,340
Hertz states were as follows I'll have

12
00:00:27,980 --> 00:00:26,010
to move quickly as you notice the peak

13
00:00:30,679 --> 00:00:27,990

value there although they're the

14

00:00:33,080 --> 00:00:30,689

standard deviations are high but at the

15

00:00:35,479 --> 00:00:33,090

top of the list is happiness in a loving

16

00:00:39,619 --> 00:00:35,489

state and the others are all down the

17

00:00:41,630 --> 00:00:39,629

line and negative associations were with

18

00:00:44,170 --> 00:00:41,640

the adjectives disappointment stress

19

00:00:46,549 --> 00:00:44,180

distress alertness focus concentration

20

00:00:48,529 --> 00:00:46,559

the comparison of meditators and

21

00:00:50,029 --> 00:00:48,539

non-meditators baseline values we did

22

00:00:51,740 --> 00:00:50,039

not see a difference this is in

23

00:00:54,229 --> 00:00:51,750

contradiction to the earlier literature

24

00:00:57,830 --> 00:00:54,239

gathered by Davidson at all however my

25

00:00:59,840 --> 00:00:57,840

group was small three meditators so far

26
00:01:02,810 --> 00:00:59,850
in the study and seven non-meditators

27
00:01:05,420 --> 00:01:02,820
however during the maximizing 40 Hertz

28
00:01:07,969 --> 00:01:05,430
during the near neurofeedback period we

29
00:01:10,070 --> 00:01:07,979
did see a highly significant difference

30
00:01:12,410 --> 00:01:10,080
between non meditators who didn't do

31
00:01:15,830 --> 00:01:12,420
better than 10% some actually went down

32
00:01:20,929 --> 00:01:15,840
and meditators who were up between 23

33
00:01:24,710 --> 00:01:20,939
and 36% more 40 Hertz now I want to show

34
00:01:26,450 --> 00:01:24,720
you one case of volunteer who took

35
00:01:28,640 --> 00:01:26,460
salvia divinorum which is an entheogen

36
00:01:30,380 --> 00:01:28,650
is a psychedelic herb used in shamanic

37
00:01:33,580 --> 00:01:30,390
ceremonies by indigenous healers in

38
00:01:35,749 --> 00:01:33,590

Mexico it's legal

39

00:01:39,319 --> 00:01:35,759

twenty-eight-year-old volunteer who had

40

00:01:41,510 --> 00:01:39,329

previously experienced this herb just

41

00:01:44,440 --> 00:01:41,520

show you how the time kinetics of it I

42

00:01:47,020 --> 00:01:44,450

took a measurement at 7:37 p.m. baseline

43

00:01:50,420 --> 00:01:47,030

7:45 p.m. she smoked salvia and

44

00:01:53,120 --> 00:01:50,430

experienced a peak intensity 10 minutes

45

00:01:56,090 --> 00:01:53,130

to 15 minutes later and then already at

46

00:01:58,789 --> 00:01:56,100

8:04 there was a coming down from the

47

00:02:01,730 --> 00:01:58,799

state of post peak intensity and finally

48

00:02:06,289 --> 00:02:01,740

she felt fully recovered at 818 p.m. so

49

00:02:07,370 --> 00:02:06,299

it's less than an hour I have very

50

00:02:09,619 --> 00:02:07,380

little time but just to show you

51
00:02:11,960 --> 00:02:09,629
something about her baseline and focus

52
00:02:13,190 --> 00:02:11,970
on this this is a brain spectrogram so

53
00:02:15,680 --> 00:02:13,200
we have one minute of time

54
00:02:18,470 --> 00:02:15,690
versus frequency mostly she's in the

55
00:02:19,910 --> 00:02:18,480
relaxed mode ten Hertz or less with

56
00:02:22,820 --> 00:02:19,920
occasional bursts up at higher

57
00:02:24,440 --> 00:02:22,830
frequencies during the peak state

58
00:02:25,880 --> 00:02:24,450
however there's a lot of I blank that's

59
00:02:31,130 --> 00:02:25,890
what all these green lines are and there

60
00:02:32,809 --> 00:02:31,140
was a lot of movement and the subject as

61
00:02:35,420 --> 00:02:32,819
you see the brainwaves are now enhanced

62
00:02:38,990 --> 00:02:35,430
in all frequencies the lower frequencies

63
00:02:44,199 --> 00:02:39,000

are just are off the scale actually and

64

00:02:48,140 --> 00:02:44,209

there are also activity of 40 Hertz etc

65

00:02:50,509 --> 00:02:48,150

and then coming down from the peak

66

00:02:53,690 --> 00:02:50,519

experience you see a relaxation in the

67

00:02:57,080 --> 00:02:53,700

brain spectrogram and finally at the end

68

00:02:59,360 --> 00:02:57,090

point it's curious because now you can

69

00:03:01,670 --> 00:02:59,370

actually see a depletion in the focus

70

00:03:04,370 --> 00:03:01,680

function this software also measures

71

00:03:05,960 --> 00:03:04,380

focus and alertness and this is actually

72

00:03:07,520 --> 00:03:05,970

not looking at all like her recovered

73

00:03:10,850 --> 00:03:07,530

state even though she's purportedly

74

00:03:13,100 --> 00:03:10,860

feeling recovered this is the percent

75

00:03:16,009 --> 00:03:13,110

difference over her baseline scores in

76

00:03:18,020 --> 00:03:16,019

her self-reported state of pre well the

77

00:03:19,970 --> 00:03:18,030

priests state before the entheogen the

78

00:03:21,770 --> 00:03:19,980

peak experienced the post peak and

79

00:03:24,979 --> 00:03:21,780

recovered so these are subjective states

80

00:03:27,020 --> 00:03:24,989

or aspects of the experience and during

81

00:03:30,650 --> 00:03:27,030

the peak actually she experienced a

82

00:03:33,530 --> 00:03:30,660

twenty - twenty plus percent diminution

83

00:03:35,479 --> 00:03:33,540

in forty Hertz post peak that increased

84

00:03:37,789 --> 00:03:35,489

and then as she recovered it became

85

00:03:41,059 --> 00:03:37,799

similar to baseline so it's a bifurcated

86

00:03:45,500 --> 00:03:41,069

response first below baseline and then

87

00:03:47,330 --> 00:03:45,510

above conclusions are as follows

88

00:03:48,770 --> 00:03:47,340

experienced meditators who presumably

89

00:03:51,259 --> 00:03:48,780

cultivate higher states of consciousness

90

00:03:52,759 --> 00:03:51,269

can produce greater amplitudes of forty

91

00:03:55,030 --> 00:03:52,769

Hertz from the prefrontal region than

92

00:03:57,050 --> 00:03:55,040

non-meditators during neurofeedback

93

00:03:58,640 --> 00:03:57,060

descriptions of the forty Hertz state

94

00:04:00,860 --> 00:03:58,650

were similar in meditators and

95

00:04:03,500 --> 00:04:00,870

non-meditators with feelings of bliss

96

00:04:05,870 --> 00:04:03,510

and love as being most prevalent salvia

97

00:04:07,190 --> 00:04:05,880

divinorum produced abrupt changes in

98

00:04:09,289 --> 00:04:07,200

forty Hertz brain waves with a

99

00:04:11,120 --> 00:04:09,299

substantial decrease at peak experience

100

00:04:13,819 --> 00:04:11,130

followed by a substantial increase

101
00:04:15,680 --> 00:04:13,829
before returning to baseline the

102
00:04:17,449 --> 00:04:15,690
limitations of the study the study is

103
00:04:19,069 --> 00:04:17,459
small it's incomplete still in progress

104
00:04:21,740 --> 00:04:19,079
I only have three meditators but

105
00:04:23,600 --> 00:04:21,750
hopefully I'd like to get equal numbers

106
00:04:25,339 --> 00:04:23,610
of meditators and non-meditators and do

107
00:04:26,850 --> 00:04:25,349
a statistical analysis of the

108
00:04:29,129 --> 00:04:26,860
quantitative aspects

109
00:04:30,959 --> 00:04:29,139
in the end also the salvia divinorum

110
00:04:33,149 --> 00:04:30,969
case is singular and may or not be

111
00:04:34,649 --> 00:04:33,159
representative and I should also say

112
00:04:36,629 --> 00:04:34,659
that it's very difficult to describe

113
00:04:38,369 --> 00:04:36,639

interstates of higher consciousness in

114

00:04:40,469 --> 00:04:38,379

words and that of course puts

115

00:04:41,420 --> 00:04:40,479

limitations on on what we can gather

116

00:04:43,740 --> 00:04:41,430

about it

117

00:04:45,209 --> 00:04:43,750

questions for further study that relate

118

00:04:48,089 --> 00:04:45,219

to some of our interest in this group

119

00:04:50,249 --> 00:04:48,099

are does training gamma brainwaves help

120

00:04:52,020 --> 00:04:50,259

improve meditation and or increase the

121

00:04:54,420 --> 00:04:52,030

experience of higher states of

122

00:04:56,159 --> 00:04:54,430

consciousness and secondly does training

123

00:04:59,040 --> 00:04:56,169

gamma brainwaves from the prefrontal

124

00:05:01,170 --> 00:04:59,050

region help open the so-called third eye

125

00:05:03,659 --> 00:05:01,180

and improved subject performance and

126
00:05:05,580 --> 00:05:03,669
healing and SCI research studies those

127
00:05:17,040 --> 00:05:05,590
questions remain to be seen and I hope

128
00:05:19,110 --> 00:05:17,050
to explore them thank you I would like

129
00:05:22,379 --> 00:05:19,120
to indulge in the pleasure of the first

130
00:05:25,790 --> 00:05:22,389
question and this is we do so much with

131
00:05:28,709 --> 00:05:25,800
the brain and I keep going to the heart

132
00:05:30,829 --> 00:05:28,719
and wondering is there a way to dovetail

133
00:05:32,999 --> 00:05:30,839
some of this research with the heart

134
00:05:34,829 --> 00:05:33,009
considering that many of the statements

135
00:05:38,010 --> 00:05:34,839
that were made were really coming from a

136
00:05:40,649 --> 00:05:38,020
place of what we say heart and there are

137
00:05:44,999 --> 00:05:40,659
so many heart attacks and heart ailments

138
00:05:48,269 --> 00:05:45,009

in society that maybe that higher state

139

00:05:50,999 --> 00:05:48,279

we may be missing something well of

140

00:05:55,040 --> 00:05:51,009

course there have been other studies I'd

141

00:05:57,890 --> 00:05:55,050

say particularly looking at coherence of

142

00:06:00,659 --> 00:05:57,900

the Fourier analysis of heart

143

00:06:02,490 --> 00:06:00,669

frequencies of omission and I just

144

00:06:04,890 --> 00:06:02,500

haven't done that here but I think I

145

00:06:07,290 --> 00:06:04,900

could add that I have heart rate

146

00:06:10,230 --> 00:06:07,300

variability equipment but this was just

147

00:06:12,480 --> 00:06:10,240

exploring an initial study to explore 40

148

00:06:16,170 --> 00:06:12,490

Hertz and higher consciousness and just

149

00:06:20,390 --> 00:06:16,180

the beginning yes hi hi Beverly's Maria

150

00:06:23,339 --> 00:06:20,400

um great study I wanted to know

151
00:06:25,800 --> 00:06:23,349
specifically your baseline activity what

152
00:06:27,629 --> 00:06:25,810
what did you have them do did you give

153
00:06:29,339 --> 00:06:27,639
them a specific instruct I did I gave

154
00:06:30,600 --> 00:06:29,349
them a very specific instruction and I

155
00:06:32,579 --> 00:06:30,610
don't have that for you to read but it

156
00:06:34,469 --> 00:06:32,589
was putting your mind in a neutral state

157
00:06:36,540 --> 00:06:34,479
not thinking about anything in

158
00:06:39,029 --> 00:06:36,550
particular from the past present or even

159
00:06:40,770 --> 00:06:39,039
going into the future to just main into

160
00:06:42,990 --> 00:06:40,780
it relaxed open eyed

161
00:06:45,510 --> 00:06:43,000
gays without focusing actively in

162
00:06:47,730 --> 00:06:45,520
anything particular that was essentially

163
00:06:49,770 --> 00:06:47,740

it I don't I read something to them and

164

00:06:51,960 --> 00:06:49,780

actually they also could look at it to

165

00:06:54,090 --> 00:06:51,970

be sure they understood it okay just and

166

00:06:55,730 --> 00:06:54,100

just one more thing quickly I'm glad to

167

00:06:57,960 --> 00:06:55,740

hear that you had their subjective

168

00:06:59,670 --> 00:06:57,970

responses to even though they were hard

169

00:07:05,570 --> 00:06:59,680

to put into words that is so valuable

170

00:07:11,280 --> 00:07:09,570

charlie humans you might think that when

171

00:07:13,200 --> 00:07:11,290

people go into altered states they might

172

00:07:15,840 --> 00:07:13,210

have increase in some of the lower

173

00:07:17,310 --> 00:07:15,850

frequencies like theta and alpha and I

174

00:07:20,730 --> 00:07:17,320

wondered if there was a correlation

175

00:07:23,130 --> 00:07:20,740

between higher rates of gamma a higher

176

00:07:24,570 --> 00:07:23,140

amplitudes of gamma and at the same time

177

00:07:27,570 --> 00:07:24,580

increase in some of the lower

178

00:07:31,380 --> 00:07:27,580

frequencies I didn't ask that question

179

00:07:33,180 --> 00:07:31,390

in my study and nor did Davidson and his

180

00:07:34,890 --> 00:07:33,190

study and I can't remember whether looks

181

00:07:37,250 --> 00:07:34,900

did this so these are the main studies

182

00:07:41,430 --> 00:07:37,260

in recent years on 40 Hertz and and

183

00:07:42,960 --> 00:07:41,440

meditators again all of these things

184

00:07:49,020 --> 00:07:42,970

could be explored it's just a matter of

185

00:07:52,860 --> 00:07:49,030

taking more data simultaneously hi Billy

186

00:07:58,250 --> 00:07:52,870

why Nicole Stan I've done now close to

187

00:08:00,900 --> 00:07:58,260

20 subjects on the salvia divinorum a

188

00:08:02,280 --> 00:08:00,910

preliminary report is being published in

189

00:08:06,300 --> 00:08:02,290

Journal of neural therapy I presented

190

00:08:09,930 --> 00:08:06,310

last year at is NR and I haven't looked

191

00:08:12,420 --> 00:08:09,940

at gamma but a very consistent effect is

192

00:08:14,430 --> 00:08:12,430

suppression of power in all frequency

193

00:08:18,240 --> 00:08:14,440

bands and sometimes there's an alpha

194

00:08:23,280 --> 00:08:18,250

rebound during the return to ordinary

195

00:08:26,159 --> 00:08:23,290

reality state so I'd love to talk over

196

00:08:30,360 --> 00:08:26,169

this data with you stuff now as I

197

00:08:32,850 --> 00:08:30,370

mentioned a better possibly entheogen to

198

00:08:34,909 --> 00:08:32,860

look at gamma is ayahuasca in in there

199

00:08:38,480 --> 00:08:34,919

currently studies looking at that and

200

00:08:42,480 --> 00:08:38,490

that state does produce a very enhanced

201
00:08:45,720 --> 00:08:42,490
state of consciousness it's lasting

202
00:08:46,770 --> 00:08:45,730
several hours so there's a good place to

203
00:08:48,750 --> 00:08:46,780
look for that too

204
00:08:51,090 --> 00:08:48,760
have you found it to be contextual one

205
00:08:52,770 --> 00:08:51,100
with people under different experiences

206
00:08:54,800 --> 00:08:52,780
of salvia because everybody has a

207
00:08:59,310 --> 00:08:54,810
different trip obviously

208
00:09:02,040 --> 00:08:59,320
salvia is such a powerful experience you

209
00:09:03,720 --> 00:09:02,050
know with the extract you have the

210
00:09:05,280 --> 00:09:03,730
people that can surrender to it

211
00:09:08,400 --> 00:09:05,290
completely and then you have the people

212
00:09:10,139 --> 00:09:08,410
that don't let go the ones that

213
00:09:15,630 --> 00:09:10,149

surrender completely usually have a very

214

00:09:17,730 --> 00:09:15,640

positive experience I haven't you know I

215

00:09:19,530 --> 00:09:17,740

wish I recorded all of the reports

216

00:09:21,930 --> 00:09:19,540

because they were amazing descriptions

217

00:09:25,320 --> 00:09:21,940

but none of them were along the lines of

218

00:09:27,269 --> 00:09:25,330

I had an enlightenment experience or I

219

00:09:30,030 --> 00:09:27,279

had a very high state of awareness or

220

00:09:33,980 --> 00:09:30,040

something they were mostly having to do

221

00:09:36,300 --> 00:09:33,990

with distortions of space-time

222

00:09:38,160 --> 00:09:36,310

that's right that's what I had in this

223

00:09:41,070 --> 00:09:38,170

particular case as well this particular

224

00:09:45,240 --> 00:09:41,080

subject experienced herself get ready

225

00:09:47,760 --> 00:09:45,250

for this yes as a crayon yes yes indeed

226

00:09:50,430 --> 00:09:47,770

where the pointed head and just a body

227

00:09:52,290 --> 00:09:50,440

like a cylinder and and was went through

228

00:09:54,329 --> 00:09:52,300

some anxiety whether she would it be a

229

00:09:56,100 --> 00:09:54,339

crayon forever that's really bad

230

00:09:58,320 --> 00:09:56,110

and so the beginning part of that