

1
00:00:00,030 --> 00:00:05,160
thinking higher thoughts core connection

2
00:00:02,549 --> 00:00:08,370
to the absolute the opposite of stress I

3
00:00:05,160 --> 00:00:09,870
should also point out that there were

4
00:00:08,369 --> 00:00:11,549
people who said they couldn't really put

5
00:00:09,869 --> 00:00:12,839
into words some of these states so they

6
00:00:11,550 --> 00:00:14,849
did their best that that's of course

7
00:00:12,839 --> 00:00:17,910
always a problem in describing higher

8
00:00:14,849 --> 00:00:19,980
consciousness group results for

9
00:00:17,910 --> 00:00:21,809
perceived relationship between the

10
00:00:19,980 --> 00:00:23,339
adjectives that I provided in the 40

11
00:00:21,809 --> 00:00:26,009
Hertz states were as follows I'll have

12
00:00:23,339 --> 00:00:27,990
to move quickly as you notice the peak

13
00:00:26,010 --> 00:00:30,689
value there although they're the

14
00:00:27,989 --> 00:00:33,089
standard deviations are high but at the

15
00:00:30,689 --> 00:00:35,488
top of the list is happiness in a loving

16
00:00:33,090 --> 00:00:39,629
state and the others are all down the

17
00:00:35,488 --> 00:00:41,640
line and negative associations were with

18
00:00:39,628 --> 00:00:44,179
the adjectives disappointment stress

19
00:00:41,640 --> 00:00:46,558
distress alertness focus concentration

20
00:00:44,179 --> 00:00:48,539
the comparison of meditators and

21
00:00:46,558 --> 00:00:50,038
non-meditators baseline values we did

22
00:00:48,539 --> 00:00:51,750
not see a difference this is in

23
00:00:50,039 --> 00:00:54,239
contradiction to the earlier literature

24
00:00:51,750 --> 00:00:57,840
gathered by Davidson at all however my

25
00:00:54,238 --> 00:00:59,849
group was small three meditators so far

26
00:00:57,840 --> 00:01:02,820
in the study and seven non-meditators

27
00:00:59,850 --> 00:01:05,430
however during the maximizing 40 Hertz

28
00:01:02,820 --> 00:01:07,978
during the near neurofeedback period we

29

00:01:05,430 --> 00:01:10,080
did see a highly significant difference

30
00:01:07,978 --> 00:01:12,420
between non meditators who didn't do

31
00:01:10,079 --> 00:01:15,840
better than 10% some actually went down

32
00:01:12,420 --> 00:01:20,939
and meditators who were up between 23

33
00:01:15,840 --> 00:01:24,719
and 36% more 40 Hertz now I want to show

34
00:01:20,938 --> 00:01:26,459
you one case of volunteer who took

35
00:01:24,719 --> 00:01:28,650
salvia divinorum which is an entheogen

36
00:01:26,459 --> 00:01:30,390
is a psychedelic herb used in shamanic

37
00:01:28,650 --> 00:01:33,590
ceremonies by indigenous healers in

38
00:01:30,390 --> 00:01:35,759
Mexico it's legal

39
00:01:33,590 --> 00:01:39,329
twenty-eight-year-old volunteer who had

40
00:01:35,759 --> 00:01:41,519
previously experienced this herb just

41
00:01:39,328 --> 00:01:44,449
show you how the time kinetics of it I

42
00:01:41,519 --> 00:01:47,030
took a measurement at 7:37 p.m. baseline

43
00:01:44,450 --> 00:01:50,430

7:45 p.m. she smoked salvia and

44

00:01:47,030 --> 00:01:53,129
experienced a peak intensity 10 minutes

45

00:01:50,430 --> 00:01:56,100
to 15 minutes later and then already at

46

00:01:53,129 --> 00:01:58,798
8:04 there was a coming down from the

47

00:01:56,099 --> 00:02:01,739
state of post peak intensity and finally

48

00:01:58,799 --> 00:02:06,299
she felt fully recovered at 8:18 p.m. so

49

00:02:01,739 --> 00:02:07,379
it's less than an hour I have very

50

00:02:06,299 --> 00:02:09,629
little time but just to show you

51

00:02:07,379 --> 00:02:11,969
something about her baseline and focus

52

00:02:09,628 --> 00:02:13,199
on this this is a brain spectrogram so

53

00:02:11,969 --> 00:02:15,689
we have one minute of time

54

00:02:13,199 --> 00:02:18,479
versus frequency mostly she's in the

55

00:02:15,689 --> 00:02:19,919
relaxed mode ten Hertz or less with

56

00:02:18,479 --> 00:02:22,829
occasional bursts up at higher

57

00:02:19,919 --> 00:02:24,449
frequencies during the peak state

58
00:02:22,830 --> 00:02:25,890
however there's a lot of I blank that's

59
00:02:24,449 --> 00:02:31,139
what all these green lines are and there

60
00:02:25,889 --> 00:02:32,818
was a lot of movement and the subject as

61
00:02:31,139 --> 00:02:35,429
you see the brainwaves are now enhanced

62
00:02:32,818 --> 00:02:39,000
in all frequencies the lower frequencies

63
00:02:35,430 --> 00:02:44,209
are just are off the scale actually and

64
00:02:39,000 --> 00:02:48,150
there are also activity of 40 Hertz etc

65
00:02:44,209 --> 00:02:50,519
and then coming down from the peak

66
00:02:48,150 --> 00:02:53,700
experience you see a relaxation in the

67
00:02:50,519 --> 00:02:57,090
brain spectrogram and finally at the end

68
00:02:53,699 --> 00:02:59,369
point it's curious because now you can

69
00:02:57,090 --> 00:03:01,680
actually see a depletion in the focus

70
00:02:59,370 --> 00:03:04,379
function this software also measures

71
00:03:01,680 --> 00:03:05,969
focus and alertness and this is actually

72
00:03:04,379 --> 00:03:07,530
not looking at all like her recovered

73
00:03:05,969 --> 00:03:10,859
state even though she's purportedly

74
00:03:07,530 --> 00:03:13,110
feeling recovered this is the percent

75
00:03:10,860 --> 00:03:16,019
difference over her baseline scores in

76
00:03:13,110 --> 00:03:18,030
her self-reported state of pre well the

77
00:03:16,019 --> 00:03:19,980
priests state before the entheogen the

78
00:03:18,030 --> 00:03:21,780
peak experienced the post peak and

79
00:03:19,979 --> 00:03:24,988
recovered so these are subjective states

80
00:03:21,780 --> 00:03:27,030
or aspects of the experience and during

81
00:03:24,989 --> 00:03:30,659
the peak actually she experienced a

82
00:03:27,030 --> 00:03:33,539
twenty - twenty plus percent diminution

83
00:03:30,659 --> 00:03:35,489
in forty Hertz post peak that increased

84
00:03:33,539 --> 00:03:37,798
and then as she recovered it became

85
00:03:35,489 --> 00:03:41,069
similar to baseline so it's a bifurcated

86

00:03:37,799 --> 00:03:45,510
response first below baseline and then

87
00:03:41,068 --> 00:03:47,339
above conclusions are as follows

88
00:03:45,509 --> 00:03:48,780
experienced meditators who presumably

89
00:03:47,340 --> 00:03:51,269
cultivate higher states of consciousness

90
00:03:48,780 --> 00:03:52,769
can produce greater amplitudes of forty

91
00:03:51,269 --> 00:03:55,039
Hertz from the prefrontal region than

92
00:03:52,769 --> 00:03:57,060
non-meditators during neurofeedback

93
00:03:55,039 --> 00:03:58,650
descriptions of the forty Hertz state

94
00:03:57,060 --> 00:04:00,870
were similar in meditators and

95
00:03:58,650 --> 00:04:03,510
non-meditators with feelings of bliss

96
00:04:00,870 --> 00:04:05,879
and love as being most prevalent salvia

97
00:04:03,509 --> 00:04:07,199
divinorum produced abrupt changes in

98
00:04:05,879 --> 00:04:09,299
forty Hertz brain waves with a

99
00:04:07,199 --> 00:04:11,129
substantial decrease at peak experience

100
00:04:09,299 --> 00:04:13,829

followed by a substantial increase

101

00:04:11,129 --> 00:04:15,689
before returning to baseline the

102

00:04:13,829 --> 00:04:17,459
limitations of the study the study is

103

00:04:15,689 --> 00:04:19,079
small it's incomplete still in progress

104

00:04:17,459 --> 00:04:21,750
I only have three meditators but

105

00:04:19,079 --> 00:04:23,610
hopefully I'd like to get equal numbers

106

00:04:21,750 --> 00:04:25,348
of meditators and non-meditators and do

107

00:04:23,610 --> 00:04:26,860
a statistical analysis of the

108

00:04:25,348 --> 00:04:29,139
quantitative aspects

109

00:04:26,860 --> 00:04:30,968
in the end also the salvia divinorum

110

00:04:29,139 --> 00:04:33,158
case is singular and may or not be

111

00:04:30,968 --> 00:04:34,658
representative and I should also say

112

00:04:33,158 --> 00:04:36,639
that it's very difficult to describe

113

00:04:34,658 --> 00:04:38,379
interstates of higher consciousness in

114

00:04:36,639 --> 00:04:40,478
words and that of course puts

115
00:04:38,379 --> 00:04:41,430
limitations on on what we can gather

116
00:04:40,478 --> 00:04:43,750
about it

117
00:04:41,430 --> 00:04:45,218
questions for further study that relate

118
00:04:43,750 --> 00:04:48,098
to some of our interest in this group

119
00:04:45,218 --> 00:04:50,259
are does training gamma brainwaves help

120
00:04:48,098 --> 00:04:52,029
improve meditation and or increase the

121
00:04:50,259 --> 00:04:54,430
experience of higher states of

122
00:04:52,029 --> 00:04:56,168
consciousness and secondly does training

123
00:04:54,430 --> 00:04:59,050
gamma brainwaves from the prefrontal

124
00:04:56,168 --> 00:05:01,180
region help open the so-called third eye

125
00:04:59,050 --> 00:05:03,668
and improved subject performance and

126
00:05:01,180 --> 00:05:05,590
healing and SCI research studies those

127
00:05:03,668 --> 00:05:17,049
questions remain to be seen and I hope

128
00:05:05,589 --> 00:05:19,119
to explore them thank you I would like

129
00:05:17,050 --> 00:05:22,389
to indulge in the pleasure of the first

130
00:05:19,120 --> 00:05:25,800
question and this is we do so much with

131
00:05:22,389 --> 00:05:28,718
the brain and I keep going to the heart

132
00:05:25,800 --> 00:05:30,838
and wondering is there a way to dovetail

133
00:05:28,718 --> 00:05:33,009
some of this research with the heart

134
00:05:30,838 --> 00:05:34,838
considering that many of the statements

135
00:05:33,009 --> 00:05:38,020
that were made were really coming from a

136
00:05:34,838 --> 00:05:40,658
place of what we say heart and there are

137
00:05:38,019 --> 00:05:45,008
so many heart attacks and heart ailments

138
00:05:40,658 --> 00:05:48,278
in society that maybe that higher state

139
00:05:45,009 --> 00:05:51,009
we may be missing something well of

140
00:05:48,278 --> 00:05:55,050
course there have been other studies I'd

141
00:05:51,009 --> 00:05:57,900
say particularly looking at coherence of

142
00:05:55,050 --> 00:06:00,668
the Fourier analysis of heart

143

00:05:57,899 --> 00:06:02,500
frequencies of omission and I just

144
00:06:00,668 --> 00:06:04,899
haven't done that here but I think I

145
00:06:02,500 --> 00:06:07,300
could add that I have heart rate

146
00:06:04,899 --> 00:06:10,239
variability equipment but this was just

147
00:06:07,300 --> 00:06:12,490
exploring an initial study to explore 40

148
00:06:10,240 --> 00:06:16,180
Hertz and higher consciousness and just

149
00:06:12,490 --> 00:06:20,400
the beginning yes hi hi Beverly's Maria

150
00:06:16,180 --> 00:06:23,348
um great study I wanted to know

151
00:06:20,399 --> 00:06:25,810
specifically your baseline activity what

152
00:06:23,348 --> 00:06:27,639
what did you have them do did you give

153
00:06:25,810 --> 00:06:29,348
them a specific instruct I did I gave

154
00:06:27,639 --> 00:06:30,610
them a very specific instruction and I

155
00:06:29,348 --> 00:06:32,588
don't have that for you to read but it

156
00:06:30,610 --> 00:06:34,479
was putting your mind in a neutral state

157
00:06:32,588 --> 00:06:36,550

not thinking about anything in

158

00:06:34,478 --> 00:06:39,038

particular from the past present or even

159

00:06:36,550 --> 00:06:40,780

going into the future to just main into

160

00:06:39,038 --> 00:06:43,000

it relaxed open eyed

161

00:06:40,779 --> 00:06:45,519

gays without focusing actively in

162

00:06:43,000 --> 00:06:47,740

anything particular that was essentially

163

00:06:45,519 --> 00:06:49,779

it I don't I read something to them and

164

00:06:47,740 --> 00:06:51,970

actually they also could look at it to

165

00:06:49,779 --> 00:06:54,099

be sure they understood it okay just and

166

00:06:51,970 --> 00:06:55,740

just one more thing quickly I'm glad to

167

00:06:54,100 --> 00:06:57,970

hear that you had their subjective

168

00:06:55,740 --> 00:06:59,680

responses to even though they were hard

169

00:06:57,970 --> 00:07:03,630

to put into words that is so valuable

170

00:06:59,680 --> 00:07:03,629

for this kind of research Thank You

171

00:07:05,579 --> 00:07:11,289

charlie humans you might think that when

172
00:07:09,579 --> 00:07:13,209
people go into altered states they might

173
00:07:11,290 --> 00:07:15,850
have increase in some of the lower

174
00:07:13,209 --> 00:07:17,319
frequencies like theta and alpha and I

175
00:07:15,850 --> 00:07:20,740
wondered if there was a correlation

176
00:07:17,319 --> 00:07:23,139
between higher rates of gamma a higher

177
00:07:20,740 --> 00:07:24,579
amplitudes of gamma and at the same time

178
00:07:23,139 --> 00:07:27,579
increase in some of the lower

179
00:07:24,579 --> 00:07:31,389
frequencies I didn't ask that question

180
00:07:27,579 --> 00:07:33,189
in my study and nor did Davidson and his

181
00:07:31,389 --> 00:07:34,899
study and I can't remember whether looks

182
00:07:33,189 --> 00:07:37,259
did this so these are the main studies

183
00:07:34,899 --> 00:07:41,439
in recent years on 40 Hertz and and

184
00:07:37,259 --> 00:07:42,969
meditators again all of these things

185
00:07:41,439 --> 00:07:49,029
could be explored it's just a matter of

186
00:07:42,970 --> 00:07:52,870
taking more data simultaneously hi Billy

187
00:07:49,029 --> 00:07:58,259
why Nicole Stan I've done now close to

188
00:07:52,870 --> 00:08:00,910
20 subjects on the salvia divinorum a

189
00:07:58,259 --> 00:08:02,289
preliminary report is being published in

190
00:08:00,910 --> 00:08:06,310
Journal of neural therapy I presented

191
00:08:02,290 --> 00:08:09,939
last year at is NR and I haven't looked

192
00:08:06,310 --> 00:08:12,430
at gamma but a very consistent effect is

193
00:08:09,939 --> 00:08:14,439
suppression of power in all frequency

194
00:08:12,430 --> 00:08:18,250
bands and sometimes there's an alpha

195
00:08:14,439 --> 00:08:23,290
rebound during the return to ordinary

196
00:08:18,250 --> 00:08:26,168
reality state so I'd love to talk over

197
00:08:23,290 --> 00:08:30,370
this data with you stuff now as I

198
00:08:26,168 --> 00:08:32,860
mentioned a better possibly entheogen to

199
00:08:30,370 --> 00:08:34,918
look at gamma is ayahuasca in in there

200

00:08:32,860 --> 00:08:38,490
currently studies looking at that and

201
00:08:34,918 --> 00:08:42,490
that state does produce a very enhanced

202
00:08:38,490 --> 00:08:45,730
state of consciousness it's lasting

203
00:08:42,490 --> 00:08:46,779
several hours so there's a good place to

204
00:08:45,730 --> 00:08:48,759
look for that too

205
00:08:46,779 --> 00:08:51,100
have you found it to be contextual one

206
00:08:48,759 --> 00:08:52,779
with people under different experiences

207
00:08:51,100 --> 00:08:54,810
of salvia because everybody has a

208
00:08:52,779 --> 00:08:59,319
different trip obviously

209
00:08:54,809 --> 00:09:02,049
salvia is such a powerful experience you

210
00:08:59,320 --> 00:09:03,730
know with the extract you have the

211
00:09:02,049 --> 00:09:05,289
people that can surrender to it

212
00:09:03,730 --> 00:09:08,409
completely and then you have the people

213
00:09:05,289 --> 00:09:10,149
that don't let go the ones that

214
00:09:08,409 --> 00:09:15,639

surrender completely usually have a very

215

00:09:10,149 --> 00:09:17,740

positive experience I haven't you know I

216

00:09:15,639 --> 00:09:19,539

wish I recorded all of the reports

217

00:09:17,740 --> 00:09:21,940

because they were amazing descriptions

218

00:09:19,539 --> 00:09:25,329

but none of them were along the lines of

219

00:09:21,940 --> 00:09:27,279

I had an enlightenment experience or I

220

00:09:25,330 --> 00:09:30,040

had a very high state of awareness or

221

00:09:27,278 --> 00:09:33,990

something they were mostly having to do

222

00:09:30,039 --> 00:09:36,309

with distortions of space-time

223

00:09:33,990 --> 00:09:38,169

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

224

00:09:36,309 --> 00:09:41,079

particular case as well this particular

225

00:09:38,169 --> 00:09:45,250

subject experienced herself get ready

226

00:09:41,080 --> 00:09:47,770

for this yes as a crayon yes yes indeed

227

00:09:45,250 --> 00:09:50,440

where the pointed head and just a body

228

00:09:47,769 --> 00:09:52,299

like a cylinder and and was went through

229

00:09:50,440 --> 00:09:54,339

some anxiety whether she would it be a

230

00:09:52,299 --> 00:09:56,109

crayon forever that's really bad

231

00:09:54,339 --> 00:09:58,330

and so the beginning part of that

232

00:09:56,110 --> 00:10:01,350

especially the peak was a bit of anxiety

233

00:09:58,330 --> 00:10:01,350

and lots of movement