



Attitudes Towards Cannabis Legalization in Iceland

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Foreword

Submitted in partial fulfillment of the requirements of the BSc Psychology degree, Reykjavik University, this thesis is presented in the style of an article for submission to a peer-reviewed journal.

Abstract

The debate on whether or not cannabis should be legalized has been growing in recent years. The legality of cannabis varies from country to country. Possession of cannabis have been decriminalized or legalized in numerous countries. The main aim of the present study was to examine both what characterizes those who are in favor of cannabis legalization and the potential effect on the community and cannabis consumption if cannabis would be legalized. The participants were 1198 obtained from an online survey on Facebook. The results provided support for the primary hypothesis of the study that participants with characterizes as being male, single, 30 years old and younger, with less education or had consumed cannabis ten times or more over their lifetime had in general a more positive attitude towards cannabis legalization. The results also showed that participants who had consumed cannabis in the last 12 months reported significantly greater effect on their cannabis consumption if cannabis would be legalized. Furthermore, participant's belief that cannabis legalization in Iceland has a positive effect on the community was higher if they were in favor of cannabis legalization. The policy for cannabis legalization is constantly evolving and it is important to realize whether more permissive policies lead to increased prevalence of cannabis use and harmful consequence.

Keywords: cannabis legalization, cannabis use, attitudes, community

Abstract – Icelandic

Umræðan um kannabis lögleiðingu hefur verið vaxandi undanfarin ár. Lögmæti kannabisefna eru breytileg frá einu landi til annars. Mörg lönd hafa nú þegar afglæpavætt vörslu á kannabisefnum. Meginmarkmið rannsóknarinnar var bæði að athuga hvað einkennir þá sem eru fylgjendur kannabis lögleiðingar og möguleg áhrif lögleiðingar á kannabis neyslu einstaklinga og á samfélagið. Rannsóknin var vefkönnun á Facebook og voru þátttakendur alls 1198 talsins. Niðurstöðurnar leiddu í ljós að þátttakendur að karlkyns þátttakendur sem voru 30 ára og yngri, einhleypir og með lægra menntunarstig eða höfðu neytt kannabisefna tíu sinnum eða oftar yfir ævina höfðu almennt jákvæðara viðhorf gagnvart kannabis lögleiðingu á Íslandi. Niðurstöðurnar sýndu einnig að þátttakendur sem höfðu neytt kannabis á síðustu 12 mánuðum töldu að lögleiðing myndi hafa meiri áhrif á neyslu sína en þeir sem ekki höfðu neytt kannabis á síðustu 12 mánuðum.

Lykilhugtök: kannabis lögleiðing, kannabis neysla, viðhorf, samfélag

Attitudes Towards Cannabis Legalization in Iceland

The debate on whether or not cannabis should be legalized has been growing in recent years. Cannabis is produced from the plant *Cannabis sativa* and is the most consumed drug around the world under all of its various forms, whether it is in the form of marijuana, hashish, or hash oil (Marchini, Charvoz, Dujourdy, Baldovini, & Filippi, 2014). Cannabis or marijuana is most frequently used illicit drug in many countries, including the United Kingdom and United States. The consumption of cannabis has increased considerably, especially among adolescence, which is a great concern because the brain development is particularly sensitive to the harmful effects at that time (Moore et al, 2007).

The legality of cannabis varies from country to country. Numerous countries have decriminalized the possession of cannabis, for example Portugal, Spain and Italy (Palamar, Ompad, & Petkova, 2014). In the United States a total of 23 states allow cannabis for medical use and four states (Alaska, Colorado, Oregon, and Washington) and the District of Columbia have legalized recreational cannabis use (Schauer, King, Bunnell, Promoff & McAfee, 2016). Uruguay became the first country worldwide to completely legalize cannabis in 2013 (Palamar et al., 2014).

Following a debate on cannabis legalization there has been drastic change in attitudes toward cannabis and cannabis legalization. Since Monitoring the Future survey began assessing the support for legalization in 1975 the support for legalization has never been higher than in recent years among high school seniors (Palamar et al., 2014). Recent studies on attitudes towards illegal drugs suggest that acceptance and support for cannabis legalization is strongly associated with cannabis use (Lund, Halkjelsvik & Storvoll, 2015; Lancaster, Sutherland & Ritter, 2013). Trevino and Richard (2002) study showed similar results, indicated that marijuana users were more likely to support cannabis legalization. The connection between the support for cannabis legalization and cannabis consumers, raises the

question of what, if anything, is different about the characteristics of cannabis users and if those characteristics are shared with those that favor cannabis legalization.

Several studies report on characteristics of cannabis consumers, whereas, male and individuals between the ages of 18-29 were the majority of cannabis users (Lev-Ran et al., 2012; Cohn, Johnson, Ehlke & Villanti, 2016; Sydow, Lieb, Pfister, Höfler & Wittchen, 2002) also, individual who have never been married consumed more cannabis than those that had other relationships status (Lev-Ran et al., 2012). The majority of cannabis consumers also had more than a high-school education (Lev-Ran et al., 2012). However, Meier et al. (2012) reported that few cannabis users pursued education after high school. An Icelandic survey on attitude toward cannabis legalization, showed that the individuals in favor of cannabis legalization in Iceland, were more likely to be male, younger, living in the capital area and more likely to be cannabis users (Landlæknisembættið, 2013).

Attitude towards community effect from cannabis legalization is rarely studied. Nonetheless, it seems that individuals in favor of cannabis legalization report that it is not a bad thing for the community to decriminalize cannabis (Lenton & Ovenden, 1996). Furthermore, those who argue against legalization claim cannabis legalization has negative effect on the community and claim it sends the wrong message about drug use to the people in the community, specifically to young people. Those who favor the legalization attempt to counter this view with the argument that prohibition has been an expensive failure where the prevalence is increasing enormously regardless and that cannabis legalization has more positive effect on the community than the prohibition (Weatherburn & Jones, 2003).

Numerous studies have examined whether legalization or decriminalization has causality on increasing the consumption of cannabis. The research field is divided into roughly two groups, one where legalization or decriminalization has or will have an impact on increasing cannabis consumption (Miech et al., 2015; Palamar et al., 2014; Weatherburn

& Jones 2003) and one where legalization or decriminalization will not increase cannabis prevalence of substance use (Johnston, O'Malley & Bachman, 1981; Single 1989; Vuolo, 2013; Hughes & Stevens, 2010; MacCoun & Reuter, 1997, 2001).

The debate on cannabis legal status has been increasing since mid-1960s (Joffe & Yancy, 2004). Results among the first research on the subject showed that legalizing cannabis is not a risk factor for increasing cannabis use among adolescents in the future (Miech et al., 2015). Johnston, O'Malley and Bachman (1981) concluded with their analysis on the Monitoring the Future survey that decriminalization of cannabis in numerous states in the U.S from 1975 to 1980 seemed to have no effect on either high school students' beliefs or attitudes towards marijuana and on their cannabis use during those years. Single (1989) got similar findings where no difference was in prevalence of cannabis use between states in the U.S that had and those that had not decreased the penalty against cannabis use and possession. Much research based on U.S. data from the 1970s and 1980s supported this results, that decriminalization or legalization leads to only a small increase in cannabis use among adolescents (Single, 1989).

Research results from European countries that have legalized cannabis possession has showed that by decriminalizing cannabis possession for personal use there is not a higher number of users compared to countries with prohibition (Vuolo, 2013; Hughes & Stevens, 2010). MacCoun and Reuter (1997, 2001) results indicate that decriminalizing cannabis use and possession in the Netherlands has little or no effect on the prevalence of cannabis use in that country. However, results from other studies indicate increase in existing cannabis consumers and argue that the prevalence in cannabis use will increase if cannabis is legal to use and legally available (Miech et al., 2015; Palamar et al., 2014). Weatherburn and Jones (2003) designed a study to assess potential impact on cannabis legalization and found a similar pattern. Their results indicate that by removing the prohibition it could increase

cannabis use among existing users but would not have much effect on the prevalence of cannabis use, so prohibition on cannabis use appears to limit consumption to current cannabis users.

The current study was conducted to examine what characterizes individuals who are in favor of cannabis legalization in Iceland. The study also assesses whether cannabis legalization would have effect on their cannabis consumption and the potential effects cannabis legalization would have on the community. Furthermore, the study looks at whether cannabis consumption effected males' and females' attitudes towards cannabis legalization differently. Based on the above literature it was hypothesized that: 1) Participants who are in favor of cannabis legalization are more likely to: a) be single male under the age of 30, b) living in the capital area, c) have less education, d) have consumed cannabis; 2) Cannabis legalization would effect person consumption on the substance 3) Cannabis legalization has greater effect on cannabis users; 4) Individuals that are in favor of cannabis legalization believe legalizing cannabis would have positive effect on the community while individuals that are opposed of cannabis legalization believe it would have negative effect on the community.

Method

Participants

The data of the present study were collected through an online survey on Facebook. Members on each friend list of the individuals who shared the survey on Facebook were the study population. The survey sample contained a total of 1198 respondents of which 755 were male (63%) and 432 (36,1%) female, 11 respondents did not specify their gender. The participant's age range was 13 years old and over. To be able to have a Facebook account, one must be 13 years of age, therefore the current researcher estimates that the youngest participant was at least 13 years of age. Most of the participant's (66,3%) in the study were

between the ages 18 to 35 years old, where 422 (35,2%) respondents were in the range from 18 to 25 years old, 236 (19,7%) respondents ranged from 26 to 30 years old and 136 (11,4%) respondents were in the range from 31 to 35 years old. No participant received any rewards or payment for participation. There was no exclusion criteria for participating in the study.

Instruments and Measures

The research was quantitative in the form of a questionnaire which was constructed by the researcher. The questionnaire contained 17 questions on 3 pages and was sent out on Google forms. The questionnaire was presented in Icelandic and was an online survey study using a convenience sample on Facebook.

Participants were asked to provide the following background information. Also, specific questions on their cigarette smoking, consumptions of alcohol and cannabis. Then followed by specific questions on their attitude towards cannabis legalization. The questionnaire can be found in Appendix A. The background questions were the first six questions in the study, which were mostly on an ordinal scale but also on a nominal scale. On the second page were the specific questions on their cigarette smoking, consumptions of alcohol and cannabis. The next questions aimed to find out participants attitudes towards cannabis legalization, where on a Likert scale.

Background information was assessed with questions considering both basic demographic information (e.g., age, gender, education, residence). Followed were *consumption information* where the participants were asked how often in the last 12 months they had drunk at least one glass of any drink containing alcohol. The answers were measured on an 8 point scale ranging from 1 = "I have never consumed alcohol" to 8 = "daily or almost daily". Consumption on cigarette smoking featured as how much they had smoked cigarettes in the last 30 days. The answers were measured on a 7 point scale ranging from 1 = "nothing" to 7 = "more than 20 cigarette per day". Finally, cannabis consumption featured as how often

(if ever) they had used marijuana or hashish (cannabis), in three segments: over their lifetime, in the last 12 months and last 30 days. The answers were on a 6 point scale ranging from 1 = “never” to 6 = “40 times or more”. The background and consumption information’s were the independent variables in the current study.

Attitudes towards cannabis legalization was assessed with differential questions, where a Likert scale was most widely used. The main question in the study was if the participants were in favor or opposed to legalize cannabis fully in Iceland. The answers were measured on a 5 point scale ranging from 1 = “very in favor” 2 = “rather in favor”, 3 = “neither in favor nor opposed”, 4 = “rather in opposed”, 5 = “very in opposed”. Two questions assessed cannabis consumption if cannabis would be legalized, whereas, first was asked whether they assumed that cannabis legalization would affect their intake of the substance where the answers were on nominal scale, 1 = “no” and 2 = “yes”. Followed, was the question on to what extent they assumed it will affect their consumption of cannabis. The answers were on a 5 point Likert scale ranging from 1 = “very much effect” to 5 = “very little effect”. Also, was assessed to what extent they assumed cannabis legalization will affect the community. The answers were on a 5 point Likert scale ranging from 1 = “very positive effect” to 5 = “very negative effect”. These above-mentioned questions on attitudes towards cannabis legalization were the dependent variables in the current study.

Three questions were reversed in the scale: The question on if the participants were in favor or opposed to legalize cannabis fully in Iceland on the scale from being 1 = “very in favor” to 5 = “very in opposed”, was reversed to 1 = “very in opposed”, to 5 = “very in favor”. Question on, to what extent they think cannabis legalization will affect their intake of the substance (cannabis) on the scale from being 1 = “very much effect” to 5 = “very little effect”, reversed to 1 = “very little effect”, to 5 = “very much effect”. Finally, the question on the effect on the community if cannabis would be legalized from being 1 = “very positive

effect” to 5 = “very negative effect”, reversed to 1 = “very negative effect”, to 5 = “very positive effect”.

Procedure

The online survey program Google forms was used to gather the data. The survey was distributed via link on the researcher’s Facebook account on February 18th 2016, where the study was introduced to the participants as well as the purpose of the study. The researcher’s family members and friends also shared the survey link. The questionnaire was open and accessible for 1 week. All procedures in the study were done in accordance to the Icelandic Privacy and Data Protection authority guidelines. All of the participants were informed that the following survey was a BSc study at the University of Reykjavik. The general purpose of the survey was described without revealing the exact purpose of the survey. Every participant was informed that the participation was voluntary and that they were allowed to withdraw their participation at any point. Also, participants were informed that the participation was anonymous.

Data analysis

Descriptive statistics were calculated to provide information about participant’s characteristics as well as consumption of alcohol, cigarettes, cannabis and attitudes towards cannabis legalization. Cross-tables were utilized to view the difference in attitude toward cannabis legalization and the effect on the community. A correlational analysis was done in order to see the connection between age, education, consumption on alcohol, cigarettes and cannabis consumption: Over lifetime, last 12 months and last 30 days and attitude toward cannabis legalization in Iceland.

Independent-means *t*-test was conducted to test differences in participant’s attitude toward cannabis legalization in Iceland in regards to gender, age, education, relationship status and cannabis consumption. A factorial analysis of variance (FANOVA) was used to

examine the effect of cannabis consumed over the lifetime on the attitude towards cannabis legalization and whether interaction effect was between gender and lifetime use.

Independent-means *t*-test was also used to test researcher hypothesis on the effect on cannabis consumption if cannabis would be legalized among current cannabis consumers.

Results

Demographic characteristics of participants are shown in Table 1. Most of the participant's (66,3%) in the study were between the ages 18 to 35 years old, about 35% respondents were between 18 to 25 years of age, about 20% of the respondents were between 26 to 30 years of age and about 11% of the respondents were between 31 to 35 years of age. Around 37% of the participants had college or vocational education when it's combined with subjects who started university education but didn't finish. Over 70% live in the capital area and about 40% of the participants are single.

Table 1.

Sample characteristics

Demographic variables	Frequency (Percentage)
Gender	
Male	755 (63%)
Female	432 (36,1%)
Age	
≥ 17 years old	64 (5,3%)
18-25 years old	422 (35,2%)
26-30 years old	236 (19,7%)
31-35 years old	136 (11,4%)
36-40 years old	114 (9,5%)

41-49 years old	87 (7,3%)
≤ 50 years old	139 (11,6%)
Education	
Primary education	157 (13,1%)
Started college/vocational education but didn't finish	229 (19,1%)
College/vocational education	346 (28,9%)
Started university education but didn't finish	100 (8,3%)
University education	233 (19,4%)
Secondary university degree	130 (10,9%)
Residence	
In the capital area	875 (73%)
Rural area	242 (20,2%)
Overseas	81 (6,8%)
Relationship status	
Single	481 (40,2%)
Cohabitation	417 (34,8%)
Married	251 (21%)
Widow/widower	4 (0,3%)
Divorced	44 (3,7%)

Table 2 shows descriptive statistics for consumptions on alcohol, cigarette and cannabis: over the life time, in the last 12 months and in the last 30 months and finally for attitude toward cannabis legalization in Iceland, the effect on the consumption if cannabis would be legalized and for the community.

Table 2.

Descriptive statistics: the consumption and the community

	Min	Max	Mean	SD	N
Alcohol consumption	1	8	4,42	1,43	1197
Cigarette consumption	1	7	2,54	1,93	1193
Cannabis consumption: Over lifetime	1	6	2,23	1,66	1184
Cannabis consumption: Last 12 months	1	6	3,03	2,15	1060
Cannabis consumption: Last 30 days	1	6	2,23	1,66	1084
Cannabis legalization	1	5	3,69	1,61	1196
The effect on the consumption	1	5	2,98	1,24	258
The effect on the community	1	5	3,40	1,42	1050

Correlational and Crosstabs analysis

Table 3, shows the correlation for age, education and various forms of consumption, in the relation to attitude toward cannabis legalization in Iceland. There was a significant negative correlation between age and education in attitude toward cannabis legalization ($p = .000$). There was a significant positive correlation among various forms of consumption in relation to attitude toward cannabis legalization ($p = .000$), highest for cannabis consumption over the lifetime ($r = .62$).

Table 3.

Correlation between age, education, consumptions on alcohol, cigarette, cannabis and attitude toward cannabis legalization in Iceland.

	<i>r</i>	<i>p</i>
Age	-.28	.000
Education	-.24	.000
Alcohol consumption	.07	.012
Cigarette consumption	.27	.000
Cannabis consumption: Over lifetime	.62	.000
Cannabis consumption: Last 12 months	.58	.000
Cannabis consumption: Last 30 days	.46	.000

Table 4, displays the attitude on the effect on the community if cannabis would be legalized with the attitude toward cannabis legalization in Iceland. Most (94.1%) of those who are very opposed to cannabis legalization believe that legalization would have a very negative impact on the community while, a majority (89.5%) of those who are very in favor of cannabis legalization believe that legalization would have a positive effect on community. The differences between participants attitude on the effect cannabis legalization would have on the community and participants attitude toward cannabis legalization in Iceland was significant $\chi^2 (1) = 1167,92, p < .001$.

Table 4.

Attitudes towards cannabis legalization and the effect on the community.

	Cannabis legalization				
	Very opposed	Rather opposed	Neither in favor nor opposed	Rather in favor	Very in favor
Very negative	94,1%	3,5%	1,2%	1,2%	0,0%
Rather negative	50%	34,3%	10%	1,4%	4,3%
Neither positive nor negative	6,2%	9,8%	18,8%	29,5%	35,7%
Rather positive	0,9%	1,4%	6,6%	29,4%	61,7%
Very positive	0,7%	0,4%	0,7%	8,7%	89.5%

Independent-means *t*-test analysis

Independent- means *t*-test was applied to test the hypotheses on who are in favor of cannabis legalization and also if cannabis legalization would have effect on participants cannabis consumption.

Male respondents had in general a more positive attitude towards cannabis

legalization ($M= 4,19$, $SD= 1.32$) then female respondents did ($M= 2,81$, $SD= 1.70$). This difference in views towards cannabis legalization between male and female was statistically significant, $t(1183) = 15,56$, $p = .000$. There was also a significant difference in attitude towards legalization of cannabis in regards to age, $t(1194) = -7,89$, $p = .000$. Showing that participants that are 30 years old and younger were more in favor of cannabis legalization ($M= 3,98$, $SD= 1.42$) then respondents over 30 years old ($M= 3,25$, $SD= 1.78$). Participants attitude toward legalization did not, however, differ in relation to residence, $t(1194) = -0,717$, $p = .474$.

The difference in education was statistically significant, $t(1191) = -8,19$, $p = .000$. On average, respondents with lower education status (elementary-, collage-, & vocational education) were more in favor of cannabis legalization ($M = 3,93$, $SD= 1.47$) then respondents with higher education did ($M = 3,13$, $SD= 1.77$). There was also a significant difference in the views of participants who are single and participants with others relationship status in regards to the legalization of cannabis $t(1193) = -7,82$, $p = .000$. That data showed that single participants had in general a more positive attitude towards cannabis legalization ($M= 4,12$, $SD= 1.38$) then participants with another relationship status did ($M= 3,40$, $SD= 1.70$). Finally, the respondents who had consumed cannabis ten times or more over the lifetime had in general a more positive attitude towards legalizing cannabis ($M= 4,47$, $SD= 1.03$) then respondents who had consumed cannabis less than ten times or never ($M= 2,70$, $SD= 1.68$). This difference in views towards cannabis legalization was statistically significant, $t(1129) = 21,65$, $p = .000$.

Table 4, displays the number of participant and if cannabis legalization would have effect on their cannabis consumption. A large proportion of the participants (78.3%) reported that cannabis legalization would not affect their consumption on the substance. However, on average, participants who had consumed cannabis in the last 12 months assumed significantly

greater effect on their cannabis consumption if cannabis would be legalized ($M = 3,07$, $SD = 1,24$) then did participants who had never consumed cannabis in the last 12 months ($M = 2,66$, $SD = 1,12$). The difference in cannabis consumption in the last 12 months was significant, $t(232) = 2,09$, $p = .038$.

Table 4.

If cannabis legalization would have effect on their cannabis consumption

	Male	Female	Total
No: will not affect	547 (46,6%)	373 (31,7%)	920 (78,3%)
Yes: will affect	203 (17,3%)	52 (4,4%)	255 (21,7%)
Total	750 (63,8%)	425 (36,2%)	1175 (100%)

Factorial analysis of variance

Factorial analysis of variance was used to examine if there were interaction of gender and cannabis consumption in attitude toward cannabis legalization. There was a significant main effect of the amount of cannabis consumed over the lifetime, on attitude toward cannabis legalization, $F(2, 1114) = 238,34$, $p < .001$. The Bonferroni *post hoc* test revealed that attitude toward cannabis legalization was significant for all groups ($p < .001$), indicating that the attitude toward cannabis legalization was higher the more participants had consumed cannabis. There was also a significant main effect of gender on the attitude toward cannabis legalization $F(1, 1114) = 117,33$, $p < .001$.

Figure 1, displays significant interaction effect between the amount of cannabis consumed and the participants gender on attitude toward cannabis legalization $F(2, 1114) = 9,56$, $p < .001$.

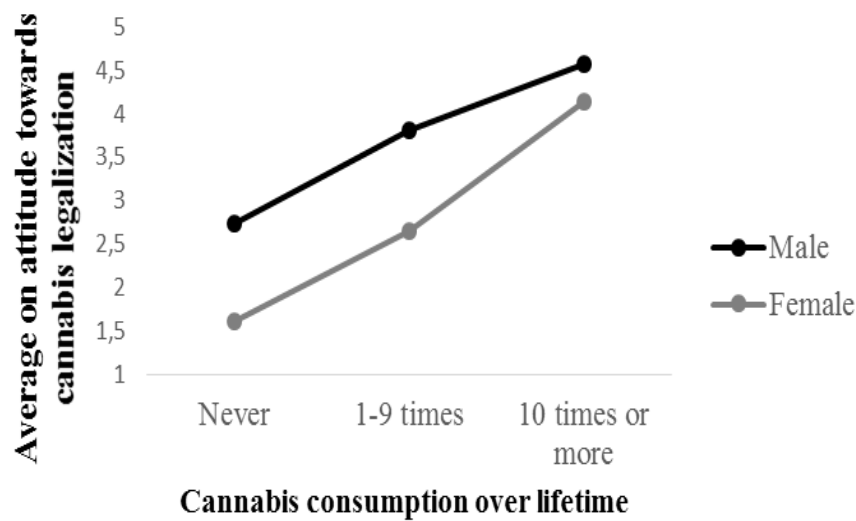


Figure 1. Graph of interaction of gender and cannabis consumption in attitude toward cannabis legalization.

This indicates that cannabis consumption effected males' and females' attitudes towards cannabis legalization differently. Specifically, the attitude toward cannabis legalization was more positive for males ($M = 3,81$, $SD = 1,50$) than it was for females ($M = 2,64$, $SD = 1,49$) after using cannabis 1-9 times: the attitude toward cannabis legalization was also more positive for males ($M = 2,74$, $SD = 1,79$) than it was for females ($M = 1,60$, $SD = 1,10$) after no cannabis consumption and also more positive for males ($M = 4,57$, $SD = ,88$) than it was for females ($M = 4,13$, $SD = 1,37$) after consuming cannabis 10 times or more.

Discussion

The current study offers insight into attitudes towards cannabis legalization in Iceland. The main aim of the present study was to examine both what characterizes those who are in favor of cannabis legalization and the potential effect on the community as well as on cannabis consumption if cannabis would be legalized.

The results supported most of the segments in the primary hypothesis. The first segment of the main hypothesis that the participants who are in favor of cannabis legalization

are more likely to be single male under the age of 30 was supported. These current research findings has connections and consistency with studies on characteristics of cannabis consumers, where the, unmarried males and individuals between the ages of 18-29 years are associated with positive attitude towards cannabis (Lev-Ran et al., 2012; Cohn et al., 2016; Sydow et al., 2002). The findings are also mostly consistent with the Icelandic survey on attitude toward cannabis legalization, where the same demographic characteristics of individuals in favor of cannabis legalizations in Iceland was reported, where, younger males, and living in the Reykjavik area were more in favor of legalizing cannabis (Landlæknisembættið, 2013). However, the current results were inconsistent with Landlæknisembættið (2013), there was not a significant difference in participant's attitude towards cannabis legalization in regards to their residence.

The results supported another segment in the primary hypothesis on that the participants who are in favor of cannabis legalization are more likely to have less education. These findings are hard to reconcile with previous studies, where Lev-Ran et al. (2012) results showed the majority of cannabis consumers had more than a high-school education. However, Meier et al. (2012) reported that few cannabis users pursued education after high school. The final segment in the main hypothesis, that participant who are in favor of cannabis legalization are more likely to have consumed cannabis was supported by current findings. The results are consistent with recent studies findings that acceptance and support for cannabis legalization is strongly associated with cannabis use (Lund et al., 2015; Lancaster et al., 2013; Trevino & Richard, 2002; Landlæknisembættið, 2013). To sum up the above-mentioned findings, the results showed that male participants who were 30 years old and younger, single and with less education or had consumed cannabis ten or more times over their lifetime had in general more positive attitude to cannabis legalization in Iceland.

The results did not support the hypothesis regarding the potential effect cannabis

legalization would have on persons consumption on the substance, as substantial majority of individuals reported that cannabis legalization would not have an effect on their cannabis consumption if legalized. These results are consistent with earlier studies (Johnston, O'Malley & Bachman, 1981; Single 1989; Vuolo, 2013; Hughes & Stevens, 2010; MacCoun & Reuter, 1997, 2001). However, the results are also inconsistent with a numerous of studies that showed increase in cannabis consumption by cannabis legalization (Miech et al., 2015; Palamar et al., 2014; Weatherburn & Jones 2003). Although, the results supported that individuals' who had consumed cannabis in the last 12 months estimated significantly greater effect on their cannabis consumption if cannabis would be legalized than to individuals who had never consumed cannabis in the last 12 months. These results are consistent with Miech et al., (2015), Palamar et al., (2014) and Weatherburn & Jones (2003) studies, who showed that cannabis legalization could increase cannabis use among existing users but would not have much effect on the prevalence of cannabis use.

The hypothesis on the effects cannabis legalization would have on the community was supported. Individuals who are in favor of cannabis legalization predicted legalizing cannabis would have positive effect on the community while individuals that are opposed to cannabis legalization predicted it would have negative effect on the community. Previous studies on a similar subject are consistent with these findings, where it seems that individuals in favor of cannabis legalization believe legalization is a good thing for the community (Lenton & Ovenden, 1996) and populations who argue against legalization claim cannabis legalization has negative effect on the community in many different ways (Weatherburn & Jones 2003).

The findings from the factorial analysis of variance in the current study are hard to reconcile with results from previously published studies. The factorial analysis of variance showed interaction effect between the amount of cannabis consumed and the participants' gender on attitudes towards cannabis legalization in Iceland. These results indicated that

cannabis consumption effected males' and females' attitudes towards cannabis legalization differently, where, views of females' participant on attitude towards legalizing cannabis were significantly lower than those by males' consumed similar amount of cannabis. These result may be considered consistent with findings that males' are in general more in favor of cannabis legalization than females' are, regardless of cannabis consumption (Landlæknisembættið, 2013).

The present study was not without limitations, the most essential of which had to do with the sampling procedure. The sample was conveniently comprised from the researcher's and family members Facebook accounts. The convenience sample cause complication for external validity, whereas, results cannot be generalized to Icelandic population. The study also contains prediction questions, where participants are asked to predict what they will do in the future if cannabis is legalized and future behavior of individuals may not reflect their current intentions. Intentions for example to use cannabis, do not always predict use as the individual attitudes may shift over time. With that said, predictor questions can also work as a strength, since it is far easier and less harmful to examine person's intentions with predictor questions on future behavior's than to remove the prohibition on cannabis to examine the consequences. The survey form of the study was another strength in the research, where the researcher were able to gather information from many sources and obtained a large sample size ($n = 1.198$) and the survey was anonymous and therefore more likely that the participants answered honestly.

The policy for cannabis legalization is constantly evolving in some areas of the world and it is important to realize whether more permissive policies lead to increased prevalence of cannabis use and harmful consequence. There is need for more detailed analysis on cannabis use and attitudes towards cannabis legalization both before and after the legalization to figure examine the changes. Future researches should consider doing more experimental design than

epidemiological studies in order to examine further if decriminalization qualifies as a causal risk factor on more prevalence for cannabis use. Future research should examine which components in cannabis legalization effects changes in attitudes and behaviors' among youth, also to counteract the negative effect the legalization has on community as well on person's attitudes and behaviors'.

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Appendix A
The Questionnaire

The background information

1. Ert þú karl eða kona?

- ☐ Karl
- ☐ Kona

2. Hver er aldur þinn?

- ☐ Yngri en 18 ára
- ☐ 18 – 25 ára
- ☐ 26 – 30 ára
- ☐ 31 – 35 ára
- ☐ 36 – 40 ára
- ☐ 41 – 49 ára
- ☐ 50 ára og eldri

3. Hvaða menntun hefur þú lokið?

- ☐ Grunnskólamenntun
- ☐ Hóf nám í framhaldsskóla og/eða Iðnmenntun en lauk ekki
- ☐ Framhaldsskólamenntun og/eða Iðnmenntun
- ☐ Hóf nám við Háskóla (BSc, BAc, BEd, o.s.frv) en lauk ekki
- ☐ Háskólamenntun (BSc, BAc, BEd, o.s.frv)
- ☐ Framhaldsmenntun á Háskólastigi (MA, MS, MBA, PHD, o.s.frv)

4. Hvar býrð þú?

- ☐ Höfuðborgarsvæðinu
- ☐ Landsbyggðinni
- ☐ Erlendis

5. Hvað af eftirfarandi lýsir stöðu þinni best? (Veldu allt það sem á við)

- ☐ Ég er í námi
- ☐ Ég er í fullri vinnu
- ☐ Ég er í hlutastarfi
- ☐ Ég er atvinnulaus
- ☐ Ég er öryrki
- ☐ Annað

6. Hver er hjúskapastaða þín?

- ☐ Einhleyp(ur)
- ☐ Í sambúð
- ☐ Í hjónabandi/í staðfestri samvist
- ☐ Ekkja/Ekkill
- ☐ Fráskilin(n)/Skilin(n) að borði og sæng

The consumption information

7. Hversu oft á síðustu 12 mánuðum hefur þú drukkið minnst eitt glas af einhverjum drykk sem inniheldur áfengi?

- ☐ Hef/ur aldrei drukkið áfengi
- ☐ Aldrei á síðustu 12 mánuðum
- ☐ 1-5 sinnum á síðustu 12 mánuðum
- ☐ 6-11 sinnum á síðustu 12 mánuðum
- ☐ 1-3 sinnum í mánuði
- ☐ 1-2 sinnum í viku
- ☐ 3-4 sinnum í viku
- ☐ Daglega eða næstum daglega

8. Hve mikið hefur þú reykt að jafnaði síðustu 30 daga?

- ☐ Ekkert
- ☐ Minna en eina sígarettu á viku
- ☐ Minna en eina sígarettu á dag
- ☐ 1-5 sígarettur á dag
- ☐ 6-10 sígarettur á dag
- ☐ 11-20 sígarettur á dag
- ☐ Meira en 20 sígarettur á dag

9. Hversu oft (ef nokkru sinni) hefur þú notað hass eða marijúana (kannabisefni)? Athuga að spurningin er í þremur liðum (a, b, og c)

	Aldrei	1 - 3 sinnum	4 - 9 sinnum	10 - 19 sinnum	20 - 39 sinnum	40 sinnum eða oftar
a) Um ævina	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Síðustu 12 mánuði	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Síðustu 30 daga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The attitude toward cannabis legalization information

10. Ert þú fylgjandi eða andvíg(ur) því að lögleiða kannabisefni í lækningarskyni á Íslandi?

- ☐ Mjög fylgjandi
- ☐ Frekar fylgjandi
- ☐ Hvorki fylgjandi né andvíg(ur)
- ☐ Frekar andvíg(ur)
- ☐ Mjög andvíg(ur)

11. Ert þú fylgjandi eða andvíg(ur) því að lögleiða kannabisefni að fullu á Íslandi?

- ☐ Mjög fylgjandi
- ☐ Frekar fylgjandi
- ☐ Hvorki fylgjandi né andvíg(ur)
- ☐ Frekar andvíg(ur)
- ☐ Mjög andvíg(ur)

12. Telur þú eða telur þú ekki að lögleiðing kannabisefna muni hafa áhrif á neyslu þína á efninu?

- ☐ Nei: Tel að það muni ekki hafa áhrif
- ☐ Já: Tel að það muni hafa áhrif

13. (Ef já við spurningu 12) Að hvaða leyti telur þú að það muni hafa áhrif á neyslu þína á efninu?

- ☐ Mjög mikil áhrif
- ☐ Frekar mikil áhrif
- ☐ Hvorki mikil né lítil áhrif
- ☐ Frekar lítil áhrif
- ☐ Mjög lítil áhrif

14. Telur þú eða telur þú ekki að lögleiðing kannabisefna muni hafa áhrif á samfélagið?

- ☐ Nei: tel að það muni ekki hafa áhrif
- ☐ Já: tel að það muni hafa áhrif

15. (Ef já við spurningu 14) Að hvaða leyti telur þú að lögleiðing kannabisefna muni hafa áhrif á samfélagið?

- ☐ Mjög jákvæð áhrif
- ☐ Frekar jákvæð áhrif
- ☐ Hvorki jákvæð né neikvæð áhrif
- ☐ Frekar neikvæð áhrif
- ☐ Mjög neikvæð áhrif

16. Hversu mikil eða lítil telur þú að almenn neysla kannabisefna (marijúana eða hass) sé á Íslandi?

- ☐ Mjög mikil neysla
- ☐ Frekar mikil neysla
- ☐ Hvorki mikil né lítil neysla
- ☐ Frekar lítil neysla
- ☐ Mjög lítil neysla

17. Hvaða aldursópur telur þú að helst neyti kannabisefna á Íslandi?

- ☐ Yngri en 18 ára
- ☐ 18 – 25 ára
- ☐ 26 – 30 ára
- ☐ 31 – 35 ára
- ☐ 36 – 40 ára
- ☐ 41 – 49 ára
- ☐ 50 ára og eldri