Cannabis changes: Understanding dynamics of use and dependence

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THE ROLE OF LEISURE AND DELINQUENCY IN FREQUENT CANNABIS USE AND DEPENDENCE TRAJECTORIES AMONG YOUNG ADULTS

Abstract
The link between leisure and cannabis use has been widely studied, but less so for young adults, and rarely with a focus on frequent cannabis use. Also, little is known about how changes in leisure develop over time and how they are related to transitions in cannabis use and dependence. As part of a 3-year longitudinal project, in a qualitative study 47 frequent male and female young adult cannabis users with (n = 23) and without (n = 24) dependence at baseline were interviewed in-depth after 1.5 and 3 years. Frequent cannabis users (at baseline ≥3 days per week in the past 12 months) are involved in similar leisure activities as the general young adult population and live rather conventional lives, generally away from a delinquent subculture. They mostly regulate their cannabis use to leisure time, to enhance other leisure activities, including socialising and video gaming. While they often give precedence to responsibilities (e.g. work and study), dependent and non-dependent users differed in whether they actively adapted their leisure activities to their cannabis use, or their cannabis use to their leisure time. Both types of and time spent on leisure activities were associated with transitions in use and dependence. While our findings generally support the normalisation thesis, it is questionable whether frequent but non-problematic cannabis use is socially accepted in wider society. This study also questions the diagnostic dependence vs. non-dependence dichotomy, and adds finer distinctions to the concept of cannabis dependence. Implications for prevention and treatment include facilitating structured spending of leisure time (e.g. sports), and targeting frequent users who spent much leisure time video gaming at home.

Keywords: Cannabis trajectories; Cannabis dependence; Qualitative methods; Longitudinal; Leisure; Normalisation
Introduction
It has been argued that cannabis has become normalised, referring to the process of social and cultural accommodation of recreational drug use as becoming part of everyday life for young people, for both users and non-users (Parker et al., 1998; Parker, 2005). Normalisation has been defined by six indicators: higher access and availability; increased drug trying rates; increased regular use rates; a degree of cultural accommodation among adolescents; trying and use extending to the adult population; and more liberal policy shifts (Parker, 2005). Basically, these indicators can be reduced to two dimensions: (1) growth in drug demand and supply, and (2) increasing levels of social and cultural acceptability. In contrast to normalisation, a subcultural perspective focuses on social formations, where drug users belong to a certain social group not bound to conventional or mainstream society. From a subcultural perspective, cannabis use could be understood as part of political opposition or as signifier of rejecting mainstream values (cf. Pedersen, 2009; Sandberg, 2013). Alternatively, and in line with the normalisation perspective, Duff and Erickson (2014) argue that cannabis use, since it has become an accepted feature of mainstream adolescents and young adults, should be assessed in terms of lifestyle and leisure rather than subcultural connections.

Researchers from several countries found support for the normalisation thesis (Duff, 2003; Duff, 2005; Parker, Williams, & Aldridge, 2002), showing that the choice to use cannabis is a rational consideration of costs and benefits and users do not belong to a deviant subculture; they are bound to mainstream society, and their lifestyles are rather conventional (Duff et al., 2012; Hathaway, 1997; Pearson, 2001; Shukla, 2006). Others criticised the normalisation thesis for simplifying youth’ choices about drug use (Shiner & Newburn, 1997) and underemphasising the role of the (wider) social context of drug use attitudes and choices (Measham & Shiner, 2009; Pennay & Moore, 2010). Hathaway, Comeau, and Erickson (2011) showed that, notwithstanding indicators of normalisation, Canadian adult users had internalised stigma and experienced a mainstream perspective about cannabis as deviant.

The normalisation thesis is also criticised for being too broad and relying on a too simplistic distinction between recreational and problematic drug use (Shildrick, 2002). Moreover, scholars recently called for attention to social and structural contexts of cannabis use (Duff et al., 2012; Measham & Shiner, 2009; Pennay & Moore, 2010). A recent follow-up of the sample that had been the basis for the original normalisation thesis (Parker et al., 1998) provided some revision (Aldridge et al., 2011). The follow-up study showed that as participants aged, they continued using drugs, yet through considering costs and benefits fitting their use around their (new) responsibilities,
including jobs and children. The authors concluded that normalisation continued, yet acknowledged some critics, e.g. the meaning attributed to drug experiences and the role of structural factors in rational choice. The lives of these young adults were more in common with moderate alcohol use than with dependent drug use. Many studies on normalisation have focused on recreational party drug use, and far less on frequent cannabis use (Järvinen & Ravn, 2014). The debate would thus benefit from further examinations of the normalisation of cannabis. This qualitative longitudinal study in frequent cannabis users focuses on two aspects: the extent to which cannabis use is regulated to leisure time, and to what extent frequent cannabis users live conventional lives, away from delinquent or otherwise deviant subcultures.

*Leisure and cannabis use*

Classic studies demonstrated cannabis users are not a homogeneous group; most use recreationally and have various motivations to use (Becker, 1963; Goode, 1970). They choose when and where to use (Erickson, 1989; Hathaway, 2003; Zimmerman & Weider, 1977): mostly in private venues, with peers or partners and in suitable situations and moods, applying informal rules for regulation (Reinarman & Cohen, 2007). Rather than the leisure activity itself, the social setting (i.e. persons sharing leisure time) is associated with changes in cannabis use (Schaub, Gmel, Annaheim, Mueller, & Schwappach, 2010). Adolescents who regularly use cannabis have more selective lifestyles than occasional users, spending more time at a friends’ place, concerts or (Miller & Plant, 2002; Peretti-Watel & Lorente, 2004). Although an association between going out and occasional rather than regular cannabis has been reported (Peretti-Watel & Lorente, 2004), a partying lifestyle has commonly been linked to increased adolescent cannabis use (Ciairano, Bosma, Miceli, & Settanni, 2008; Thorlindsson & Bernburg, 2006). Frequent users holidaying in Ibiza were more likely to increase than diminish their frequency of use (Bellis, Hale, Bennett, Chaudry, & Kilfoyle, 2000; Briggs & Turner, 2012). In contrast, sports participation relates to less cannabis use (Lisha & Sussman, 2010; Terry-McElrath, O’Malley, & Johnston, 2011; Thorlindsson & Bernburg, 2006), although not in all studies (Peretti-Watel & Lorente, 2004).

Only few recent qualitative studies devoted attention to why and when adults frequently use cannabis, particularly to changes in use. Hathaway (2004) showed that long-term frequent cannabis users predominantly use to relax, feel good and enjoy music or television. Increased use was often associated with more personal freedom, and decreased use with more responsibilities. Users generally considered positive aspects to outweigh negative aspects of their use (Hathaway, 2003). This was corroborated in a study among regular cannabis-using adults (Osborne & Fogel, 2008). Respondents used cannabis
Leisure, delinquency and cannabis trajectories

while engaged in various leisure activities (e.g. socialising, watching movies, doing sports, and playing computer games); they did not report dependence problems or compulsive use, and rational decisions to use were generally accompanied by moderate use. Cannabis was used to enhance “leisure activities and manage the challenges and demands of living in contemporary modern society” (Osborne & Fogel, 2008, p. 562). Similarly, other studies concluded that cannabis is not a central aspect in the lifestyle of adult frequent users, and users are generally not part of a ‘drug subculture’ (Pearson, 2001; Shukla, 2006). Instead, cannabis use was largely a leisure time activity to disengage from daily stress, and is generally subordinate to other roles and responsibilities. Moreover, the majority is not involved in criminal behaviour apart from acquiring and using cannabis. Previous studies reporting a link between regular cannabis use and criminal offences and convictions (Bennett, Holloway, & Farrington, 2008; Fergusson, Horwood, & Swain-Campbell, 2002) are hampered by the illegality of the drug, as it is suggested that most offences are related to possession and use (Fergusson et al., 2003; Pedersen & Skardhamar, 2010). The more lenient Dutch policy allows deeper investigation of this association, as use is not liable to prosecution and the possession and sale of cannabis in so-called coffee shops for personal use are tolerated (Wouters et al., 2010).

This study
The link between leisure and young adult cannabis use has received some attention, and although changes in cannabis use have been found to be associated with to changes in life circumstances (Hathaway, 2004; Shukla, 2006), it is largely unknown how changes in leisure develop over time and how they are related to transitions in cannabis dependence, as most studies are retrospective, have been limited to adolescence, focused on use and not dependence, or generated quantitative data. This study aims to contribute to the existing literature on normalisation and the relationship between frequent cannabis use, dependence and leisure over time. More specifically, this study will gain insights in the extent to which frequent cannabis use is socially accepted in a country known for its liberal cannabis policy (i.e. the Netherlands), and is stripped of subcultural and deviant associations. The existence of coffee shops makes cannabis readily available. This offers a great opportunity to assess whether easy supply (being part of the first dimension of normalisation) also implies that cannabis use (in our case: frequent cannabis use) is socially and culturally accepted in wider society (the second dimension of normalisation), comparable to alcohol use for example. We prospectively studied the course of cannabis use and dependence in 47 young adult frequent users over three years using qualitative in-depth interviews. First, we explore how frequent users construct their leisure time
and how changes in cannabis use interact with changes in leisure, and vice versa. We also assess the centrality of cannabis in their lives, and the absence of (subcultural) delinquency, which would be expected from the nominalisation thesis. Dutch coffee shops allow users to easily acquire cannabis without any specific knowledge or subcultural affiliations. However, the cultivation of cannabis has neither de jure nor de facto been legalised in the Netherlands (albeit that growing up to five marihuana plants for personal use is tolerated). Moreover, success-fully growing cannabis, either as a small-scale activity for own use or for large-scale purposes, requires specific knowledge and expertise that is gathered and shared through connections with other growers (Decorte, Potter, & Bouchard, 2011).

Second, we distinguish dependent from non-dependent frequent cannabis users and investigate to what extent leisure activities and the importance of cannabis in their lives differ, and to what extent their leisure pursuit explains cannabis dependence transitions. Obviously, dependent users, by definition (see: Method), would be expected to neglect social and work-related activities in favour of cannabis use and experience reduced control over their use. The normalisation thesis understands cannabis use among youth as a rational choice, yet this only applies to recreational use (Aldridge et al., 2011). Problematic use is considered as non-recreational use, interfering with everyday functioning (cf. Kronbæk & Asmussen, 2013). From this rationale, while a cost–benefit consideration would apply to frequent non-dependent users, different considerations would be expected in the case of frequent dependent users. However, cannabis dependence is not a homogeneous condition (McBride, Teesson, Slade, & Baillie, 2010). Therefore, it is important to examine whether and how frequent dependent users differ in leisure from frequent but non-dependent users and trajectories. Furthermore, understanding the relationship between leisure and cannabis dependence trajectories helps target prevention and treatment specifically at frequent users at high risk of dependence, as most frequent users limit cannabis use to their leisure time (Liebregts et al., 2013b).

**Method**

In a qualitative study the dynamics underlying changes in cannabis use and transitions in cannabis dependence were investigated. Participants were selected from a cohort study with a quantitative approach including 600 frequent cannabis users (≥3 days cannabis use per week in the past 12 months) with follow-up assessments at 1.5 and 3 (see for details Liebregts et al., 2011; van der Pol et al., 2011). Briefly, participants were recruited in coffee shops and through respondent-driven sampling and interviewed three times: T0, September 2008–April 2009; T1, March–November 2010; T2, September 2011–March 2012. Additionally, participants were contacted
every 5 months via e-mail or telephone (intermediate updates), for more
detailed assessment of the dynamics of their cannabis use. In all interviews
and updates, frequency of cannabis use was assessed (days of use in the past
month), as well as possible changes in several life domains. At all interviews,
DSM-IV diagnoses of cannabis dependence were assessed with the Composite
International Diagnostic Interview (CIDI 3.0). Dependence according to the
DSM-IV is a maladaptive pattern of cannabis use, leading to clinically
significant impairment or distress, as manifested by three (or more) of the
following seven criteria occurring within a certain period: tolerance;
withdrawal syndrome or using cannabis to relieve or avoid withdrawal
symptoms; using larger amounts or for a longer period than intended;
persistent desire or unsuccessful efforts to cut down or control cannabis use;
spending much time obtaining cannabis, using, or recovering from the effects;
giving up important social, occupational, or recreational activities in favour of
cannabis; and continued using despite a physical or psychological problem
caused or exacerbated by cannabis use (APA, 1994). In this study, this period
referred to the last 12 months (T0) or within a 12-month period since the
previous interview (T1 and T2). Trajectory groups were formed, and based on
the non-dependent (N) or dependent (D) status of the interviewee at a given
wave. For example, a person with a CIDI dependence diagnosis at T0 and T1,
but not at T2 would be in the DDN group. At T1, four trajectories in cannabis
dependence were distinguished (NN, DD, DN, and ND). At T2, the number of
possible trajectories extended to eight (NNN, NND, NDN, NDD, DNN, DND,
DDN and DDD).
From each of the four trajectories at T1, 12 participants were randomly
selected for the qualitative study, stratified by gender (8 males, 4 females),
totalling 48 interviewees. At T2, these interviewees represented seven of the
possible eight trajectories: all but NND (Table 5.1). The first qualitative
interview (I1) took place immediately after T1, between December 2010 and
April 2011, the second qualitative interview (I2) directly after T2, between
March and April 2012. One participant could not be traced at I2 and was
excluded from the analysis, resulting in a final sample of 47 participants. A
medical ethics committee approved the study.
To allow users to freely express themselves through their narratives, in-depth
interviews were conducted with a topic list including questions about
participants’ cannabis use career, i.e. changes in patterns of cannabis use,
motives for changes, and the occurrence of life events in various domains.
Using detailed personal timelines interviewees, were asked to recall changes
in life domains and in cannabis use patterns (see Liebregts et al., 2013b). One
timeline referred to their cannabis use (using days per month), the other to
life domains (including leisure activities). Data on cannabis use and leisure
provided by the quantitative interviews and intermediate updates were used
to prepare the timelines. During the qualitative interviews these timelines were used as guidelines and comprehensively elaborated. Both in-depth interviews (I1 and I2) focused on the period between the fully structured interviews (T0–T1 and T1–T2, respectively). The interviews lasted between 1.5 and 3.5 h and were located mostly at participants’ home and sometimes at the research institute.

In-depth interviews were recorded (with participant’s consent), transcribed verbatim and imported into QSR Nvivo. All transcripts were analysed with a combination of deductive strategies, using codes and categories based on the literature (a priori coding, Miles & Huberman, 1994), and inductive strategies, allowing new codes and categories to evolve from the data when new patterns emerged (pattern coding, Miles & Huberman, 1994). Interview transcripts were read and reread to identify and link evolving codes, categories and themes. To guarantee anonymity fictitious names are used.

### TABLE 5.1
**Cannabis dependence trajectories T0-T1-T2 and characteristics**

<table>
<thead>
<tr>
<th>Cannabis dependence trajectory</th>
<th>NNN (n=12)</th>
<th>NDN (n=7)</th>
<th>NDD (n=4)</th>
<th>DNN (n=10)</th>
<th>DND (n=2)</th>
<th>DDN (n=5)</th>
<th>DDD (n=7)</th>
<th>Total/mean (n=47)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Female</strong></td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td><strong>Mean age T0</strong></td>
<td>21.8</td>
<td>20.4</td>
<td>20.5</td>
<td>21.2</td>
<td>22.5</td>
<td>19.8</td>
<td>22.4</td>
<td>21.3</td>
</tr>
<tr>
<td><strong>Mean cannabis career T0</strong></td>
<td>7.4</td>
<td>6.1</td>
<td>6.2</td>
<td>7.8</td>
<td>8.5</td>
<td>6.4</td>
<td>7.4</td>
<td>7.1</td>
</tr>
<tr>
<td>(Near-) daily use T0</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>(Near-) daily use T2</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>

*Italicics refer to row means*

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**Participants**

At baseline (T0), age ranged 18–30 years (mean = 21.3), length of cannabis use careers ranged 1–15 years (mean = 7.1), 29 participants were (near-) daily users (5–7 days per week) and the other 18 participants used 3–4 days per week (Table 5.1). All respondents inhaled their cannabis mixed with tobacco in a ‘joint’.

Over time there was an overall decline in cannabis use, including 3 interviewees who had not used cannabis for at least 1 year and said they had quit permanently, and 3 others who considered themselves as quitters and had been using cannabis only a few times in the past year. At T0, 24 participants were last-year cannabis dependent and 23 were non-dependent, whereas at T2 only 13 were dependent and 34 were non-dependent.
Results

Cannabis use: when, where and why

The amount of leisure time varied, but most interviewees had professional obligations (work/study) and cannabis use was mainly a leisure activity (Liebregts et al., 2013b). Most interviewees thus used cannabis only at the end of the day, when daily tasks were finished. Some said not to use late at night, because cannabis would bother their night’s rest, whereas others believed they slept better ‘stoned’ or ‘high’.

All participants spoke about inappropriate settings for use and emphasised not to use cannabis before or during study/work or at formal occasions, e.g. job interviews or funerals. Most participants did not use in the company of non-users, and preferred not to be stoned in public, afraid to be judged by either strangers or acquaintances. Yet being in a park with using peers in summer was generally seen as a suitable and pleasant setting to use cannabis. Cannabis was often used at home settings and with others. About half of the participants (25/47) considered cannabis use as primarily a social activity, sharing a joint being conditional to use cannabis. Others had only few using peers and thus used mostly alone, or rather smoked their own joint with their favoured type and potency of cannabis. Several participants reported to mainly enjoy using cannabis for inspiration and deeper consideration of topics.

Being stoned you have good conversations: you have the peace to take in matters very deeply and elaborate on things. Consequently, you can see the key points of problems; I noticed marijuana can really contribute to that. And that creates very deep friendships, something I find important. All my friends use cannabis. (Levi, I1, NDN)

Unlike interviewees who used cannabis (also) to get engrossed in leisure activities, others emphasised its relaxing effects. Cannabis use allowed them to let go, take a break from daily stress and take a moment for oneself, not in the least because of the activities they preferred when smoking cannabis. For example Steven, who quit in the course of our study, talking about when he still used cannabis.

Using cannabis for me was leisure, therefore relaxation. Time for myself. The relaxation was created by the effect of cannabis, but also by my activities when I was using, like reading, gaming, relaxing. I didn’t do much when I smoked a joint, nothing active, so for me it was mainly the pleasant idleness. (Steven, I1, DNN)

Our findings reconfirm the importance of setting for cannabis use. Generally, participants consciously choose when and where to use cannabis (cf.
Reinarman & Cohen, 2007); preferably at home settings, at the end of the day when their daily obligations were fulfilled. The two motives, to use cannabis to be more open to experiences or to relax did not differentiate dependence trajectories. However, dependent interviewees, especially DDD, more often used cannabis alone than non-dependent interviewees, for whom it was more often a social activity (T1, 12/23 vs. 6/22; T2, 8/13 vs. 11/31 excluding non-users).

Homebodies and gadabouts
Most interviewees were engaged in various leisure activities, yet overall two types were distinguishable: homebodies and gadabouts, with 5 participants changing type during the study (Table 5.2). Homebodies (22/47 all interviews) spent their leisure time mostly at home settings, either at their own place (alone) or at/with friends (social), playing videogames, surfing the Internet, watching television, listening to music and reading books. Gadabouts (20/47 all interviews) were quite active and often outdoors, met their friends several times a week, were creatively occupied (painting, photographing and playing music) and/or participated in sports. Particularly, they spent much of their free time in nightlife settings. While the number of (near-) daily users in homebodies and gadabouts slightly differed at T1 (13/22 vs. 9/20), disparity was bigger at T2 (12/22 vs. 5/20).

Often, narratives of homebodies revealed a more prominent role of cannabis use in leisure, planning time at home to use and relax. Contrasting to gadabouts planning time to spend outdoors, homebodies were more inclined to select leisure activities suitable for cannabis use.

Cannabis use is totally in my system, it’s pretty important. I use after work. Sometimes I have a period when friends call to meet after work, and I’m like: no, first I’m going home, smoke a joint. (Jim, I1, DDN)

A substantial part of participants (18/47), especially homebodies, could be characterised as ‘gamers’, i.e. they reported to often (≥weekly, sometimes daily) play computer or videogames (Table 5.2). Using cannabis while playing games enhanced the experience or moderated the emotional arousal.

Gaming and using cannabis go together, pretty well actually. I like to be stoned when gaming: you’re in a bubble, get totally absorbed by the game, and your concentration is enhanced. (Niels, I2, NNN)

For me, gaming and cannabis use go hand in hand, in fact, I smoke the adrenaline of gaming away. Sometimes the adrenaline of gaming can be really frustrating; I don’t want to feel it. At times I gamed 42 hours per week, 42 hours...! Include a
joint and you forget time. Gaming makes you forget the rest of the world, and using cannabis makes you forget that you forget the rest of the world. (Lars, I1, DDD)

Generally, interviewees’ main leisure activities remained unchanged during the study. Although some took up sports, went out more frequently for some time, or switched from a homebody to a gadabout, changes in leisure were often related to availability of leisure time due to study or work changes.

Nonetheless, about a quarter (12/47) reported in total 17 life events in the realm of leisure that took place during our study and had been important to them. These events could increase or reduce participants’ cannabis use (i.e. frequency, joints per occasion, amount of cannabis per joint), or had no impact on use. Recreational projects (i.e. engaging in a play, band; organising a festival) were reported as positive experiences, and the impact on cannabis use depended on whether time was spent with users or non-users. Some interviewees found it difficult when the project ended and they fell into a sort of limbo. For two DDD interviewees this led to more cannabis use; they found it more difficult to handle unpleasant situations, and to resume their life after a period of intense activities. Other events are examined per topic below.

Leisure events occurred in all trajectories except NDD and were more common in persistent (dependent and non-dependent) trajectories. Gadabouts were mainly found in trajectories that were non-dependent for a longer time (NNN, DNN), while interviewees who spent their leisure time mainly at home were often dependent two or all three measurements (DDD, DND, DDN, NDD). Four of the five homebodies who turned gadabouts, in the same period moved from dependence to non-dependence. Gamers were present in all trajectories, but homebodies spending much time alone gaming were more prevalent among dependent than non-dependent users at T2 (6/13 vs. 6/34). Gaming homebodies were particularly found in the DDD and DDN trajectories.
<table>
<thead>
<tr>
<th>Participant</th>
<th>Trajectory</th>
<th>Leisure Type</th>
<th>Gamer</th>
<th>Going out</th>
<th>Party Phase</th>
<th>Sports</th>
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<td>3</td>
<td>NNN</td>
<td>Alone</td>
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<td>No</td>
<td>No</td>
<td>Active -&gt; No</td>
</tr>
<tr>
<td>5</td>
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<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>1</td>
<td>NNN</td>
<td>Alone</td>
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<td>No</td>
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</tr>
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<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
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</tr>
<tr>
<td>7</td>
<td>NNN</td>
<td>Gadabout</td>
<td>No</td>
<td>Both</td>
<td>Yes -&gt; No</td>
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</tr>
<tr>
<td>8</td>
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<td>Gadabout</td>
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<td>Pub</td>
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<td>Active</td>
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<td>Pub</td>
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</tr>
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<td>Gadabout</td>
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<td>No -&gt; Occasional</td>
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<td>Yes -&gt;</td>
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<td>Club</td>
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<td>Pub -&gt; No</td>
<td>No</td>
<td>Occasional</td>
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<td>Pub</td>
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<td>Active -&gt; No</td>
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<tr>
<td>15</td>
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<td>Club -&gt; Pub</td>
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</tr>
<tr>
<td>19</td>
<td>NDN</td>
<td>Social -&gt; Gadabout</td>
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<td>Pub</td>
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<td>Active</td>
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<td>No -&gt; Active</td>
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<td>No</td>
</tr>
<tr>
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Leisure type: alone = spending much leisure time at home alone; social = spending much leisure time at home with friends; gadabout = spending much leisure time outdoors, particularly in nightlife settings.

Gamer: yes = ≥ weekly playing computer or video games.

Going out: pub = ≥ weekly going to pubs; club = ≥ weekly going to clubs; both = ≥ weekly going to pubs and/or clubs.

Party phase: a period of 1-12 months frequently visiting parties, having little sleep, and using much more alcohol and drugs.

Sports: occasional = < weekly practicing sports; active = ≥ 1x a week practicing sports.

Going out
Around three quarters of the interviewees (34/47) were going out in clubs and/or pubs at least once a week at T1, and at T2 most still did. Some went predominantly to pubs, others to clubs, and yet others visited pubs and clubs alternately (Table 5.2). Comparing dependence trajectories, NDN, DND and DNN participants stand out going out more often: all but one of the participants in these trajectories went out at least weekly during the study (Table 5.2).

The majority believed that cannabis and going out are incompatible, as the effects of cannabis are unsuitable for nightlife.

When going out we don’t use cannabis. I don’t want to be sluggish in a club, I want to be active. Rather drunk than stoned, but not both, because then you’ll throw up. So, never when we go out. But we do smoke afterwards, when we’re at someone’s place at 4–5 AM. (Robert, I1, DDN)

Many participants (35/47) drank alcohol at least weekly and most thought alcohol was more appropriate than cannabis in nightlife. Interviewees reported that when they had used hard drugs, they particularly felt like using cannabis, e.g. to extend the diminishing high or to relax. However, using hard drugs was much less common than alcohol. Although the majority (36/47) had used ecstasy, cocaine and/or amphetamines at least once during our study, only a few did so monthly or more often.

When talking about life events, about a quarter (10/47) reported experiencing a “party phase” during our study. These phases were quite different from their ‘normal’ life and lasted between 1 month and a year, and
characterised by frequenting parties, little sleep every weekend, and using much more alcohol and drugs. They all initially experienced such a phase as positive, but in retrospect three interviewees considered their phase as mainly negative, as Daphne explains.

It started to break me down, partying the whole weekend, a lot of drugs. Monday a zombie, Tuesday also wretched, by Wednesday I started to feel human again. By then it’s almost weekend, finally feeling fresh – and there we go again. It made me sick, also literally. Tired, pale, fainting easily and so on, because you didn’t eat and sleep enough. You don’t sleep for entire weekends, so you also smoke at night, one joint after the other. After a while you get used to that, so you keep that rhythm also during the week. (Daphne, I2, DDD)

For other participants, although they were aware that their lifestyle and substance use was not particularly good for their health, their party phase did not leave them with an unpleasant aftertaste – possibly because this episode did not last as long and/or they did not take as much hard drugs. They said that their phase passed more or less spontaneously or that the desire to party diminished because of a new partner or the start of the academic year. The impact of the party phase on cannabis use varied (1 decreased use, 3 stable use, and 6 increased use, motivated by more leisure time and/or more cannabis use after hard drug use). Nonetheless, most participants subsequently resumed their previous use levels. In sum, our findings are in accordance with past studies in adolescents: going out per se seems unrelated to frequency of cannabis use (Peretti-Watel & Lorente, 2004), but a partying lifestyle is related to (temporarily) more use (e.g. Ciairano et al., 2008). Notably, regardless of whether this episode went along with more, stable or less use, most participants experiencing a partying phase were thereafter non-dependent: six remained or became non-dependent (3 NNN, 1 NDN, 2 DNN), two shifted from dependent to non-dependent, but remitted to dependence again (DND), and two were persistent dependent (DDD).

**Sports**

Nearly all participants were physically active, particularly cycling for daily functional purposes. Close to one third (14/47) were active sportspersons (≥1× a week), most of them actively practiced sports during the whole study (T0–T2), some (5/14) only for a certain period (Table 5.2). This ranged from a weekly yoga course, to high-level water polo or (near-) daily fitness. Others practiced sports occasionally (<weekly), e.g. going to the gym, running and street soccer in summer (10/47 either whole or part of the study). For two
interviewees sports played a central role in their life, spending much leisure

time exercising. They had little difficulties combining active training with

cannabis use, with a long history of doing so, but never using before sports.

I have always been able to combine cannabis use and water polo. It’s in your

system, we’re so used to training 3–4 times a week that you’re able to combine it

with cannabis use, you learn to manage it. We smoke a joint together afterwards.

Not beforehand, I want to concentrate on sports. Stoned that’s less easy: if you

want to be alert, don’t be stoned. (Robert, I1, DDN)

Whether or not they currently exercised, many interviewees believed that

cannabis use and sports inversely were related, and often based on earlier

experiences: if cannabis use increased, sports decreased and vice versa.

I practiced sports for a long time, which declined when my cannabis use

increased. Perhaps that became my relaxation. I need an outlet for my energy,

and sports give you a high as well. Using cannabis reduces your energy level, so

there is less energy left to lose. By using cannabis the chances you’ll go to the gym

drop, because you’re not going to the gym stoned. You’re like: whatever, or, I’ll go

later, but probably you won’t. And you simply have less time for sports when you

smoke first. (Tom, I1, NNN)

Tom’s explanations that active sports participation was related to a decrease

in cannabis use and vice versa were voiced by others, and are consistent with

past research (Lisha & Sussman, 2010; Terry-McElrath et al., 2011;

Thorlindsson & Bernburg, 2006). Yet, our interviewees reported this pattern

was often temporary. Some stated to purposively practice sports as a strategy

to diminish cannabis use, and to replace the relaxation of cannabis with

exercise. By spending leisure time on sports, less time was left for cannabis

use. This confirms and extends Thorlindsson & Bernburg’s hypothesis (2006)

hypothesis for adolescents to young adults.

Active sportspersons were found in all trajectories, but more so among

participants who at the last interview had remained or become non-
dependent (11/34 vs. 3/13).

Holidays

All but three participants travelled abroad during our study. Whereas in the

Netherlands cannabis can be easily obtained through coffee shops, this is not

the case in other countries. When traveling abroad, some participants

considered this in advance, but none reported to be restrained by it.

Participants’ views and behaviour concerning cannabis use and holidays

varied. The majority of those travelling to foreign countries between T0 and
T2 reported to have used cannabis there (35/44), although not necessarily every holiday. Most of them brought cannabis for personal consumption, yet only within Europe, and solely by car, bus or train. They perceived low risks of getting caught because of open borders and relatively casual custom control within the EU, and were not very worried about any possible consequences because they did not traffic large quantities.

When travelling in Europe by car, I usually take it with me, a little bit, few grams. So I can smoke now and then. I’m not afraid to get caught, no, because by car, open borders... Ok, there is a chance, but if so, you’ll be fined. You’re not going to jail, not in Europe. That fine won’t be nice, but worth the risk. By plane I’ll never take cannabis with me, no way, too risky. You have to pass so many control points, which is not the case by car. Schiphol Airport is guaranteed screenings, and again in that other country, so you have to get away with it twice. (Max, I2, DDN)

Some interviewees concealed their cannabis quite well, e.g. in a shampoo bottle. Others reported to put little effort in hiding and carried it in their bag or pocket; so they could say they accidentally left it there if customs would find it. Regarding air travel, all participants firmly stated not to take cannabis with them, because they considered it too risky. Alternatively to bringing cannabis along, participants reported to obtain cannabis at their holiday destination, which was perceived quite easy in various countries. While some had actively searched for cannabis, others had run into it when they met local people offering it to them. According to several interviewees, the Dutch are seen as cannabis experts, thus making it easier to acquire cannabis in foreign countries.

You go to a park or a street corner and observe the people hanging around. Last time in Spain, only once the guy I approached didn’t sell, but his friend did. And well, in such countries, you’re a tourist; they know you’re looking for cannabis when you’re hanging around in a park, doing nothing. It’s so easy. You chat a bit, say you’re from Amsterdam and they know enough. When I search for it somewhere, I’ll find it, in half an hour max. (Jonas, I2, DDD)

Other interviewees disclosed similar strategies. Most of them were careful where to use once they had obtained cannabis. Some were rather well informed about other countries’ drug laws, yet participants thought it was best to use at a ‘safe’ place, usually indoors or otherwise assured law enforcement was not nearby. Conversely, holidays in foreign countries were also considered a prime opportunity for not using cannabis for some time, even by interviewees who had used abroad during our study. Various reasons were mentioned: the
related risks are too high; unnecessary, as one is already relaxed or because of the different environment; cannabis would hinder holiday activities. Another motivation was to prove oneself not to be dependent on cannabis, as several interviewees argued that one of the symptoms of not being addicted is being able to sometimes do without. Some participants reported that when they returned home from holidays, they tried to continue abstaining as long as possible. Others said that they already thought about using cannabis on their way home.

Going on a long journey was considered a leisure event. Of the three interviewees who went travelling for several months, one had stopped using before leaving, the other two stated that their trip had largely contributed to a sharp decline in use. Similar to some participants on holidays, they claimed that the change of environment and lower availability of cannabis than at home reduced the urge to use, which was continued at home.

Overall, in our study holidays abroad were associated with decreased use. Even when cannabis was acquired on site or brought along, this was always less than participants used at home. This contrasts with Bellis et al. (2000), however, they researched substance use at a party-destination (Ibiza, Spain), whereas we investigated holidays in general.

Not surprisingly, non-dependent interviewees reported to experience less difficulties abstaining from cannabis on holidays than dependent interviewees, and 8 of the 32 non-dependent and only 1 of the 12 dependent interviewees at T2 who went on a holiday had not used during foreign holidays. While all participants in NDN, DND and NDD trajectories used cannabis on foreign holidays, particularly participants in NNN and DNN trajectories did not or used less. All three interviewees who went on a long journey were thereafter non-dependent.

**Delinquency**

Do the frequent cannabis users in our study live a conventional life, free of involvement in criminal activities, as would be expected from the normalisation perspective? As stated before, past research on the association between cannabis use and crime has been troubled by the illegal status of cannabis. This might be less of a problem in our study, as Dutch drug policy tolerates possession and sale of cannabis in coffee shops for personal use, even though these formally are still illegal acts. Obviously, for our participants buying cannabis was common practice. Almost all of them bought their cannabis in coffee shops, and in line with the coffee shop policy never got arrested for it. Likewise, participants who (also) bought from other sources, e.g. cannabis growing acquaintances, were not arrested. Some interviewees said they sometimes drove a car after having smoked a joint, and many interviewees regularly cycled while being stoned, but also for this illegal
behaviour they had not been arrested. However, one interviewee was fined for smoking a joint in his parked car. Although cannabis cultivation is illegal in The Netherlands, the possession of up to 5 cannabis plants is generally condoned. During our study, nine interviewees (19%) were engaged in cannabis cultivation. One had been trimming cannabis plants as a non-declared job, and eight had grown their own cannabis. Seven of them stayed within the 5-plant limit, but the other one cultivated many more plants and had a steady flow of cannabis. Again, none of them were arrested. About half of the participants (21/47; totalling 28 offences) reported having committed non-cannabis-related offences during our study, e.g. theft/shoplifting (8×), vandalism (4×), fights (3×) and small scale dealing hard drugs (5×). Offences were often occasional misdemeanours, e.g. stealing a Christmas tree, fight when going out or having drinks without paying. Concerning eight offences interviewees said they were alcohol-related, e.g. drunk-driving, public intoxication or vandalism. About half of the participants involved in non-cannabis-related offences (9/21) had been convicted, varying from a fine, or community service to three days imprisonment and probation. Three were more structurally engaged in more serious criminal activities, including credit card fraud, providing false alibis and assault. Finally, many had been in possession of hard drugs at some point during our study. To conclude: several participants violated the Dutch drug law, but they did not arrive in criminal statistics. Other offences occurred, varying from misdemeanour to more serious crime, and conviction was not unusual. The presence of cannabis-related and delinquent behaviours was not confined to certain dependence trajectories patterns as both types of criminal activities occurred in all trajectories.

The importance of cannabis use
A minority of the interviewees (7/47) sometimes had difficulties giving precedence to other things over cannabis. They indicated considering cannabis as something they needed and very important, planned their leisure time mainly around cannabis use, and would neglect other (leisure) activities in favour of using cannabis.

Cannabis is important to me, I can’t deny that. It has become a kind of love–hate relationship. There are the pleasant effects, being relaxed. However, the adverse effects that apparently do impact your life... You have to choose between those two, so sometimes I decide not to use. And sometimes I’m inclined to cancel an appointment. Because I’m at home, all stoned. (Daphne, I1, DDD)

Noteworthy, all these interviewees were homebodies, except one, who in the course of the study became more outgoing, and mostly spent time at home
alone (6/7). They were dependent at T1, and 5 out of 7 also at T2 (including 4 DDD).

In contrast, a substantial proportion of the interviewees (20/47) reported having no problems to give precedence to other things over cannabis. These participants were often gadabouts, and predominantly in persistent non-dependent or shift from dependent to non-dependent trajectories (7 NNN, 8 DNN). They also stressed cannabis use was important, but subordinate to all other things in their life.

I would be lying to say cannabis isn’t important. Because I use and I have used it very often. I used to plan my cannabis use, but I don’t anymore: nowadays I finish everything I have to do first and then see if there is time to smoke weed. Why did that change? Well, you get older, get commitments. You just have to do things, and if you don’t, you lose your house, your job, your study and so on. You don’t have much choice. It’s also about your attitude; I automatically prioritize those things, not weed. (David, I1, NNN)

Several narratives revealed that changes in the role of cannabis in interviewees’ life and the prioritising of responsibilities often happened rather gradually, as David continues:

But that change takes time, it’s something you learn through trial and error. (David, I1, NNN)

Similarly, other interviewees (8/47) reported during the study a declining importance of cannabis as they aged and/or got more involved with their professional career or romantic relationships. These participants, either homebodies or gadabouts, were present in different dynamic trajectories, yet were all but one thereafter non-dependent.

Finally, there were participants (12/47) who were fairly in-between regarding centrality of cannabis use. They zigzagged between organising their leisure time around cannabis, and cannabis use around their leisure time, and also could switch between homebody and gadabout. Although their leisure time evolved largely around cannabis and they considered cannabis as important, they had fewer difficulties in giving precedence to social activities, study or work over cannabis. They were found in different trajectories, albeit relatively often (5/12) in the NNN group.

Discussion and conclusion
The majority of frequent cannabis users in our study live a ‘conventional life’, including professional obligations, a social life, going out and participating in sports. While participants’ lives were not without delinquency, these included
mainly minor delinquency. More important, delinquency was commonly not related to or induced by cannabis, and convictions were all except one not associated with cannabis use. These findings suggest support for the normalisation thesis. Moreover, while for many users cannabis played a rather large part in their life, this was often not an essential role. Even among frequent and dependent users, cannabis use was mostly considered subordinate to responsibilities and restricted to leisure time, including rational choices about whether, where and when (not) to use (cf. Hathaway, 2003; Kronbæk & Asmussen, 2013; Osborne & Fogel, 2008). With some exceptions, cannabis appears no fundamental part of lifestyle, as precedence is given to other things, and lives and priorities did not revolve around cannabis (cf. ‘maturing despite continued use’, Shukla, 2006; Pearson, 2001; Aldridge et al., 2011). Furthermore, our finding that the majority does not cultivate cannabis themselves or have to turn to other users for supply is another indicator that users are not members of a subculture, which would suggest normalisation. This however is also due to the existence of coffee shops in the Netherlands, making cannabis readily available.

On the other hand, our study shows that structural influences are at play, since for example life events in leisure could impact cannabis use as well as the persons involved in leisure activities, indicating Measham and Shiner’s concept of ‘situated choice’ (2009). Furthermore, the narratives point out that even in the Netherlands frequent users sometimes do experience stigma (cf. Hathaway et al., 2011), as for fear of being judged or labelled they carefully select settings for use: often at home and preferably not in company of non-users, or in public places. This might call into question to what extent frequent but non-problematic use is socially accepted, or normalised, or whether this only applies to non-frequent use. Finally, our study supports Shildrick’s (2002) argument that the distinction in normalisation between recreational and problematic drug use might be too simplistic.

Cannabis dependence is no stable, homogenous condition, as we found dynamics into and out of dependence. While dependent, especially persistent dependent interviewees could in some aspects quite clearly be distinguished from non-dependent users, in others they were very similar. Our findings underline that many dependent users seem very capable of controlling their use and, similar to non-dependent users, prioritise other aspects of life, limiting their use to their leisure time. This calls into question whether dependence as operationalised by the DSM-IV suggests an oversimplification of the concept, at least for cannabis. The DSM-IV defines dependence as a maladaptive pattern of cannabis use leading to impairment or distress. However, our findings indicate that dependent users adapt their cannabis use to their leisure time and are selective in their use, thereby avoiding negative consequences of cannabis use for their daily functioning, e.g. work or study.
For example, a user who within the past 12 months, during summer holidays spent much time using cannabis and used larger amounts than intended, and whose lung problems exacerbated by continued cannabis use fulfils three DSM-IV criteria for last year cannabis dependence. The DSM-IV criteria to measure dependence thus not seem to fully capture this maladaptive pattern of use. Moreover, this study illustrates that DSM-IV diagnosis of cannabis dependence not equates to problematic use (cf. Temple, Brown, & Hine, 2011).

It should be noted that our findings might differ from studies in other frequent cannabis users or from studies in treatment seeking cannabis users, because the frequent users in our study to their own accounts were all, at least to a certain extent, participating in society in all aspects, including the persistent dependent users. Although our sample is rather heterogeneous, the vast majority of participants were employed or student, had a monthly income, a social life, often a relationship, and participated in various leisure activities. Albeit some interviewees sometimes for example skipped an appointment with friends, they were still socially active. In this perspective our sample is perhaps a-typical and not representative for all frequent cannabis users. Still, our study shows that frequent cannabis users are not necessarily marginalised individuals. Although this might be due to the de facto legal status of cannabis in the Netherlands, our findings do not fundamentally differ from studies outside the Netherlands, indicating that cannabis laws have little impact on use patterns and leisure activities of frequent cannabis users (EMCDDA, 2011; Fergusson et al., 2003; Korf, 2002; Reinarman et al., 2004). Nonetheless, Dutch cannabis policy should be kept in mind when interpreting the results. Furthermore, it should be realised that all analyses are based on narratives of the interviewees and their constructions of their personal and social world. Therefore, our findings and conclusions are based on their feelings, perceptions and interpretations. Although some might consider these not to be ‘objective’, our aim was to gain an insider’s view on the relationship between cannabis use and leisure.

This study contributes new insights into the course of cannabis use and dependence and leisure, indicating that transitions in use and dependence are rather gradual and occur over extended periods of time. Contrary to Schaub et al. (2010), we found that leisure time activities could explain transitions in cannabis use as well as in dependence, and ‘turning points’ can evolve from leisure (Laub & Sampson, 1993). Still, we acknowledge the influence of the people with whom leisure time is spent. Moreover, our findings suggest that more engagement in leisure activities (outdoors) leaves fewer opportunities and/or time to use cannabis. Nonetheless, some users would be more inclined than others to select opportunities suitable for use (Peretti-Watel & Lorente, 2004; Schaub et al., 2010).
The importance of cannabis could change by trial and error and participants who decreased their use generally reported step-by-step cutting down and a slowly declining centrality of cannabis in their life. As might be expected by virtue of its definition, dependent, especially persistent dependent interviewees assigned a more central role to cannabis in their leisure time, by planning their leisure activities around cannabis use, and being inclined to prioritise cannabis over other leisure activities. For some cannabis became less central during our study: as they aged and/or got more involved with other responsibilities, its centrality waned. These interviewees transitioned to non-dependence. Nonetheless, both dependent and non-dependent users limited their cannabis use to their leisure time and both seemed to make conscious choices about their use, considering other responsibilities, and their company and situation. This is similar to participants in a study by Osborne and Fogel (2008) who concluded that “their use is purposively intended to enhance their leisure activities and manage the challenges and demands of living in contemporary modern society” (p. 562). Therefore, differences between dependent and non-dependent cannabis users seem rather related to how (easily) this choice is established, the tendency to use and the centrality of cannabis in their lives; to what extent and with what ease do they prioritise cannabis within their leisure time.

Finally, concerning prevention and treatment, several implications could be taken into account. Without wanting to imply any judgement as to the best activities for young adults on how best to engage or how best to spend leisure time, from a prevention and treatment perspective it might be recommendable to target frequent users who spent much leisure time at home gaming, as our findings raise questions about a possible relation between cannabis dependence and game dependence. While game dependence is still relatively unexplored, a recent study indicates a correlation between problematic gaming and cannabis use (Walther, Morgenstern, & Hanewinkel, 2012). Future research should explore this relationship in greater detail. Also, to improve treatment, or self-supported change of use, structured spending of leisure time, such as sports (cf. Buchowski et al., 2011) seems recommendable, as this would replace the relaxation and time spent on cannabis use.