



LAPIN YLIOPISTO
UNIVERSITY OF LAPLAND



University of Lapland

This is a self-archived version of an original article. This version usually differs somewhat from the publisher's final version, if the self-archived version is the accepted author manuscript.

Combining Alcohol with Benzodiazepines or Psychostimulants. Metaphoric Meanings and the Concept of Control in the Online Talk of Polydrug Use

Kataja, Kati; Törrönen, Jukka; Hakkarainen, Pekka; Koivula, Petteri; Tigerstedt, Christoffer; Hautala, Sanna

Published in:
Journal of Psychoactive Drugs

DOI:
[10.1080/02791072.2019.1669845](https://doi.org/10.1080/02791072.2019.1669845)

Published: 20.10.2019

Document Version
Peer reviewed version

Citation for published version (APA):
Kataja, K., Törrönen, J., Hakkarainen, P., Koivula, P., Tigerstedt, C., & Hautala, S. (2019). Combining Alcohol with Benzodiazepines or Psychostimulants. Metaphoric Meanings and the Concept of Control in the Online Talk of Polydrug Use. *Journal of Psychoactive Drugs*, 51(5), 473-481.
<https://doi.org/10.1080/02791072.2019.1669845>

Document License
Unspecified

Combining alcohol with benzodiazepines or psychostimulants. Metaphoric meanings and the concept of control in the online talk of polydrug use.

Kataja, K., Törrönen, J., Hakkarainen, P., Koivula, P., Tigerstedt, C. & Hautala, S.

Final draft

Abstract

The co-administration of different substances is a widespread practice in the context of hard drug use. Among others, alcohol combined with certain substances produces potentially dangerous interactions. This article explores how people who combine alcohol with benzodiazepines or psychostimulants perceive these practices and how they share their perceptions in Finnish and Swedish online discussions. This is carried out by analyzing discussants' use of metaphoric expressions. We found that the metaphors given to the use of these substance combinations reflect their pharmacological characteristics. Through that, the metaphors and meanings were different depending on the substance alcohol was combined with. Moreover, we found that, in the realities the metaphors create, the control of use was differently conceptualized. The different aspects of control could be divided into three categories that, however, were not related to any specific substances but overarched all metaphors: 1) controlling pharmacological risks, 2) controlling social appearance and 3) ignoring control. As our findings bring out, often the actual health dangers and risks of the studied substance combinations were bypassed, and the control was rather understood either as a form of socially appropriate behavior or wholly ignored.

INTRODUCTION

Combining different substances in order to produce wanted co-effects is a widespread practice among persons who use illicit drugs (e.g. Kataja, Hakkarainen, and Väyrynen 2017; Lamy 2014; O’Gorman 2016; O’Grady et al. 2008). Alcohol is often linked with these kinds of use patterns, as drug taking often takes place in the same contexts and occasions where alcohol is consumed (Hakkarainen and Metso 2009; Parker 2005.) Although drug use is risky behavior in general, substance combinations are related to specific risks, such as fatal overdoses at the worst (Coffin et al. 2003; Karjalainen et al. 2010). When alcohol is one element in the substance combinations, the risk potential is especially pronounced, as alcohol combined with certain substances produce very dangerous interactions. In this article, we are interested in how people who combine alcohol with benzodiazepines or psychostimulants give meanings to these practices and how they share their experiences in Finnish and Swedish online discussions using metaphoric expressions.

In terms of substance consumption, Finland and Sweden have their own cultural and political characteristics that partly explain the use of the studied substance combinations. Finnish and Swedish alcohol regulations are based on a restrictive policy tradition including a state retail alcohol monopoly in each country. Alcohol consumption is widespread in both countries and it is somewhat higher in Finland than in Sweden. Neither in Finland nor in Sweden does total consumption exceed average figures in Europe. (Karlsson 2014.) Regarding the use of illicit drugs, Finnish dual-track drug policy covers both harm reduction and criminal control approaches (Hakkarainen, Tigerstedt & Tammi 2009) while up to the present-day, Sweden has maintained a prohibitive drug policy based on zero-tolerance (Moore et al. 2015). Compared to Sweden, the use of benzodiazepines is much higher in Finland (Health statistics

of the Nordic countries 2017) and plays a central role especially within the context of hard drug use (Tammi, Pitkänen & Perälä 2011).

Different substances are combined not only due to their pharmacological co-effects, but also due to the social and cultural meanings linked with these substances (Kataja, Hakkarainen, and Väyrynen 2017; Measham and Moore 2009; Quintero 2009). The opposing effects of benzodiazepines (depressants) and psychostimulants (stimulants) combined with alcohol (depressant) relate both to the goals and expectations loaded into these combinations and to the potential health risks. Therefore, co-ingestion of alcohol with benzodiazepines and psychostimulants is an interesting issue worth studying, both from the clinical and social points of view.

From the clinical point of view, the co-administration of alcohol with benzodiazepines or psychostimulants generates serious health problems. Alcohol ingestion is a major factor in fatal poisoning and other toxicological implications in relation to benzodiazepines (Tanaka 2002). Alcohol enhances the sedative effects of benzodiazepines, and the combination is associated with life-threatening consequences such as coma or death induced by respiratory depression (Schmitz 2016; White 2003). In contrast, the stimulatory effects of psychostimulants may mask the depressive effects of alcohol leading to tendencies to use greater amounts of alcohol (Althobaiti & Sari 2016). Alcohol also enhances the psychostimulant-induced increased locomotor activity and heart rate leading to the risk of arrhythmia and poisonings (Hamida et al. 2008; Manley and Little 1997). Consequently, an important question is, how do people who co-use alcohol with benzodiazepines or psychostimulants perceive the control over their practices. Skills in controlling the health-related risks of even the pharmacologically very challenging and dangerous substance

combinations is shown to represent a certain kind of expertise within users' own communities, as it requires mastering the neurochemical knowledge (Kataja et al. 2018).

From the social point of view, the studied combinations are consumed for different purposes depending on whether the person looks for excitement and energy (alcohol-psychostimulants) or relaxation and retreat (alcohol-benzodiazepines) (e.g. Kataja, Hakkarainen, and Väyrynen 2017; O'Gorman 2016). Also, from the social point of view, the aspect of control manifests in different forms compared to control in pharmacological terms. Namely, stigmatizing and marginalizing attitudes toward substance use are often implicitly linked to conceptions of impaired control or a lack of control over the use or of the user's behavior. Since self-control and the individual's self-discipline are culturally understood as having an essential role in their identity and social dignity (Fraser, Moore, and Keane 2014), the loss of control over one's substance use is generally perceived as humiliating (Room 1985).

Sharing perceptions, experiences and information about alcohol and other drugs is often strongly based on metaphorical language. This might be partly due to the illegal and therefore stigmatized nature of such behavior. Metaphors offer a powerful conceptual means of justifying how something should be viewed and to what kind of reality it is related (Lakoff and Johnson 1980a). According to Marlatt and Fromme (1987), through time, metaphorical myths have had a meaningful role in understanding addiction. Metaphors also influence how people perceive the reasons behind drug-taking behaviors, drug policy and media accounts (Montagne 1988).

The Internet has become an essential part of drug culture, being a terrain of communication about drug use that enables individuals to disseminate and obtain drug information (e.g. Manning 2014; Murguía, Tackett-Gibson, and Lessem 2007). In online communication, different linguistic meaning making and interpretational strategies, for example metaphors, considering drug use have an essential role (Rosino and Linders 2015). These metaphors do not merely describe the pre-existing realities of drug use but ‘enact’ or ‘perform’ them (Mol 2002). The metaphor can be seen as one of the basic tools in the making and remaking of realities (Moore et al. 2015). Since the realities of drug use vary according to the different social backgrounds and circumstances of users, metaphors of drug use are not singular but multiple and diverse or even contradictory and conflicting (Dwyer and Moore 2013).

Use patterns in which alcohol is used in combination with other drugs, including benzodiazepines and psychostimulants, have been recently studied in different populations and contexts (e.g. Abbasi-Ghahramanloo et al. 2015; Baggio et al. 2014; Deza 2015; Moss et al. 2015; Neale and Stevenson 2015; Santos et al. 2015). However, the studies are dominated by a quantitative point of view. Qualitative studies on what kinds of social meanings are connected to alcohol-related combinations are rare in the research literature. Our contribution to drug and alcohol research is, then, to provide an insight into how the control of the risks of potentially hazardous alcohol-drug combinations is conceptualized in an online context and what kind of meanings control is given by the means of metaphorical expressions. In this study, we ask

- 1) What metaphors are used in Finnish and Swedish online context by persons who combine alcohol with benzodiazepines or psychostimulants?
- 2) To what kinds of concrete realities do these metaphors anchor forum users’ experiences and meanings?

- 3) How do these metaphors embody control issues and orientate the forum users to regulate their use practices?

DATA AND METHODS

The data of the study has been gathered from two online discussion fora. The Finnish Addiction Link, and particularly its submenu Sauna¹, has been the most popular site addressing the latest topics within the substance abuse and addiction scene in Finland. The website is provided by the A-Clinic Foundation, an NGO, that promotes harm-reduction policies by offering possibilities for forum users to share risk information related to drug use. By contrast, the Swedish forum Flashback, and its submenu Droger², is politically uncommitted. Flashback is currently the largest online message board in Sweden. Both websites have rules that users are expected to obey. The moderator will remove messages that contain intimidation, harassment, criminal activity (like selling or buying drugs) or invitations to such activities, advertising or infringement of copyright. Both fora are public and anyone with an Internet connection has access to read the discussion threads. However, participation in the discussions requires registration and a user profile.

Data sampling

From within the huge mass of online drug discussions, we focus on those discussion threads in which alcohol and the studied substances are mentioned in the *title*. Then, to standardize the Finnish and Swedish data, we removed all the diary-form trip reports typical of the Swedish forum but missing from the Finnish forum. After this outlining, there were altogether 11 such threads in the forum Sauna; whereas, in the Swedish forum Flashback, the sampling resulted in 65 threads, of which 13 threads concerned alcohol combined with benzodiazepines and 52 threads with psychostimulants. Our preliminary observation was that alcohol-

benzodiazepine combinations seemed to dominate the Finnish online discussion; whereas, in the Swedish forum, alcohol-psychostimulant combinations were more represented. This primary sample was extracted into a Microsoft Word file in which further data management was conducted. The data search was conducted on July 10, 2015 covering all the time these fora have been around, i.e., the forum Sauna since 1998 and the forum Flashback since 2000.

Next, in order to balance the quantity of research material from both discussion fora, from the Swedish data, we gathered a subsample that would be about the same size as the Finnish sample. This was carried out by employing a random sampling principle so that finally there were 11 discussion threads chosen from both fora to be examined. The threads from Sauna forum comprise altogether 182 separate messages, and the threads from Flashback forum comprise altogether 190 separate messages. As in Flashback's Droger forum, new posts are made daily and in the Sauna forum a few times a week, the threads selected for our study do not represent the totality of drug-related discussions taking place in these fora but a limited and specific part of it that. The final samples of the Finnish and Swedish discussion threads are shown in Table 1.

Table 1: Research data

Discussion threads from the Finnish Sauna forum
<ol style="list-style-type: none"> 1. Mikä ryynikänneissä viehättää? [What fascinates in pill-crunk?] (messages 66, opened 2007) 2. Concerta + Diapam + alkoholi [Concerta + Diazepam + alcohol] (messages 8, opened 2008) 3. Diapam + Alkoholi [Diazepam + Alcohol] (messages 20, opened 2008) 4. Temesta ja alkoholi [Temesta and alcohol] (messages 9, opened 2010) 5. Alkoholismi (+ bentsoja ja kannabista) kysymys [Alcoholism (+ benzos and cannabis) question] (messages 11, opened 2011) 6. Olut + Zopinox [Beer + Zopinox] (messages 13, opened 2012) 7. Alkoholi ja pillerit [Alcohol and pills] (messages 8, opened 2013) 8. Lyrica + Xopinox + alkoholi [Lyrica + Xopinox + alcohol] (messages 5, opened 2013) 9. Alkoholi osana sekakäyttöä [Alcohol as part of polydrug use] (messages 8, opened 2014) 10. Klonatsepam + alko [Clonazepam + booze] (messages 23, opened 2014) 11. Opamox ja olut [Oxazepam and beer] (messages 11, opened 2014)
Discussion threads from the Swedish Flashback forum
<ol style="list-style-type: none"> 1. Blanda E med alkohol [To blend ecstasy with alcohol] (messages 17, opened 2005) 2. tjack + alkohol? [Speed + alcohol?] (messages 40, opened 2006) 3. Diazepam + alkohol + badkar [Diazepam + alcohol + bathtub] (messages 8, opened 2007) 4. Amfetamin och alkohol [Amphetamine and alcohol] (messages 13, opened 2008) 5. Kodein + alkohol [Codeine + alcohol] (messages 10, opened 2008) 6. Concerta, Ritalin & Stratera + alkohol [Concerta, Ritalin & Stratera] (messages 9, opened 2011) 7. Kan jag dricka alkohol efter intag av benso? [Can I drink after the intake of benzos?] (messages 12, opened 2012) 8. Heroin förut, MDMA och alkohol ikväll [Heroin earlier, MDMA and alcohol tonight] (messages 7, opened 2014) 9. Öl och benzo varför så farligt? [Why are beer and benzos so dangerous?] (messages 12, opened 2014) 10. Kola med Alkohol – Vad är grejen? [Cocaine with alcohol – What's the point?] (messages 13, opened 2014) 11. Xanor & alkohol en underskattad kombination? [Alprazolam & alcohol an underrated combination?] (messages 49, opened 2014)

Metaphors as an analytical tool

In the analysis, we focus on metaphorical expressions through which the discussants communicate their experiences of the studied substance combinations. According to Lakoff and Johnson (1980b), the human conceptual system is fully metaphorical in character, as metaphorical concepts are understood in terms of other concepts. A characteristic of metaphors is that they connect two conceptual domains (meaning systems) usually referring to a concrete issue, so that one is used as a source domain in understanding another: a target domain. The source domains are typically concepts that are easily perceivable and experienced, such as the human body, health and illness, animals, buildings, machines and tools, sports and games, money, food and cooking, force and movement. Respectively, the customary target domains enact nebulous concepts, such as an event or function, an emotion, a desire, a moral, an idea, society, politics, economy, human relationships, communication, life and death. In our language, there are living and dead metaphors. Living metaphors are new, identifiable and explicit, while dead metaphors are indistinct and ordinary, as they have established within the language so that we no longer identify their metaphorical origin. (Lakoff and Johnson 1980a.)

In drug discourse, different metaphors can be found endlessly, as drug talk includes plenty of dead or worn out metaphors such as “high” or “kick” and new metaphorical expressions arise continuously. Consequently, it is impossible to catch all the possible metaphors that overall exist in the online discussion. Instead, our primary objective is to show that the experiences of co-using alcohol with benzodiazepines or psychostimulants cannot be stored in one reality, but that metaphor analysis reveals expressively different realities (see Dwyer and Moore 2013). Technically, the analysis was conducted first by labelling all the metaphors that performed the studied substance combinations and by coding them inductively into different

realities that these metaphors create. Next, we explored deductively how the aspect of control appears in these realities; in doing this we took influence from previous research literature concerning the control of drug use.

Ethical considerations

Internet-based research still lacks global consensus on the guidelines for its ethical considerations (Harriman and Patel 2014), and it needs to be evaluated case by case. In our study, as we analyze information that exists in the public domain, where individuals have intentionally provided information, informed consent from the research subjects is not needed (see Secretary's... 2013). When collecting the data, we did not attend the discussions or influence the content of the websites in any way. To confirm the reliability of the analysis, the coding was conducted by two researchers. Finally, to confirm a sufficient saturation of the data, after the analysis, we made some spot checks on the online discussions beyond our final data. In the data illustrations, we do not use authentic pseudonyms or any other direct or indirect personal information in order to protect the discussants' identities. In the data quotations, we have aimed to preserve the original tone and wordings as much as possible.

The research was approved by the Ethical Committee of the National Institute for Health and Welfare, Finland on August 30, 2012, and the use of the forum Sauna was approved by the A-Clinic Foundation, Finland on March 14, 2013.

RESULTS

Regarding the co-use of alcohol and benzodiazepines, for instance, metaphors such as *work accident*, *gambling*, *lobotomy*, *everyday food* and *leaving the world behind* appeared in our

data. These metaphors anchor this drug combination to the realities of working life, games, daily routines or to corporeal, medical and spatial realities. Examples of metaphors given for the co-use of alcohol and psychostimulants were related to *machinery*, *a pig*, *children's parties* and *saturation* linking the combination to technical, animal, playful and chemical realities. In the following these metaphors are more profoundly analysed. They are taken from direct quotes representing instances of different realities they create. The quotes are then translated in English. In our sample, some realities appeared to be more prevalent than others. For example, medical and spatial realities were frequently repeated in relation to alcohol-benzodiazepine combinations. Technical realities, instead, were commonly applied in relation to alcohol-psychostimulant combinations. In other words, these metaphors were well-established having a shared understanding in online drug talk. Some metaphors, like food or saturation, were not that common representing new and creative openings and as such, living metaphors in the drug discourse (see Lakoff of Johnson 1980a).

We found that the metaphors were linked to the pharmacological characteristics of the substance combination in question. Moreover, we found that, in the realities created by the metaphors, control of use was presented differently. The different aspects of control could be divided into three overarching categories: 1) controlling the pharmacological risks, 2) controlling social appearance, and 3) ignoring control.

When the control is focused on pharmacological risks, it is based on avoiding the adverse pharmacological co-effects, such as overdose, death, and other health-related issues. Managing neurochemical psychopharmacology, especially through the expertise by experience, is strongly stressed. A capability to manage risky consequences of dangerous drug

combinations is seen as a primary object when conceptualizing the control (see Kataja et al. 2018).

Alternatively, the weight might be put on controlling social behavior and appearance under intoxication. This dimension reflects the social expectancies and codes, according to which control is conceptualized. Then, the primary concern is social appearance: as far as the behavior is taken as socially accepted, it is taken as controlled, irrespective of how dangerous the combination in question is in pharmacological terms. Decency, saving face, and dignity in front of other people are main factors motivating controlled drug taking. Correspondingly, unconventional behavior, or becoming defamed, underrated, or despised while intoxicated, are objects of avoidance. In other words, controlling the drug combinations is about being a trustful human being. (Fraser, Moore, and Keane 2014; Room 1985.)

In our data, metaphors were also found that brought up the aspect of control neither from the pharmacological nor from the social point of view. Instead, control was not considered meaningful. Reaching the 'high' was at the fore in these metaphors and the aspect of control was belittled or wholly ignored. These metaphors perform pure pleasure seeking as unproblematic and as such they contradict the public health discourse that tends to marginalize the pleasure in relation to drug use (Moore 2008). Risks of harmful health consequences as well as risks of behaving irrationally or embarrassingly were disregarded. Table 2 presents the metaphors and the realities they create as well as how the control aspect is conceptualized in these realities.

Table 2: *Metaphors for the studied substance combinations and how they are divided into different control categories.*

Aspect of control	Alcohol and benzodiazepines		Alcohol and psychostimulants	
	metaphor...	...anchored in the reality of	metaphor...	...anchored in the reality of
on pharmacological risks	work accident	working life	engine	technical reality
	gambling	games	saturation	chemical reality
on social appearance	lobotomy	medical reality	pig	animal reality
ignored or belittled	everyday food	basic needs/ corporal reality	machine	technical reality
	leaving the world behind	locations / spatial reality	children's party	playful reality

Alcohol and benzodiazepines

Combined intake of alcohol and benzodiazepines causes physical and behavioral effects.

Besides sedative and anxiolytic effects it induces, for instance, behavioral disinhibition (Paton 2002), impaired cognition, memory loss or loss of consciousness (White 2003). The metaphors given for the alcohol-benzodiazepine combination also clearly resemble its pharmacological characteristics.

For example, vocabulary from working life is used as a source domain in which use practice is constructed as a reality, where drug use is performed as a profession. In the quotation (Q1), the discussant metaphorizes a memory loss caused by alcohol and benzodiazepines as a *work accident*. In this reality, losing memory is presented as an accident, an unwanted result of drug taking, which orientates the user to exercise special caution as is often the case in many working sites. This relates to the unfortunate combining of substances, which causes

unwanted pharmacological effect (memory loss), thus, the work accident metaphor stresses the need for controlling especially the *pharmacological* risks.

Q1

I had the perfect *work accident* when I forgot that I had taken 10 mg of benzos in the morning. I started to drink the hard stuff at a pretty normal pace – meaning quite fast – and didn't feel it, but sometime in the evening I started to feel really tired while walking. Next thing you know I woke up in hospital remembering nothing after starting to feel dead beat. (Sauna)

Some discussants applied metaphors that performed memory loss as a pathological state. They underlined that state as deviant in relation to the normal and healthy state by giving medical diagnoses to those who lose control of their behavior. One discussant presented the loss of inhibitions caused by the alcohol-benzodiazepine combination as a medical operation: *lobotomy* (Q2), leading to the situation where the patient has lost his/her capacity for decent and discretionary action. The metaphor is a good illustration of the situation when control is lost especially in a *social sense*. Losing judgment means losing face, and that is understood as the worst risk.

Q2

There is nothing fucking worse than alcohol and bennies... even if you take it after you start to drink! I believe this combination can get ANYone to do WHATEver! - Ha ha, very true. A chemical *lobotomy*. (Flashback)

Paradoxically, according to one discussant, foolish things under alcohol-benzodiazepine intoxication come with the territory. By means of the *everyday food* metaphor (Q3), this discussant creates both a corporeal reality, where satisfying the basic needs is inevitable and a reality of daily routines. When the risks of arousing indignation or becoming socially embarrassed are described as a nourishment as well as something ordinary and unsurprising, controlling such behavior is conceptualized as an unthinkable question. Thus, the everyday food metaphor takes a dismissive stand on the control aspect.

Q3

What is it that's so bad? If you refer to those stupid things people do and make a fool of themselves, maybe say things they regret, so that's just an *everyday food*. (Flashback)

Again, in some realities, losing memory may be even an intended outcome. In the quotation (Q4), using the metaphor of *leaving the world behind you*, the discussant creates a spatial reality. The discussant seeks to escape from places which you do not want to be in. In this reality, losing control is not regarded as an accident or as a pathological state but rather warmly welcomed, the ultimate target of use. The risks involving in the alcohol-benzodiazepine combinations are *ignored*.

Q4

I usually use benzos and booze for the classic reason of getting off your head and *leaving the world behind you*. Once you get enough of those experiences, you notice that they didn't go as they should have. (Sauna)

The co-administration of alcohol and benzodiazepines was also anchored in the metaphor of games. At worst, the game setting is seen as a harsh gambling situation, wherein the player only stays alive by chance, which the quotation (Q5) illustrates. The discussant uses the metaphor of *gambling* to highlight the unpredictability of the effects and consequences and makes it clear that the combination may be lethal. The gambling metaphor expressively conveys a message that when combining alcohol and benzodiazepines you do not actually have any control. The metaphor reminds of the unpredictability of the co-effects; just from a *pharmacological* standpoint.

Q5

If you want to top yourself, there are better ways to do it than by *gambling* with a combo of benzos and booze, and choking on your own puke. In general, killing yourself by oral meds is a hell of a punt. (Sauna)

It is thus noteworthy that the perceptions of the co-effects of alcohol and psychostimulants, and how to control them, get different, sometimes even contradictory, meanings in different realities despite the fact that the pharmacological effects are of the same kind.

Alcohol and psychostimulants

The physical and behavioral effects of alcohol and psychostimulants (e.g. amphetamine, ecstasy, cocaine) are associated with increased heart rate, increased alertness and prolonged sensation of euphoria (Althobaiti & Sari 2016). While obscuring the sedative effects of alcohol, psychostimulants may lead to excessive alcohol consumption and intoxication (Althobaiti & Sari 2016), which facilitates the impairment of judgment and decision making (e.g. Hagger-Johnson et al. 2011). These effects appear well in online discussions regarding the combinations of alcohol and psychostimulants, as well as in the realities created by the metaphors.

One discussant makes sense of this combination by a metaphor of a *pig*, as in the quotation (Q6). This metaphor relates drug use to a bestial reality in which human behavior is regarded as inhumane, animal, even beastly, highlighting negligent, irresponsible, arrogant, and selfishly pleasure-seeking behavior. In the reality this metaphor creates, combining alcohol with amphetamines is performed as producing primitive, instinctual behavior, inferior to rational human behavior. The *pig* metaphor surely relates to the excessive consumption of substances and as such, implies *socially questionable behavior* under intoxication as the worst risk to be controlled.

Q6

A couple of years ago, a couple of friends and I set up a camera in a strategic place and filmed ourselves on two occasions: once while only using speed and the other time we also drank;

and we were able to conclude that when alcohol was mixed in we were drunken *pigs*.
(Flashback)

A completely different reality is created with the *machine* metaphor, which the quotation (Q7) demonstrates. The human body is perceived as a machine for which the alcohol-amphetamine combination works as a fuel. The level of alertness is chemically manipulated by means of appropriate substance selection, combination, and dosage. This implies that all bodily functions are wholly under the user's control. In this kind of technical reality, with the right 'fuel', the machine is kept in an ideal state and fully functioning.

Q7

Personally, I feel that alcohol and speed go together perfectly! I love to take speed when out partying and keep my *machine* running all night! (Flashback)

In contrast, sometimes the combination may be a burden to the 'machinery' when incorrectly portioned, as is illustrated in the quotation (Q8), in which the *engine* has to go at maximum level. Even though the meaning of the latter differs from the former, they both share the same technical reality. The heightening heart rate caused by alcohol and amphetamine is performed as an *engine* that needs to go at maximum level if the control slips. That is to say, the control is understood in *pharmacological* terms.

Q8

When I take amphetamines, and afterwards drink something alcoholic, it pushes my heart rate up high. Does anyone know why that is? My only sensible theory is that the body must make the *engine go at maximum level* to burn off all the shit. (Flashback)

Obscuring the alcohol's sedative effects by amphetamine is well demonstrated in the following quotation (Q9), where the combination is performed as a celebration. The metaphor *children's party* creates a reality of play and joy that does not take into account the risks

involved in this combination but praises the pleasurable aspects of it. Jubilation is stressed over the risky qualities of the combination. There is no room for controlling the combination in this realm.

Q9

As I said, that's a *children's party*. You don't get drunk at all, everything becomes even better. (Flashback)

The risks of drinking too much under the effects of amphetamines were also recognized in the following quotation (Q10). One discussant creates a chemical reality, applying a *saturation* metaphor when accounting his/her bad experiences of co-using alcohol and amphetamines. In this reality, the human body functions in terms of chemistry according to which the excessive alcohol consumption, due to the use of amphetamines, leads to severe consequences – eventually resulting in seeking detoxification. This example highlights the risks of combining alcohol and psychostimulants strongly from the *pharmacological* viewpoint.

Q10

Sometimes when I used speed [amphetamine], I was too lively to understand how badly I have *saturated* myself with alcohol. A couple of times this hobby ended up in detox when I was in terrible shape. (Sauna)

As our analysis pointed out, the effects of the alcohol-psychostimulant combination are experienced in different ways and controlling the risks of the combination is also differently conceptualized in different realities.

DISCUSSION

In this article we analyzed how people who use alcohol in combination with benzodiazepines or psychostimulants share their experienced by means of metaphoric expressions in Finnish

and Swedish online discussion fora. We were interested in how the realities created by these metaphors orientate the discussants to control the risks of these substance combinations.

Studying these exact substance combinations is important, as alcohol increases the toxicity and risks of benzodiazepines and psychostimulants producing dangerous, sometimes even fatal, interactions (Althobaiti and Sari 2016; Hamida et al. 2008; Manley and Little 1997; Schmitz 2016; Tanaka 2002; White 2003).

We found that, regarding the co-intake of alcohol and benzodiazepines, metaphors, such as work accident, gambling, lobotomy, everyday food, and leaving the world behind, appeared in our data. These metaphors anchor this combination to the realities of working life, games, daily routines, or to corporeal, medical, and spatial realities. Metaphors given for the co-use of alcohol and psychostimulants were related with machinery, pig, children's party, or saturation, linking the combination to technical, animal, playful, and chemical realities. The metaphors given to the use of these combinations reflect their pharmacological characteristics.

Moreover, we found that, in the realities the metaphors create, control manifests itself in various ways, partly depending on the motives for drug taking. While for some discussants, control means a conscious regulation of the dosage and timing of ingestion, for others, control means a controlled outward appearance, despite heavy intoxication. In some realities, control is not an issue, but instead taken for granted. Conversely, some realities produce control as something absurd and impossible and, paradoxically, in some realities, losing control is the ultimate objective of substance use.

We divided these different aspects of control into three categories: 1) Controlling the pharmacological risks of the combination. Prioritizing this control aspect, the most severe

consequences of the co-effects are best prevented. Mastering the pharmacological and neurochemical properties of different substances thus appears to be central in this aspect (cf. Kataja et al. 2018). (2) Controlling the social appearance and behavior. Being able to control substance use in a way that people preserve their dignity and credibility in front of others and seeing losing control as losing face – as Room (1985) has argued – were both obvious in some metaphors. 3) Controlling any risks, either pharmacological or social, of these combinations was wholly ignored and the pleasure aspect was brought up as the primary message mediated online. This is not a surprising outcome, as the fundamental reason for drug taking is, in one way or another, seeking pleasure (Moore 2008).

A noteworthy finding is that, despite the metaphors resemble the pharmacological characteristics of the two studied substance combinations, the conception of control did not follow this division - even though the combinations were opposite in terms of pharmacological effects, goals and risks. Instead, the co-use of substances was divided into different control categories in terms of what is considered as a risk. This generates a more profound division into different values and attitudes towards the use of illicit drugs – a division that is not rooted in any substance's effects as such. Knowledge of how people perceive the risks of substance combinations is increasingly important, as the online environment provides new arenas to obtain, share, and mediate diverse drug information that questions traditional perceptions (Manning 2014; Murguía et al. 2007). It also enables the entrenchment and normalization of drug use practices that would earlier have been regarded as strange or unaccepted: a total loss of control as a conscious target of use as an example (see O’Gorman 2016; Parker 2005).

Our findings apply to Finnish and Swedish speaking people who, in principal, operate on the Internet. We should consider that there are surely social meanings that take place only offline, in different cultural and political contexts or, alternatively, are left in the spaces of the dark web. However, what we reached with our analysis was to bring forward the diverse, contradictory, and even conflicting realities in which the co-use of alcohol with benzodiazepines or psychostimulants are perceived, and controlling them is differently conceptualized (Dwyer and Moore 2013).

As Lakoff and Johnson (1980a) state, metaphors provide a powerful means of justifying certain kinds of behavior. According to our outcomes, the metaphors orientate the forum users to control potentially risky substance combinations. However, by means of some metaphors, even the very hazardous combinations that include fatal risks are justified. Regrettably, often the actual health dangers and risks were bypassed, and the control was rather understood either as a form of socially appropriate behavior or wholly ignored. This should be better acknowledged and managed in preventive and harm-reduction work. Information about the pharmacological risks of the combinations of alcohol with benzodiazepines or psychostimulants and about safe way to control these risks needs to be disseminated.

¹<https://www.paihdelinkki.fi/keskustelu/viewforum.php?f=1>

²<https://www.flashback.org/f3>

REFERENCES

- Abbasi-Ghahramanloo A., A. Fotouhi, H. Zeraati, and A. Rahimi-Movaghar. 2015. Prescription drugs, alcohol, and illicit substance use and their correlations among medical sciences students in Iran. *International Journal of High Risk Behaviors and Addiction* 4 (1): e21945.
- Althobaiti, Y. S, and Y. Sari. 2016. Alcohol interactions with psychostimulants: an overview of animal and human studies. *Journal of Addiction Research & Therapy* 7(3): DOI:10.4172/2155-6105.1000281
- Baggio S., S. Deline, J. Studer, A. N’Goran, M. Mohler-Kuo, J. B. Daeppen, and G. Gmel. 2014. Concurrent versus simultaneous use of alcohol and non-medical use of prescription drugs: Is simultaneous use worse for mental, social, and health issues? *Journal of Psychoactive Drugs* 46 (4):334–339.
- Hagger-Johnson, G., B. M. Bewick, M. Conner, D. B. O’Connor, and D. Shickle. 2011. Alcohol, conscientiousness and event-level condom use. *British Journal of Health Psychology* 16: 828–845.
- Coffin, P. O., S. Galea, J. Ahern, A. C. Leon, D. Vlahov, and K. J. Tardiff. 2003. Opiates, cocaine and alcohol combinations in accidental drug overdose deaths in New York City, 1990–98. *Addiction* 98 (6):739–747.

Deza, M. 2015. The effects of alcohol on the consumption of hard drugs: Regression discontinuity evidence from the National Longitudinal Study of Youth, 1997. *Health Economics* 24:419–438.

Dwyer R., and D. Moore. 2013. Enacting multiple methamphetamines: The ontological politics of public discourse and consumer accounts of a drug and its effects. *International Journal of Drug Policy* 24 (3):203–211.

Fraser S., D. Moore, and H. Keane. 2014. *Habits. Remaking addiction*. Basingstoke: Palgrave Macmillan.

Hakkarainen, P., and L. Metso. 2009. Joint use of drugs and alcohol. *European Addiction Research* 15:113–120.

Hakkarainen, P., C. Tigerstedt, and T. Tammi. 2009. Dual-track drug policy: Normalization of the drug problem in Finland. *Drugs: Education, Prevention and Policy* 14 (6):543–558.

Hamida, S. B., E. Plute, B. Cosquer, C. Kelche, B. C. Jones, and J-C. Cassel. 2008. Interactions between ethanol and cocaine, amphetamine, or MDMA in the rat: thermoregulatory and locomotor effects. *Psychopharmacology* 197:67–82.

Harriman S., and J. Patel. 2014. The ethics and editorial challenges of internet-based research. *BMC Medicine* 12:124.

Health Statistics for the Nordic Countries 2017. Copenhagen: Nordic Medico-Statistical Committee, NOMESCO. Accessed March 5, 2019.
<http://norden.divaportal.org/smash/get/diva2:1148509/FULLTEXT05.pdf>

Karlsson, T. 2014. *Nordic alcohol policy in Europe. The adaptation of Finland's, Sweden's and Norway's alcohol policies to a new policy framework 1994-2013*. Academic Dissertation. Helsinki: National Institute for Health and Welfare.

Karjalainen K., T. Lintonen, A. Impinen, P. Mäkelä, O. Rahkonen, P. Lillsunde, and A. Ostamo. 2010. Mortality and causes of death among drugged drivers. *Journal of Epidemiology and Community Health* 64:506–512.

Kataja, K., P. Hakkarainen, and S. Väyrynen. 2017. Risk-taking, control and social identities in narratives of Finnish polydrug users. *Drugs: Education, Prevention and Policy, Early Online*: 1–10. doi: 10.1080/09687637.2017.1335285.

Kataja, K., J. Törrönen, P. Hakkarainen, and C. Tigerstedt. 2018. A virtual academy of polydrug use. Masters, novices and the art of combinations. *Nordic Studies on Alcohol and Drugs* 35 (6):413–427.

Lakoff, G., and M. Johnson. 1980a. *Metaphors we live by*. Chicago: University of Chicago Press.

Lakoff, G., and M. Johnson. 1980b. The metaphorical structure of the human conceptual system. *Cognitive Science* 4:195–208.

Lamy, F. 2014. *Studying recreational polydrug use through an ontology agent-based simulation*. Academic Dissertation. Chicago: University of Lille/Charles Stuart University.

Manley, S. J., and H. J. Little. 1997. Enhancement of amphetamine- and cocaine-induced locomotor activity after chronic ethanol administration. *Journal of Pharmacology and Experimental Therapeutics* 281 (3): 1330–1339.

Manning, P. 2014. *Drugs and popular culture in the age of new media*. New York, NY: Routledge.

Marlatt A., and K. Fromme. 1987. Metaphors for addiction. *Journal of Drug Issues* 17 (1):9–28.

Measham, F., and K. Moore. 2009. Repertoires of distinction: Exploring patterns of weekend polydrug use within local leisure scenes across the English night time economy. *Criminology & Criminal Justice* 9 (4):437–464.

Mol A. 2002. *The body multiple: Ontology in medical practice*. Durham: Duke University Press.

Montagne, M. 1988. The metaphorical nature of drugs and drug taking. *Social Science & Medicine* 26 (4):417–424.

Moore, D. 2008. Erasing pleasure from public discourse on illicit drugs: On the creation and reproduction of an absence. Commentary. *International Journal of Drug Policy* 19:353–358.

Moore D., S. Fraser, J. Törrönen, and M. Eriksson Tinghög. 2015. Sameness and difference: Metaphor and politics in the constitution of addiction, social exclusion and gender in Australian and Swedish drug policy. *International Journal of Drug Policy* 26 (4):420–428.

Moss H. B., R. B. Goldstein, C. M. Chen, and H. Y. Yi. 2015. Patterns of use of other drugs among those with alcohol dependence: Associations with drinking behaviour and psychopathology. *Addictive Behaviors* 50:192–198.

Murguía, E., M. Tackett-Gibson, and A. Lessem, eds. 2007. *Real drugs in a virtual world. Drug discourse and community online*. Lanham, MD: Lexington Books.

Neale J., and C. Stevenson. 2015. Social and recovery capital amongst homeless hostel residents who use drugs and alcohol. *International Journal of Drug Policy* 26:475–483.

O’Gorman, A. 2016. Chillin, buzzin, getting mangled, and coming down: Doing differentiated normalization in risk environments. *Drugs: Education, Prevention and Policy* 23 (3), 247–254.

O’Grady, K. E., A. M. Arria, D. M. B. Fitzelle, and E. D. Wish. 2008. Heavy drinking and polydrug use among college students. *Journal of Drug Issues* 38 (2):445–466.

Parker, H. 2005. Normalization as a barometer: Recreational drug use and the consumption of leisure by young Britons. *Addiction Research and Theory* 13 (3):205–215.

Paton, C. 2002. Benzodiazepines and disinhibition. *Psychiatric Bulletin* 26:460-462.

Quintero, G. 2009. A cultural analysis of collegiate polydrug use. *Journal of Psychoactive Drugs* 41 (1):39–47.

Room, R. 1985. Dependence and society. *British Journal of Addiction* 80:133–139.

Rosino, M., and A. Linders. 2015. Howard Becker in hyperspace: Social learning in an on-line drug community. *Deviant Behavior* 36:725–739.

Santos, R., Y. Baldin, C. M. Carlini, and Z. M. Sanchez. 2015. Classification of alcohol use disorders among nightclub patrons: Associations between high-risk groups, sociodemographic factors and illicit drug use. *The American Journal of Drug and Alcohol Abuse* 41 (5):433–441.

Secretary's Advisory Committee on Human Research Protections. 2013. *Considerations and recommendations concerning internet research and human subjects research regulations, with revisions*. Rockville: Office for Human Research Protections. Accessed December 4, 2017.

https://www.hhs.gov/ohrp/sites/default/files/ohrp/sachrp/mtgings/2013%20March%20Mtg/internet_research.pdf

Schmitz, A. 2016. Benzodiazepine use, misuse, and abuse: A review. *Mental Health Clinician* 6 (3):120-126. DOI: 10.9740/mhc.2016.05.120.

Tammi, T., T. Pitkänen, and J. Perälä. 2011. Stadin nistit - huono-osaisten helsinkiläisten huumeidenkäyttäjien päihteet sekä niiden käyttötavat. [The junkies of the city: substances and their use patterns among disadvantaged Helsinki citizens]. *Yhteiskuntapolitiikka* 76 (1):45–54.

Tanaka, E. 2002. Toxicological interactions between alcohol and benzodiazepines. *Clinical Toxicology* 40 (1): 69–75.

White, A.M. 2003. What happened? Alcohol, memory blackouts, and the brain. *Alcohol Research & Health* 27 (2): 186–196.