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Alcohol representations are socially situated:

An investigation of beverage representations by using a property generation task

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26 **Abstract**

27 Previous research suggests that people's representations of alcoholic beverages play an
28 important role in drinking behavior. However, relatively little is known about the contents of
29 these representations. Here, we introduce the property generation task as a tool to explore
30 these representations in detail. In a laboratory study ($N = 110$), and a bar field-study ($N = 56$),
31 participants listed typical properties of alcoholic beverages, sugary beverages, and water.
32 Each of these properties was then categorized using a previously developed, hierarchical
33 coding scheme. For example, the property "sweet" was categorized as referring to "taste",
34 which falls under "sensory experience", which falls under "consumption situation".
35 Afterwards, participants completed measures of drinking behavior and alcohol craving.
36 Results showed that alcoholic beverages were strongly represented in terms of consumption
37 situations, with 57% and 69% of properties relating to consumption in the laboratory and the
38 bar study, respectively. Specifically, alcoholic beverages were more strongly represented in
39 terms of the *social context* of consumption (e.g., "with friends") than the other beverages. In
40 addition, alcoholic beverages were strongly represented in terms of *sensory experiences* (e.g.
41 "sweet") and *positive outcomes* (e.g. "creates fun"), as were the sugary beverages and water.
42 In Study 1, the extent to which alcoholic beverages were represented in terms of social
43 context was positively associated with craving and regularly consuming alcohol. The
44 property generation task provides a useful tool to access people's idiosyncratic
45 representations of alcoholic beverages. This may further our understanding of drinking
46 behavior, and help to tailor research and interventions to reduce drinking of alcoholic and
47 other high-calorie beverages.

48

49 **Keywords:** alcohol, representation, drinking behavior, property generation task,
50 consumption, craving

51 Introduction.

52 Alcoholic beverages supply many calories and their consumption contributes to the rise in
53 obesity (Shelton & Knott, 2014). To develop effective interventions to reduce alcohol
54 consumption, much research has therefore focused on exploring its predictors, such as on
55 norms, implicit and explicit attitudes, and habits (for reviews, see Rooke, Hine, &
56 Thorsteinsson, 2008; Stacy & Wiers, 2010). Importantly, these predictors of drinking
57 behavior all rely on specific psychological representations of alcoholic beverages, i.e. storage
58 structures of information about the world (Barsalou, 2008). For example, someone who
59 represents alcohol as reducing sorrow may be motivated drink when trying to cope with an
60 illness in the family. Furthermore, when a representation related to drinking is activated, such
61 as the context of “socializing”, this may initiate the habitual behavior to drink (Sheeran et al.,
62 2005). Even though these and other findings clearly suggest that representations play an
63 important role in drinking behavior (Wyer Jr., 2007), little is known about the *content* of
64 alcohol representations. Partially this may be because it is difficult to study them well, and
65 because they are highly idiosyncratic. For example, while some people have a positive
66 implicit attitude towards alcohol because it is part of their fun times with friends, others’
67 positive attitudes may be driven by past experiences where a drink lightened up difficult
68 situations. Here, we suggest that a property generation task can be a useful tool to examine
69 these representations (McRae, Cree, Seidenberg, & McNorgan, 2005). To demonstrate how
70 this tool can be used, we examined people’s representations of alcoholic beverages in two
71 studies. Furthermore, we examined if specific aspects of an alcohol representation were
72 associated with the motivation to drink. We therefore also included established measures of
73 drinking-related cognitions and behavior in our research, such as state alcohol craving,
74 explicit motives to drink alcohol, and actual drinking choices.

75 Formation and expression of representations.

76 The formation of representations occurs continuously while interacting with the
77 world, and they emerge from, amongst others, bodily states, sensory information, and the
78 environment (Barsalou, 2008; Barsalou, Simmons, Barbey, & Wilson, 2003; Borghi, 2015).
79 The relevant properties of one's experiences are then stored and associated together in
80 memory as comprehensive representations (Barsalou, 2015). These representations are based
81 on an individuals' own learning experience, and are therefore highly idiosyncratic. The
82 properties that are encoded from the experience of drinking a beer may for instance include
83 sensory input (e.g. "cold", "bitter taste") and positive outcomes (e.g. "hedonic enjoyment").
84 Furthermore, as appetitive objects are consumed within a certain situation, representations
85 may also include information about the physical context (e.g. "in a bar") as well as the social
86 context ("with friends"). The beverages are thus not represented in isolation, but may include
87 relevant contextual information (Barsalou, 2015; Barsalou et al., 2003). To the degree that
88 one has similar experiences over time, the associations between the shared features of these
89 experiences become increasingly entrenched in memory.

90 The fact that representations become increasingly entrenched in memory allows them
91 to be easily activated again in similar situations, in order to prepare for action, such as the
92 consumption of alcohol (Barsalou, 2009). When any part of a representation gets activated,
93 properties in the associative pattern of the representation may then also get activated through
94 pattern completion inferences (Barsalou, 2009). All these activated properties are then "re-
95 experienced" (i.e., simulated; Hesslow, 2002), such that the brain is brought into a similar
96 state as when the object was actually there and experienced (Barsalou, 2002). These
97 processes of pattern completion and simulation assist prediction and preparation for action
98 (Holyoak, Novick, & Melz, 1994). For instance, when a property that is part of the
99 representation of "beer" is perceived, such as the contextual information of being at a party
100 (Reich, Goldman, & Noll, 2004), a pattern completion process may activate associated

101 features. This may then result in simulations of the taste and hedonic enjoyment of drinking
102 beer, as well as approach responses that facilitate the process of actually grabbing the beer
103 someone is offering, or walking to the bar and ordering one. Conversely, the perception of an
104 alcoholic beverage itself may also trigger rewarding simulations through pattern completion
105 inferences, making the beverage seem even more attractive. For instance, one might simulate
106 feeling “buzzed”, being with good friends, or dancing at a party, making the beverage seem
107 more attractive, and thereby increasing the motivation to drink it. In short, any property may
108 activate a previously stored situated representation in the form of simulations, which then
109 prepare for action, such as drinking alcohol.

110 Although the abovementioned line of reasoning has never been directly tested in the
111 domain of alcohol, much research provides evidence that alcohol-related representations
112 influence thought and behavior with regards to alcohol (for reviews, see Rooke, Hine, &
113 Thorsteinsson, 2008; Stacy & Wiers, 2010). Activating outcome representations of alcohol
114 consumption with word exposure (e.g. “buzzed”, “sexy”), for instance, increases accessibility
115 to other alcohol-related properties and increases alcohol consumption (Hill & Paynter, 1992;
116 Stein, Goldman, & Del Boca, 2000; Weingardt et al., 1996). Furthermore, habits
117 automatically initiate drinking behavior in response to a contextual drinking cue, such as
118 thoughts about “socializing” (Aarts & Dijksterhuis, 2000; Albery, Collins, Moss, Frings, &
119 Spada, 2015; Sheeran et al., 2005). Moreover, merely exposing people to images of alcoholic
120 beverages can facilitate aggressive behavior, especially for people who associate drinking
121 with aggression (Bartholow & Heinz, 2006). From a grounded cognition perspective (Papies
122 & Barsalou, 2015), the perception of an alcoholic beverage trigger simulations of properties
123 in the alcohol representation through pattern completion inferences, such that it triggers
124 simulations of sensory experiences (e.g. “bitter”, “sparkling”), cognitions (e.g. “aggressive”)

125 or behaviors (e.g. “drinking”). These simulations effectively prepare for action, such as the
126 actual consumption of alcohol or aggressive behavior.

127 *Content of representations.*

128 While many lines of research indicate that the idiosyncratic representations of alcohol
129 are potentially important for understanding drinking behavior (for reviews, see Rooke, Hine,
130 & Thorsteinsson, 2008; Stacy & Wiers, 2010), little is known about their content. Previous
131 research found that representing alcoholic beverages in terms of positive expectancies (e.g.
132 “feeling calm”) rather than negative expectancies (e.g. “feeling dizzy”) is correlated with
133 alcohol consumption (Jones, Corbin, & Fromme, 2001). In another line of research,
134 participants freely listed outcome expectancies to the prompt “Alcohol makes one”
135 (Rather & Goldman, 1992; Rather, Goldman, Roehrich, & Brannick, 1992; Dunn &
136 Goldman, 1998; Goldman, 1999). Here, participants were found to strongly represent
137 alcoholic beverages on the dimensions of sedation-arousal and negative/antisocial-
138 positive/social. Another line of research found that representing the act of drinking alcohol at
139 a higher level (e.g. “quenching my thirst”, “getting drunk”), rather than at a lower level (e.g.
140 “swallowing different beverages”), is correlated with difficulty in controlling consumption
141 (Palfai & Ostafin, 2010; Wegner & Vallacher, 1986; Wegner, Vallacher, & Dizadji, 1989).
142 An explanation for this effect is that representations at a higher level provide a motivation to
143 drink (Palfai & Ostafin, 2010). These studies are informative but typically only focus on one
144 aspect of the representation, such as outcome expectancies or action identifications.

145 Using a property generation task allows us to examine all aspects of people’s
146 representations simultaneously. In this task, participants list typical properties of a stimulus
147 presented to them (McRae et al., 2005; Santos et al., 2011). Typically, participants are not
148 aware of the construct being measured in a property generation task, rendering this a
149 somewhat implicit measure (De Houwer & Moors, 2007). Earlier research in the domain of

150 food (Papies, 2013), for instance, found strong representations in terms of the sensory
151 system, hedonic features, and eating situations for attractive relative to neutral foods –
152 examples of outcomes for chips being “salty, delicious, at night, edible”. Based on this earlier
153 research, an example outcome from the task for a beer might be “with friends, bitter,
154 delicious, made from hops”. As these representations depend on a person’s earlier
155 experiences, they are highly idiosyncratic. Furthermore, representations are highly context
156 dependent: on a night out with friends, an alcoholic beverage likely elicits different
157 representations than in the morning after a night of heavy drinking. This can also be reflected
158 in the results of a property generation task.

159 The current work adds to the domain of alcohol by exploring the full breadth of
160 people’s representations of alcohol, including outcome expectancies, sensory information,
161 action information, and context. The outcome expectancy literature for instance focuses on
162 the outcome expectancies aspect of people’s representations. This is also enforced in the used
163 methods, e.g. asking participants to respond to: “Alcohol makes one...”. Representations of
164 alcohol may be much broader, however (e.g. Barsalou, 2002; Papies, 2013), including
165 sensory information and context information. The literature on habits also suggests that this
166 context information -- independent of outcome expectancies -- is vital for inducing behavior
167 (e.g. Danner, Aarts, & de Vries, 2008). The current manuscript thus connects the outcome
168 expectancy literature with the literature on habits, as any property including context or
169 outcome expectancies can be listed in the property generation task. This is useful as both
170 context and outcome expectancies may be important aspects of people’s representations, and
171 in predicting drinking behavior.

172 Although based on verbal reports, recent research shows that the property generation
173 task reveals more than superficial word associations (Santos et al., 2011; Simmons, Hamann,
174 Harenski, Hu, & Barsalou, 2008). In research by Wu & Barsalou (2009), for instance,

175 participants were instructed to describe their imagery, engage in property generation, or list
176 mere word associations. The distribution of properties from imagery and property generation
177 instructions differed from those produced during word association, such that only in the first
178 two conditions, participants listed properties that come up when one simulates engaging with
179 the object. Furthermore, when using the property generation task in the domain of food,
180 Papies (2013) found participants to list eating simulation properties reflecting taste and
181 texture, rather than them merely listing superficial word associations (e.g. “monster” for
182 cookie) or category information (e.g. “food” for chips). Thus, responses in the property
183 generation task go beyond mere word associations.

184 When using the property generation task to study features of representations at the
185 group level, the listed properties are categorized using a systematic coding scheme as
186 described in the section *property generation task*. This allows us to learn about certain
187 drinking traditions in a culture, such as drinking during lunch or social occasions. In contrast,
188 by studying representations on the individual level, we can learn more about what aspects of
189 drinking episodes are relevant to an individual, which can be used to tailor research and
190 interventions to the individual.

191 **The present research.**

192 We examined representations of alcoholic beverages using a property generation task
193 in the laboratory at the university (Study 1) and in two local bars (Study 2). Our research was
194 largely exploratory, but based on similar research in the domain of eating (Papies, 2013), we
195 hypothesized that the content of people’s representations of alcoholic beverages would be
196 dominated by features of consumption situations, such as sensory features, context features,
197 and consequences of drinking. Parallel to findings in the domain of eating (Papies, 2013), we
198 further hypothesized that representing alcohol in terms of a consumption situation would be
199 positively associated with measures of drinking behavior, such as alcohol craving.

200 **Study 1.**

201 *Methods.*

202 *Participants.*

203 110 participants were included in the analyses (41 male; age mean = 21 years). Four
204 additional participants indicated that they never drink alcohol, and one participant selected
205 the same beverages for frequently consumed alcohol as for alcohol that he/she never
206 consumed. These participants were therefore excluded from the analyses.

207 *Design and stimuli.*

208 The study had a within-participants design comparing four types of beverages. As
209 critical type of beverage, participants (1) selected their three most frequently consumed
210 alcoholic beverages out of 12 commonly consumed alcoholic beverages (e.g. beer, white
211 wine). As controls, participants selected (2) three alcoholic beverages with which they were
212 familiar, but which they did not drink themselves, (3) their three most frequently consumed
213 sugary beverages out of an array of 12 commonly consumed sugary beverages (e.g. cola, ice
214 tea), and all participants were shown (4) a bottle of water.

215 *Materials.*

216 *Craving.* Participants indicated the extent to which they craved an alcoholic beverage
217 (beer, wine, cocktail etc.) on a Likert scale ranging from 0 (no craving at all) to 10 (a strong
218 craving; Rohsenow et al., 1997). Afterwards, they indicated the extent to what extent they
219 desired to drink water on a similar scale.

220 *Drink choice task.* Participants were informed that there was a bar opposite to the
221 laboratory building. A picture of the bar interior and three vouchers were presented on the
222 screen. Participants were asked what type of voucher they would like to receive, if this study
223 offered such vouchers as rewards. They could then select one out of three options: “Soft-

224 drink/Juice” or “Coffee/Tea” or “Beer/Wine”. For the analyses, we recoded their choice as
225 “non-alcoholic beverage” or “alcoholic beverage”.

226 *Drinking motives.* The drinking motive questionnaire-revised-short form (DMQ-R-
227 SF; Kuntsche & Kuntsche, 2009) was used to assess drinking motives (enjoyment, social,
228 conformity, coping). Each motive was assessed with 3 items on a scale from 1 (never/almost
229 never) to 5 (always/almost always), all $\alpha > .68$.

230 *Uncontrollability of alcohol thoughts.* An uncontrollability/thought-action fusion
231 scale (Hoyer, Hacker, & Lindenmeyer, 2007) was used to assess the amount of control that
232 participants experience over their alcohol-related thoughts. This scale has 8 items (e.g.
233 “alcohol-related thoughts really make me drink”), to which participants could respond to
234 from 0 (completely disagree) – 4 (completely agree), $\alpha = .80$.

235 *Temptation.* To assess alcohol temptations experienced by participants, we used a
236 scale of 9 items (e.g. “When you feel alone, does that make you want to drink alcohol?”;
237 Collins & Lapp, 1992; $\alpha = .82$). Participants could respond from 1 (never) to 9 (always).

238 *AUDIT.* The alcohol use disorders identification test (AUDIT; Saunders, Aasland,
239 Babor, de la Fuente, & Grant, 1993) was used to detect harmful alcohol usage. It has 10 items
240 (e.g. “In the last year, did you need alcohol in the morning to get going?”), $\alpha = .79$. Sum
241 scores of 8 or over indicate hazardous drinking behavior, which is the increased risk of
242 negative physical and mental health consequences for the drinker.

243 *Additional measures.* At the end, participants were asked how many alcoholic
244 beverages they drink on a normal day, and on a “party night”. Participants were furthermore
245 asked to rate on a scale from each selected beverage on liking, frequency of consumption,
246 and the extent to which the beverages were consumed in similar contexts. This was all done
247 on a scale from 1 (not at all) to 7 (very much). As habits have been argued to constitute
248 frequent behaviors in a stable context (Danner et al., 2008; Aarts & Dijksterhuis, 2000), we

249 multiplied both these ratings, allowing for a habit index ranging from 1 (no drinking habit at
250 all) to 49 (very strong drinking habit). Participants were asked to indicate how they evaluate
251 being drunk on a scale from 1 (negative) to 7 (positive).

252 *Property generation task.* For the property generation task, participants were informed
253 that they would see several objects. They were asked to write down the typical properties of
254 each object that spontaneously came to mind (McRae et al., 2005; Papies, 2013), and to name
255 at least 5 properties. To illustrate, participants were shown images of two example objects
256 (e.g., *sponge*) and potential properties (such as “yellow”, “soft”, “wet”).

257 In the actual task, participants were presented with images of the 10 beverages as
258 described in the design and stimuli section (i.e. 3 frequently consumed alcoholic beverages, 3
259 alcoholic beverages the participant never consumes, 3 frequently consumed sugary
260 beverages, and water), and 10 neutral objects (e.g. envelope, pen) in random order, with a
261 textbox to list the properties. The images were presented on the screen until the participant
262 finished responding. There was a 1500ms interval between objects.

263 We coded each property using a previously developed coding scheme consisting of 41
264 categories organized in a hierarchical structure (Keesman, Papies, Lindner, & Barsalou, in
265 preparation). The main overarching categories contained consumption situations (i.e. any
266 aspect of a consumption episode, such as the taste of the object), non-consumption situations
267 (i.e. any aspect of a situation unrelated to consumption, such as how the object is produced or
268 stored), and situation-independent (i.e. any aspect that is present in both a consumption as
269 well as in a non-consumption situation, such as the ingredients of the object or its visual
270 properties). To further clarify the distinction between these categories, red wine is used as an
271 example beverage. Some properties are consumption-situation specific, such that “taste” is
272 only experienced when consuming the product. Some properties are non-consumption
273 specific, such that “stored in a bottle” only holds true for red wine in the “non-consumption

274 situation” of storage – wine cannot be stored and consumed at the same time. The visual
275 property of “red”, on the other hand, is true for red wine regardless of its situation: it is true
276 both when it is being consumed and when it is being stored. Thus, some properties are
277 consumption-situation specific (e.g. taste), some are non-consumption situation specific (e.g.
278 storage), and some are independent of these situations (e.g. visual). This coding scheme is
279 based on previous coding schemes (McRae et al., 2005; Papies, 2013; Wu & Barsalou, 2009),
280 and was further adapted to capture experiences with consumptive objects. An overview of the
281 category structure with examples is included as Figure 1.

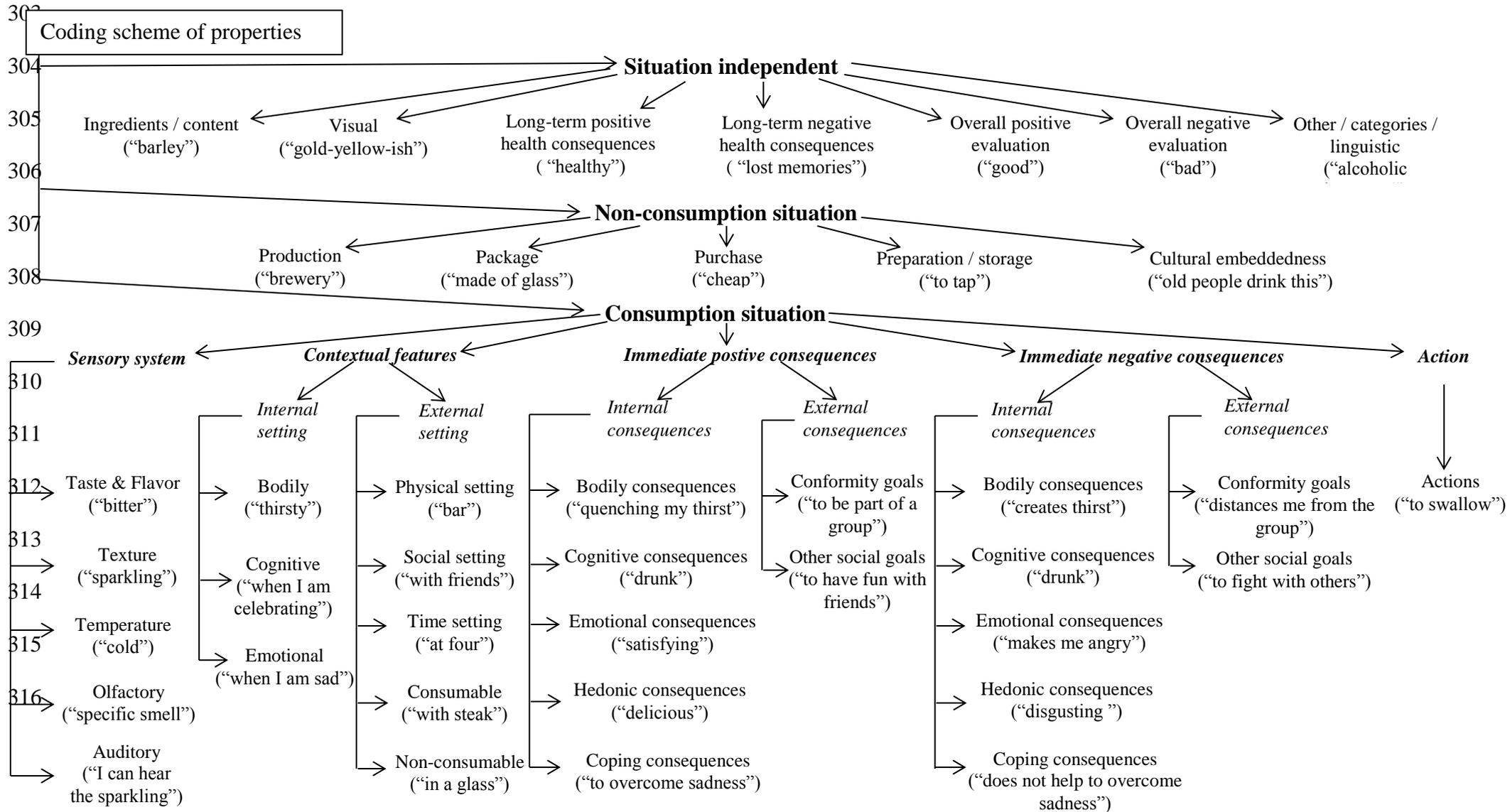
282 The first author and an independent rater coded the data of the property generation
283 task. Of the 41 available coding categories, 35 were used. We summed all unique properties
284 per beverage, which indicated that a total of 3224 coding decisions were made by each rater.
285 We used an online calculator to calculate the inter-rater agreement and reliability (Geertzen,
286 2012). Despite the large number of coding categories, the inter-rater agreement was 71.8%.
287 Importantly, reproducibility as measured by Krippendorff’s alpha was fair, at .70 (Cohens’s
288 kappa = .70), which indicates that disagreements were not systematic. On average,
289 participants generated 5.49 properties per beverage. We analyzed the coding of the first
290 author. We first calculated the percentage of properties that each category contained and then
291 averaged those over the beverages per beverage category (frequently consumed alcohol,
292 alcohol that is never consumed, frequently consumed sugary beverages)¹. All listed properties
293 and how they were categorized can be found in the supplementary materials.

294 ***Procedure.***

295 After providing informed consent, participants performed the study on a computer in
296 an individual cubicle. Participants first selected the beverages as described above. Then, they
297 reported their cravings. The property generation task followed. Then, participants again
298 reported current alcohol cravings, and made the hypothetical drink choice. This was followed

299 by all other questionnaires as described in the materials section. Finally, participants
300 provided demographic information.

301 *Figure 1.* To code a property, follow the hierarchical structure to the best fitting category and/or subcategory. For instance, “bitter” is
 302 experienced in a **consumption situation**, by the **sensory system**, and it is a **taste**. “Bitter” is thus coded under Taste & Flavor.



317 **Results.**318 ***General content of representations.***

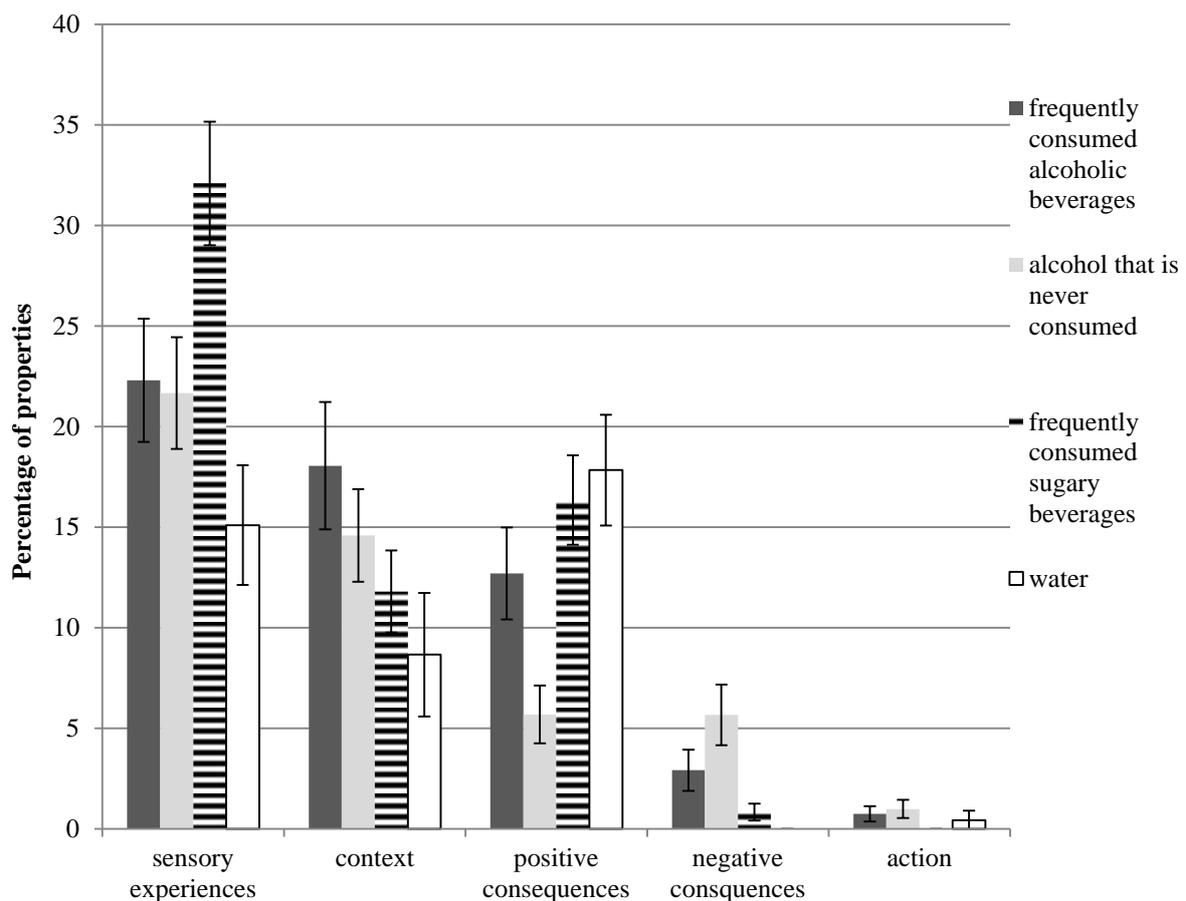
319 We controlled for multiplicity using Bonferroni corrections, α was set at $.05 / 3$ tests =
320 $.0167$. On average, 57% of the representations of frequently consumed alcoholic beverages
321 referred to a consumption situation, 95% CI [53, 61]. Confirming our hypothesis, this was
322 higher than for alcoholic beverages that are never consumed and water (respectively, mean =
323 49%, 95% CI [45, 52]), $t(109) = 4.67, p < .001, d = .45$, and mean = 42%, 95% CI [37, 46]),
324 $t(109) = 6.55, p < .001, d = .62$). Contrary to our hypothesis, however, frequently consumed
325 alcoholic beverages were not more strongly represented in terms of their consumption than
326 sugary beverages (mean = 61%, 95% CI [57, 64]), $t(109) = 2.14, p = .035, d = .20$). There
327 even was a trend in the direction of sugary beverages being more strongly represented in
328 terms of consumption than alcohol. For details about the specific content of people's
329 representations, see the supplementary materials. For a draught beer, for example, some of
330 the listed properties were "bitter", "tasty", "friends", "tipsy", and "pub."

331 ***Exploring consumption representations in more detail.***

332 We then explored the consumption-related representations in more detail. The
333 distribution of properties indicated that all beverages were primarily represented in terms of
334 sensory experiences, context, and immediate positive consequences of consumption, see
335 Figure 2. To explore the sizes of the differences in consumption representations among the
336 different types of beverages, we used an estimation approach. We reported Cohen's d
337 standardized mean differences as point-estimates, and we reported their 95% confidence
338 intervals. For representations in terms of drinking context, the size of the difference between
339 frequently consumed alcoholic beverages and the other beverages was: $d = .22$ with 95% CI
340 [.03, .41] for alcohol that is never consumed; $d = .53$ with 95% CI [.33, .73] for water; $d = .42$
341 with 95% CI [.23, .62] for sugary beverages. For representations in terms of sensory

342 experiences, the size of the difference between sugary beverages and the other beverages
 343 was: $d = .60$ with 95% CI [.40, .80] for frequently consumed alcoholic beverages; $d = .66$
 344 with 95% CI [.45, .87] for alcohol that is never consumed; $d = .92$ with 95% CI [.70, 1.14] ;
 345 for water. For representations in terms of positive consequences, the size of the difference
 346 between frequently consumed alcoholic beverages and the other beverages was: $d = .55$ with
 347 95% CI [.35, .75] for alcohol that is never consumed; $d = -.27$ with 95% CI [-.45, -.07] for
 348 sugary beverages; $d = -.27$ with 95% CI [-.46, -.08] for water.

Figure 2. The consumption representation of each beverage in Study 1, presented with 95% confidence intervals. Overall, participants strongly represented the beverages in terms of the sensory experiences, positive consequences, and context of consumption. Frequently consumed alcoholic beverages were more strongly represented in terms of context than the other beverages.



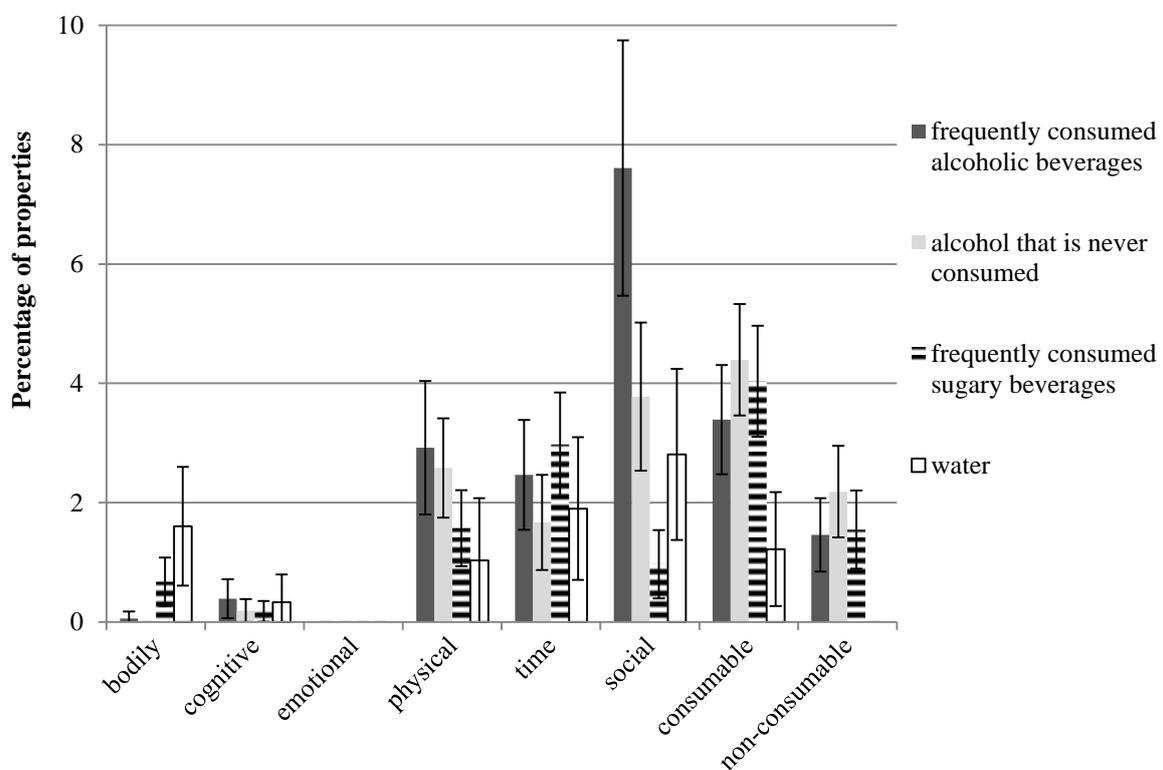
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Exploring context-related representations in more detail.

351 Because alcoholic beverages were more strongly represented in terms of drinking
 352 context than the other types of beverages, we examined this drinking context in more detail.
 353 Visual inspection indicated that for frequently consumed alcoholic beverages, social context
 354 (e.g. “with friends”) was the most prominent category, which is shown in Figure 3. Indeed,
 355 for representations in terms of social context, the size of the difference between frequently
 356 consumed alcoholic beverages and the other beverages was: $d = .38$ with 95% CI [.18, .57]
 357 for alcoholic beverages that are never consumed; $d = .59$ with 95% CI [.39, .79] for sugary
 358 beverages; $d = .42$ with 95% CI [.23, .62] for water. For insights into the specific content of
 359 people’s social context representations, see the supplementary materials. For a draught beer,
 360 some of the listed properties were “when it is gemütlich (social-cozy)”, “friends”, “you do
 361 not drink it when alone”, “together.”

Figure 3. The types of context representation of each beverage in Study 1, presented with 95% confidence intervals. Participants represented the frequently consumed alcoholic beverages more in terms of the *social* context relative to the other types of context and to the other types of beverages.



363 *Exploring the representations of long-term negative health consequences.*

364 The caloric and other unhealthy aspects of frequently consumed alcoholic beverages
365 did not seem salient in people's representations, with only 1.18% of properties being related
366 to the long-term negative consequences of drinking (95% CI [.39, 1.96]). See also the
367 supplementary materials for the specific properties listed.

368 *Associations with craving and drinking behavior.*

369 We found that only the extent to which participants represented alcoholic beverages in
370 terms of social context was positively associated with various measures of drinking behavior,
371 see Table 1. Results show that people who had a strong social context representation of
372 alcohol also had stronger alcohol cravings and intrusive thoughts about alcohol, found
373 alcohol harder to resist, and reported to drink more alcohol. Most of these measures were also
374 positively correlated with one another.

Table 1
Study 1: Partial correlation matrix for social context representation and scores on measures of drinking behavior, controlling for gender effects, reported with 95% confidence intervals.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Social context representation	-													
2 Alcohol choice	.23 [.03, .40]	-												
3 Alcohol craving	.18 [-.01, .36]	.46 [.30, .60]	-											
4 Drinking at party	.20 [.00, .37]	.32 [.14, .49]	.30 [.12, .47]	-										
5 AUDIT score	.18 [-.016, .35]	.26 [.07, .43]	.31 [.13, .48]	.68 [.57, .77]	-									
6 Temptation	.25 [.06, .42]	.28 [.10, .45]	.39 [.22, .54]	.37 [.20, .53]	.61 [.48, .72]	-								
7 Uncontrollability	.23 [.04, .40]	.30 [.11, .46]	.40 [.23, .55]	.32 [.14, .48]	.42 [.25, .57]	.63 [.50, .73]	-							
8 Enjoyment motive	.12 [-.07, .30]	.12 [-.07, .31]	.13 [-.06, .31]	.40 [.23, .55]	.45 [.28, .59]	.28 [.09, .44]	.10 [-.09, .28]	-						
9 Social motive	.12 [-.07, .31]	-.03 [-.22, .16]	.23 [.04, .40]	.21 [.02, .38]	.23 [.04, .40]	.26 [.07, .43]	.12 [-.07, .31]	.50 [.34, .63]	-					
10 Conformity motive	-.00 [-.19, .19]	-.19 [-.36, .01]	.16 [-.04, .34]	-.03 [-.22, .16]	.16 [-.03, .34]	.20 [.01, .37]	.21 [.02, .39]	.17 [-.02, .35]	.39 [.21, .54]	-				
11 Coping motive	.16 [-.03, .34]	.36 [.18, .52]	.14 [-.05, .32]	.17 [-.02, .35]	.26 [.07, .43]	.47 [.30, .60]	.33 [.15, .49]	.22 [.03, .39]	.13 [-.06, .31]	.12 [-.07, .31]	-			
12 Liking of taste	.06 [-.13, .25]	.21 [.02, .38]	.13 [-.32, .06]	.14 [-.05, .32]	.21 [.02, .39]	.29 [.10, .45]	.09 [-.10, .28]	.17 [-.02, .35]	.25 [.06, .42]	-.01 [-.20, .18]	.11 [-.08, .30]	-		
13 Habit strength	.04 [-.15, .23]	.11 [-.08, .29]	.20 [.01, .37]	.15 [-.05, .33]	.16 [-.03, .34]	.20 [.01, .38]	.11 [-.08, .29]	.06 [-.12, .25]	.25 [.06, .42]	.06 [-.13, .25]	.06 [-.13, .25]	.26 [.08, .43]	-	
14 Perspective on being drunk	.01 [-.18, .20]	.05 [-.14, .23]	.18 [-.01, .36]	.31 [.12, .46]	.31 [.12, .47]	.35 [.18, .51]	.22 [.03, .40]	.42 [.25, .57]	.34 [.16, .50]	.10 [-.09, .29]	.17 [-.02, .35]	.18 [-.01, .36]	.15 [-.04, .33]	-
Means (SD)	7.6 (11.5)	.44 (.50)	4.7 (2.6)	7-8 drinks	11.7 (5.6)	2.4 (1.1)	.9 (.6)	3.1 (.8)	3.0 (1.1)	1.6 (.7)	1.6 (5.4)	5.5 (1.1)	20.7 (8.4)	3.8 (1.6)

376 **Discussion.**

377 We used a property generation task to assess representations of beverages, and
378 showed that beverages were strongly represented in terms of their consumption. Furthermore,
379 alcoholic beverages that participants frequently consumed were more represented in terms of
380 their consumption than alcoholic beverages that participants infrequently consumed and
381 water. In contrast, soft-drinks were more represented in terms of their consumption than these
382 alcoholic beverages.

383 When examining the consumption representations in more detail, beverages were all
384 found to be largely represented in terms of sensory experiences, context, and immediate
385 positive consequences of consumption. Immediate negative consequences of consumption
386 and motor action properties were largely absent from people's representations of the
387 beverages. Importantly, and in line with our hypothesis, relative to the other beverages,
388 alcoholic beverages were more represented in terms of the context of consumption, especially
389 the *social* context of consumption (e.g. "with friends"). On the other hand, alcoholic
390 beverages were comparatively less represented in terms of sensory experiences than soft-
391 drinks, and were less represented in terms of immediate positive consequences than both soft-
392 drinks and water.

393 We found that for the frequently consumed alcoholic beverages, social context
394 representation was associated with various measures of the motivation to drink alcohol, such
395 as the choice for an alcoholic beverage, state alcohol craving, and uncontrollability over
396 alcohol-related thoughts. Additionally, the several alcohol-related measures included in this
397 study were mostly correlated with each other.

398 **Study 2.**

399 As context influences how people think about alcohol (Reich et al., 2004), we
400 conducted Study 2 in a bar environment. This allowed us to assess alcohol representations in

401 another sample, and in a more natural drinking environment than the laboratory. We reasoned
402 that the expression of representations in terms of consumption could be higher in this natural
403 drinking environment than in the non-drinking environment of the university laboratory used
404 in Study 1. We again examined the representation of alcoholic beverages, and whether this
405 representation is associated with alcohol consumption.

406 ***Methods.***

407 ***Participants.***

408 56 participants were included in the analyses (29 male; age mean= 29 years). One
409 participant listed only one property per beverage and was therefore excluded from the
410 analyses.

411 ***Design and stimuli.***

412 For the sake of brevity in the field setting, we limited the number of stimuli and
413 measures. The study had a within-participants design comparing (1) frequently consumed
414 alcoholic beverages, (2) frequently consumed sugary beverages, and (3) water. We used
415 draught beer, white wine, ale, cola, and ice-tea as stimuli, based on the most frequently
416 selected beverages in Study 1. For the analyses, we selected the alcoholic and sugary
417 beverage that the participant indicated to drink most frequently. If there was no difference, the
418 one they liked the most, and if there was again no difference, we computed an average of the
419 scores for these multiple beverages.

420 ***Materials.***

421 *Craving.* Participants indicated the extent to which they currently craved their favorite
422 alcoholic beverage from 1 (no craving at all) to 5 (a strong craving; Rohsenow et al., 1997).

423 *Property generation task.* On average, participants listed 4.21 properties per beverage.
424 The data were again independently coded by the same two raters as in Study 1. Out of 41
425 coding categories, 33 were used, and each coder made 667 unique coding decisions. Overall

426 inter-rater agreement was 71.9%. A fair reliability was again achieved with Krippendorff's
427 alpha at .71 (Cohen's kappa = .71). The coding from the first author was again used for the
428 analyses. All properties can be found in the supplementary materials.

429 *Drinking motives.* The same drinking motives questionnaire (DMQ-R-SF; Kuntsche
430 & Kuntsche, 2009) was used as in Study 1, all $\alpha > .69$.

431 *Uncontrollability.* The same measure of uncontrollability of alcohol-related thoughts
432 (Hoyer et al., 2007) was used as in Study 1, $\alpha = .76$.

433 *AUDIT.* The alcohol use disorders identification test (AUDIT; Saunders et al., 1993)
434 was again used to detect hazardous drinking behavior, $\alpha = .67$.

435 *Additional measures.* Liking and the index of habit strength were computed in the
436 same way as in Study 1, using scales from 1 (not at all) to 7 (very much) (Danner et al.,
437 2008). Participants also indicated whether they evaluated being drunk as primarily positive or
438 as primarily negative.

439 ***Procedure.***

440 The study was conducted on three Fridays and Saturdays after 8 p.m. in two
441 neighboring bars in the center of a small town in the Netherlands. Patrons entering the bar
442 were asked if they wanted to participate in the study. If they agreed, they were handed the
443 paper questionnaire, of which the first page consisted of a consent form. Six versions of the
444 questionnaire were created with each one having a different random order of the three
445 beverages included. Participants' drink order was then immediately taken by the bartender,
446 but through coordination of the researchers with the bartenders, the participants received their
447 beverage only after completing the questionnaire. We kept track of all drinks that were
448 ordered by the participants in the course of the evening, and participants were made aware of
449 this in the consent form. After this stage, the procedure was largely the same as in Study 1,

450 but Study 2 contained fewer stimuli and fewer measures related to drinking behavior.

451 Participants provided demographic information at the end of the questionnaire.

452 **Results.**

453 ***General content of representations.***

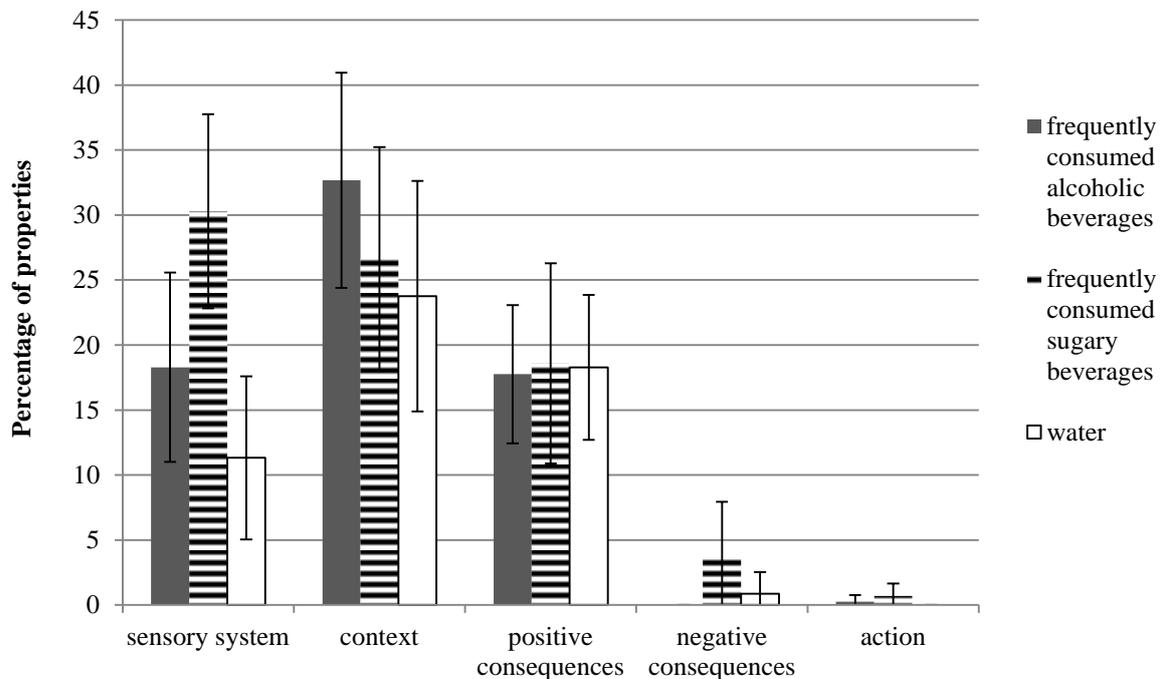
454 We applied Bonferroni correction to control for multiplicity, with $\alpha = .05 / 2$ tests =
455 .025. Overall, the pattern of content in people's representations was similar to the pattern
456 found in Study 1. For the alcoholic beverages, 70% of properties referred to consumption,
457 95% CI [64, 76], again confirming our hypothesis that this would be more than for water
458 (mean= 57%, 95% CI [50, 65]), $t(53) = 2.82$, $p = .007$, $d = .38$. Similar to Study 1, frequently
459 consumed alcoholic beverages were not more strongly represented in terms of their
460 consumption than sugary beverages (mean= 80%, 95% CI [74, 87]), $t(47) = 2.13$, $p = .038$, d
461 = .30. In contrast, there was a trend in the direction of sugary beverages being more strongly
462 represented in terms of consumption than alcoholic beverages.

463 ***Exploring consumption representations in more detail.***

464 When exploring the consumption-related representations in more detail, similar trends
465 were observed as in Study 1, see Figure 4. The distribution of properties again indicated that
466 all beverages were primarily represented in terms of sensory experiences, context, and
467 immediate positive consequences of consumption. For representations in terms of drinking
468 context, the size of the difference between frequently consumed alcoholic beverages and the
469 other beverages was: $d = .24$ with 95% CI [-.04, .51] for water; $d = .20$ with 95% CI [-.09,
470 .48] for sugary beverages. For representations in terms of sensory experiences, the size of the
471 difference between sugary beverages and the other beverages was: $d = .43$ with 95% CI [.13
472 .73] for frequently consumed alcoholic beverages; $d = .73$ with 95% CI [.41, 1.04] for water.
473 For representations in terms of positive consequences, the size of the difference between

474 frequently consumed alcoholic beverages and the other beverages was: $d = -.06$ with 95% CI
 475 $[-.32, .21]$ for sugary beverages; $d = .04$ with 95% CI $[-.24, -.32]$ for water.

Figure 4. The consumption representation of each beverage in Study 2, presented with 95% confidence intervals. Overall, participants strongly represented the beverages in terms of the sensory experiences, positive consequences, and context of consumption.

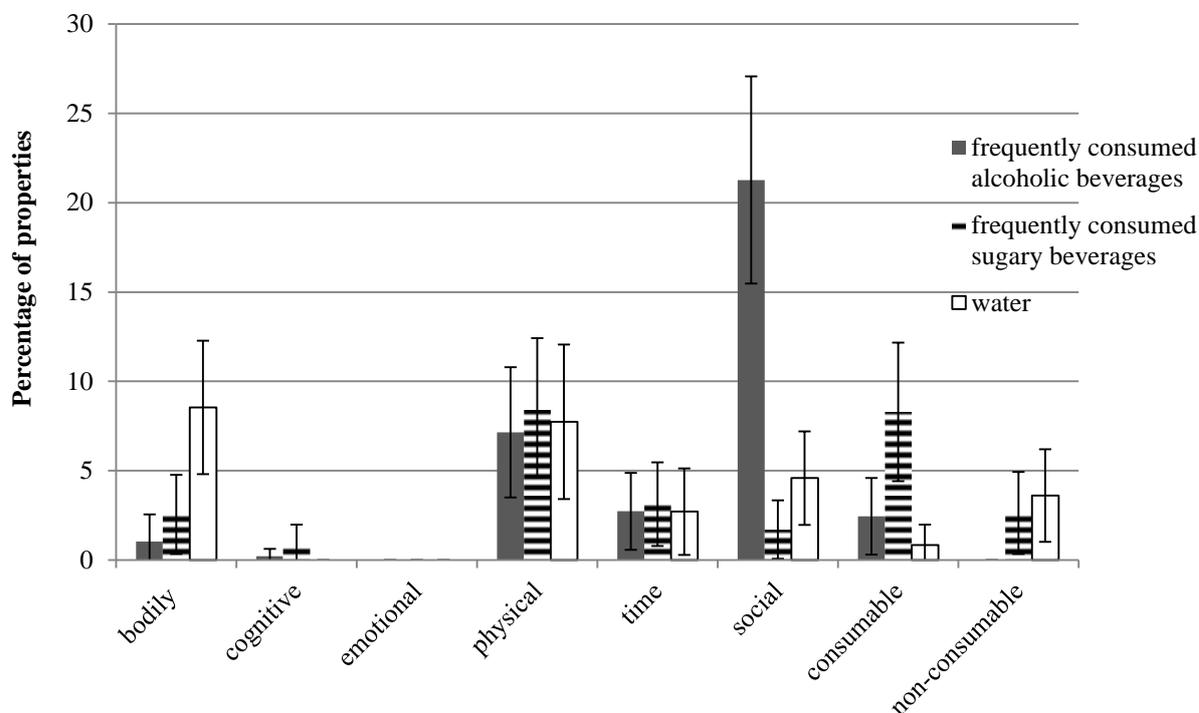


476

477 *Exploring context-related representations in more detail.*

478 We examined the representations in terms of drinking context in more detail because
 479 alcoholic beverages were more strongly represented in terms of drinking context than the
 480 other types of beverages in Study 1, and a similar trend was visible for Study 2 (see Figure 5).
 481 Similar to Study 1, visual inspection indicated that for frequently consumed alcoholic
 482 beverages, social context was the most prominent representation category. For
 483 representations in terms of social context, the size of the difference between frequently
 484 consumed alcoholic beverages and the other beverages was: $d = .92$ with 95% CI $[.58, 1.25]$
 485 for sugary beverages; $d = .81$ with 95% CI $[.50, 1.11]$ for water. For specific examples of
 486 people's social context representations, see the supplementary materials.

Figure 5. The types of context representation of each beverage in Study 2, presented with 95% confidence intervals. Participants represented the frequently consumed alcoholic beverages more in terms of the *social* context relative to the other types of context, and other types of beverages.



487

488 *Exploring the representations of long-term negative health consequences.*

489 The results concerning the long-term negative consequences of drinking were similar
490 to Study 1, with only 1.30% of all properties 95% CI [-.25, 2.84] being related to them.

491 *Associations with craving and drinking behavior.*

492 A similar correlation matrix was computed for Study 2 as for Study 1, see Table 2.
493 Alcohol consumption in the bar was correlated with *state* cravings for alcohol. Surprisingly,
494 there was an overall lack of correlation between participants' actual consumption of alcohol
495 and the established *trait* measures of drinking behavior, and also with representations in
496 terms of social context.

497

Table 2

Study 2: Partial correlation matrix for social context representation and scores on measures of drinking behavior, controlling for gender effects, reported with 95% confidence intervals.

	1	2	3	4	5	6	7	8	9	10	11	12
1 Social context representation	-											
2 Alcohol choice	.11 [-.18, .38]	-										
3 Alcohol craving	.18 [-.10, .44]	.38 [.11, .59]	-									
4 AUDIT score	-.24 [-.48, .04]	.19 [-.10, .44]	.32 [.05, .54]	-								
5 Uncontrollability	-.34 [-.56, .06]	.17 [-.12, .43]	.18 [-.10, .43]	.67 [.49, .80]	-							
6 Enjoyment motive	-.04 [-.31, .24]	.14 [-.15, .40]	.30 [.03, .53]	.55 [.32, .71]	.59 [.38, .74]	-						
7 Social motive	.03 [-.25, .31]	-.01 [-.29, .27]	.04 [-.24, .31]	.43 [.18, .63]	.43 [.18, .63]	.67 [.49, .80]	-					
8 Conformity motive	-.16 [-.42, .12]	.08 [-.21, .35]	.06 [-.22, .33]	.21 [-.07, .46]	.22 [-.05, .47]	.34 [.07, .56]	.34 [.08, .56]	-				
9 Coping motive	-.28 [-.51, .01]	.37 [.10, .59]	.28 [.01, .51]	.37 [.10, .58]	.40 [.14, .60]	.43 [.18, .63]	.33 [.06, .55]	.56 [.34, .72]	-			
10 Liking of taste	.22 [-.10, .43]	-.02 [-.31, .26]	.25 [-.03, .49]	.10 [-.18, .37]	.14 [-.14, .41]	.19 [-.09, .45]	.19 [-.10, .44]	.11 [-.18, .37]	.16 [-.13, .42]	-		
11 Habit strength	.12 [-.21, .34]	.06 [-.23, .34]	.49 [.24, .68]	.31 [.04, .55]	.25 [-.03, .50]	.25 [-.03, .50]	.19 [-.09, .45]	.23 [-.05, .48]	.34 [.06, .56]	.55 [.31, .72]	-	
12 Perspective on being drunk	.14 [-.17, .41]	.06 [-.25, .35]	-.01 [-.31, .29]	.16 [-.14, .44]	.17 [-.12, .45]	.44 [.16, .65]	.38 [.10, .61]	.12 [-.18, .40]	-.11 [-.39, .20]	.01 [-.29, .30]	-.24 [-.51, .06]	-
Means (SD)	20.2 (20.5)	1.6 (.9)	4.0 (.9)	9.5 (4.9)	1.8 (.6)	2.3 (.9)	2.7 (1.0)	1.2 (.4)	1.6 (.7)	6.0 (1.3)	26.6 (13.3)	.7 (.4)

498

499

500 *Discussion.*

501 Regarding the representations of alcoholic beverages, the results of this study were highly
502 similar to those of Study 1. The representations of all beverages were strongly related to their
503 consumption, and especially for soft-drinks. More specifically, the beverages were largely
504 represented in terms of sensory experiences of drinking, drinking context, and immediate
505 positive consequences of consumption. We again found differences in these representations
506 between beverages. Soft-drinks were more represented in terms of the sensory experiences of
507 consumption than the alcoholic beverages and water. Furthermore, as in Study 1, alcoholic
508 beverages were more represented in terms of the social context of consumption than the other
509 beverages. This representation in terms of social context was more pronounced in the bar
510 environment than in the laboratory environment from Study 1.

511 In Study 2, the representation in terms of social context was only positively associated
512 with current craving for an alcohol beverage, and was unexpectedly negatively associated
513 with uncontrollability over alcohol-related thoughts. In addition, there was a marginal
514 negative association with the AUDIT score and a measure of drinking for coping motives,
515 which was also unexpected. Furthermore, the actual number of alcoholic beverages consumed
516 in the bar was only associated with current alcohol craving and with drinking for coping
517 motives, and not with any of the other established measures of drinking. This lack of
518 association between alcohol-related measures and the actual consumption of alcohol is not in
519 line with previous work on drinking behavior, including Study 1 of the current paper, which
520 typically finds positive associations between these measures (e.g. Danner, Aarts, & de Vries,
521 2008; Kuntsche, Knibbe, Gmel, & Engels, 2005; Saunders, Aasland, Babor, de la Fuente, &
522 Grant, 1993). Assessing drinking behavior in a bar might be suboptimal for studying
523 predictors of drinking behavior and the motivation to drink. More specifically, people
524 typically go to a bar to drink alcohol, and hence the decision to drink might already have been

525 made before participants entered the bar. We further address this potential limitation in the
526 general discussion.

527 **General Discussion.**

528 In two studies, we examined people's idiosyncratic representations of alcoholic
529 beverages using a property generation task in a university laboratory environment (Study 1)
530 and in a local bar (Study 2). Across studies, participants primarily represented alcoholic
531 beverages in terms of the sensory experiences, context, and immediate positive consequences
532 of drinking the beverages. In contrast, the caloric and other unhealthy aspects of frequently
533 consumed alcoholic beverages did not seem salient in people's representations. In a more
534 detailed examination, we found that frequently consumed alcoholic beverages were especially
535 strongly represented in terms of the *social* context of consumption (e.g. "with friends", see the
536 supplemental materials for such specific content).

537 In addition, Study 1, examining a student sample, revealed a small but consistent
538 positive association between the social context representation of alcohol and measures of
539 alcohol craving and actual drinking. This finding is in line with much earlier research, which
540 has shown that people drink in social contexts (Cooper, 1994; Kuntsche, Knibbe, Gmel, &
541 Engels, 2005; Kuntsche & Kuntsche, 2009). Previous research largely focused on people's
542 motives to drink to make social interactions more enjoyable. Our results on representations
543 add to this literature by suggesting that the social context itself, irrespective of the outcome
544 expectancies of drinking in the social domain, may contribute to the motivation to drink
545 alcohol. In sum, Study 1 suggests that alcoholic beverages are strongly represented in terms of
546 the social context of their consumption, and that representations are associated with drinking
547 behavior. This conclusion resonates well with habit research (Sheeran, Aarts, Custers, Ravis,
548 Webb, & Cooke, 2005), showing that social context is an important aspect of drinking
549 alcoholic beverages among student participants.

550 In Study 2, the established *trait* measures of drinking behavior such as the AUDIT
551 were not correlated with the actual consumption of alcohol in the bar. This is surprising,
552 because these measures are considered good predictors of drinking behavior. Lack of this
553 basic correlation between predictors of drinking and actual drinking behavior in this study
554 might point to a low validity of these measures in the current study. The fact that other
555 hypothesized correlations were absent in this study may therefore not be informative. In
556 addition, when examining correlations with social context representations, some of the
557 correlations were in opposite directions relative to the findings from Study 1. These results
558 may be explained by the different demographics and characteristics of this non-student
559 sample, or by low validity of the established measures in the current study. Furthermore, our
560 participants likely attended the bar in order to drink, thus constituting a specific subsample of
561 people. This might have led to the limited variance of only 5 participants not consuming any
562 alcoholic beverage. In hindsight, it might have been better to conduct this study in a
563 naturalistic drinking environment that also attracts non-drinkers, such as a cinema. Although
564 few conclusions about craving and drinking behavior can be drawn from Study 2, the results
565 concerning the content of people's representations of alcoholic beverages are highly
566 consistent with Study 1. Specifically, they show that alcoholic beverages are uniquely
567 represented in terms of the social context of consumption.

568 ***Implications and future research.***

569 The representations that people form during their lifetime play a key role in driving
570 their behavior (Ackerman, Nocera, & Bargh, 2010). Therefore, obtaining systematic insight
571 into their content is vital to advance our understanding of drinking behavior. For instance,
572 future research might look into the link between representations and implicit attitudes, and
573 what content in a representation leads to a positive attitude towards alcohol and to impulsive
574 drinking (Rooke et al., 2008, Stacy & Wiers, 2009). Similarly, alcohol priming research

575 might benefit from increased insight into alcohol representations. Here, activating alcohol-
576 related representations (e.g. “buzzed”, “sexy”) has been found to increase alcohol
577 consumption (Hill & Paynter, 1992; Stein, Goldman, & Del Boca, 2000; Weingardt et al.,
578 1996). The replicability of these so-called social priming effects has been called into question
579 in recent years (for a review on this issue, see Cesario, 2014). It might be the case that such
580 priming effects become more robust and reliable if the primes are tailored to an individual’s
581 alcohol representation. For instance, if participants do not represent alcohol in terms of
582 features like “sexy”, no priming effects on alcohol consumption are to be expected when they
583 are exposed to the word “sexy”. The property generation task offers a way to provide tailored
584 prime concepts to participants, thereby potentially allowing for more reliable priming effects.

585 In a similar vein, interventions to reduce drinking are most effective when tailored to
586 the individual (Krebs, Prochaska, & Rossi, 2010; Ringold, 2002). For instance, individuals
587 who represent alcohol in terms of the social context of consumption might benefit more from
588 an intervention that targets social norms or peer resistance than from education on the long-
589 term health risks of drinking. However, when the long-term negative health consequences of
590 drinking are not particularly salient, such as in our samples, the effectiveness of an
591 intervention to reduce drinking might benefit from including education on weight and other
592 health-related consequences of drinking. The property generation task might be a useful tool
593 to tailor interventions by first assessing peoples’ representations of alcoholic beverages. This
594 task may thus supplement explicit motive questionnaires and interview methods in this regard,
595 as property generation can be administered quickly and at low cost. Furthermore, the property
596 generation task does not trigger participants to consciously reflect on what makes them drink.
597 Considering that explicit measures of motivation or attitudes tap into different processes than
598 implicit measures such as the property generation task (Nosek, Hawkins, & Frazier, 2011;
599 Thrash, Maruskin, & Martin, 2012), it would be useful to further study whether the property

600 generation task predicts long-term drinking outcomes over and above the current explicit
601 measures of drinking motives.

602 The focus of this article has been on the representations of alcoholic beverages and the
603 link with their consumption, but the property generation task as a method can also be relevant
604 in the domain of eating. A recent study with the property generation task for instance found
605 that palatable foods are strongly represented in terms of their consumption, and consumption
606 representations were correlated with the desire to eat (Papies, 2013). While the studies
607 reported here are only a first, preliminary application of this task to understanding alcohol
608 representations, we hope that they inspire further work to fully understand the regulation of
609 appetite, such as of eating and drinking behavior.

610

611

612 **References**

- 613 Aarts, H., & Dijksterhuis, A. (2000). Habits as knowledge structures: automaticity in goal-
614 directed behavior. *Journal of Personality and Social Psychology*, 78(1), 53–63.
- 615 Ackerman, J. M., Nocera, C. C., & Bargh, J. A. (2010). Incidental Haptic Sensations
616 Influence Social Judgments and Decisions. *Science*, 328(5986), 1712–1715.
617 <https://doi.org/10.1126/science.1189993>
- 618 Albery, I. P., Collins, I., Moss, A. C., Frings, D., & Spada, M. M. (2015). Habit predicts in-
619 the-moment alcohol consumption. *Addictive Behaviors*, 41, 78–80.
620 <https://doi.org/10.1016/j.addbeh.2014.09.025>
- 621 Barrós-Loscertales, A., González, J., Pulvermüller, F., Ventura-Campos, N., Bustamante, J.
622 C., Costumero, V., ... Ávila, C. (2012). Reading Salt Activates Gustatory Brain
623 Regions: fMRI Evidence for Semantic Grounding in a Novel Sensory Modality.
624 *Cerebral Cortex*, 22(11), 2554–2563. <https://doi.org/10.1093/cercor/bhr324>
- 625 Barsalou, L. W. (2002). Being there conceptually: Simulating categories in preparation for
626 situated action. In N. L. Stein, P. J. Bauer, & M. Rabinowitz (Eds.), *Representation,*
627 *memory, and development: Essays in honor of Jean Mandler* (pp. 1–15). Mahwah, NJ,
628 US: Lawrence Erlbaum Associates Publishers.
- 629 Barsalou, L. W. (2003). Situated simulation in the human conceptual system. *Language and*
630 *Cognitive Processes*, 18(5–6), 513–562. <https://doi.org/10.1080/01690960344000026>
- 631 Barsalou, L. W. (2008). Grounded Cognition. *Annual Review of Psychology*, 59(1), 617–645.
632 <https://doi.org/10.1146/annurev.psych.59.103006.093639>
- 633 Barsalou, L. W. (2009). Simulation, situated conceptualization, and prediction. *Philosophical*
634 *Transactions of the Royal Society of London. Series B, Biological Sciences*,
635 364(1521), 1281–1289. <https://doi.org/10.1098/rstb.2008.0319>

- 636 Barsalou, L. W. (2015). Situated conceptualization: theory and application. In Y. Coello & M.
637 H. Fischer (Eds.), *Perceptual and Emotional Embodiment: Foundations of Embodied*
638 *Cognition* (Vol. 1). East Sussex: Psychology Press. Retrieved from
639 <http://eprints.gla.ac.uk/112313/>
- 640 Barsalou, L. W., Simmons, K. W., Barbey, A. K., & Wilson, C. D. (2003). Grounding
641 conceptual knowledge in modality-specific systems. *Trends in Cognitive Sciences*,
642 7(2), 84–91. [https://doi.org/10.1016/S1364-6613\(02\)00029-3](https://doi.org/10.1016/S1364-6613(02)00029-3)
- 643 Bartholow, B. D., & Heinz, A. (2006). Alcohol and aggression without consumption. Alcohol
644 cues, aggressive thoughts, and hostile perception bias. *Psychological Science*, 17(1),
645 30–37. <https://doi.org/10.1111/j.1467-9280.2005.01661.x>
- 646 Borghi, A. M. (2015). An embodied and grounded perspective on concepts. In M. Bianca &
647 P. Picarri (Eds.), *Epistemology of ordinary knowledge* (pp. 181–194). Cambridge
648 Scholar.
- 649 Cesario, J. (2014). Priming, Replication, and the Hardest Science. *Perspectives on*
650 *Psychological Science*, 9(1), 40–48. <https://doi.org/10.1177/1745691613513470>
- 651 Collins, R. L., & Lapp, W. M. (1992). The Temptation and Restraint Inventory for measuring
652 drinking restraint. *British Journal of Addiction*, 87(4), 625–633.
- 653 Cooper, M. L. (1994). Motivations for alcohol use among adolescents: Development and
654 validation of a four-factor model. *Psychological Assessment*, 6(2), 117–128.
655 <https://doi.org/10.1037/1040-3590.6.2.117>
- 656 Danner, U. N., Aarts, H., & de Vries, N. K. (2008). Habit vs. intention in the prediction of
657 future behaviour: The role of frequency, context stability and mental accessibility of
658 past behaviour. *British Journal of Social Psychology*, 47(2), 245–265.
659 <https://doi.org/10.1348/014466607X230876>
- 660

- 661 De Houwer, J., & Moors, A. (2007). How to define and examine the implicitness of implicit
662 measures. In B. Wittenbrink & N. Schwartz (Eds.), *Implicit measures of attitudes:
663 Procedures and controversies* (pp. 179–194). New York: Guilford Press.
- 664 Dunn, M. E., & Goldman, M. S. (1998). Age and drinking-related differences in the memory
665 organization of alcohol expectancies in 3rd-, 6th-, 9th-, and 12th-grade children.
666 *Journal of Consulting and Clinical Psychology, 66*(3), 579–585.
- 667 Geertzen, J. (2012). Inter-rater agreement with multiple raters and variables (Version October
668 13, 2015). Retrieved from <https://nlp-ml.io/jg/software/ira/>
- 669 Goldman, M. S. (1999). Risk for Substance Abuse: Memory as a Common Etiological
670 Pathway. *Psychological Science, 10*(3), 196–198. [https://doi.org/10.1111/1467-
671 9280.00133](https://doi.org/10.1111/1467-9280.00133)
- 672 Hesslow, G. (2002). Conscious thought as simulation of behaviour and perception. *Trends in
673 Cognitive Sciences, 6*(6), 242–247. [https://doi.org/10.1016/S1364-6613\(02\)01913-7](https://doi.org/10.1016/S1364-6613(02)01913-7)
- 674 Hill, A. B., & Paynter, S. (1992). Alcohol dependence and semantic priming of alcohol
675 related words. *Personality and Individual Differences, 13*(6), 745–750.
676 [https://doi.org/10.1016/0191-8869\(92\)90245-K](https://doi.org/10.1016/0191-8869(92)90245-K)
- 677 Holyoak, K. J., Novick, L. R., & Melz, E. R. (1994). Component processes in analogical
678 transfer: Mapping, pattern completion, and adaptation. In K. J. Holyoak & J. A.
679 Barnden (Eds.), *Analogical connections* (pp. 113–180). Westport, CT, US: Ablex
680 Publishing.
- 681 Hoyer, J., Hacker, J., & Lindenmeyer, J. (2007). Metacognition in Alcohol Abusers: How are
682 Alcohol-Related Intrusions Appraised? *Cognitive Therapy and Research, 31*(6), 817–
683 831. <https://doi.org/10.1007/s10608-006-9103-0>

- 684 Jones, B. T., Corbin, W., & Fromme, K. (2001). A review of expectancy theory and alcohol
685 consumption. *Addiction, 96*(1), 57–72. [https://doi.org/10.1046-](https://doi.org/10.1046/j.1360-0443.2001.961575.x)
686 [0443.2001.961575.x](https://doi.org/10.1046/j.1360-0443.2001.961575.x)
- 687 Keesman, M., Papies, E. K., Lindner, K. S., & Barsalou, L. W. (in preparation). Capturing
688 consumption: A systematic feature coding procedure.
- 689 Krebs, P., Prochaska, J. O., & Rossi, J. S. (2010). A meta-analysis of computer-tailored
690 interventions for health behavior change. *Preventive Medicine, 51*(3–4), 214–221.
691 <https://doi.org/10.1016/j.ypmed.2010.06.004>
- 692 Kuntsche, E., Knibbe, R., Gmel, G., & Engels, R. (2005). Why do young people drink? A
693 review of drinking motives. *Clinical Psychology Review, 25*(7), 841–861.
694 <https://doi.org/10.1016/j.cpr.2005.06.002>
- 695 Kuntsche, E., & Kuntsche, S. (2009). Development and validation of the Drinking Motive
696 Questionnaire Revised Short Form (DMQ-R SF). *Journal of Clinical Child and*
697 *Adolescent Psychology: The Official Journal for the Society of Clinical Child and*
698 *Adolescent Psychology, American Psychological Association, Division 53, 38*(6), 899–
699 908. <https://doi.org/10.1080/15374410903258967>
- 700 McRae, K., Cree, G. S., Seidenberg, M. S., & McNorgan, C. (2005). Semantic feature
701 production norms for a large set of living and nonliving things. *Behavior Research*
702 *Methods, 37*(4), 547–559.
- 703 Nosek, B. A., Hawkins, C. B., & Frazier, R. S. (2011). Implicit social cognition: from
704 measures to mechanisms. *Trends in Cognitive Sciences, 15*(4), 152–159.
705 <https://doi.org/10.1016/j.tics.2011.01.005>
- 706 Palfai, T. P., & Ostafin, B. D. (2010). Action identification of drinking and self-control.
707 *Psychology of Addictive Behaviors: Journal of the Society of Psychologists in*
708 *Addictive Behaviors, 24*(1), 145–150. <https://doi.org/10.1037/a0018249>

- 709 Papiés, E. K. (2013). Tempting food words activate eating simulations. *Frontiers in Eating*
710 *Behavior, 4*, 838. <https://doi.org/10.3389/fpsyg.2013.00838>
- 711 Papiés, E. K., & Barsalou, L. W. (2015). Grounding desire and motivated behavior: A
712 theoretical framework and review of empirical evidence. In W. Hofmann & L. F.
713 Nordgren (Eds.), *The Psychology of Desire*. New York: Guildford Press.
- 714 Rather, B. C., & Goldman, M. S. (1994). Drinking-related differences in the memory
715 organization of alcohol expectancies. *Experimental and Clinical*
716 *Psychopharmacology, 2*(2), 167–183. <https://doi.org/10.1037/1064-1297.2.2.167>
- 717 Rather, B. C., Goldman, M. S., Roehrich, L., & Brannick, M. (1992). Empirical modeling of
718 an alcohol expectancy memory network using multidimensional scaling. *Journal of*
719 *Abnormal Psychology, 101*(1), 174–183. <https://doi.org/10.1037/0021-843X.101.1.174>
- 720 Reich, R. R., Goldman, M. S., & Noll, J. A. (2004). Using the False Memory Paradigm to
721 Test Two Key Elements of Alcohol Expectancy Theory. *Experimental & Clinical*
722 *Psychopharmacology, 12*(2), 102–110.
- 723 Ringold, D. J. (2002). Boomerang Effects in Response to Public Health Interventions: Some
724 Unintended Consequences in the Alcoholic Beverage Market. *Journal of Consumer*
725 *Policy, 25*(1), 27–63. <https://doi.org/10.1023/A:1014588126336>
- 726 Rohsenow, D. J., Monti, P. M., Colby, S. M., Gulliver, S. B., Sirota, A. D., Niaura, R. S., &
727 Abrams, D. B. (1997). Effects of alcohol cues on smoking urges and topography
728 among alcoholic men. *Alcoholism, Clinical and Experimental Research, 21*(1), 101–
729 107.
- 730 Rooke, S. E., Hine, D. W., & Thorsteinsson, E. B. (2008). Implicit cognition and substance
731 use: A meta-analysis. *Addictive Behaviors, 33*(10), 1314–1328.
732 <https://doi.org/10.1016/j.addbeh.2008.06.009>
- 733 Santos, A., Chaigneau, S. E., Simmons, W. K., & Barsalou, L. W. (2011). Property generation

- 734 reflects word association and situated simulation. *Language and Cognition*, 3(1), 83–
735 119. <https://doi.org/10.1515/langcog.2011.004>
- 736 Saunders, J. B., Aasland, O. G., Babor, T. F., de la Fuente, J. R., & Grant, M. (1993).
737 Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO
738 Collaborative Project on Early Detection of Persons with Harmful Alcohol
739 Consumption--II. *Addiction (Abingdon, England)*, 88(6), 791–804.
- 740 Sheeran, P., Aarts, H., Custers, R., Ravis, A., Webb, T. L., & Cooke, R. (2005). The goal-
741 dependent automaticity of drinking habits. *The British Journal of Social Psychology /*
742 *the British Psychological Society*, 44(Pt 1), 47–63.
743 <https://doi.org/10.1348/014466604X23446>
- 744 Shelton, N. J., & Knott, C. S. (2014). Association Between Alcohol Calorie Intake and
745 Overweight and Obesity in English Adults. *American Journal of Public Health*,
746 104(4), 629–631. <https://doi.org/10.2105/AJPH.2013.301643>
- 747 Simmons, W. K., Hamann, S. B., Harenski, C. L., Hu, X. P., & Barsalou, L. W. (2008). fMRI
748 evidence for word association and situated simulation in conceptual processing.
749 *Journal of Physiology, Paris*, 102(1–3), 106–119.
750 <https://doi.org/10.1016/j.jphysparis.2008.03.014>
- 751 Stacy, A. W., & Wiers, R. W. (2010). Implicit Cognition and Addiction: A Tool for
752 Explaining Paradoxical Behavior. *Annual Review of Clinical Psychology*, 6, 551–575.
753 <https://doi.org/10.1146/annurev.clinpsy.121208.131444>
- 754 Stein, K. D., Goldman, M. S., & Del Boca, F. K. (2000). The Influence of Alcohol
755 Expectancy Priming and Mood Manipulation on Subsequent Alcohol Consumption.
756 *Journal of Abnormal Psychology*, 109(1), 106–115.
- 757 Thrash, T. M., Maruskin, L. A., & Martin, C. C. (2012). Implicit–Explicit Motive

- 758 Congruence. In R. M. Ryan (Ed.), *The Oxford Handbook of Human Motivation* (pp.
759 141–156).
- 760 Wegner, D. M., & Vallacher, R. R. (1986). Action identification. In R. M. Sorrentino & E. T.
761 Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social*
762 *behavior* (pp. 550–582). New York, NY, US: Guilford Press.
- 763 Wegner, D. M., Vallacher, R. R., & Dizadji, D. (1989). Do Alcoholics Know What They're
764 Doing? Identifications of the Act of Drinking. *Basic and Applied Social Psychology*,
765 *10*(3), 197–210. https://doi.org/10.1207/s15324834basp1003_1
- 766 Weingardt, K. R., Stacy, A. W., & Leigh, B. C. (1996). Automatic Activation of Alcohol
767 Concepts in Response to Positive Outcomes of Alcohol Use. *Alcoholism: Clinical and*
768 *Experimental Research*, *20*(1), 25–30. [https://doi.org/10.1111/j.1530-](https://doi.org/10.1111/j.1530-0277.1996.tb01038.x)
769 [0277.1996.tb01038.x](https://doi.org/10.1111/j.1530-0277.1996.tb01038.x)
- 770 Wu, L., & Barsalou, L. W. (2009). Perceptual simulation in conceptual combination:
771 Evidence from property generation. *Acta Psychologica*, *132*(2), 173–189.
772 <https://doi.org/10.1016/j.actpsy.2009.02.002>
- 773 Wyer Jr., R. S. (2007). Principles of mental representation. In A. W. Kruglanski & E. T.
774 Higgins (Eds.), *Social psychology: Handbook of basic principles (2nd ed.)* (pp. 285–
775 307). New York, NY, US: Guilford Press.
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Footnotes

779 ¹Due to a programming error, 32 participants received only two of their three selected
780 beverages per beverage category during the task. Including this as a between-subjects factor
781 did not have an effect on the results, $F < 1$.

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784 **Supplemental material:**

785 **The content of the properties listed for each of the beverages, and its categorization**
786 **using a systematic coding scheme.**

787 Below, 25 tables can be found, each one contains the content and subsequent categorization of
788 the properties listed for one beverage. For ease of interpretation, the content from Study 1 and
789 Study 2 was collapsed; we thus created one table for “white wine” instead of creating one for
790 each study. Furthermore, the presented content is a translation from Dutch to English. Some
791 nuance might have been lost in the translation. For instance, both “ijsblokjes” and
792 “ijsklontjes” were translated to “ice-cubes”, and both “terras” and “terrasje” were translated to
793 “terrace”.

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<i>Apple juice</i>	<i>[Lowest level categorization]:</i> [listed properties]
<i>Sensory system during consumption</i>	<i>Taste & Flavor:</i> fresh, fruity, sweetish, sour-ish, sweet, sour, tastes like apple. <i>Texture:</i> still not fizzy, small bubbles, bubbles of air, wet, non-fizzy. <i>Temperature:</i> cold.
<i>Contextual features of consumption</i>	<i>Bodily:</i> thirst. <i>Physical setting:</i> restaurant. <i>Time setting:</i> summer. <i>Consumable object:</i> good with a lunch. <i>Non-consumable object:</i> drinking with a straw.
<i>Immediate <u>positive</u> consequences of consumption</i>	<i>Bodily consequences:</i> quenches thirst, refreshing, thirst quencher. <i>Hedonic:</i> tasty, delicious, but tasty.
<i>Immediate <u>negative</u> consequences of consumption</i>	
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	<i>Production:</i> natural, commercial product, from natural origin, industrial process, pressed from fruits, made of apples, different types of apples, from apples, made from apples (sugar). <i>Purchase:</i> expensive, cheap. <i>Package:</i> name of brand, picture of apple, plastic bottle, sometimes in carton, plastic, small bottle, green cap, with a cap, fits in the hand. <i>Cultural embeddedness:</i> for kids, children, youth, memories from youth, etiquette, simple.
<i>Situation independent</i>	<i>Visual:</i> yellowish color, golden color, clear, brown, transparent, yellow, golden color, yellowish, light-yellow color, yellow/orange color, dark yellow color. <i>Long-term positive consequences:</i> healthy, fairly healthy, (fairly) healthy. <i>Long-term negative consequences:</i> not really healthy. <i>Overall positive evaluation:</i> supple. <i>Ingredients/content:</i> quickly empty, almost always with additives, additives, a lot of sugar, apple, apples, apple-extracts, apple-extract, sugar, without alcohol, fruit, drinkable, fluid. <i>Other/categories/linguistic:</i> brand, different brands, beverage, apple juice, juice, non-alcoholic beverage.

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<i>Ale</i>	<i>[Lowest level categorization]: [listed properties]</i>
<i>Sensory system during consumption</i>	Taste & Flavor: bitter, flavor, strong, fresh, unique flavor, rich flavor, sweet, different flavor, strong flavor, full, herbal flavor, fruity, dominant flavor, sweet beer, nice and fresh, full of flavor, deep flavor, weird flavor, bitter aftertaste, lots of flavor, stronger flavor, sweetish, heavy flavor. Texture: sparkling, wet, soft foam, creamy. Temperature: cold/lukewarm.
<i>Contextual features of consumption</i>	Cognitive: not in the mood for it. Physical setting: sun, tropical, terrace, pub, bar, pub/bar, predominantly consumed in a pub, local bar, Belgian beer cafe, found in every pub (but not Smirnoff-ice), in the pub, bar, bar/pub, bars. Social setting: having a drink with others, event, gemütlich (social-cozy), gemütlich-ness (social-coziness), friends, going out, parties, party, a gemütlich (social-cozy) evening, on birthdays, to drink with friends. Time setting: sometimes, summer, winter, weekend, fall, good after work, dark winter. Consumable object: deep-fried meat snacks, coffee, suits certain dishes, good with peanuts. Non-consumable object: glass, coaster, always served in a glass, is in a glass.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: quenching thirst, refreshing. Cognitive consequences: quickly getting tipsy, relaxing, rest, getting drunk in a different way, drunk, can cause drunkenness, quickly drunk. Hedonic: tasty, tasty beer, enjoying, to enjoy it, yummy, tasteful, very tasty, sometimes tasty, sometimes very tasty, perfect to enjoy, tastier than normal beer, tasty layer of foam. Other social goals: causes a gemütlich (social-cozy) atmosphere.
<i>Immediate negative consequences of consumption</i>	Bodily consequences: makes the mouth dry, moustache, heavy, heavy beer, filling, heavy on the stomach, cannot drink too much of it, nauseous, fills heavily, fills you up. Cognitive consequences: drunk quickly, drunk. Hedonic: I do not like this, not tasty, undrinkable, disgusting, awful taste, sometimes unappetizing.
<i>Action during consumption</i>	Action: funny drinking.
<i>Non-consumption situation</i>	Production: Different fermentation, good quality, quality, brewery, different process of production, often Belgian/German, often Belgian, tree, brewing. Preparation/Storage: difficult to pour, tapping, tap. Purchase: expensive, pricey, more expensive than normal beer, often more expensive than the usual beer, reflecting, there goes my salary. Package: horse, stallion, convex glass, special glass, made of glass, bottle, big, glass with leg, beautiful glass, served in pretty glass, belly glass, round, billowing glass, in special glass, often comes in bottles, different glass, different glasses. Cultural embeddedness: different, men, boys, youth, rich history, student, advertisement, for cool people, drunk guys, old men drink it, older people, exclusive, authentic, trying it out, unknown, Belgium, for true beer lovers, for advanced drinkers, as-in-Burgundy, people who enjoy culinary foods and beverages, is special, Irish, special beverage, Limburg, a friend of mine, old, old man, old men, why do people drink this.
<i>Situation independent</i>	Visual: yellow, color, light brown beer, beautiful color, too much foam, foam, layer of foam, foam collar, dark, brown, transparent, dark beer, brownish, dark color, dark-gold, with foam, a lot of foam, often dark-brown, almost always with a foam collar, dark of color, dark

Bitter lemon	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: lime flavor, bitter, fresh, sour, lemon flavor, nice and fresh, first a bitter taste, but also sweet, deliciously fresh. Texture: bubbly, sparkling, with bubbles. Temperature: cold beverage, cold.
<i>Contextual features of consumption</i>	Bodily: thirst. Time setting: summer.
<i>Immediate <u>positive</u> consequences of consumption</i>	Bodily consequences: quenching thirst, refreshing, thirst quencher. Hedonic: tasty, delicious.
<i>Immediate <u>negative</u> consequences of consumption</i>	
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	Package: in a bottle from glass or plastic
<i>Situation independent</i>	Visual: green, yellow, light green. Ingredients/content: lemon, contains carbon acid, drinkable, liquid. Other/categories/linguistic: beverage.
	brown/yellow, with a foam collar, brown color, dark brown. Long-term negative consequences: not healthy, very unhealthy, fattening, hangover, headache, calories, unhealthy, becomes sticky. Overall positive evaluation: good beer, nice to drink. Overall negative evaluation: no fan of it, dangerous. Ingredients/content: alcohol, triple, alcoholic, contains alcohol, hop, liquid, carbonic, foaming, a lot of alcohol, foams a lot, contains alcohol, aerated, moisture, stronger than normal beer, more alcohol than normal beer, stronger beer, high percentage of alcohol, too much, high alcohol percentage. Other/categories/linguistic: draft beer, Palm, special, craft beer, alcohol, beverage, special types, leprechaun beer, beer, beer/alcohol, small beer, distinguishing, many different types, lager, special beer, diversity in types, mix, solid.

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Chocolate milk	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: sweet, creamy, soft, fresh. Texture: thick, full, thick liquid, milky, thick-ish liquid, foamy, wet, creamy beverage. Temperature: warm or cold, warm, cold, warm and cold, or cold, cold chocolate milk, warm chocolate milk.
<i>Contextual features of consumption</i>	Physical setting: on the couch. Social setting: warm chocolate milk = gemütlich (social-cozy)/winter. Time setting: winter, warm in the winter, breakfast, for in the evening. Consumable object: whipped cream, with whipped cream, without whipped cream. Non-consumable object: glass.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: good against a hangover, good for the throat, refrigerant, quenches thirst. Cognitive consequences: winter feeling, holiday feeling. Hedonic: tasty, delicious, good with and without whipped cream.
<i>Immediate negative consequences of consumption</i>	Bodily consequences: brown moustache from the milk.
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	Preparation/Storage: cold storage. Purchase: expensive. Package: bottle, in glass, in a carton, bottle has a recognizable shape. Cultural embeddedness: beverage for children, especially consumed by children, kids drink, child-like.
<i>Situation independent</i>	Visual: brown, turbid, dark color. Long-term positive consequences: proteins. Long-term negative consequences: stains. Ingredients/content: a lot, a lot of sugar, chocolate, milk, non-alcoholic, liquid. Other/categories/linguistic: brand, chocolate milk.

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<i>Cocktail</i>	<i>[Lowest level categorization]: [listed properties]</i>
<i>Sensory system during consumption</i>	Taste & Flavor: sweet, fresh, fruity, bitter-sweet, tastes like fruit, good taste, a little sour, soft, all kinds of different flavors, aftertaste, different tastes, taste. Texture: wet, pulp, juicy, sparkly, is moist. Temperature: cold, cool.
<i>Contextual features of consumption</i>	Cognitive: special occasions. Physical setting: when it is cold, hotels, on a terrace, beach, disco, terrace, Lloret de Mar, sun and sea, good weather, warm country. Social setting: going out/party with good weather, gemütlich (social-cozy), holiday, going out, cocktail night, party. Time setting: summer, summer holiday, summery. Consumable object: with ice-cubes, contains ice-cubes, ice-cubes, ice, yay fruity-bites, lemon, garnished with fruit. Non-consumable object: perked up with berries, straw, perked up with adornments, with a straw, pestle, straws, frills, slice of orange and pestle, to drink with a straw.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: quenches thirst, refrigerant, refreshing. Cognitive consequences: relaxing, relaxed. Hedonic: tasty, good taste.
<i>Immediate negative consequences of consumption</i>	Bodily consequences: heavy. Hedonic: disgusting, unfortunate that it is often not tasty (for me).
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	Preparation/Storage: to mix, served cold, perked up with fruits or sugar on the edge of the glass, prepared with hard liquor. Purchase: expensive, expensive beverage. Package: hard, transparent, hard glass, the outside is moist, round glass. Cultural embeddedness: beverage to hit on girls, female, feminine, beverage for women, playful, especially girls drink it, challenging, exotic, luxurious, stylish.
<i>Situation independent</i>	Visual: happy colors, color, orange, orange of color, different colors, cloudy, colorful, beautiful colors, yellow, orange, red. Overall negative evaluation: a useless something. Ingredients/content: liquid, fruit, contains fruit, juice different kinds of liquor, fruit, no alcohol, high percentage of alcohol, mixed contents, different ingredients, lots of hard liquor, alcoholic, alcoholic or non-alcoholic, fluid, a lot of alcohol in combination with soft-drink, iced-tea, contains alcohol, sugar, you can drink it. Other/categories/linguistic: strong, summery beverage, different, different kinds, alcohol, cocktail, fruit mix beverage, mixed beverage.

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<i>Cola</i>	<i>[Lowest level categorization]: [listed properties]</i>
<i>Sensory system during consumption</i>	Taste & Flavor: sweet, is very sweet, fresh, cloyingly sweet, very fresh, too sweet, salt, light-sweet, indescribable taste, because it pricks, sour, watery because of the ice. Texture: sparkly, wet, bubbles, sparkling, with bubbles, fizzy (carbonated), bubbly, wet, best without bubbles, prickly. Temperature: cold, cool, very cold, better when cold, best when ice-cold, ice-cold, lukewarm.
<i>Contextual features of consumption</i>	Bodily: thirsty, when having a hangover. Physical setting: sun, restaurant, terrace, home, McDonalds, in a restaurant. Social setting: friends, soccer, drinking alone, boring evening, gemütlich (social-cozy), being the designated driver. Time setting: drinking on a summer's day, summer, in the summer. Consumable object: cigarette, French fries, ice-cubes, ice, with ice-cubes, food, with liquor, good with a slice of lemon, combined with ice, often with lemon, lemon, Bacardi, a lot of ice in the glass, Malibu, without ice. Non-consumable object: glass, highball glass.
<i>Immediate positive consequences of consumption</i>	Cognitive consequences: sober. Bodily consequences: refreshing, quenches thirst, provides energy, energy, boost, helps against a stomach ache, refrigerant, nice and refreshing, energy/caffeine, much energy, thirst quencher, fights nausea, energetic, fights stomach ache, awake, caffeine boost, helps when nauseous. Hedonic: tasty, delicious, always tasty, especially tasty, sometimes tasty.
<i>Immediate negative consequences of consumption</i>	Cognitive consequences: creates an urge for more cola. Bodily consequences: a little gassy, gas, triggers burping, bubbles in your stomach, gives you tears in your eyes, makes you feel full, burping, burping (bellowing), tooth pain, pain in stomach, addictive, full feeling. Hedonic: I dislike this, disgusting.
<i>Action during consumption</i>	Action: Little sip
<i>Non-consumption situation</i>	Production: biggest company on the earth, first made with cocaine. Preparation/Storage: to mix, can be mixed with alcoholic beverages, you can mix it, served cold, often in a glass of coca cola. Purchase: available everywhere, available anywhere, order it anywhere. Package: Glass is colored, can, can of coke, bottle, small bottom, wide upside, especially for coca cola, breakable, easy to pick up, wet from condensation, tubular, glass has a color tone. Cultural embeddedness: Friday night as a kid, standard beverage, popular, America, American, popular with people of all ages, most often consumed beverage on the earth, better than Pepsi, consumed a lot, known brand, most famous beverage on the planet, famous soda, standard, regular, kids do not get cola, for men, known, advertisement, coca cola Christmas.
<i>Situation independent</i>	Visual: brown, black, cloudy, black/brown, transparent brown, almost transparent, brownish, dark, dark brown, glass is full, dark-gold, dark brown of color, transparent-brown, black/brown, dark color, brown color, transparent. Long-term negative consequences: bad for your teeth, unhealthy, not good for you, not healthy, tooth enamel, makes you fat, no sleeping. Overall negative evaluation: waste of money. Ingredients/content: chemical, a lot of sugar, too much sugar, too much caffeine, sugar, caffeine, no alcohol, sugars, carbon acid, liquid, small amount, a lot, a lot of sugar, cubes of sugar, secret ingredient,

	<p>carbonated, a lot of carbon acid, non-alcoholic, fluid, drinkable.</p> <p><i>Other/categories/linguistic:</i> no lukewarm Pepsi, mix, mixed beverage, wiping the chalkboard, rust, soft-drink, Coca-Cola, coca cola, big chain, what is in it?, carry one, bulk water, comparable brands are disgusting, after two cokes you have enough, rusty nail in cola makes the rust go away, alternating, beverage, soda, light, need, a soda, many brands, is a soda.</p>
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<i>Draught beer</i>	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: bitter, fresh, bitter taste, is bitter, pungent aftertaste, fresh taste, a little bitter, beer is somewhat sweet, somewhat bitter, the beverage is bitter, is bitter, accessible taste, tastes bitter, can be bitter, strong aftertaste, sweet, has a bitter taste. Texture: sparkling, bubbly, fizzy, wet, sparkly on the tongue, bubbles of air, watery, bubbles, mildly sparkling (carbonic). Temperature: cold, cool, nice and cold. Smell: bitter smell and aftertaste, has a specific smell.
<i>Contextual features of consumption</i>	Bodily: thirst. Cognitive: to rest. Physical setting: black cross festival, terrace, pub, bar, fair, canteen, city, when it is warm, cattle market, on the terrace, work, on a big festival, found in pubs, found on festivals, student association, if the sun is shining, in pubs. Social setting: party, gemütlich (social-cozy), when it is gemütlich (social-cozy), friends, going out, soccer, parties, a game, social, gemütlich (social-cozy) to drink together, when going out, at parties, good company, friends, carnival, you do not drink it when alone, belongs in a gemütlich (social-cozy) setting, together, during a party, games, is typically present at parties. Time setting: summer, weekend, good on a summer day, in the evening, in the afternoon/evening, in the summer. Consumable object: Dutch fried snacks, sandwiches, cigarette, food, smoking, good with chips or some peanuts, with food, with peanuts. Non-consumable object: glass, beer glass, fitting with beer glasses.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: thirst quenches, quenches thirst, refreshing, refreshing in summer, refrigerant, is refreshing. Cognitive consequences: relaxation, relaxed, summery feeling, changes consciousness, drunk, makes you drunk, tipsy, when you want to get drink. Emotional consequences: happy. Hedonic: yummy, tasty, mmmmm!, tasty after the first glass, enjoying, tasty foam, also delicious, is tasty. Other social goals: creates a gemütlich (social-cozy) atmosphere, to treat, makes it gemütlich (social-cozy).
<i>Immediate negative consequences of consumption</i>	Bodily consequences: moustache, heavy, pressure on the bladder, peeing a lot, makes you pee, filling, hunger, often to the bathroom, peeing, makes you pee, cold hands, pseudo-thirst-quenching, creates hunger. Cognitive consequences: getting drunk, drunk. Hedonic: not tasty, disgusting, after a while it is no longer tasty, yuck, bad smell, stench, bad taste. Other social goals: nuisance.
<i>Action during consumption</i>	Action: carouse, guzzle, faster consumption, drinking quickly, to gulp down in one go.
<i>Non-consumption situation</i>	Production: made from wheat, 'made from limited resources, barley, yeast, malt, brewery, made from hops, brewed. Preparation/Storage: easy, beautifully tapped, tap (bar), to tap, tap, spatula, being tapped, barman, opening a bottle, is served cold, comes from the tap. Purchase: cheap, expensive, one euro fifty at the student association, cheaper than wine, order multiple, same price as a coke or soda in a pub. Package: also in a bottle, wet glass, made from glass, glass is breakable, tubular, shape, small or big glass, big glass, crate, can, crates, breakable, smooth, different sized glasses, you can drink from it, condensation on the glass, round glass, wet glass, glasses with a brand name have a subtly different form, made from glass, fits a specific amount of beer, hard, oblong, fits in the hand. Cultural embeddedness: masculine, men, drink for men,

	<p>dad, the Netherlands, typically male, guys, my alcoholic boyfriend, differs per person, someone from Amsterdam, regular, standard beverage, student beverage number 1, standard, most frequently consumed alcoholic beverage on earth, rich history, popular, students, no inspiration, differs in taste per person, medieval times, hobo, ordinary, friendly, makes others happy, frequently consumed, favorite beverage of men, living the life of a student, guys drink this more often, throwing beer, always being spilled, classic, general, students drink this a lot, commercials, universally known.</p>
<p><i>Situation independent</i></p>	<p>Visual: yellow, foam (two fingers), foam, layer of foam, two fingers, gold-yellow, 2 centimeters of foam (fingers), artsy, with a layer of foam, light, foam layer, dark, contains foam, yellow of color, gold color, gold-brown color, white layer of foam, white layer, gold of color, yellow-brown, brown-yellow, transparent, has a nice layer of foam, brown, see-through, yellowish, two thumbs of foam, orange, brown to yellow color, yellow transparent color, brown of color, goldish color. Long-term negative consequences: makes you fat, fattening, hangover, headache, many calories, no driving, no drinking and driving, addictive properties, you smell after going out, losing memories of the night, smelly stains if you spill, calories, sticky.. Overall negative evaluation: sucks. Ingredients/content: much moisture, alcohol percentage of 5%+-, contains alcohol, alcoholic, hops, foam/hops, 5% alcohol, liquid, carbonated, foamy, contains carbonic acid, light drinking, a lot, drinkable, low percentage of alcohol, is carbonated, foam disappears quickly, foam disappears immediately, water, you can drink it, contains carbon acid. Other/categories/linguistic: special (beer), beer, Grolsch, Heineken, lager, booze, alcoholic beverage, to drink, dark/light beer, alcohol, beverage, little difference in brands, different kinds, brands, Bavaria, many brands, much liquid at the same time, habit.</p>

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Energy Drink	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: sweet, sour, fresh, fresh of taste, very sweet. Texture: sparkle, wet, bubbles. Temperature: cold, best cold, cold the best.
<i>Contextual features of consumption</i>	Bodily: for the thirst. Cognitive: useful when tired. Physical setting: work. Social setting: when going out, often used during exams, busy. Time setting: good in the morning, for starting up. Non-consumable object: can.
<i>Immediate <u>positive</u> consequences of consumption</i>	Bodily consequences: gives energy, get “energy” from it, refreshing, energizing, gives energy (at least one must believe) quenches thirst, energy boost, give energy, energy. Cognitive consequences: substance to pep, stimulating, activating, less tired. Hedonic: tasty.
<i>Immediate <u>negative</u> consequences of consumption</i>	Bodily consequences: palpitations.
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	Preparation/Storage: refrigerator. Purchase: expensive. Package: grey-blue, blue with grey, round, colorful, recognizable can, bulls, small can. Cultural embeddedness: sometimes consumed by anti-social and uncultured youth, well-known brand.
<i>Situation independent</i>	Visual: yellow, yellowish color of urine. Long-term negative consequences: makes you fat, excessive use is dangerous, bad for your, laxative. Ingredients/content: caffeine and sugar, sugar, non-alcoholic, caffeine, liquid, contains taurine, carbonated, a lot of caffeine, and a lot of sugar, a lot of sugar. Other/categories/linguistic: fake energy-drinks, beverage.

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811

<i>Fruit-flavored soda</i>	<i>[Lowest level categorization]:</i> [listed properties]
<i>Sensory system during consumption</i>	<i>Taste & Flavor:</i> sweet, fruity, sweetish, sweetness, fruity beverage, sour, tastes fresh, tastes fruity, fresh. <i>Texture:</i> non-fizzy, bubbles, mildly sparkling. <i>Temperature:</i> cold.
<i>Contextual features of consumption</i>	<i>Bodily:</i> thirst, thirsty. <i>Cognitive:</i> to feel good. <i>Social setting:</i> while doing sports, sport, vacation. <i>Time setting:</i> summery beverage, summer, during the summer.
<i>Immediate <u>positive</u> consequences of consumption</i>	<i>Bodily consequences:</i> thirst-quenching, quenches thirst, thirst-quenches, refreshing. <i>Hedonic:</i> tasty.
<i>Immediate <u>negative</u> consequences of consumption</i>	
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	<i>Production:</i> fruit-mix. <i>Package:</i> plastic.
<i>Situation independent</i>	<i>Visual:</i> transparent, red, therefore colors. <i>Overall positive evaluation:</i> few calories. <i>Ingredients/content:</i> empties quickly, small, sugar, sugars. <i>Other/categories/linguistic:</i> different tastes, to drink, drinkable

812

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Ice tea	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: sour, sweet, fresh, lemon-ish flavor, lemon flavor, fruity, tastes of fruit, salt, lemon-y, flavor of lemon or peach, tastes like peach, fresh taste, very sweet, flavor of lemon, sour lemon, tasty and fresh, a little bitter, touch of lemon, nice and fresh. Texture: sparkling, wet, juicy, with or without bubbles, obtain sparkling, sparkles on your tongue, bubbles or air, prickly, wet, almost no bubbles. Temperature: cold, nice and cold, cool, consumed cold, ice-cold.
<i>Contextual features of consumption</i>	Bodily: hunger, thirst. Cognitive: when not drinking any alcohol. Physical setting: on a terrace, in restaurant, sun, often on a terrace, terrace, drink it when it is hot, consumed on warm days, good weather, refreshing while on a terrace or at McDonalds, beach, warm, bar, work, warm weather, nice weather, sunny, school. Social setting: Out for dinner, friends, taking a breath after exercise, gemütlich (social-cozy). Time setting: In the summer, drink in the summer, summer, in-between. Consumable object: with lemon, must have ice and lemon wit hit, including ice-cubes, with ice-cubes, with lemon, ice, a lot of ice, good with food, bread, consumed with ice and lemon, is served with ice-cubed, is often served with lemon, lemon, slice, of lemon, lemon and a pestle, has lemon in it, has ice-cubes in it, tasty lemon, citrus. Non-consumable object: yellow stick, ice tea stick, stick is part of it, clumsy stirrer, pestle in there, pestle, spatula, annoying stick, stick in a glass, pestle for the lemon, glass, lemon pestle, Lipton ice tea glass, pestle in the glass, in glass, often in a special glass, straw, small pestle.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: refreshing, quenches thirst, refreshingly cold, lessens thirst, refrigerant, to laugh, refrigerant, quenching thirst. Cognitive consequences: summery feeling, happiness, feeling of summer, relaxing, calm. Hedonic: tasty, tasty when it is cold, delicious, to enjoy.
<i>Immediate negative consequences of consumption</i>	Bodily consequences: stomach ache, tooth ache, thirsty again. Cognitive consequences: you keep wanting more. Hedonic: I do not like this, disgusting, not tasty.
<i>Action during consumption</i>	Action: Easy to drink, drinking through a straw.
<i>Non-consumption situation</i>	Production: artificial beverage. Preparation/Storage: served cold, squeeze the lemon, often served in convex glass, to mix, refrigerator, often served with ice. Purchase: available in a restaurant, expensive, cheap, Albert Heijn, not so expensive. Package: nice glass, often in the glass above, bottle, wet glass, from a plastic bottle, condensation on the glass, fragile, smooth, glass bulb special glass, made of glass, especially for iced tea, large glass, typical class, beautiful glass, frosted glass. Cultural embeddedness: Favorite beverage for many people, innovative, well-known brand/known advertising, advertising, internationally known brand, Lipton, more exclusive, tropical, children, innocent.
<i>Situation independent</i>	Visual: clear, orange-brown, orange, red-brown, brown peach color, brown, brown / orange, dark gold, yellow-orange, looks good, gold. Long-term positive consequences: healthy. Long-term negative

	<p>consequences: sticky, unhealthy, bad for your teeth. Positive valence: beverage is gemütlich (social-cozy), favorite beverage. Negative valence: boring, dull. Ingredients/content: too little, a lot, a lot of sugar, high in sugars, water, sugar, thee-extract, carbonated, liquid, drinkable, peach, non-alcoholic, with or without carbon acid, you can drink it, not much carbonated, full glass, aerated, not real tea, free of alcohol.</p> <p>Other/categories/linguistic: variants are green tee peach or lemon, to drink, beverage, soda, iced tea, alternating, sunglasses, thee, no idea, cola, stallion.</p>
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<i>Lime-flavored soda</i>	<i>[Lowest level categorization]:</i> [listed properties]
<i>Sensory system during consumption</i>	<i>Taste & Flavor:</i> sweet, beverage is sweet, a little sour, flavor of lemon, fresh, sour. <i>Texture:</i> sparkling, wet, fizzy, bubbly. <i>Temperature:</i> cold.
<i>Contextual features of consumption</i>	<i>Cognitive:</i> when relaxing.
<i>Immediate <u>positive</u> consequences of consumption</i>	<i>Bodily consequences:</i> refreshing, quenches thirst, refrigerant. <i>Hedonic:</i> tasty.
<i>Immediate <u>negative</u> consequences of consumption</i>	
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	<i>Preparation/Storage:</i> foam. <i>Purchase:</i> often an impulsive purchase, deposit, impulsive purchase. <i>Package:</i> has a cap, label, plastic bottle, made from plastic, bottle is hard, green bottle with recognizable structure, green bottle, in a plastic container, twistable cup, big but fits well in the hand. <i>Cultural embeddedness:</i> familiar, known.
<i>Situation independent</i>	<i>Visual:</i> transparent. <i>Long-term negative consequences:</i> unhealthy. <i>Ingredients/content:</i> a lot of sugar, carbonic, carbon acid, liquid, a liquid, sugar, contains carbon acid, aerated. <i>Other/categories/linguistic:</i> soda, Coca Cola (?), beverage.

816

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Mojito	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: fresh, sour, sweetish, fruity, spicy, sweet, sweet/sour combination, good taste, bitter, flavor of mint, but also bitter, many flavors. Texture: firm bite, wet, is wet. Temperature: cold.
<i>Contextual features of consumption</i>	Cognitive: fancy a crazy night, fun. Physical setting: Cuba, sun, Berlin, bar, summer, beach. Social setting: Going out, holiday, while going out, club-night, gemütlich (social-cozy). Time setting: In the summer, summer, lasts longer than a glass of wine. Consumable object: ice, a lot of ice, icing, crushed ice, has ice in it. Non-consumable object: has a straw, straw, straws, drinking with a straw, glass.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: quenches thirst, refreshing, refrigerant. Hedonic: tasty.
<i>Immediate negative consequences of consumption</i>	Hedonic: not tasty, distasteful, disgusting.
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	Purchase: often pricey, expensive. Package: round, hard glass. Cultural embeddedness: fun commercial, but still sophisticated drinking.
<i>Situation independent</i>	Visual: beautiful color, green, transparent, leaves in the beverage, colorful, leaves, small leaves, small bush. Negative valence: I do not care. Ingredients/content: strong, not strong, made with sugar, contains lime, alcoholic, mint, alcoholic or non-alcoholic, brown sugar, vodka, vodka-mint, because of the cane sugar, and mint, lemon, limes, rum, sprite, liquid, contains alcohol, drinkable, containing alcohol, non-alcoholic, Spa red, contains a lot of alcohol. Other/categories/linguistic: alcohol, tea, cocktail, alcohol mint, beverage.

818

819

Orange Juice	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: fresh, sour, sour-ish, sweet, sometimes sweet, bitter, fruity, sweet/sour, acidulated, but also a little sour, sweet or sour taste, a little sour, sweet flaver, dominant flavor, fruity, tastes like an orange, sweet/sour, fresh-sweet, flavor or an orange, a little sour. Texture: wet, with or without pulp, fleshy pieces, skins, with meaty pulp, pieces of meaty pulp, pulp, without meaty pulp, with pilp, with or withoth the meaty pulp, pieces, little pieces. Temperature: cold, cool, consumed cold.
<i>Contextual features of consumption</i>	Bodily: good after a hangover, consumed against a hangover. Physical setting: sunny, sun, summery beverage, terrace. Time setting: breakfast, morning beverage, to drink in the morning, often consumed with breakfast, lunch, for during breakfast, you can drink it with breakfast, morning, summer, with breakfast, with the breakfast, during lunch, to properly wake up, inbetween. Consumable object: while eating fruit, with yoghurt, to mix with hard liquor. Non-consumable object: glass, mug or glass.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: refreshing, quenching thirst, lessening thirst, good against thirst. Cognitive consequences: stimulant. Emotional consequences: happiness. Hedonic: tasty, tasty (the content).
<i>Immediate negative consequences of consumption</i>	Bodily consequences: sometimes tears in eyes.
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	Production: made from orange, from natural products, but almost always from concentrate and diluted with water, from an orange, it is made from oranges, made from oranges, juice concentrate, from real fruit, otherwise too much sugar added and too little juice. Preparation/Storage: freshly, best when freshly squeezed, the best when fresh, , squeezing, from a box, a lot of effort to get one glass, to squeeze, fresh from the bottle, freshly squeezed the tastiest, you can freshly squeeze it Purchase: expensive, trade. Package: cylindrical, smooth, elongated, made of glass, glass, transparant, round. Cultural embeddedness: International, Spain, originally from China.
<i>Situation independent</i>	Visual: yellow, red, orange, not trasparant, yellow orange of color, yellow of color, turbid, yellow/orange, orange color, yellowish, light, full. Long-term positive consequences: healthy, healthy ingredients, it is healthy, healthy when it is freshly squeezed, health. Long-term negative consequences: bad for teeth, many calories, filling, sticky. Overall positive evaluation: Merry. Ingredients/content: Pure, vitamin, contains vitamin C, fibers, vitmamins, many vitamins, rich in vitamins, contains vitamins, vitamin C, orange, fruit, sugar, possible to drink it quickly, oranges, liquied, difficult to drink quickly. Other/categories/linguistic: skins of fruit, fresh orange juice, to drink, orange juice, beverage, fruit juice, drinkable, Fanta Orange.

Orange-flavored soda	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: sweet, fresh, fruity, sweet taste, tastes like an orange, fresh beverage, tastes. Texture: sparkling, wet, bubbles, fizzy, prickly, contains sparkling. Temperature: cold, lukewarm to cold, cool.
<i>Contextual features of consumption</i>	Bodily: thirsty, thirst. Physical setting: terrace. Social setting: in transit, party, beach holiday. Time setting: summery, during the summer, in-between, summer. Consumable object: with fast-food, cigarette, good with chips, often used in combination with alcohol.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: quenches thirst, energy, refreshing. Hedonic: tasty, tasty soda.
<i>Immediate negative consequences of consumption</i>	Bodily consequences: heavy.
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	Production: as the label claims it is made from oranges. Preparation/Storage: easy to take in transit because of its size. Purchase: deposit, buy in supermarket. Package: woman's body, label yellow, label, plastic, in a bottle, bottle, opens, cap, transparent, bottle shape, nicely shaped bottle, plastic bottle, fits well in the hand, hard, oblong. Cultural embeddedness: America, Nazi-Germany, advertising, iconic, counterpart of coke, German, competitor of cola.
<i>Situation independent</i>	Visual: yellow, orange, yellow of color, turbid, is orange, bright color. Long-term positive consequences: bad for health, unhealthy, sticks. Overall positive evaluation: fantastic. Ingredients/content: carbonated, sugar, orange, aerated, carbonated, liquid, oranges, sugars, much sugar. Other/categories/linguistic: Coca Cola, soda, beverage, Fanta Orange, Fanta, non-alcoholic.

822

823

Red Wine	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: dry taste, often full of flavor, sour, powerful, often has a somewhat bitter taste, dry, fruity, heavier taste, bitter, distinct taste, sweet, a little sour, sweetish, warm flavor, taste of alcohol, taste, full of flavor, fresh, is sweet, pretty dry, lukewarm, can be sharp, slightly sweet. Texture: wet. Temperature: cold, warm, not very cold, at room temperature, room temperature. Smell: fragrant, strong odor.
<i>Contextual features of consumption</i>	Cognitive: relaxation. Physical setting: terrace, restaurant. Social setting: always drank together with other so gemütlich (social-cozy), occasion, romantic, gemütlich (social-cozy), party, going out for dinner, friends, family, group of female friends, going out, for social occasions, social, often consumed when it is gemütlich (social-cozy), gemütlichkeit (social-coziness). Time setting: drink with your evening-meal, diner booze, daily, evening, diner, evening-meal, evenings, consumed during dinner, usually drunk in the evening, holidays, with the dinner, suits the evening-meal, with evening-meal. Consumable object: often consumed with meat, with great food, with food, good with food, to drink for the taste together with the food, with the food, good food, pasta, meat, I need 2/3rds grapejuice to drink this. Non-consumable object: glass, wineglass, in a wineglass, in a glass, table.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: quenching thirst, makes you feel warm, warming. Cognitive consequences: arousing, relaxing, alters your consciousness, for getting frunk, gloomy, tipsy, very drunk, drunk, if you want to get drunk. Hedonic: tasty, yummy, tasteful, tastiest when red, tastes good (now always), enjoying.
<i>Immediate negative consequences of consumption</i>	Bodily consequences: red tongue, red teeth, heavy. Hedonic: Disgusting, not tasty, does not taste good, foul.
<i>Action during consumption</i>	Action: need to drink slowly, drinking from a wineglass, no fast drinking.
<i>Non-consumption situation</i>	Production: Vineyard, made from grapes, often from France or Italy, comes from grapes, vineyards, made from grapes, red grapes, grapes, yeast, blue grapes. Preparation/Storage: corkscrew, often poured into a wineglass, to cook with. Purchase: the more expensive the better, expensive. Package: bottle, often in a bottle with a cork, cork, glass leg take warmth of your hand, fragile, small glass, long leg, transparent glass, round glass, round platter bottom, wineglass in different styles and shapes, in a beautiful wineglass, from glass, different shapes for different sorts of wine, the glass is fragile, and has a leg, the glass breaks quickly, transparent, graceful glass, foot, beautiful glass, in a beautiful glass. Cultural embeddedness: France, often consumed, history, woman's beverage, for adults, women, adults, elitist, exalted, many women drink it, fancy, luxurious, Mediterranean, South Africa, Italy, feminine, decadent, is chic, chic, learning to drink, abundance, festive.
<i>Situation independent</i>	Visual: full, red, red of color, transparent (not cloudy), dark of color, dark, beautiful, red color, deep red, label, the beverage is red, dark red, normally speaking in a bigger round glass then portrayed here. Long-term positive consequences: good for the blood, healthy for the skin (it

	seems). Long-term negative consequences: red spots on white clothing, unhealthy, spots, smudges easily. Overall positive evaluation: pleasant, elegant, comfortable. Overall negative evaluation: not my thing, unnecessary. Ingredients/content: strong, contains alcohol, a lot of alcohol, alcoholic, a lot, drinkable, liquid, contains a lot of alcohol. Other/categories/linguistic: Many different kinds, chili, if I get it then I use it as a gift to someone else, alcohol, red wine, wine, beverage.
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824

825

Rum cola	[Lowest level categorization]:[listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: fresh, sweet, fruity, bitter, full of flavor, bitter taste, strong taste of rum, nice and sweet, sour, spicy flavor, sweetish, taste of coke is neutralized by the rum, good taste. Texture: bubbles, fizzy, with fizz, sparkly, sparkling, bites, wet, bubbles of air. Temperature: cold, ice-cold, cold is best. Auditory: rankling.
<i>Contextual features of consumption</i>	Physical setting: club, pub, casino, festivals. Social setting: going out, party, atmosphere, drinking when going out with friends, drinking during parties, friends, family, gemütlich-ness (social-coziness), you don't drink it alone, festivals/going out, party atmosphere. Time setting: not for every day, cocktails in summer, weekend, summer. Consumable object: ice-cubes, a lot of ice, contains lemon, lemon, ice, after beer, with ice-cubes, piece of lemon, on the rocks, with ice. Non-consumable object: pestle, glass.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: refrigerant, refreshing. Cognitive consequences: alters your consciousness, makes people drunk. Hedonic: tasty.
<i>Immediate negative consequences of consumption</i>	Bodily consequences: does not quench thirst. Hedonic: ruins the coke, disgusting.
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	Preparation/Storage: served cold, sometimes served with a slice of lemon, pure, mix, often served in the exact same glass. Purchase: expensive, very expensive, pre-made is also for sale. Package: wet from condense, made from glass, the glass is cold and round and hard, in a beautiful glass, damp, this glass is for Bacardi. Cultural embeddedness: style, younger people drink this, people in The Hague, people in Amsterdam and Rotterdam, popular, movies, Bacardi ad, somewhat elitist, TV commercial, masculine, popular beverage.
<i>Situation independent</i>	Visual: brown, black, color is brown/amber, brownish, dark of color, yellow dark brown, dark, brown color. Long-term negative consequences: hangover, unhealthy. Ingredients/content: strong, rum, coke, Bacardi rum, contains alcohol, fruit, high percentage of alcohol (if correctly made), alcoholic, high percentage of alcohol, carbonated, carbonated because of the coke, liquid. Other/categories/linguistic: beverage, brand, alcohol, soda, hard liquor, mixed drink, beverages, there is alcohol in this beverage.

Tequila	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: sour, bitter, fresh, bitter flavor, sweetish flavor, nice and fresh, sharp, strong taste, sweet, strong taste of alcohol, many flavors, aftertaste, bitter aftertaste. Texture: wet, burning sensation, nice flow through the throat, is wet, burning. Temperature: cold.
<i>Contextual features of consumption</i>	Physical setting: terrace, at the disco, pub, bar. Social setting: a round, should be gemütlich (social-cozy) (but I do not see the fun of it), at parties, group activity, while dancing, gemütlich-ness (social-coziness), going out, often when going out, party evening, when pressured by the group, to drink with a group, drinking in a group, friends. Time setting: in the summer, weekend, for in the summer. Consumable object: salt, and often with lime, lemon, ice, piece of lemon. Non-consumable object: served in a shot glass.
<i>Immediate positive consequences of consumption</i>	Cognitive consequences: boost of energy, to be silly, makes you drunk, drunk, tipsy, to get drunk, drunk quickly, being or getting drunk, getting drunk. Hedonic: tasty, taste lime. Other social goals: fun to do with everyone, dancing on the bar.
<i>Immediate negative consequences of consumption</i>	Bodily consequences: painful, nauseating, thirst, puking. Cognitive consequences: makes you drunk, getting drunk quickly Hedonic: distasteful, distasteful stuff, disgusting taste, not tasty, awful.
<i>Action during consumption</i>	Action: hand, fun ritual, first salt, to drink in one go, drink it quickly (like a shot), to consume in a certain order, first licking the salt, then bite in the lemon, a sip, to consume in a certain order.
<i>Non-consumption situation</i>	Preparation/Storage: served cold. Purchase: expensive, pricey, sold in the pub. Package: glass, made of glass, less fragile than other glasses, square, relatively low, from glass, small glass. Cultural embeddedness: Foreign country, Mexican, Mexico, many people pull a disgusted face when drinking it, protocol.
<i>Situation independent</i>	Visual: transparent, turbid, white/yellow, small, white, yellow, light color, light. Long-term negative consequences: too much is dangerous, addictive components, unhealthy, regret afterwards, makes a night go too wild, gives a headache, sensitive to a headache. Overall positive evaluation: better than shots. Overall negative evaluation: stupid to do. Ingredients/content: strong, little, small amount, contains alcohol, a lot of alcohol, alcoholic, contains alcohol, liquid, drinkable. Other/categories/linguistic: hard liquor, alcohol, beverage, Tequila, shot.

827

828

Tonic	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: fresh, bitter, but also sweet. Texture: sparkling, bubbling, fizzy. Temperature: cold.
<i>Contextual features of consumption</i>	Time setting: Summer, season. Consumable object: lime, always with lime or a slice of lemon.
<i>Immediate <u>positive</u> consequences of consumption</i>	Hedonic: very tasty, tasty.
<i>Immediate <u>negative</u> consequences of consumption</i>	
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	Preparation/Storage: served with the bottle. Package: hard glass, round glass, low glass.
<i>Situation independent</i>	Other/categories/linguistic: made for consumption.

829

830

Vodka	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: bitter aftertaste, strong taste of alcohol, strong taste, bitter, strong flavor, tasteless, bitter, has pretty much no taste, aftertaste remains for a long time. Texture: burning throat, burns in your throat, wet, gives a burning sensation, burn in your throat, burning feeling. Temperature: cold, lukewarm, lukewarm beverage, cold, not so cold. Smell: odorless, strong odor.
<i>Contextual features of consumption</i>	Physical setting: house, bar, pub, more in a disco where people really want to get drink than in a gemütlich (social-cozy) bar, or in a shot-bar. Social setting: gemütlichkeit (social-coziness), going out, friends, a round, vacation, during parties. Time setting: at the end of the evening when you know everything goes wrong. Consumable object: often mixed with soda, food. Non-consumable object: shot glass.
<i>Immediate positive consequences of consumption</i>	Cognitive consequences: makes you drunk, drunk. Other social goals: to talk.
<i>Immediate negative consequences of consumption</i>	Bodily consequences: hunger, too much makes you nauseous. Cognitive consequences: drunk quickly, drunk. Hedonic: awful taste, awful smell, disgusting, distasteful.
<i>Action during consumption</i>	Action: in one go, to drink in one go, drink it quickly, to drink
<i>Non-consumption situation</i>	Preparation/Storage: you can mix it or take a shot, served in a shot glass, mixable. Purchase: expensive, relatively cheap. Package: bottle, glass, from glass, in a small glass, small glass, in small glass. Cultural embeddedness: Russia, not many people who drink it, originally from Russia, stemming from Poland/Russia, often consumed in Russia, Russian.
<i>Situation independent</i>	Visual: color of water, without color, transparent, white, clear, white, small. Long-term negative consequences: abuse, addiction, gives you a headache, causes a headache, vomiting, tendencies to puke, poison. Overall negative evaluation: bad. Ingredients/content: strong, consumed in small quantities, strong percentage of alcohol, high percentage of alcohol, strong percentage of alcohol at +- 40%, powerful, small amounts, a lot of alcohol, little, 40% alcohol, alcoholic, liquid content, liquid, drinkable, strong alcohol, contains alcohol, underestimated amount of alcohol. Other/categories/linguistic: shot, alcoholic beverage, brand, alcohol, pure vodka, vodka, beverage with alcohol, hard liquor, shots, hard liquor with alcohol.

831

832

Vodka energy drink	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: bitter, sweet, fresh, cloyingly sweet, very sweet, sweetish, tastes fresh, like lemonade, nice and sweet, spicy, tastes. Texture: sparkling, has a burning taste, burns in your throat, wet, burning. Temperature: ice cold, cold, best when cold, cool. Smell: smells, odor.
<i>Contextual features of consumption</i>	Cognitive: acting tough. Physical setting: in the pub, pub, club drink, club, predominantly at discotheques, often consumed in clubs. Social setting: party, consumed on parties, used during festive events, friends, going out, carouse holidays, when going out, gemütlich-ness (social-coziness), beverage when going out. Time setting: Friday, happy hour. Consumable object: ice-cubes, with ice-cubes, ice, often has ice-cubes. Non-consumable object: glass.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: kick, full of energy, energy, energy rich, gives you energy, provides energy, providing energy, works against fatigue, staying awake, makes you less tired, peppering, refreshing, boost in energy, patches up a lot, creates warmth within, is refreshing, its consumption is refreshing, active, energetic. Cognitive consequences: changes consciousness, drunk, wanting to get drunk, makes you tipsy/drunken, drunk quickly, getting drunk, clouding the mind. Hedonic: nice smell, tasty, tastes good.
<i>Immediate negative consequences of consumption</i>	Bodily consequences: bouncing. Cognitive consequences: drunk quickly, makes you drunk. Hedonic: distasteful, bad taste, not tasty, disgusting, not very tasty, actually a not at all tasty mix.
<i>Action during consumption</i>	Action: to drink
<i>Non-consumption situation</i>	Preparation/Storage: mixing. Purchase: expensive, very expensive, extremely expensive. Package: hard, transparent, blue, silver, white, see-through, oblong, made from a tin plate, has a tab, dents, bottle is from glass, has a cap, smooth, bottle is from glass. Cultural embeddedness: beverage for Turkish people, youth, Russian, Russia, hip, especially consumed by women, foreign, mix for the youth, lowbrow, high school, beverage for girls, beverage for women, Vodka from Poland/Russia, the youth drinks it more in general, something for teenagers.
<i>Situation independent</i>	Visual: orange, yellow, golden of color, yellowish, looks like a glass with urine, yellow/orange of color. Long-term negative consequences: hangover, unhealthy, unhealthy sugar, bad for you, vomiting, puking, a lot of junk. Ingredients/content: strong, empties quickly, a lot of sugar, contains alcohol, caffeine, taurine, sugar, high percentage of alcohol, liquid, drinkable, alcoholic, contains alcohol, caffeine, carbon acid, a lot of caffeine, a lot of alcohol, has a high percentage of alcohol, mixed liquid, contains artificial odor color and taste particles, artificial. Other/categories/linguistic: mixed drink, alcohol, mix, Bacardi Breezer, booze, Vodka, Red Bull, hard liquor, energy drink, brand, red bull is an American brand with taurine etc.

Water	Properties (lowest level categorization)
<i>Sensory system during consumption</i>	Taste & Flavor: without taste, taste, nice and fresh, tasteless, fresh taste, fresh, no taste, neutral, neutral taste, soft, little taste/neutral, fresh water, no distinctive taste, little flavor, not a lot of taste, boring taste, sweet. Texture: no bubbles, no carbon acid, wet, not sparkling, sparkling, can be with bubbles, is wet. Temperature: cold, cool, cold the best. Smell: smell, odorless, inodorous.
<i>Contextual features of consumption</i>	Bodily: thirst, thirsty, great when thirsty, being hungover, injury, hangover. Cognitive: diet, desire, I personally feel a strong need to drink it. Physical: warm, swimming pool, being on the road, college, heat, sun, French mountains, beach, work, soccer, festivals, warmth, Africa, hockey. Social: social-coziness, drink during sports, sports, studying, good for during sports, being serious, for after sports, sporting, techno, good after sports, party, being the designated driver. Time: every day, a beverage that can be consumed at every moment of the day, daily, consuming it daily, routine, drinkable on every day, drinking it during the day, during the day, summer, can be consumed at each and every moment, this is what I always drink, habit, daily, after going out, throughout the day, in-between, vacation. Consumable: medicin, lemon. Non-consumable object: on the table, bottle, is in a bottle, small bottle.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: quenches thirst, cool refreshing, refreshing, thirst quenches, decreasing the thirst, thirst quenching, refrigerant, good quenches of thirst, works as a thirst quencher, hydrating, is refreshing, dehydration, good for your body, good for body and skin, sober, anti-thirst substance, refrigerant. Cognitive consequences: relief, conscious. Emotional consequences: comfort. Hedonic consequences: delicious, good flavor, yummy, tasty, very tasty, enjoyment.
<i>Immediate negative consequences of consumption</i>	Hedonic consequences: not tasty.
<i>Action during consumption</i>	Action: flushing, drinking it quickly, twisting motion.
<i>Non-consumption situation</i>	Production: well, large water corporations, running stream, nature, river, water from nature, can be found in rivers and oceans. Preparation: keep refrigerated, simple, easy, convenient, quick to make, easy to prepare, simple, simplicity, tap, can be consumed from the tap in the Netherlands, from the tap, also comes from the tap, refill, refill with tap water, getting it from the tap, fountain, comes from the tap but you can also buy it, from the tap, found in many a bag, taking it from home, refillable, filling, getting the cap off, always in my bag, can be cooked, easy to refill, comes from the tap, also comes from the tap, tapwater, ease, freezer. Purchase: Albert Heijn, widely available, could be cheaper, too expensive, cheap, expensive, affordable, deposit, easily available and expensive, free, many variants available (from a well, sparkling), freely available, buy it in the supermarket, supermarket, should be free. Package: plastic, beautiful, colors, color, beautiful design, a lot of packaging, bottle, redundant packaging, wrapped up, model bottle, blue, transparent bottle, garbage, recycling, twistable cap, in a plastic container, possible to close, bottle can be reused, re-sealed,

	<p>not sturdy, waterproof, convenient, easy to carry, convenient to carry, shape of a bottle, carrying it along, made from plastic, cap can seal the bottle, has a cap, PET bottle, cylindrical shape, corrugations, not very sturdy/hard, blue cap, reusable, to carry along, small and high, convenient to carry along, hard cap, soft bottle, possible to recycle, round shape, recycling, plastic bottle, polluting, can drink from the bottle, PET, plastic, plastic bottle, often a blue cap, soft bottle body, can be opened, beautiful bottles, reusing the bottle. Cultural embeddedness: For everyone, known, advertisement, taking it easy, drought, nobody can be without, too little, to swim in, high percentage of everything that lives, clean, is consumed everywhere, is very normal, can wash yourself with it, to wash, water is scarce in some countries, good for people and animals to consume it, most commonly used cleaning agent, simple, often present, swimming, can do the dishes with it, can shower with it, can wash with it, to clean, to wash yourself, washing hands.</p>
<p><i>Situation independent</i></p>	<p>Visual: clear, transparent, without color, see-through, light, transparent or blue, no color, white. Long-term positive consequences: not unhealthy, no calories, does not make you fat, purgative, healthy, not fattening, indispensable, essential, required, necessary, needed, useful, vital, no calories, for fluid balance in your body, source of life, against drying out, good to drink, necessity for mankind, vital need number 1, essential for the body, feels healthy, health, few calories, vital, cleansing, your body needs it, 2 liters per day, necessity for life, basic needs, much needed daily, healthy beverage, few calories, always good for you, takes care of beauty, enough to drink. Long-term negative consequences: not really healthy. Overall positive valence: pleasant, good. Overall positive valence: boring. Ingredients/content: pure, ordinary, without sugar, natural, liquid, clean, heavy, relatively heavy, no alcohol, tangible, drinkable, non-alcoholic, liquid substance, hypotonic, no additives, alcohol-free, substance is easily drinkable, a lot, 0.5 liter. Other/categories/linguistic: beverage, water, Spa, Spa Reine, the product itself, water in the package, basic, brand, still water, sometimes flavored, you have a sweet and a salty variant, beverage for sports, can be used for many purposes (washing, drinking), you use it for almost everything, municipality lager, with water you do a lot, different brands, most recognized element H₂O, Spa, sea, beverage, spring water, mineral water, moisture, brand, osmosis, hydrogen, oxygen, H₂O, beverage of the day, Spa Blue, Spa Blue/Red, to live, lacking.</p>

<i>Whisky</i>	<i>[Lowest level categorization]:[listed properties]</i>
<i>Sensory system during consumption</i>	Taste & Flavor: bitter, woody, often tastes like wood, tastes 'hot', sharp flavor, is sweetish, smoky flavor, tastes like alcohol, heavy taste, strong taste, for the taste, powerful, full, warm flavor, strong aftertaste. Texture: wet, creamy, burning sensation, burn, burns in your throat, burning sensation in throat. Temperature: cold, not necessarily cold, consumed cold. Smell: aromatic, strong scent of alcohol, strong scent, smells like alcohol, strong smell, fragrant, very strong smell, smells. Auditory: ice cube rings in glass, ringing.
<i>Contextual features of consumption</i>	Physical setting: fireplace, clubs, disco, bar, pub, casino. Social setting: gemütlich (social-cozy), friends, going out, gemütlich-ness (social-coziness) and ice, fits a party, party, on a party, good conversations, parties, business meeting'. Time setting: nightcap, evenings, beverage for the evening, weekend. Consumable object: much better without ice cubes, a complementary cigar, goes well together with a cigar, ice-cubes, ice, ice-cube, with an ice-cube, often combined with ice-cubes, a lot of ice, preferable no ice, smoking, on the rocks, 1 cube, cigar. Non-consumable object: glass, often in a big glass with ice, is in a glass, a glass.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: pleasant for the throat, makes you feel warm. Cognitive consequences: relaxed, causes drunkenness, drunk, getting drunk, getting drunk quickly, makes you feel tipsy, drunkenness, makes you drunk. Hedonic: tasty with ice, tasty, with an ice-cube it is tasty, enjoying, tasteful. Coping: coping with disappointment.
<i>Immediate negative consequences of consumption</i>	Hedonic: bad smell, smells bad, I do not like it, distasteful, disgusting, unappetizing, bad aftertaste. Cognitive consequences: getting drunk, drunk quickly.
<i>Action during consumption</i>	Action: to shot, a beverage that you drink by sipping, small sips, slowly, to drink slowly.
<i>Non-consumption situation</i>	Production: distilled, matured on wood, smoked, matured, often distilled in a foreign country. Preparation/Storage: mixed beverages. Purchase: expensive, valuable. Package: hard, half-full, distinct glass, small glass, made from glass, in a beautiful glass, normal glass, highball glass, always in something made from glass. Cultural embeddedness: men, for a connoisseur, mostly consumed by men, beverage for men, is Scottish, must only drink a little, do not drink too much, special, classy, small amounts, Irish, chic, people think it makes them look sophisticated, the elite, beloved by the elderly, old men, old-fashioned, portly men, men with cigars, class, something for older men, Scottish, James Bond, often consumed by older men, movies, a beverage of status, has a sophisticated appearance, dads drink it, in movies its often used for men with high stature, foreign, many dads drink it, looks fancy.
<i>Situation independent</i>	Visual: brown, lightbrown, golden, is orange-ish, orange-ish, small, light, transparent, often a little brownish, colorful, clear, orange, only a little in there. Long-term negative consequences: hangover, headache, nauseating air, causes nausea. Overall positive evaluation: seductive, sex. Overall negative evaluation: too strong, shudder. Ingredients/content: strong, is very strong, very strong, a lot of alcohol, strong alcohol, contrains alcohol, a high percentage of alcohol,

	alcoholic, a little, liquid, drinkable, you can drink it, high percentage of alcohol, pure, little, small amount, little in the glass, strong stuff. <i>Other/categories/linguistic:</i> Vodka, alcohol, hard liquor, often the wrong brand, drinkabe, beverage, a shot, many different kinds, pure / mix.
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White beer	[Lowest level categorization]: [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: bitter, fresh, bitter flavor, sweet, has a bitter flavor, multiple flavors, a little bitter, tastes like lemon. Texture: fizzy, sparkling, wet, foam on lips. Temperature: cold, cool, cold when it is consumed.
<i>Contextual features of consumption</i>	Cognitive: when relaxing. Physical setting: terrace, on the terrace, when the sun is shining, sun. Social setting: gemütlich (social-cozy), gemütlich-ness (social-coziness), friends, going out, going out with friends, often consumed after work. Time setting: summer, weekend, in the summer, white beer is often consumed in the summer, spring, beverage for in the summer. Consumable object: lemon. Non-consumable object: glass, is in a glass.
<i>Immediate <u>positive</u> consequences of consumption</i>	Bodily consequences: quenches thirst, refreshing, does quench thirst. Cognitive consequences: drunk. Hedonic: tasty, the first sip is the tastiest.
<i>Immediate <u>negative</u> consequences of consumption</i>	Bodily consequences: heavy, rumbles in your belly. Cognitive consequences: gets to your head.
<i>Action during consumption</i>	
<i>Non-consumption situation</i>	Production: brewed. Preparation/Storage: from a bottle or the tap, from the tap, from a bottle. Purchase: cheap, expensive, Package: bottle, hard, big, big glass, bottle or glass. Cultural embeddedness: popular, German.
<i>Situation independent</i>	Visual: yellow, foam, light, foam layer, foam collar, foam head, white, a lot of foam, weird color, has a good foam collar, turbid, not always transparent, light beverage, should have a layer of foam, white foam. Long-term negative consequences: sticky, unhealthy. Overall negative evaluation: tedious. Ingredients/content: alcoholic, liquid, foaming, foamy, contains alcohol, a lot, beer goes flat. Other/categories/linguistic: alcohol, beer, white beer, brand dependent.

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<i>White wine</i>	<i>[Lowest level categorization]:</i> [listed properties]
<i>Sensory system during consumption</i>	Taste & Flavor: sour, dry, sweet, fruity flavor, fresh, soft, a lot of flavor, fruity, bitter, dry/sweet, bitter/sweet, a lot of taste, sweet/dry, dry taste, sweet or dry, a little sour, aftertaste, sour-ish, austere, dry taste, good finish, sweetish, is dry or supple, sweet/dry/fruity, taste, tastes. Texture: wet. Temperature: cool beverage, cool, cold. Smell: strong odor.
<i>Contextual features of consumption</i>	Bodily: thirst. Cognitive: moment of rest, give me another one, when relaxing, must take the time for one. Physical setting: pub, terrace, sun, enjoying a beautiful landscape, sunny, restaurant, park, good when it is warm, should be in a restaurant, home, or in the pub, when it is warm. Social setting: party, going out, gemütlich (social-cozy), cooking/wine, with others, female friends, gemütlich-ness (social-coziness), a long dinner with others, going out for dinner, party, when it is not gemütlich (social-cozy), friends, good when going out, when going out, often consumed at a party, gemütlich (social-cozy) times with friends, I especially drink white wine with my female friends, not when going out, chatting, with female friends, with in the company of females, on a party, evening dresses, when going out, birthday, an event, when going out or social events, consumed a lot when going out, family, having dinner with others, going out with others, to drink before going out with others. Time: summer, night cap, in the summer, evening meal, evening, Christmas, also good with evening meal, consumed in the evening, weekend, gemütlich (social-cozy) in the evening. Consumable object: fish, asparagus, minnow, entrée, food, with fish, good with food, when eating fish, good when eating, when out of beer, good with fish, with dinner or drinks, to drink with fish or a salad, with an ice-cube, with food, when having food, a bite, good food, with ice, often consumed with food.
<i>Immediate positive consequences of consumption</i>	Bodily consequences: refreshing, refrigerant, quenches thirst, refreshing content, shiver. Cognitive consequences: becoming relaxed, relaxed, restful, drunk, calms down, gives a good feeling, to laugh, fun, alters consciousness, if you want to get drunk, quickly gets you tipsy, getting drunk, makes you drunk. Hedonic consequences: tasty, delicious, mmmmm, enjoyment, enjoying. Other social consequences: to flaunt.
<i>Immediate negative consequences of consumption</i>	Bodily consequences: heavy. Cognitive consequences: drunk, alcohol gets to you. Hedonic: not tasty, awful taste, disgusting aftertaste, often an awful taste, often smells bad, often an awful taste when drinking it in the pub, disgusting.
<i>Action during consumption</i>	Action: to drink quickly, to drink, to take small sips from the glass, holding the glass.
<i>Non-consumption situation</i>	Production: grapes, grape, breed of grapes, white grape, made from grapes, vineyard, made from grapes often in France/Italy/Germany, consists of green grapes. Preparation/Storage: opener. Purchase: expensive, much difference in price and quality, cheap wine, different prices, Gall&Gall, cheap, the better the more expensive, comes in different ranges of prices. Package: wine glass, glass, big glasses, causes condensation on the glass, beautiful glasses, big glass, cork, bottle, with leg, in beautiful glass, small leg, round bottom, round glass, glass bottles, in a round glass, round, from glass, fragile, glass is fragile,

	<p>has a leg, good to hold, widest in the middle of the glass, high wineglass, (the glass) is made from glass, (the glass) fragile, special glasses for it, long glass, often poured in a nice glass, often in a glass with a long leg, glass is often wet from condensation, can drink from the glass, greasy fingers are clearly visible on the glass. Cultural embeddedness: beverage for women, women's beverage, woman, women, sophisticated, classy, beverage for girls, elitist beverage?, class, typical women, stuck-up people, France, chic, typically women, France, chic, students, more often consumed by women, intended for women, elegant, feminine, French, drunk teenage girls, style, German, to cook with, often consumed in France even in the afternoon, I often buy it for someone else, consumed as if it is water, with female company, country.</p>
<i>Situation independent</i>	<p>Visual: light color, see-through, light, beautiful color, white, transparent, not a pleasant color, bare, poured past the curve, white-yellow, dark, yellow, clear, light yellow, white gold, yellowish, transparent with a little yellow, white color, is light of color, without color, white/yellow, clear color, often not turbid, white/yellow color. Long term negative consequences: fat, fattening, headache. Ingredients/content: too little, a lot, contains alcohol, acids, carries alcohol, alcoholic, liquid, strong, drinkable, carbon acid, there is alcohol in there, liquid content, pretty strong, with alcohol, beverage is drinkable. Other/categories/linguistic: Sauvignon, dry white, wine, alcohol, alcoholic beverage, Chardonnay, preferably red wine or rosé, in moderation, beverage is to drink, white wine, different kinds, many different kinds, contains less than red wine, Savignon, is a beverage.</p>

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