The Young Male Cigarette and Alcohol Syndrome: Smoking and Drinking as a Short-Term Mating Strategy

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Abstract
Despite the many health risks of tobacco and alcohol use, high levels of smoking and drinking are being persisted. Moreover, young men engage more in these behaviors as compared to women. As male physical risk-taking behavior gains attractiveness in short-term mating contexts and given that smoking and drinking have considerable physical costs, this study explores the possibility that tobacco and alcohol use is part of a male short-term mating strategy. By means of a between-subjects experiment (N = 239), women's perceptions of young male smoking and drinking were investigated. The experiment showed that women perceive men who smoke and drink as being more short-term oriented in their sexuality than nonusers. Moreover, both tobacco and (especially) alcohol use brought some attractiveness benefits in short-term mating contexts. A follow-up study (N = 171) confirmed that men's behavior corresponds with women's perceptions. Overall, these findings show that cigarette and alcohol use can operate as a short-term mating strategy.

Keywords
smoking, drinking, young men, short-term mating strategy, attractiveness

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Introduction
Smoking cigarettes and drinking alcohol at a young age are known to bring adverse consequences to its users. For instance, in the short run, smoking leads to poor lung functioning and rapid fatigue during physical activity (American Cancer Society, 2014). Alcohol, on the other hand, causes drunkenness and alcohol poisoning, leading to headaches, coma, or even death (Fuller et al., 2013; National Institute on Alcohol Abuse and Alcoholism, 2015). Moreover, because of the addictive effects, early tobacco and alcohol use leads to dependency later in life, causing a high disease and premature death risk (Brown et al., 2008; Doll, Peto, Boreham, & Sutherland, 2004; Ellickson, Tucker, & Klein, 2001, 2003; Jha et al., 2013; World Health Organization, 2014).

However, despite all dangers, smoking and drinking peak during young adulthood (Johnston, O’Malley, Bachman, Schulenberg, & Miech, 2014; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). Corresponding with most research findings on risk-taking behavior (Betz & Weber, 2002; Byrnes, Miller, & Schafer, 1999) and the young male syndrome (stating that risky behavior is found most frequently among the sex with the highest reproductive competition; Fischer & Hills, 2012; Wilson & Daly, 1985), these high numbers of youth smoking and drinking are mostly attributable to young men (Ahlström & Österberg, 2005; SAMHSA, 2014; Johnston, Bachman, & Schulenberg, 2012; Poelen, Scholte, Engels, Boomsma, & Willemse, 2005). Accordingly, there might be underlying motivations for young men who surpass the harmful consequences of both unhealthy consumption behaviors.

Studies already showed that men attune their risky courtship displaying behavior to female desires, depending on the sexual strategy that is being followed (Ellis et al., 2012; Frankenhuys & Karremans, 2012). Furthermore, in accordance with the female preference for physical qualities in short-term mating
situations, studies demonstrated that physical risk taking is especially attractive in short-term mating contexts (Bassett & Moss, 2004; Kelly & Dunbar, 2001; Sylvester & Pawlowski, 2011). Consequently, in this article, we aim to explore the hypothesis that male smoking and drinking behavior—being risky physical consumption behaviors—are used as a male short-term mating strategy. By means of two studies, the functioning of tobacco and alcohol use as a short-term sexual strategy is explored.

**Male Risk Taking as a Sexual Strategy**

Because of the high reproductive costs when making a poor mating decision (Trivers, 1972), women are selective when choosing a short-term sexual partner as well as a long-term romantic partner (Buss & Schmitt, 1993; Li & Kenrick, 2006). Accordingly, men are forced to strive for mating opportunities through competitive behavior and courtship displays in both mating contexts (Buss, 2007; Geary, 2006; Kenrick, Sadalla, Groth, & Melanie, 1990). This is especially the case for young men, experiencing the highest level of competition and the greatest variation in reproductive success (Daly & Wilson, 2001; Ellis et al., 2012; Wilson & Daly, 1985). Which qualities are being displayed by men depends on women’s preferences and on the sexual strategy that is followed (Buss, 2006; Saad, 2013).

When searching for a long-term partner, women prefer a man who has the willingness and capacity to protect and care for children. Consequently, women are attracted to kind men, physically strong men, and especially men with resources and status (Buss & Schmitt, 1993; Li, Bailey, Kenrick, & Linsenmeier, 2002). In short-term mating, on the other hand, a man’s genetic quality is most important. Accordingly, women place greater value on a man’s physical attractiveness (Buss & Schmitt, 1993; Li & Kenrick, 2006), making men with symmetrical faces and masculine features more desirable (Little, Jones, Penton-Voak, Burt, & Perrett, 2002; Provost, Troje, & Quinsey, 2008; Puts, 2005).

Men’s risk-taking behavior corresponds with these female preferences. Both physical risk taking (Frankenhuis, Dotsch, Karremans, & Wigboldus, 2010; Pawlowski, Atwal, & Dunbar, 2008; Ronay & Hippel, 2010) and financially risky decision making (Baker & Maner, 2008; McAlvanah, 2009; Wilson & Daly, 2004) are stimulated in a mating mind-set. Moreover, findings indicate that these male risky behaviors are strategic courtship displays, as men limit their risky signaling to situations where the odds of gaining reproductive benefits are high. For instance, young men are inclined to take more risks when exposed to a woman, but only when she is attractive (Baker & Maner, 2008) and single (Baker & Maner, 2009). Moreover, only uncommitted men increase their risk taking in the presence of women, while taking into account women’s preferences (Frankenhuis & Karremans, 2012).

In addition, the attractiveness of risk takers depends on the type of risk as well as the mating context. Corresponding with female desires, physical risk taking enhances male attractiveness, especially in short-term mating contexts (Bassett & Moss, 2004; Kelly & Dunbar, 2001; Sylvester & Pawlowski, 2011). Moreover, in short-term sexual encounters, physical risk takers are preferred over social or financial risk takers (Sylvester & Pawlowski, 2011). In long-term mating contexts, on the other hand, women generally prefer risk avoilers (Sylvester & Pawlowski, 2011), except when it concerns heroic risk taking (Farthing, 2005) or moderate physical risk taking, carrying less danger for the partner and children (Bassett & Moss, 2004; Farthing, 2007; Kelly & Dunbar, 2001).

**Tobacco and Alcohol Use as a Short-Term Mating Strategy**

Because of the many—short-term and long-term—negative health consequences, smoking cigarettes and drinking alcohol can be considered forms of physical risk taking. Given this physical risk inherent to smoking and drinking, women’s preference for male physical risk taking in short-term mating contexts, and the fact that men adapt their risky behavior to the preferences of women, we propose that smoking and drinking behavior could be used by men as a short-term sexual courtship strategy. Accordingly, smoking and drinking should be engaged in more by men having an unrestricted, short-term-oriented sexuality, while bringing short-term attractiveness benefits.

In line with these assumptions, studies show that there is a strong link between drinking alcohol and engaging in casual sexual relationships (Grello, Welsh, & Harper, 2006; Lindgren, Pantalone, Lewis, & George, 2009; Turchik, Garske, Probst, & Irvin, 2010). Similarly, recent studies indicate that the high participation of men in drinking games can be (partially) explained by men’s higher mating efforts and higher sexual motivation (Hone, Carter, & McCullough, 2013; Hone & McCullough, 2015). Furthermore, also smoking seems to be related to following a more risky and short-term-oriented sexual approach (Farid, Rus, Dahlui, Al-Sadat, & Aziz, 2014; Långström & Hanson, 2006), in which young adults putting a lot of effort in attracting sexual partners are more willing to smoke in social situations (Jones & Figueredo, 2007). In addition, Hill and Chow (2002) link risky drinking to reproductive success in young men. Some studies contradict the assumed attractiveness benefits of heavy alcohol and tobacco use in men. However, women were asked to rate these men on their general desirability. Hence, in accordance with evolved long-term female desires, no preferences for physical risk-taking behavior were found (Farthing, 2005; Van Den Abbeelee, Penton-Voak, Attwood, Stephen, & Munafö, 2015; Wilke, Hutchinson, Todd, & Kruger, 2006). Corresponding with risk-taking literature, moderate alcohol use did enhance men’s general attractiveness (Van Den Abbeelee et al., 2015).

**Current Research**

As scientific literature points into the direction of smoking and drinking as a male short-term mating strategy, we expect men’s smoking and drinking frequency to affect women’s perception.
More specifically, we believe that a higher smoking and drinking frequency will lead to a more harmful impression of a young man’s overall behavior (Hypothesis 1). Additionally, we expect that women will infer a man’s short-term mating strategy from his smoking and drinking behavior (Hypothesis 2). Also, tobacco and alcohol use will bring attractiveness benefits to young adult men (Hypothesis 3). Corresponding with risk-taking literature, we expect occasional smoking and drinking, being moderate risky behaviors, to bring attractiveness benefits in both short- and long-term mating situations (Hypothesis 3a). However, heavy smoking and drinking will only bring attractiveness benefits in short-term mating contexts (Hypothesis 3b). Furthermore, if smoking and drinking function as a short-term mating strategy because of its physical harmfulness, women’s perceptions will be mediated by how unhealthy and risky they perceive a man’s behavior to be (Hypothesis 4). By means of an experimental study, women’s perceptions as a function of men’s smoking and drinking behavior were explored.

In addition, for tobacco and alcohol use to function as a short-term sexual strategy, women’s perceptions must correspond with men’s actual behavior. Therefore, we expect users of tobacco and alcohol to have a more short-term-oriented mating strategy compared to nonusers (Hypothesis 5). Moreover, we expect to find a correlation between young male users’ smoking and drinking behavior and their level of sexual unrestriction that matches with the findings of Hypothesis 2 (Hypothesis 6). A follow-up study verified the sexual strategy of young male users and nonusers.

### Study 1: The Perception of Male Smoking and Drinking Behavior

#### Material and Method

**Participants**

Following the young adult life stage proposed by Levinson (1986), women between the age of 17 and 30 were approached to participate in an online experiment. Due to attractiveness-related questions, data of participants with a homosexual orientation were excluded. Participants who indicated being male or outside the young adult age range and participants with largely incomplete questionnaires were also removed from the data set. The final sample consisted of 239 Flemish women ($M_{\text{age}} = 21.09, SD = 2.22$), living in the Dutch-speaking part of Belgium. In Belgium, alcohol can be legally sold in shops or bars to youngsters from 16 years old. Only when it concerns liquors, the age limit rises to 18 years. Similarly, it is illegal to sell cigarettes to youngsters under 16 years old (www.belgium.be).

**Design**

To investigate whether women perceive men’s sexual strategy and attractiveness differently depending on their smoking and drinking behavior, an online between-subjects experimental design was used. More specifically, a factorial survey experiment was conducted, in which vignettes (profiles), varying (an) experimental factor(s), were used to assess the impact of behavioral traits on evaluations (Auspurg & Hinz, 2015). This research approach was chosen for because it has proven useful in the studying of risky behaviors (Bassett & Moss, 2004; Kelly & Dunbar, 2001; Sylwester & Pawłowski, 2011) and signaling behavior (Sundie et al., 2011).

**Stimuli and Procedure**

For this study, behavioral profiles (vignettes) were created in which the hobbies of a typical young male were described in circa 70 words. In total, 10 sets of profiles were created. Two sets of profiles addressed a young man’s smoking and drinking behavior. The eight other profile sets focused on other behaviors, both positive (e.g., playing sports) and negative (e.g., sunbathing), yet are not discussed in this article. Each profile set consisted of three versions, varying the main character’s behavioral frequency. All three profile versions were identical, except for the final sentence stating that a person did not engage, occasionally engaged, or frequently engaged in either smoking or drinking (see Appendix).

To present the vignettes to the participants, three online links were created via the program “Thesistools.” The three links displayed all 10 behavioral profiles in the same order, yet varied which of the three versions of a profile set was presented. For instance, when opening the first link, women were asked to rate an occasional smoker and a frequent alcohol drinker, followed by the other profiles.

The attractiveness of the main characters was assessed by asking the following question: “Based on the profile you just read, how attractive would you find this person as a potential partner in the following situations? (a) a short-term relationship (a date, one-night stand, casual relationship, etc.) and (b) a long-term relationship (loyal, committed relationship, marriage)”.

Both questions were measured on a 7-point Likert-type scale ranging from 1 (not at all attractive) to 7 (very attractive). To investigate whether a man’s short-term mating strategy is inferred from his tobacco and alcohol use, participants were also instructed to fill in the 3 attitudinal items of the Sociosexual Inventory (SOI; Simpson & Gangestad, 1991) from the target’s perspective (Sundie et al., 2011). More specifically, participants were asked to indicate: To what extent do you think the person in the profile would agree with the following statements? Answer this question as you think the main character from the profile would reply. For instance, the participating women indicated to what degree the person of the personality profile would agree with the statement Sex without love is OK. All answers were given on a 7-point Likert-type scale, ranging from 1 (strongly disagree) to 7 (highly agree), a higher score meaning a more short-term-oriented, unrestricted, sexual strategy. For both the smoking- and alcohol-related vignettes, a new variable computed the mean score of the three questions ($\bar{x}_{\text{Smoking}} = .68, \bar{x}_{\text{Drinking}} = .77$).

Lastly, participants were also asked to indicate how harmful they considered the overall behavior of the target individual to
be in terms of unhealthiness and riskiness: Based on the profile you just read, to what extent do you agree with the following statements (a) This person behaves in an unhealthy manner (b) This person behaves in a risky manner. Here also, answers were giving on a 7-point Likert-type scale, ranging from 1 (absolutely not) to 7 (very much).

Participants agreeing to take part in the study randomly received one of the three online links. All participants were informed that they would be taking part in an experiment concerning the perception of behavior. Participants were also assured of their anonymity and of the confidentiality of their answers. Subsequently, all participants read the short vignettes. Each behavioral profile was followed by the three measures (attractiveness, SOI, and perceived behavioral harmfulness).

**Statistical Analysis**

The statistical analysis consisted of analysis of variance (ANOVA) for Hypotheses 1–3, and mediation analysis for Hypothesis 4, by means of SPSS Version 21. When a mixed ANOVA was conducted (Hypotheses 1 and 3), significant main effects were reported via pairwise comparisons, whereas significant interaction effects were interpreted by means of simple effects analyses, assessed via the SPSS syntax (Field, 2013). For the univariate ANOVA (Hypothesis 2), significant main effects were followed by means of Tukey post hoc testing.

To study whether women’s perceptions are mediated by the perceived overall behavioral unhealthiness and riskiness (Hypothesis 4), mediation analyses were conducted, using Model 4 of the PROCESS procedure of Hayes (2013; http://www.afhayes.com). Separate mediation analyses were preferred over the use of multiple mediators because of the high correlation between the two potential mediators riskiness and unhealthiness, for both the smoking profiles and the drinking profiles ($r_{Smoking} = .46, p < .001; r_{Drinking} = .55, p < .001$). Only in the case of distinct mediators, a model with two mediators is considered more appropriate (Kenny, Kashy, & Bolger, 1998). Given the three conditions of the independent variable “profile version” (no usage, occasional usage, and frequent usage), three dummy variables were created to compare all conditions (occasional usage vs. no usage, frequent usage vs. no usage, and frequent usage vs. occasional usage). To test the underlying process, bias-corrected bootstrapping was used—with 5,000 bootstrap samples—to generate 95% confidence intervals around the indirect effect ($a \times b$) of the overall behavioral impressions. Mediation occurs if the confidence intervals around the indirect effects exclude zero.

**Results**

**The Impact of Smoking and Drinking on Perceived Behavioral Harmfulness**

To study Hypothesis 1, two mixed ANOVAs (one for smoking behavior and one for drinking behavior) were conducted with perceived unhealthiness and riskiness as dependent variables in the within-subjects factor “harmfulness.” Profile version served as between-subjects factor, representing the three behavioral levels: never, occasionally, and frequently.

As can be seen in Table 1, there was a significant main effect of the within-subjects factor harmfulness as well as the between-subjects factor profile version, for both the smoking and the drinking profiles. In addition, results showed significant interaction effects between perceived riskiness and unhealthiness as a function of usage frequency.

For the smoking profiles, the significant main effect of profile version confirmed Hypothesis 1, showing that smoking was perceived to be more harmful as the frequency rose ($M_{Frequently} = 4.63, SD_{Frequently} = 1.05; M_{Occasionally} = 3.26, SD_{Occasionally} = 1.32; M_{Never} = 2.57, SD_{Never} = 1.03$; all $p < .001$). However, simple effects analyses of the interaction effect (see Figure 1) indicated that while the perceived overall behavioral unhealthiness rose with the smoking frequency (all $p < .001$), there was no significant difference in perceived riskiness between not smoking and smoking occasionally ($p = .727$). The frequent smoking profile, on the other hand, had a significantly higher perceived riskiness compared to smoking occasionally ($p < .001$) and not smoking ($p < .001$).

In addition, although the significant main effect of the within-subjects factor harmfulness showed that the perceived

| Table 1. Significant Effects of the Perceived Behavioral Harmfulness as a Function of Tobacco and Alcohol Use. |

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| Effect | $F$ | $df_1$ | $df_2$ | $p$ | $\eta^2$ |
|--------|-----|--------|--------|-----|----------|
| Smoking profiles | Harmfulness | 7.02 | 1 | 233 | .009 | .029 |
| Smoking profiles | Harmfulness $\times$ Profile Version | 28.76 | 2 | 233 | <.001 | .198 |
| Drinking profiles | Harmfulness | 91.14 | 1 | 236 | <.001 | .279 |
| Drinking profiles | Harmfulness $\times$ Profile Version | 24.50 | 2 | 236 | <.001 | .172 |
| Smoking profiles | Profile version | 66.50 | 2 | 233 | <.001 | .363 |
| Drinking profiles | Profile version | 39.17 | 2 | 236 | <.001 | .249 |

**Figure 1.** Perceived behavioral harmfulness as a function of tobacco and alcohol use.
unhealthiness ratings \((M = 3.61, SD = 1.77)\) exceeded the perceived riskiness \((M = 3.36, SD = 1.47)\) for the smoking profiles, the interaction effect pointed out that this was only the case for occasional smoking \((p = .001)\) and frequent smoking \((p < .001)\). The nonsmoking profile was perceived to be more risky than unhealthy \((p < .001)\).

For the drinking profiles, the significant main effect of profile version showed that drinking alcohol frequently \((M = 5.10, SD = 1.18)\) was perceived to be more harmful than drinking occasionally \((M = 3.85, SD = 1.07, p < .001)\) and not drinking at all \((M = 3.56, SD = 1.22, p < .001)\). However, a person drinking occasionally was not perceived to behave more harmful than a nondrinker \((p = .116)\). This was also found in the follow-up analyses of the interaction effect, as the perceived unhealthiness \((p = .107)\) and riskiness \((p = .256)\) did not differ significantly between a nonuser and an occasional user. Yet, it did rise significantly when drinking alcohol frequently \((p_{\text{Unhealthiness}} < .001, p_{\text{Riskiness}} < .030)\).

Furthermore, although the significant main effect of harmfulness showed that the alcohol profiles were considered more risky \((M = 4.62, SD = 1.58)\) than unhealthy \((M = 3.70, SD = 1.53)\), follow-up analyses of the interaction effect showed that this was present only in the nondrinking profile and the occasional drinking profile \((p < .001)\). No difference was found between perceived riskiness and unhealthiness for the frequent drinking profile \((p = .818)\).

**The Perceived Sexual Strategy as a Function of Tobacco and Alcohol Use**

To study women’s perception of a man’s sexual strategy as a function of his tobacco and alcohol use (Hypothesis 2), two 1-way ANOVAs were conducted (one for smoking behavior and one for drinking behavior), with the mean SOI score as dependent variable and profile version (i.e., the three behavioral frequencies never, occasionally, and frequently) as independent variable.

Results showed that the perceived sexual strategy was affected by a man’s smoking behavior, \(F(2, 236) = 10.91, p < .001, \eta^2_p = .085\), and drinking behavior, \(F(2, 236) = 29, p < .001, \eta^2_p = .197\). Post hoc testing (see Figure 2) indicated that both an occasional \((p = .002)\) and a frequent smoker \((p < .001)\) were seen as significantly more sexually unrestricted than a nonsmoker. No significant differences were found between occasional smokers and frequent smokers \((p = .572)\). For alcohol use, on the other hand, post hoc tests revealed that there was no significant difference in how an occasional drinker and a nondrinker were seen \((p = 1.0)\). Only a frequent drinker was perceived by women as more sexually unrestricted than a nondrinker \((p < .001)\) and an occasional drinker \((p < .001)\).

**Attractiveness as a Function of Smoking and Drinking Behavior**

Similar to Hypothesis 1, two mixed ANOVAs (one for smoking behavior and one for drinking behavior) were conducted to examine whether male short-term and long-term attractiveness are affected differently by an individual’s smoking and drinking behavior (Hypothesis 3). Short-term attractiveness and long-term attractiveness served as independent variables in the within-subjects factor “attractiveness,” whereas profile version was used as between-subjects factor, varying between not using, occasional usage, and frequent usage.

For both the smoking and the drinking profiles, a significant main effect of the within-subjects factor attractiveness and the between-subjects factor profile version was found. In addition, results showed a significant interaction effect between short-term and long-term attractiveness as a function of the smoking and drinking frequency (see Table 2).

For smoking behavior, the significant main effect of profile version indicated that a nonsmoker \((M = 4.57, SD = 1.38, p < .001)\) and an occasional smoker \((M = 4.49, SD = 1.28, p < .001)\) were considered more attractive than a frequent smoker \((M = 3.64; SD = 1.48)\). No differences were found between a nonsmoker and an occasional smoker \((p = .735)\). Follow-up simple effects analyses of the interaction effect confirmed that for short-term attractiveness, there was no significant difference between a nonsmoker and an occasional smoker \((p = .513)\). A frequent smoker was considered slightly less attractive for short-term mating compared to a nonsmoker \((p = .046)\) and

![Figure 2. Perceived sexual strategy as a function of tobacco and alcohol use.](image)
significantly less attractive than an occasional smoker ($p = .009$). In a long-term mating context, there were also no significant differences between not smoking and smoking occasionally ($p = .238$). However, contrary to short-term attractiveness, frequent smoking significantly lowered a man’s desirability as a potential partner compared to not smoking ($p < .001$) or smoking cigarettes occasionally ($p < .001$).

In addition, although the significant main effect of the within-subjects factor attractiveness showed that short-term attractiveness ($M = 4.56, SD = 1.50$) scored higher than long-term attractiveness ($M = 3.90, SD = 1.71$) in the smoking profiles, pairwise comparisons of the interaction effect indicated that only an occasional ($p \leq .001$) and frequent user ($p < .001$) was considered significantly more attractive for short-term mating compared to long-term mating. Nonsmokers were rated equally attractive ($p = .20$) in both mating contexts (see Figure 3).

A slightly different picture emerged when looking at the main effect of profile version for the alcohol profiles. Drinking occasionally ($M = 4.71, SD = 1.21$) was considered more attractive than not drinking ($M = 3.78, SD = 1.29, p < .001$) and drinking frequently ($M = 3.64, SD = 1.48, p < .001$), with no significant differences between not drinking and frequent drinking ($p = .517$). However, the interaction effect showed that for short-term relationships, both occasional drinking ($p < .001$) and frequent drinking ($p = .033$) were considered as more attractive than being a nondrinker. Additionally, an occasional drinker was perceived as more desirable than a frequent drinker ($p = .012$). For long-term mating contexts, occasional drinking was also considered more attractive than not drinking ($p = .002$) or frequent drinking ($p < .001$). Yet, heavy drinking significantly lowered a man’s long-term desirability, as it was considered less attractive than both not drinking ($p = .001$) and occasional drinking ($p < .001$).

Moreover, here also, short-term attractiveness ($M = 4.38, SD = 1.59$) received a higher score than long-term attractiveness ($M = 3.71, SD = 1.56$), creating a significant within-subjects factor main effect. However, similar to the smoking profiles, simple effects analyses of the interaction effect clarified that this was only the case for an occasional ($p = .001$) and frequent drinker ($p < .001$). Nondrinkers were considered equally attractive in a short-term or long-term mating context ($p = .499$).

The Influence of the Perceived Riskiness and Unhealthiness on Females Impressions

To answer Hypothesis 4, mediation analyses were conducted, with the SOI scores, short-term attractiveness, and long-term attractiveness as separate outcome variables ($Y$). The three dummy variables of the profile versions were used as independent variables ($X$) and covariates. Perceived overall unhealthiness and riskiness were the two separate mediators ($M$).

Results (see Table 3) showed significant indirect effects of the behavioral frequency of smoking on sexual unrestrictedness scores, through unhealthiness perceptions. These findings indicate that as the smoking frequency increases, the perceived behavioral unhealthiness rises, leading to a more sexually unrestricted impression. For drinking alcohol, there was no mediation through perceived unhealthiness, yet perceived riskiness did positively mediate the observed level of sexual unrestrictedness for frequent drinking compared to not drinking and occasional drinking.

For short-term attractiveness, no mediating effects were found for both smoking and drinking behavior. Long-term attractiveness, on the other hand, was mediated by women’s overall behavioral perception but in a negative manner. Consequently, a higher frequency led to a more harmful behavioral perception, lowering a man’s long-term attractiveness. For smoking, mediation occurred through unhealthiness perceptions. For alcohol, both the perceived unhealthiness and riskiness mediated the attractiveness scores, yet only for frequent drinking behavior, compared to not drinking and occasional drinking.

Discussion Study I

The results of this study indicate that both smoking and drinking could be considered a physically harmful behavior, which functioned as an indicator of young men’s short-term mating strategy. Also, smoking and (especially) drinking brought short-term attractiveness benefits to men. In addition, women’s assessment of men as a function of their smoking and drinking behavior was partially mediated by the perceived overall behavioral harmfulness. These results correspond with smoking and drinking as a male short-term mating strategy. However, for a mating strategy to work, young men’s behavior should correspond with women’s perceptions. Therefore, the second study focused on the sexual strategy of young male smokers and drinkers.
Study 2: The Sexual Strategy of Young Male Smokers and Drinkers

Material and Method

Respondents

As this study was part of a more extended questionnaire assessing a wide range of behaviors, 884 men and women of all ages were contacted to fill in the survey. Of this group, 609 respondents completed the survey. Given our focus on young adult men, only data provided by men between the age of 17 and 30 years old were used in this study. Our final sample consisted of 171 Flemish respondents (M = 21.99, SD = 2.51), of which 24.6% smoked cigarettes (n = 42), while the majority of the respondents indicated drinking alcohol (94.2%). Only a few respondents never drank any alcohol (n = 10).

Design and Measures

To investigate whether young men who engage in smoking and drinking behavior are more unrestricted in their sexuality (Hypothesis 5) and whether the behavioral frequency of users correlates with their sexual unrestrictedness (Hypothesis 6), an online survey was conducted in which people indicated their smoking and drinking frequencies and their mating strategy.

Based on large-scale substance use questionnaires (Johnston et al., 2014; Steketee, Jonkman, Berten, & Vettenburg, 2013), both the frequency and the average consumption of youngsters’ smoking and drinking behavior were questioned. To

Table 3. Indirect Effects of the Overall Behavioral Perception on Women’s Impressions.

| Smoking profiles | Sexual unrestrictedness | Drinking profiles |
|------------------|------------------------|-------------------|
|                  | a x b | SE | LLCI | ULCI |                  | a x b | SE | LLCI | ULCI |
| Unhealthiness    |       |    |      |      | Unhealthiness    |       |    |      |      |
| OS vs. NS        | .161  | .069| .047 | .321 | OD vs. ND        | .022  | .023| -.005| .101 |
| FS vs. NS        | .360  | .138| .089 | .648 | FD vs. ND        | .165  | .135| -.095| .441 |
| FS vs. OC        | .198  | .084| .051 | .386 | FD vs. OD        | .143  | .117| -.086| .377 |
| Riskiness        |       |    |      |      | Riskiness        |       |    |      |      |
| OS vs. NS        | .004  | .016| -.016| .057 | OD vs. ND        | .056  | .056| -.038| .193 |
| FS vs. NS        | .058  | .060| -.050| .188 | FD vs. ND        | .163  | .071| .055 | .336 |
| FS vs. OC        | .055  | .057| -.044| .195 | FD vs. OD        | .108  | .055| .023 | .243 |

Note. a x b = indirect effect of X on Y through M; NS = no smoking; OS = occasional smoking; FS = frequent smoking; ND = no drinking; OD = occasional drinking; FD = frequent drinking; LLCI = lower limit confidence interval; ULCI = upper limit confidence interval.

Significant indirect effect.
differentiate between users and nonusers, respondents were asked if they ever smoked cigarettes or drank alcohol. The smoking and drinking frequency of youngsters was measured by asking respondents to indicate the number of days in the past month that they have smoked cigarettes or drunk alcohol. Answers were given on a 7-point scale, with fixed categories ranging from not one day to all days. The average consumption was assessed by asking how much they smoked cigarettes/drank alcohol on average per week. A scale with eight categories was provided, ranging from less than 1 cigarette/drink a week to more than 20 cigarettes/alcoholic drinks a day.

To assess young men’s sexual mating strategies, their level of sexual unrestrictedness was measured through the revised SOI (SOI-R; Penke & Asendorpf, 2008). This questionnaire consists of nine questions and statements, focusing on a person’s attitude toward uncommitted sex (e.g., Sex without love is OK.), their sociosexual desire (e.g., How often do you have fantasies about having sex with someone with whom you do not have a committed romantic relationship?), and past behavioral experiences (e.g., With how many different partners have you had sex within the past 12 months?). Also the Short-Term Mating Orientation (STMO) scale and Long-Term Mating Orientation (LTMO) scale were added, measuring short-term and long-term mating tendencies through statements (Jackson & Kirkpatrick, 2007). The STMO contains 10 statements (e.g., Sometimes I would rather have sex with someone I did not care about.), while the LTMO consists of 8 questions (e.g., I hope to have a romantic relationship that lasts the rest of my life.). All scales had sufficient internal consistency ($\alpha_{\text{SOI-R}} = .81$, $\alpha_{\text{STMO}} = .87$, $\alpha_{\text{LTMO}} = .76$).

Statistical Analysis

Independent $t$-testing was used to verify if smokers are more sexually unrestricted than nonsmokers (Hypothesis 5) via the SOI-R. Given the violated assumption of normality, combined with large differences in sample sizes, nonparametric Mann–Whitney tests were used to compare users and nonusers on the STMO and LTMO. These tests could not be conducted for drinkers and nondrinkers, due to the small sample of 10 nondrinkers. Therefore, as an additional verification, three new variables were created through a median split (via rank cases) of SOI-R, STMO, and LTMO, dividing all respondents into a sexually unrestricted and restricted group. Mann–Whitney tests were conducted to verify if both groups differed in their drinking frequency and average consumption. Finally, to study the correlation between users’ level of sexual unrestrictedness and their cigarette and alcohol consumption, a one-tailed Spearman correlation was opted for (Hypothesis 6).

Results

An independent $t$-test was conducted with SOI-R as dependent variable and being a smoker/nonsmoker as independent variable. Similarly, two Mann–Whitney tests were performed, with STMO and LTMO as dependent variables. Confirming Hypothesis 5, results via SOI-R showed that smokers ($M = 4.56$, $SD = 1.26$) were significantly more unrestricted in their sexuality than nonsmokers, $M = 3.87$, $SD = 1.22$; $t(169) = 3.13$, $p = .002$, $r = .23$. Also on the STMO scale, smokers ($Mdn = 4.80$) scored significantly higher than nonsmokers ($Mdn = 4.15$; $U = 2,122$, $z = −2.05$, $p = .041$, $r = −.16$). No significant differences were found between users ($Mdn = 4.14$) and nonusers ($Mdn = 4.29$) on the LTMO scale, yet a trend was visible in which smokers were less long-term oriented ($U = 2,151$, $z = −1.95$, $p = .052$, $r = −.09$).

For alcohol, Mann–Whitney tests were performed with the median split variables as independent variables and drinking frequency/average consumption as the dependent testing variables. Findings showed that the sexually short-term-oriented group had a higher ranking on drinking frequency and average drinking than the more sexually restricted group. This was found when the median split was based on SOI-R ($U_{\text{Frequency}} = 2,666.5$, $z = −2.82$, $p = .005$, $r = −.22$; $U_{\text{Average}} = 2,980$, $z = −2.16$, $p = .031$, $r = −.17$), STMO ($U_{\text{Frequency}} = 2,905.5$, $z = −1.91$, $p = .056$, $r = −.15$; $U_{\text{Average}} = 2,921$, $z = −2.23$, $p = .026$, $r = −.17$), and LTMO ($U_{\text{Frequency}} = 2,688$, $z = −2.53$, $p = .011$, $r = −.20$; $U_{\text{Average}} = 2,655$, $z = −2.98$, $p = .003$, $r = −.23$). All sexually unrestricted groups had a median score of five on both measures, while the more restricted groups had a median of four. Accordingly, the unrestricted group consumed up to 20 alcoholic drinks a week, while the restricted group only drank between 4 and 10 drinks a week. Furthermore, the more short-term-oriented group drank between 10 and 19 days last month, compared to 6–9 days of the more long-term-oriented group.

Furthermore, Spearman’s one-tailed correlations between the usage of smokers and drinkers (frequency and average consumption) and their level of sexual unrestrictedness were conducted. Findings showed that there was no significant correlation between the level of smoking behavior and their sexual orientation (all $ps \geq .116$). However, the extent to which young men drink alcohol did correlate positively with their level of sexual unrestrictedness. Men who drank more frequently ($r_s = .21$, $p = .003$) and had a higher average consumption ($r_s = .19$, $p = .008$) scored slightly higher on the SOI-R and vice versa. The same positive correlation was found for the STMO scale ($r_s \text{ Frequency } = .16$, $p = .02$; $r_s \text{ Average } = .19$, $p = .007$). For the LTMO scale, a small negative correlation was present, indicating that a lower alcohol usage was correlated with a higher LTMO ($r_s \text{ Frequency } = −.20$, $p = .007$; $r_s \text{ Average } = −.22$, $p = .003$). Since the same pattern is found as in Study 1, these findings confirm Hypothesis 6.

Discussion Study 2

Results of Study 2 showed that young men who smoke were more short-term oriented in their sexuality compared to nonsmokers. Additionally, sexually unrestricted youngsters appeared to drink more compared to the long-term-oriented group. Furthermore, among users of tobacco, no link was found between a man’s smoking frequency and his level of
sexual unrestrictedness. However, a higher alcohol consumption was positively correlated to a more unrestricted sexuality. These findings correspond with women’s perceptions, making no distinction between occasional and frequent smokers, yet assessing heavy drinkers differently from occasional drinkers.

**General Discussion**

**Discussion**

Despite the harmful physical effects of smoking and drinking, many young men continue to use both substances. Therefore, in this article, we explored the possibility that male youngsters use these physical risky behaviors as a short-term mating strategy. A first experiment studied whether smoking and drinking affects the perceived overall behavioral harmfulness (Hypothesis 1), whether women perceive smokers and drinkers to be more sexually unrestricted compared to nonusers (Hypothesis 2), and whether both unhealthy consumption behaviors bring short-term attractiveness benefits (Hypothesis 3). In addition, it was verified whether women’s perceptions are mediated by the perceived behavioral unhealthiness and riskiness (Hypothesis 4). Furthermore, a follow-up study investigated whether these female perceptions correspond with men’s actual behavior and mating strategy (Hypothesis 5 and 6).

Confirming Hypothesis 2, the first study showed that both smokers and drinkers were perceived to be more short-term oriented in their sexuality compared to people who do not use tobacco or alcohol. However, a smoker was considered more sexually unrestricted independent of his smoking frequency, whereas only a heavy drinker was perceived to be more short-term oriented compared to a nonuser.

In addition, corresponding with Hypothesis 3, smoking and drinking brought short-term attractiveness benefits to its users. While the attractiveness ratings of nonusers did not differ depending on the mating context, both occasional and frequent users were considered more appealing as a short-term dating partner than a long-term partner. Moreover, as stated in Hypothesis 3b, frequent drinking enhanced a young man’s short-term desirability compared to not drinking, while harming his long-term attractiveness. For smoking, a similar trend was visible, in which frequent smoking was considered only slightly less attractive than not smoking in a short-term relationship but heavily lowered a man’s long-term desirability. Also, as expected in Hypothesis 3a, occasional drinking increased the attractiveness of men in both short-term and long-term mating contexts. Occasional smoking, on the other hand, was found equally attractive as not smoking in both situations. These attractiveness findings correspond with the studies of Farthing (2007), Kelly and Dunbar (2001), and Bassett and Moss (2004), showing that heavy physical risk taking is mainly attractive in short-term mating contexts, while moderate physical risk taking is also appealing for long-term mating. It also corresponds with the recent study, showing that moderate alcohol use enhances a man’s general (long term) attractiveness, whereas heavy alcohol use has a rather negative impact (Van Den Abbeele et al., 2015).

The second study confirmed these female perceptions and Hypothesis 5, showing that male smokers were indeed more short-term oriented in their sexuality compared to nonusers. Furthermore, those youngsters who were more sexually unrestricted appeared to have a higher drinking consumption. These findings complement the findings of Jones and Figuerdo (2007) as well as Hone, Carter, and McCullough (2013) and Hone and McCullough (2015), showing that higher mating efforts are linked to smoking and drinking behavior. Moreover, when looking at the mating strategy of actual smokers and drinkers, there appeared to be no link between users’ amount of smoking and their level of sexual unrestrictedness, whereas a positive correlation was present for drinking alcohol. These findings also correspond with women’s assessment of Study 1, in which frequent drinkers were perceived differently from occasional drinkers, yet no differences were found between occasional and frequent smokers. Accordingly, also Hypothesis 6 was confirmed.

In sum, the above findings show that both unhealthy consumption behaviors could operate as a short-term mating strategy, in which men use heavy smoking and drinking to signal a short-term mating orientation and to obtain attractiveness benefits in short-term mating contexts. However, this is especially the case for drinking alcohol, more so than smoking cigarettes. In addition, results are inconclusive as to how smoking cigarettes and drinking alcohol actually functions as a short-term mating strategy. On the one hand, findings confirmed that both behaviors are actually considered physically harmful behaviors, as heavy smoking and heavy drinking affected the perceived overall behavioral unhealthiness and riskiness of youngsters. However, Hypothesis 4, verifying whether women’s perceptions are actually mediated by the perceived behavioral harmfulness was only partially confirmed. In line with expectations, the positive mediation in the assessment of a young man’s sexual strategy indicated that a higher perceived behavioral harmfulness leads to a more sexually unrestricted impression as the behavioral frequency rises. Furthermore, also the negative mediating effect on a man’s long-term attractiveness corresponds with risk-taking literature, showing that a man’s desirability lowers as the perceived harmfulness of the behavior rises above a certain level (Bassett & Moss, 2004; Farthing, 2007). Yet, mediation analyses were unable to confirm that the perceived harmfulness also had an impact on the short-term attractiveness ratings. In addition, unhealthiness mediated the impact of smoking behavior on women’s perception, while especially riskiness had indirect effects on how drinking alcohol affected the perception of women.

These differences in results between the tobacco and alcohol profiles could be related to the general idea that prevails among young people in Belgium about smoking and drinking. Studies already showed that having a favorable image of smokers facilitates smoking behavior (Gerrard, Gibbons, Stock, Lune, & Cleveland, 2005; Gibbons & Gerrard, 1995; Spijkerman, van den Eijnden, & Engels, 2005), while a positive image of
drinkers is related to a higher alcohol consumption (Gerrard et al., 2002; Spijker, van den Eijnden, Vitale, & Engels, 2004). In Belgium, drinking alcohol is widely accepted among youngsters, with 93% of the Flemish college and university students drinking alcohol (Rosiers et al., 2014). Furthermore, occasional drinking is not always perceived as harmful, due to studies stating that moderate drinking can have positive effects on a person’s health (Ellison, 2007; Gutmahr, Gmel, & Rehm, 2001; Rimm, Klatsky, Grobbee, & Stampfer, 1996). The discourse on smoking, on the other hand, is much more negative. Youngsters are confronted more with warnings of the dangers of smoking (e.g., each packet of cigarettes contains a clear warning message in Belgium, yet no such messages are found on alcoholic beverages). As a consequence, smoking is less socially accepted, leading to “only” 30% of the young adult students being a smoker (Rosiers et al., 2014). These cultural attitudes could explain why there is a difference in the functioning of smoking and drinking as a short-term mating strategy. The fact that smoking is less socially accepted compared to drinking corresponds with the fact that drinking alcohol leads to clear attractiveness benefits, whereas smoking behavior is limited to not harming men’s attractiveness. Moreover, it matches with the fact that smokers are considered more sexually short-term oriented, irrespective of their smoking frequency, whereas only heavy drinking functions as an indicator of a person’s sexual strategy. Finally, it also corresponds with the mediating effect of perceived unhealthiness on smoking behavior, while perceived riskiness had a higher impact on alcohol-based impressions.

Limitations and Future Research

A potential confound in the first experimental study is the fact that the presentation order of the cigarette and alcohol vignettes was not randomized (all participants first rated a smoking profile, followed by a drinking profile). Although each of the three online links varied the behavioral frequency of the behavioral profiles, ensuring a mix of never/occasional/frequent behavior, some order effects might have influenced participants’ ratings because of the fixed order. Also, the experimental study did not take into account the participants’ smoking and drinking behavior. Yet, for a future study, it would be interesting to verify if users assess young men differently compared to nonusers. Furthermore, asking about the perceived behavioral unhealthiness and riskiness appeared insufficient to gain complete insight in the functioning of smoking and drinking as a short-term mating strategy, as no mediating effects were found to explain the short-term attractiveness ratings. Perhaps asking how unhealthy and risky participants considered the actual smoking and drinking behavior to be—instead of the overall behavior—would show significant positive mediating effects. In addition, to increase our understanding of why smoking and drinking operates as a short-term mating strategy, follow-up studies could focus on identifying which characteristics tobacco and alcohol use signal to potential partners, in addition to the attractiveness benefits. When studying women’s perceptions of men, we would also suggest new studies to take into account the amount of cigarettes and alcohol that is consumed on one occasion. As short-term mating intentions are often based on interactions in one occasion, women are not always aware of men’s general smoking and drinking behavior. However, the amount of cigarettes and alcoholic beverages that are consumed on one occasion can often be witnessed. Moreover, drinking or smoking occasionally can mean also that a person occasionally engages in heavy episodic drinking/smoking instead of moderate usage. Furthermore, in our second study, we only had a limited number of respondents who did not drink alcohol. As a consequence, additional tests were performed using a median split between the more short-term and long-term-oriented respondents. However, future studies are necessary to verify whether the differences in sexual unrestrictedness are present for both smokers and drinkers.

Conclusion and Implications

In this article, we explored the possibility that young male smoking and drinking is used as a short-term mating strategy. Findings showed that tobacco and alcohol use are considered physically harmful behaviors that operate as an indicator for young men’s short-term sexual orientation. Furthermore, despite all efforts to sensitize youngsters for the dangers of smoking and drinking, male tobacco and (especially) alcohol use still bring attractiveness benefits in short-term mating situations. Given the harmfulness and high frequency of both consumption behaviors in young adulthood, these findings are of interest to both social marketing professionals and institutions aimed at limiting youth smoking and drinking behavior. Not only do these findings show that emphasizing the physical harmful effects of cigarettes and alcohol in order to prevent the unhealthy behaviors might not be effective. It may even turn out to be contra productive.

Appendix

Smoking Profiles

Peter likes soccer. For years, he has been a loyal fan of his favorite team. Regularly, Peter plays indoor soccer with his friends, at the local club. They rarely win, but they always have fun. Afterward, they usually stick around for a drink in the cafeteria. Peter does not smoke. You will never catch him taking a puff of a cigarette.

Peter likes soccer. For years, he has been a loyal fan of his favorite team. Regularly, Peter plays indoor soccer with his friends, at the local club. They rarely win, but they always have fun. Afterwards, they usually stick around for a drink in the cafeteria. Occasionally, Peter loves to smoke a cigarette or two.

Peter likes soccer. For years, he has been a loyal fan of his favorite team. Regularly, Peter plays indoor soccer with his friends, at the local club. They rarely win, but they always have fun. Afterwards, they usually stick around for a drink in the cafeteria. Peter smokes a lot. Both when he is alone and in company, he will light cigarettes frequently.
Drinking profiles

Kasper is an absolute film lover. However, he does not like to go to the big cinema complexes. He prefers going to the smaller cinemas because of the unique atmosphere. Furthermore, he also likes playing a game of cards with his friends. He prefers playing poker, because he loves bluffing and putting on a “poker face.” Kasper never drinks alcohol. You’ll never catch him taking a sip.

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