

MASCULINITY AND FEMININITY AS PREDICTORS OF TOBACCO AND ALCOHOL CONSUMPTION IN SPANISH UNIVERSITY STUDENTS

MASCULINIDAD Y LA FEMINIDAD COMO PREDICTORES DEL CONSUMO DE TABACO Y ALCOHOL EN ESTUDIANTES UNIVERSITARIOS ESPAÑOLES

M. Pilar Sánchez-López¹, Raquel Rivas-Diez¹ and Isabel Cuéllar-Flores²

¹ Facultad de Psicología, Universidad Complutense de Madrid

² Hospital Universitario de Getafe, Ministerio de Sanidad y Consumo

Abstract

Health-related behaviors are a part of the way in which people construct their gender role norms. The studies have shown masculine norms being associated with alcohol use in men but there is a lack of preceding data in feminine norms in Spain. The goal of the present study was to analyze the impact of conformity to gender norms on the consumption of tobacco and alcohol. 419 male and 435 female Spanish university students participated in the study. The results indicate that men with high scores on the Playboy scale are more likely to be tobacco smokers and alcohol drinkers. On the other hand, women are less likely to consume tobacco and alcohol because that behavior is not consistent with traditional female gender norms. To sum up, with regard to tobacco and alcohol consumption, masculinity acts multidimensionally. Specifically, some aspects of masculinity protect health, while others jeopardize it. For women, traditional femininity is protective against substance consumption.

Keywords: Health behaviors; substance consumption; gender norms; Spanish university.

Resumen

Los comportamientos relacionados con la salud son parte de la forma en la que la gente construye sus normas de género. Los estudios han demostrado que las normas masculinas están asociadas con el consumo de alcohol en los hombres, pero hay una falta de datos en lo que se refiere a las normas femeninas en España. El objetivo del presente trabajo es analizar el impacto de la conformidad con las normas de género en el consumo de tabaco y alcohol. Un total de 419 hombres y 435 mujeres universitarios/as españoles/as formaron parte de este estudio. Los resultados indican que los hombres con altas puntuaciones en la escala de Playboy son más propensos a ser fumadores de tabaco y consumidores de alcohol. Por otro lado, las mujeres tienen menos probabilidad de consumir tabaco y alcohol porque ese comportamiento no es consistente con las normas tradicionales de género femenino. En resumen, en lo que respecta con consumo de tabaco y alcohol, la masculinidad actúa de forma multidimensional. En concreto, algunos aspectos de la masculinidad protegen la salud, mientras que otras la ponen en riesgo. Para las mujeres, la feminidad tradicional tiene un efecto protector en el consumo de sustancias.

Palabras clave: Comportamiento de salud; consumo de sustancias; normas de género; universitarios españoles.

Correspondencia: Raquel Rivas-Diez.
Universidad Complutense de Madrid.
Facultad de Psicología.
Campus de Somosaguas, 28223
Madrid (España)
Phone: +34616171645, Fax: +34913942820
E-mail: rrivas@psi.ucm.es

The differences in the patterns of illness between men and women cannot be explained solely by genetic or biological differences. Therefore, it is necessary to introduce the concept of gender to explain some differences that depend on lifestyle, expectations, and other social and cultural aspects of life. The latter are known as gender differences.

Men's lives are shorter than women's in most countries throughout the world (Arias, Anderson, Kung, Murphy & Kochanek, 2003; Mathers, Sadana, Salomon, Murray & Lopez, 2001; WHO, 2000). Various factors affect health (e.g., biology, longevity, and access to health services) and could therefore explain this difference. However, previous investigations have indicated that the most influential factors involve modifiable health behaviors (Stimson et al., 2003). Some studies estimate that 50% of morbidity and mortality is due to these modifiable health behaviors adopted by men and women, in particular, the use of tobacco and alcohol (Mokdad et al., 2004).

In 2009, Spain ranked ninth in world consumption of alcohol (WHO, 2012), and in 2008, the prevalence of tobacco consumption in Spain was found to be higher than that in the UK or France (European Commission, 2012). Data on Spanish university students indicate higher alcohol and tobacco consumption than in general population (García del Castillo, Lloret & Espada, 2004; Zaldívar, López, García & Molina, 2011), mainly in female university students (Hernán, Ramos & Fernández, 2002; Ministerio de Sanidad y Consumo, 2005). Specifically, some authors show rates of alcohol consumption of approximately 69% for male students and 63% for female students (García de Albeniz, Guerra-Gutiérrez, Ortega-Martínez, Sánchez-Villegas & Martínez-González, 2004; Jiménez-Muro, Belmonte, Marqueta, Gargallo & Nerín de la Puerta, 2009). Female university students have been found to use tobacco at rates similar to or slightly higher than college men, (39.2-21.4% compared with 33-19.3% for women and men, respectively) (Antona Rodríguez, 2008; García del Castillo et al., 2004; Miguez & Becoña, 2009).

Some studies that have examined models of traditional gender ideology and conformity to gender role norms have shown a consistent pattern of traditional masculinity being associated with alcohol use in men of various nationalities and ages, including college students (Courtenay, 1998; Liu & Iwamoto, 2007; Iwamoto, Cheng, Lee, Takamatsu & Gordon, 2011; Locke & Mahalik, 2005; Mahalik, Levi-Minzi & Walker, 2007; Mahalik, Lagan & Morrison, 2006).

To understand gender norms, Mahalik et al. (2003; 2005) proposed the Conformity to Masculine Norms Inventory [CMNI] and the Conformity to Feminine Norms Inventory [CFNI]. These instruments measure traditional gender norms believed to exist in the United States and in Spanish (Cuéllar-Flores, Sánchez-López & Dresch, 2011; Sánchez-López, Cuéllar-Flores, Dresch & Aparicio 2009). Mahalik et al. (2003, 2005) define femininity and masculinity as the degree of people's conformity (emotional,

cognitive and/or behavioral) with a series of gender norms that designate what is considered socially appropriate for women and men, and which are transmitted by each culture and can be identified by the members of each society. Mahalik et al. (2003) identified 11 masculine norms as Winning, Emotional Control, Risk-Taking, Violence, Dominance, Playboy, Self-Reliance, Primacy of Work, Power over Women, Disdain for Homosexuality, and Pursuit of Status. Moreover, Mahalik et al. (2005) identified 8 feminine norms as Nice in relationships, Thinness, Modesty, Domestic, Care for children, Romantic relationships, Sexual fidelity, and Investment in appearance. The CMNI has been researched in relation to alcohol consumption, for example, Liu and Iwamoto (2007) reported that high scores on the Playboy scale and low scores on the Emotional Control scale were related to alcohol use. Locke and Mahalik (2005) reported significant relationships between problem drinking and high scores on the Dominance and Playboy scales, whereas Iwamoto et al., (2011) found that the Disdain for Homosexuality scale decreased the risk of drinking to an intoxication level. However, relationships between gender norms and tobacco use have not been studied and there is little research on the role of gender norms and substance consumption in women. However, studies from other gender paradigms have consistently found that masculinity is related to smoking behavior in adult and undergraduate men (Emslie, Hunt & Macintyre, 2002; Hunt, 2002), but, while some studies have found that femininity reduces alcohol and tobacco use in adults and undergraduates (Emslie et al., 2002; Hunt, 2002; Lengua & Stormshak, 2000), other studies have found that it has no effect on substance use in adolescents or young adults (Horwitz & White, 1987; Hunt, Hannah & West, 2004; Thornton & Leo, 1992).

In spite of a rigorous search, we only found one Spanish study that reflects the influence of male gender role norms on tobacco or alcohol consumption (Cuéllar-Flores & Sánchez-López, 2011). Thus, the present study may be informative both to examine the generalizability of previous research on masculinity and to broaden knowledge about femininity and substance consumption.

The aim of this work is to analyze the relationships between gender role norms and alcohol and tobacco consumption in college students. According to previous research, some specific gender role norms would be related to alcohol and tobacco use in the men and in the women.

METHOD

Participants

Participants in this study consisted of 854 Spanish university students, mostly from the Complutense University of Madrid in Spain. Of these, 30 % were studying Psychology, 25 %

Science, 5.5% Humanities, 11.55 different engineering degrees , 11% Social Sciences and 6% Diplomas (Nursing and Speech Therapy). Their participation was requested by teachers and students from each centre, and each was individually contacted. Subsequently, all those interested were asked to take part in a series of sessions. Male students in particular were requested to participate in order to give the study gender balance. 419 were men between the ages of 18 and 39, with a mean age of 22.51 years (*SD* = 3.10), and 435 were women between the ages of 18 and 35, with a mean age of 21.56 years (*SD* = 2.48). In total, 93.2% of the students were unmarried, 5.6% had a de facto partner, and only 1.2% was married. As far as socioeconomic level was concerned, 42.5% identified themselves as low-middle class and 57.5% identified themselves as middle-high class.

Instruments

Sociodemographic variables

Sociodemographic variables were assessed with a questionnaire previously found to exhibit adequate psychometric properties as an evaluation instrument (Sánchez-López et al., 2008). The variables sex, age, legal status and socioeconomic level were included. There were no statistically significant differences between tobacco or alcohol users and non-users for both men and women.

Questionnaire on frequency of alcohol and tobacco consumption

The participants' consumption frequency of alcohol and tobacco was assessed with a questionnaire. The questions were extracted from the National Health Survey 2006 (INE, 2006). The NHS is an investigation that the National Institute of Statistics carried out in Spain based on a collaboration agreement with the Ministry of Health and Social Policy. This survey allows the data to be compared with the Spanish general population. The main questions for ascertaining tobacco and alcohol consumption were: *Have you drunk an alcoholic drink in the last fortnight?* (yes, no) and *Could you say that you smoke at the present time?* (1=smokes daily, 2=smokes but not every day, 3=used to smoke but does not smoke now, 4=has never smoked).

Conformity to Feminity Norms Inventory (CFNI)

The CFNI (Mahalik et al., 2005) is an 84-item inventory rated on a 4-point response scale ranging from *strongly disagree* to *strongly agree* (0 = *Strongly Disagree* to 3 = *Strongly Agree*). The CFNI (and the CMNI) was chosen after the analysis of the diverse instruments for measurement of gender and its validity for the Spanish population (Sánchez-López et al., 2009; Sánchez-López & Cuéllar-Flores, 2011). The statements were designed to measure various attitudes, beliefs, and behaviors associated with feminine gender norms, both traditional and untraditional. They are grouped into eight feminine norms: (1) Nice in relationships, (2) Thinness, (3) Modesty, (4) Domestic, (5) Care for children, (6) Romantic relationships, (7) Sexual fidelity, and

(8) Investment in appearance (Table 1). Reliability in the Spanish population (after translating and adapting the instrument) yielded a Cronbach alpha coefficient for the total scale of .87 (Sánchez-López et al., 2009; Sánchez-López & Cuéllar-Flores, 2011).

Conformity to Masculinity Norms Inventory (CMNI)

The CMNI (Mahalik et al., 2003) is a 94-item inventory measured on a 4-point response scale ranging from *strongly disagree* to *strongly agree* (0-3). The statements were designed to measure attitudes, beliefs, and behaviors that reflect conformity or nonconformity to 11 masculine gender norms: (1) Winning, (2) Emotional control, (3) Risk-taking, (4) Violence, (5) Power over women, (6) Dominance, (7) Playboy, (8) Self-reliance, (9) Importance of work, (10) Disdain for homosexuality, and (11) Pursuit of status (Table 2). With regard to reliability, the Cronbach alpha values in the group of Spaniards (after translating and adapting the instrument) suggest that most of the subscales and the total scale are internally consistent (α for the total scale of .89) (Cuéllar-Flores et al., 2011). Each of the CMNI and CFNI scales took approximately 10-15 minutes to administer.

Table 1. Description of the Conformity to Femininity Norms Inventory (CFNI) scales. Means, SD and ranges on each scale

Scales	Description	Mean	SD	Range
1. Nice in Relationships	Develops friendly and supportive relationships with others	37.39	5.78	(10-51)
2. Thinness	Pursues a thin body ideal	21.75	6.48	(0-36)
3. Modesty	Refrains from calling attention to one's talents or abilities	15.63	6.63	(1-33)
4. Domestic	Maintains the home	14.74	5.01	(0-29)
5. Care for Children	Takes care of and spends time with children	12.76	3.12	(3-22)
6. Romantic Relationship	Invests self in romantic relationships	13.74	3.71	(0-24)
7. Sexual Fidelity	Keeps sexual intimacy contained to one committed relationship	15.22	3.49	(4-24)
8. Invest in Appearance	Commits resources to maintaining and improving one's physical appearance	12.36	3.53	(1-21)

Source: Mahalik et al., (2005)

Table 2. Description of the CMNI scales. Means, SD and ranges on each scale

Scales	Description	Mean	SD	Range
1. Winning	Drive to win; "In general, I will do anything to win"	14.49	4.30	(1-30)
2. Emotional Control	Emotional restriction and suppression	14.64	5.17	(1-32)
3. Risk-Taking	Penchant for high-risk behaviors; "I frequently put myself in risky situations"	15.95	3.85	(3-28)
4. Violence	Proclivity for physical confrontations; "Sometimes violent action is necessary"	9.41	4.27	(0-24)
5. Power over Women	Perceived control over women at both personal and social levels	6.85	3.93	(0-26)
6. Dominance	General desire to have personal control over situations	5.76	1.80	(1-11)
7. Playboy	Desire for multiple or non-committed sexual relationships and emotional distance from sexual partners	13.38	5.92	(0-36)
8. Self-Reliance	Aversion to asking for assistance; "I hate asking for help"	6.77	2.96	(0-18)
9. Importance of Work	Viewing work as a major focus of life	7.99	3.12	(0-24)
10. Disdain for Homosexuality	Aversion to the prospect of being gay or being thought of as gay	12.27	5.75	(0-29)
11. Pursuit of Status	Being pleased with being thought of as important; "It feels good to be important"	10.49	2.48	(2-18)

Source: Parent & Moradi (2009)

Millon Index of Personality Styles (MIPS)

The Millon Index of Personality Styles (Millon, 2003) evaluates personality styles specifically for adults. Format for the MIPS includes 180 items with a true/false response for each one. Approximately 30 minutes is required for completion. Consistency Index scores obtained on the Millon Index of Personality Styles (Millon, 2003) were taken into account as criteria for exclusion. This questionnaire was not included in this study but was applied and its data were used to ensure the absence of psychological problems and complete sincerity in the replies. All subjects scoring > 3 on the Consistency Index, which would indicate random answering, were excluded.

Procedure

This study was approved by the Institutional Review Board of the Complutense University of Madrid. The participants were students of both sexes who were pursuing a degree at the

Complutense University of Madrid. All participants gave their informed consent after the purpose of the study along with the alternatives to participation had been explained to them and it had been made clear that they were free to withdraw at any time without negative consequence. Participation was voluntary, and there were no negative sanctions for non-participation. Anonymity of the data was guaranteed, so participants were also asked to be as sincere as possible when answering. Participants were recruited through class announcements and were not rewarded either in economic terms or in terms of higher marks. All participants answered questions concerning health data, all female participants completed the CFNI and all male participants completed the CMNI. The instruments were applied collectively in small groups.

Data analysis

All the analyses were made with the statistical package SPSS version 15.0.

Prior to analysis the answers to the questionnaire on frequency tobacco consumption were dichotomized into smoker (answers 1 y 2) and non-smoker (answers 3 y 4).

Logistic regression analysis was used to examine the association between the variable of being a smoker (dependent dichotomous variable 1= smoker and 0 = non-smoker) and the subscales of conformity with male and female gender norms (independent variables). The same was performed with the dependent variable of alcohol consumption (1= alcohol drinker and 0= non-alcohol drinker).

The models were selected from the set of variables using the forward method, and various classification tables were obtained as described below.

RESULTS

Descriptive data show that 334 people (163 men and 171 women) in the group were smokers and 528 non-smokers (257 men and 271 women). That is, 38.7% of the women and 38.8% of the men were smokers and there were no statistically significant differences between both groups in the frequency of smokers ($\chi^2=.001$, $p=.511$).

With regard to alcohol 698 persons (340 women and 358 men) had consumed alcohol in the previous fortnight and 163 (102 women and 61 men) had not consumed it. Thus, 76.9% of the women and 85.4% of men had consumed alcohol and the differences in frequency of consumption were statistically significant between them ($\chi^2=10.170$, $p=.001$).

To control for confounding variables, it was verified that significant age-based differences in tobacco consumption did

not exist ($t = -1.391$; $d.f. = 788$; $p > .05$) or self-reported socioeconomic level: ($\chi^2 = 0,077$, $d.f. = 1$, $p > .05$). Nor were there statistically significant age-based differences in alcohol consumption ($t = 725$, $d.f. = 787$, $p > .05$) or self-reported socioeconomic level ($\chi^2 = 1.712$; $d.f. = 1$; $p > .05$).

Using the forward method, we obtained different classification tables for each of the variables in the present study. For men, the resulting model classified “non-smokers” reasonably well (85.6%), but in the case of “smokers,” it did not discriminate clearly (20.9%), which means there may be other variables we have not measured that might better explain smoking. For women, the model classified “non-smokers” reasonably well (84.1%), but in the case of “smokers,” discrimination was poorer (31.2%).

In the case of alcohol consumption, the resulting model classified men who had consumed alcohol in the past two weeks well (99.4%), but for men who had not drunk in the past two weeks, the classification was poor (1.6%). The model also classified women who had consumed alcohol in the past two weeks very well (99.1%), but for women who had not drunk alcohol in the past two weeks, classification was poor (4.0%).

Through this analysis, we determined that the explanatory variables only had a significant effect in some of the models. Table 3 displays the variables that were selected.

When we interpret the results we find that men who scored higher on the Playboy scale were 7.6% ($Exp(B) = 1.07$) more likely to be smokers. For men who scored higher on the Disdain for Homosexuality scale, the probability of smoking decreased by 4.8% ($Exp(B) = 0.95$). Men who scored higher on the Emotional Control scale were 7.6% ($Exp(B) = 0.92$) less likely to have consumed alcohol in the past two weeks. In contrast, a higher score on the Violence scale increased the probability of having consumed alcohol in the past two weeks by 7.4% ($Exp(B) = 1.07$). We found similar results with the Playboy scale. An increase on this scale increased the probability of alcohol consumption by 10.2% ($Exp(B) = 1.10$).

In the case of the women, higher scores on the Sexual Fidelity scale decreased the likelihood of being a smoker by 11% ($Exp(B) = 0.89$). Higher scores on the Romantic Relationships scale decreased the probability of smoking by 5.8% ($Exp(B) = 0.94$). In the case of alcohol consumption, the Sexual Fidelity scale was also significant, with higher scores decreasing the probability of alcohol consumption in the past two weeks by 10.4% (Tables 4 and 5)

Table 3. Logistic regression analysis. Variables selected for the models and percentages of variance explained

Independent variables	Men		Women	
	Tobacco	Alcohol	Tobacco	Alcohol
Dependent variables	Playboy ↑ 7.6 %	Emotional Control ↓ 7.6 %	Sexual Fidelity ↓ 11%	Sexual Fidelity ↓ 10.4 %
	Disdain for Homosexuality ↓ 4.8 %	Violence ↑ 7.4 %	Romantic Relationships ↓ 5.8%	
		Playboy ↑ 10.2 %		

↑increases; ↓decreases

Table 4. Variables entered in the logistic regression equation for male use of tobacco and alcohol

Men tobacco use	B	E.T.	p	Exp(B)
Step 2(b)				
Playboy	.07	.01	.00	1.07
Disdain for Homosexuality	-.04	.01	.00	.95
Men alcohol use				
Step 3(c)				
Emotional Control	-.07	.02	.00	.92
Violence	.07	.03	.04	1.07
Playboy	.09	.02	.00	1.10

Table 5. Variables entered in the logistic regression equation for female use of tobacco and alcohol

Women tobacco use	B	E.T.	p	Exp(B)
Step 2(b)				
Sexual Fidelity	-.11	.02	.00	.89
Romantic Relationships	-.06	.02	.03	.94
Women alcohol use				
Step 1(a)				
Sexual fidelity	-.10	.02	.00	.89

CONCLUSION

The results on alcohol and tobacco consumption of the present study show some differences and similarities compared to the revised bibliography. There is a higher frequency of alcohol consumption in this group than in previous studies (García de Albéñiz et al, 2004; Jiménez-Muro et al., 2009),

although male classmates of college students in this group had drunk alcohol more frequently than the women, in a similar way to that seen in the differences discovered previously. University students in this study show smoking percentages similar to those found in previous studies and the female university students have been found to use tobacco at similar rates to college men, also in accordance with the revised works (Antonia Rodríguez, 2008; García-Castillo et al., 2004; Míguez & Becoña, 2009).

Data partly support the relationship of specific masculine gender norms on tobacco and alcohol consumption in men. Men with high scores on the Playboy scale were more likely to be tobacco smokers and alcohol drinkers. These results confirm previous research, for example, Liu and Iwamoto (2007) and Locke and Mahalik (2005) reported that high scores on the Playboy scale were related to alcohol use and problem drinking.

The data also extends previous research to tobacco use. A new, unanticipated result was observed because Violence was significantly related to tobacco consumption and these scales have some similarities (Mahalik et al., 2003). These data suggest that some male gender norms could be more important than others in understanding the relationship between male health behavior and gender norms, and can further our understanding of why men engage in more health risk behaviors than women (García del Castillo et al., 2004; Míguez & Becoña, 2009). Men who adopt traditional gender roles place their health at risk (Courtenay, 2000; 2001).

Other results support the assumption that masculinity acts multidimensionally (Cuéllar-Flores & Sánchez-López, 2011). In line with our results, an inverse link between high scores on the Emotional Control scale and alcohol use and abuse has been previously found (Liu & Iwamoto, 2007; Iwamoto et al., 2011). This norm may protect against problematic drinking patterns because it is consistent with the self-control that may be needed to regulate alcohol intake. However, the relationship with tobacco use is not confirmed. The inverse relation found between high scores on the Disdain for Homosexuality scale and tobacco consumption must be confirmed in future studies before possible explanations can be suggested.

With regard to women, our findings show that both greater conformity to female norms and higher scores on the Sexual Fidelity and Romantic Relationships scales predict lower tobacco consumption. In the case of alcohol consumption, the Sexual Fidelity scale is significant, as women scoring more highly on this scale demonstrate a 10.4% decrease in the likelihood of drinking alcohol. The results highlight conformity to specific feminine norms in relation to substance consumption. Whereas previous research examined only masculine norms, our results suggest that feminine must also be considered when identifying factors associated with substance use. Through these findings, we can conclude that conformity to norms traditionally played by women is related to

lower substance use, and suggests that women are less likely to consume tobacco and alcohol because such behavior is not consistent with traditional female gender norms. Feminine norms scored on the Sexual Fidelity and Romantic Relationship scales, which predict lower cigarette and alcohol use, may be non-congruent with the feelings of autonomy attributed to the act of smoking in women (Brosky, 1995). In fact, it has been shown that substance consumption in adolescents is related to a lesser regard for values linked to conventional socialization in Spain (Catalano, Kosterman, Hawkins, Newcomb & Abott, 1996).

To sum up, with regard to tobacco and alcohol consumption, masculinity acts multidimensionally (Cuéllar-Flores & Sánchez-López, 2011). Specifically, some aspects of masculinity protect health, while others jeopardize it, and this may explain the existence of contradictions in the literature. For women, traditional femininity is protective against substance consumption, a fact that had not received much research attention until now. The present study may be informative both to examine the generalizability of previous research on masculinity and to broaden knowledge about femininity and substance consumption. We believe that the findings of this research may provide some ideas to encourage cross-cultural studies and to evaluate the effect of conformity to gender norms because there are reasons for us to state that gender socialization plays a very important role in explaining health and substance use in men and women. The magnitude of the variation in substance consumption is better explained by conformity to gender norms than by biological sex. That is, traditional gender norms are at least as important as biological sex in the prediction of substance consumption and consequently of health.

As with others, this study used self-report instruments, and the data were correlational. Moreover, neither the characteristics or intensity of alcohol or tobacco consumption have been taken into account. This aspect could be important. In addition, participants' characteristics limit the possibilities of generalizing to any other types of population of different ages, levels of education and cultures. Nevertheless, policies for reducing tobacco and alcohol consumption are most important among the young; therefore, it seems appropriate to begin with studies of youth when researching relationships between gender and alcohol and tobacco consumption. Moreover, the generalizability to other populations improves by taking into account that CFNI and CMNI have been used in different countries/cultures (Asian-American, Italian-American and Anglo-American people in the U.S., Spain, Australia and Kenya) (Liu & Iwamoto, 2007; Locke & Mahalik, 2005; Mahalik et al., 2007; Tanger & Good, 2005).

The main advantage of identifying the relationship between gender norms and substance consumption is that gender norms can be used in prevention (Liu & Iwamoto, 2007). This knowledge also aids the design, for example, of campaigns tailored to the sole smoking or alcohol consumption risks

associated with masculine or feminine factors. Campaigns to improve health behaviors at a population level must be carefully designed and targeted to specific groups to be effective.

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