

# Health is in the Eye of the Beholder

## The Impact of Social Norms on Perceived Health Dispositions

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**Abstract.** The field of health practices is one in which broader cultural ideologies are expressed as well as one subjected to social regulations legitimized through widely valued and shared standards taken from mundane perceptions. In this research, we investigated how cultural ideologies, here operationalized as social norms, influence people's perceptions of the state of health and health behavior of others. These perceptions were investigated in two independent studies using impression-management tasks. The participants were asked to judge a target with respect to socially valued characteristics that were not directly related to health: attractiveness (Study 1) and future orientation (Study 2). We found that broader and implicit ideologies indeed had an influence on the participants' perceptions of the targets' general state of health and participants' attributions of health behaviors to the targets. Our results invite a more systematic analysis of the relationships between dominant sets of values and norms and health-related perceptions of others.

**Keywords:** health behaviors, social norms, attractiveness, time perspective, cultural value, self-control

Every day, from the moment we wake up until we go to sleep again, we are faced with numerous questions about what is bad or good for our health: What does a good breakfast consist of? How much should we sleep? Should we squeeze some sports time into an already busy schedule or just relax? Because our subjective bodily experience and state of health are influenced by, and are an expression of, the relationships we establish with other people, the world, and the social order, they are subject to socially shared meanings (Herzlich, 2001). This approach enables us to understand, from a psychosocial point of view, how health practices, being important and complex social behaviors, are intertwined with more general social values and social functioning that is incorporated into a specific cultural context (Stoetzel, 1960).

Because they are a mode of expression of broadly shared values and ideologies, healthcare practices are subject to social regulation (Apostolidis & Dany, 2012) and in the West legitimized through widely valued and shared standards associated with self-control (Joffe & Staerklé, 2007). Globally speaking, they are regulated through the neoliberal art of government by self-modeling and social performance (Foucault, 1979; Guignard, Apostolidis, & Demarque, 2014). "Being a socially respected 'self' Western style requires maintaining active control over one's desires, emotions, and actions" (Joffe & Staerklé, 2007, p. 402). Consistent with this view, weak self-control over body, mind, or destiny may trigger negative evaluations.

This paper builds on these ideas and proposes to explore how our assessments of other people's health also pass through the lens of our everyday set of values and norms. We operationalize these cultural ideologies through the concept of social norms, which we view as evaluative criteria for judging other people (Dubois & Beauvois, 2005, 2011). We analyze the ef-

fects of these judgments and a target's conformity to prevailing social norms on the basis of how healthy the target's behavior is perceived to be by individuals who are part of the same society. This analysis is carried out in two independent studies using impression formation tasks: First, participants assess the health of targets with different levels of attractiveness; second, they evaluate the health-related behavior of targets with different degrees of future orientation.

### Social Norms: The Driving Forces of Our Social Reality

Social psychology theories teach us that informal judgments made in our daily lives can inform us about general social norms (Dubois, 2003). Informal assessments of health-related behavior often draw on socially shared standards and norms. For example, the informal judgments made about skinny people have evolved from negative – when they were associated with poverty – to positive – when they became associated with charm, attractiveness, and glamor (Le Breton, 2007), a change in informal norms that have followed the overall evolution of cultural values and beliefs. In general, psychosocial research on everyday normative judgments showed that valued physical (Zebrowitz & Montepare, 2008), personality (Guignard et al., 2014), or social traits (Russell & Fiske, 2008) are important informal characteristics through which we can analyze the effects of social norms on informal judgments.

Given that psychosocial phenomena are embedded in social positioning and social participation processes, in this paper we approach social norms from a sociocognitive perspective (Dubois & Beauvois, 2005, 2011). The sociocognitive approach focuses on uncovering the social value of adhering (or not adhering) to beliefs or ideas that are so widely shared that people rarely recognize their even supporting them – even if nonadherence to these beliefs or ideas is experienced and justified as a normative breach (Testé, 2003). Since this approach focuses on demonstrating how broader social norms can drive the expression of certain beliefs and preferences as if they were part of a personal decision, sociocognitive research has essentially focused on the expression of interpersonal judgment (Dubois, 2003). In terms of the norm focus approach (Cialdini, 2003), judgment norms are closer in meaning to injunctive norms, despite their undeniable consequences in terms of descriptive norms (Dubois, 2003). For example, researchers using this approach have extensively tested the hypothesis that in Western societies a psychological construct such as internalization is based on a valued social norm – and not on cognitive bias (Dubois, 2009; Dubois & Beauvois, 2005).

Social norms are thus understood to be part of a widely shared ideological basis for interpersonal judgment on a series of characteristics, including health-related dispositions and behavior. This paper proposes that the power of these social norms draws in part from the broad and implicit influence everyday ideologies have on health-related social judgments made in interpersonal situations in which people have certain physical characteristics (e.g., being ugly or fat) that tend to be devalued, especially in formal settings (Pansu & Dubois, 2002). If we consider these ideologies as often implicit guides (Testé, 2003) concerning what is considered healthy, they can be studied using impression formation tasks in which the participant is unaware of the variable being tested.

In two independent studies, the present research develops the idea that specific judgments embedded in social norms as well as the broader cultural ideologies of our Western societies can influence the state of health attributed to others displaying certain critical characteristics. The first study investigates how assumptions about another person's health are made on the basis of a physical trait of that person, such as attractiveness (Dion, Bersheid, & Walster, 1972). The second study investigates assumptions about another person's health made on the basis of a psychological trait related to the person's future time perspective (Zimbardo & Boyd, 1999). We also report on the literature supporting the idea that (1) physical traits and (2) psychological traits generally influence interpersonal judgments.

## The Normative Implications of Appearance and Looks

Since the time of the Ancient Greeks, beauty has been associated with positive qualities (Macrae & Quadflieg, 2010), sug-

gesting that we do in fact judge a book by its cover. Attractive people are better treated (van Leeuwen & Macrae, 2004), judged as being more qualified (Maisonneuve & Bruchon-Schweitzer, 1999), more competent (Dion et al, 1972), and more socially desirable (Dion & Dion, 1987) than their less attractive counterparts. For instance, in a selection process, attractive people are preferred over their unattractive counterparts with equivalent qualifications (Pansu & Dubois, 2002), suggesting that beauty is generally associated with success, wealth, and happiness.

Evolutionary psychologists have established that physical features associated with physical attractiveness, for instance, waist-to-hip ratio (Singh & Young, 1995), body size and shape, symmetry and gender-typical hormonal markers (Weeden & Sabini, 2005), as well as because facial cues (Zebrowitz & Montepare, 2008), are reliable indicators of a person's healthiness. However, the criteria for perceiving attractiveness and beauty vary greatly both historically and contextually (Cunningham, Roberts, Barbee, Druen, & Wu, 1995; Rumsey & Harcourt 2005; Yang & Lee, 2014) as well as when combined with other characteristics such as social and intellectual competence, integrity, and concern for others (Eagly, Ashmore, Makhijani, & Longo, 1991).

In brief, previous studies distinguished between beauty, as understood in evolutionary terms, and attractiveness, which is socially constructed and contextually meaningful (e.g., Cunningham et al., 1995). In the Western cultural context, attractiveness criteria involve a lifestyle of mastery over one's body, which can also be associated with a self-control ethos (Joffe & Staerklé, 2007). From this point of view, social groups that fail to meet those control standards (e.g., people who are fat, ugly, dirty, or simply misbehaving) are socially devalued because of their lack of control over their body, which also reflects a more generalized lack of control over their own destiny. Thus, according to this rationale, as we will see below, they may also intervene when we are judging others on the basis of their psychological characteristics in the same way that sociosymbolic processes intervene when we are judging others on the basis of their appearance.

## The Normative Implications of Future Orientation

The effects of self-control ideologies on interpersonal judgment can be observed in the relationships that we maintain with our own bodies and those of other people. They can also be observed in the psychological characteristics associated with one's anticipation and destiny control (Joffe & Staerklé, 2007). Social norms and cultural values are implicit in the way we experience psychological time, particularly the future (Zimbardo & Boyd, 1999). Indeed, along with the capacity for self-sustainability and for long-term planning, the ability

to manage one's future time efficiently lies at the heart of Western contemporary expectations (Foucault, 1979; Guignard et al., 2014). It is no surprise then that future time perspective (FTP), a temporal frame characterized by the planning and achievement of goals, the expectation and anticipation of future rewards, and by following conventions (Zimbardo, Keough, & Boyd, 1997), was identified as being a social norm in several European countries (Guignard, Bertoldo, Goula, & Apostolidis, 2015).

From a sociocognitive point of view, the fact that people assume valued ideas or positions in a given society can be associated with attributions of social utility (e.g., dynamic, ambitious, etc.) and/or social desirability (sympathetic, sincere, etc.; Dubois & Beauvois, 2005). Other similar dimensions were also proposed as basic factors of interpersonal perception, for example, agency (competent, efficient, clever, etc.) versus communion (sincere, honest, fair, etc.; Abele & Wojciszke, 2007); competence (capable, intelligent, efficient, etc.) versus warmth (good-natured, sincere, friendly etc.; Fiske, Cuddy, Glick, & Xu, 2002).

Despite the interest and seeming correspondence of these dimensions, the sociocognitive approach places regarded as socially useful – and therefore implicitly expected for the maintenance of the status quo – at the heart of its definition of what is socially normative (Dubois & Beauvois, 2011). Within this approach, social utility corresponds to the market value of an individual with regard to social functioning (Cambon, 2006), whereas social desirability reflects the likability one can attribute to a person in his/her relationships with others (Dubois & Beauvois, 2005). In terms of interpersonal judgments, studies developed in this field have yet to explore the association between the dimensions of social utility and social desirability, on the one hand, and the health-related behavior or state of health attributed to a target, on the other.

## Synthesis and Scope

Based on the above-mentioned ideas that physical and psychological traits can generally influence interpersonal judgments, this research investigates whether physical and psychological traits influence health-related interpersonal judgments in particular. This psychosocial approach to uncovering the normative components of health issues aspires to contribute to the development of a critical approach to health (Murray & Poland, 2006). This analysis approaches states of health as a social construct, reflecting and expressing a normative configuration specific to a cultural context and in relation to a broader social functioning (Apostolidis & Dany, 2012). In other words, one's perception of the risks associated with a good or bad state of health is often based on criteria that are drawn from shared

symbolic backgrounds in contemporary Western societies (Joffe, 1999).

This is investigated in two independent quasiexperimental studies, in which we use diverse contexts and different methodological settings to determine the power of cultural ideologies and social norms to guide our judgments of the health-related dispositions and behavior of other people. Based on the self-control ethos with regard to its dimensions of control over one's body and destiny (Joffe & Staerklé, 2007), the two studies presented here draw on socially valued information from the dominant normative perspective – either a target's attractiveness or a target's future time perspective – to investigate whether an analogous sociocognitive process is at work when one assesses another person's health. These processes express an implicit everyday logic of the construction of health based on the idea that that which is more socially valued is also healthier.

## Study 1: Physical Attractiveness and Inferences About Others' Health

This study extends previous research about how people make inferences about another person's health on the basis of their perception of that person's attractiveness. In other words, we explore how a person's attractiveness informs us about that person, thereby considering gender assumptions and representations (Flores-Palacios, 2001) and who is attractive to whom. Extending the premise of "what is beautiful is good" (Dion et al., 1972) to perceptions of health, this quasiexperimental study explores whether people infer another person's state of health on the basis of their perception of the person's attractiveness, which they consider a socially valued indicator.

We presented the participants with three pictures of either a man or a woman with different levels of attractiveness. The participants rated the pictured person's health as they perceived it. Based on the notion that having little self-control over one's body has negative effects, we expected them to perceive attractive people (men and women) as being overall healthier than unattractive people. Moreover, considering the significant gap between ideologically based gender expectations (Flores-Palacios, 2001), we also expected to find differences in the specific health issues that are commonly associated with men or women.

## Method

### Participants

A total of 192 students (96 male, 96 female) from Aix-Marseille University with a mean age of 21.7 years ( $SD = 2.9$ , full range: 17–35) participated in this study.

## Procedure

The participants completed a questionnaire in the university library. After being randomly assigned to evaluate either male or female pictures, they were presented with three randomly selected pictures of target individuals with different levels of attractiveness (unattractive, moderately attractive, and attractive)<sup>1</sup>. The participants rated each target's perceived health, socioeconomic status, future life events (e.g., will s/he get a divorce in the future, will s/he be a good mother/father, etc.), and satisfaction with their own appearance. However, since our aim here was to investigate how judgments about others' health are constructed, we only analyzed the perceived health ratings.

In a second step, the participants selected the target (of the three presented) they believed to be the most vulnerable to different illnesses (e.g., sexually transmitted diseases, cancer). Afterwards, they provided demographic information about themselves.

## Target Manipulation

To derive material with normative features, a series of pictures was pretested with respect to perceived attractiveness. We presented 22 preselected pictures of females ( $n = 11$ ) and males ( $n = 11$ ) to 60 undergraduate students (30 male, 30 female), who rated the pictured individuals in terms of perceived beauty, charm, and how attracted they were to them. One male and one female picture were chosen based on the average value of the three scales (perceived beauty, charm, and attractiveness). The picture of the "attractive" target was chosen among those with a mean value of around 7; the picture of the moderately attractive among those with a mean value tending toward 5; and the picture of the unattractive target among those tending toward 2.

The order of the attractiveness levels was then reassessed through a second pretest with 20 participants who ordered the three pictures of either men or women according to their perceived attractiveness. The second pretest validated the target pictures attractiveness levels unanimously.

## Instruments

**Perceived health.** The participants rated the target's perceived health with respect to five 6-point bipolar items: *in strong/poor health, not ill/ill, takes/does not take care of his/her health, in good/bad physical health, and in good/bad psychological health*. The internal consistency reliability of the items was good ( $\alpha = .90$ ). We averaged the item ratings to form a single health indicator.

**Target comparison based on perceived health.** The participants compared the targets with respect to their vulnerability to different positive and negative physical and psychological health attributes. Examples of questions in this part are:

"Which person appears to be in the best shape?" "Which person runs the highest risk of contracting a sexually transmitted disease?" and "Which person runs the highest risk of developing cancer?"

## Results

### Perceived Health

We performed a  $2 \times 2 \times 3$  (Participant's Sex [male, female]  $\times$  Target's Sex [male, female]  $\times$  Attractiveness [unattractive, moderately attractive, attractive]) mixed ANOVA on the ratings of perceived health of each of the three targets. The target's sex and the participant's sex were between-subjects variables. Attractiveness level was the within-subject variable. We found a significant main effect of target's attractiveness on target's perceived health,  $F(2, 344) = 15.6, p < .001, \eta_p^2 = .08$ . There was no main effect of participant's sex or target's sex.

The significant main effect of attractiveness indicates that the more attractive the target, the healthier the participants judged him/her to be (see Figure 1),  $M_{\text{unattractive}} = 3.2, SD = .86, M_{\text{moderately attractive}} = 4.4, SD = .76, M_{\text{attractive}} = 4.6, SD = .75$ ). A contrast analysis revealed that the attractive target was perceived as being significantly healthier than the unattractive target,  $F(1, 172) = 249.5, p < .001, \eta_p^2 = .59$ , and, to a lesser extent, healthier than the moderately attractive target,  $F(1, 172) = 15.7, p < .001, \eta_p^2 = .08$ .

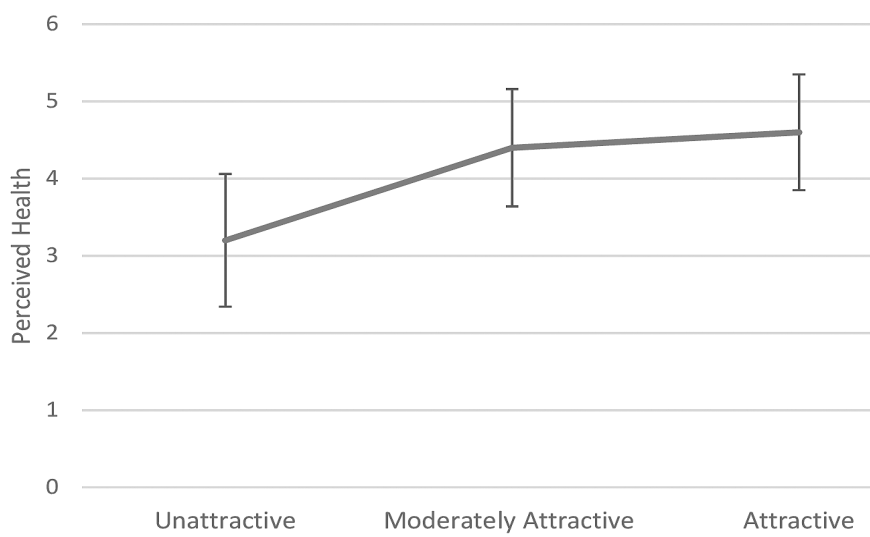
These results provide support for our hypothesis that attractive individuals would be perceived as being healthier than non-attractive individuals. Moreover, the larger observed difference was that between the perceived health of moderately attractive versus nonattractive targets as opposed to moderately attractive versus attractive targets. This may indicate that the lack of attractiveness is a greater distinguishing feature in terms of health assessment than attractiveness.

### Target Comparison Based on Perceived Health

The participants also selected the target they perceived to be healthier (positive health attributes) or to be more vulnerable to different health issues (negative health attributes). We performed a series of log-linear analyses to estimate how different factors (target's sex, target's attractiveness, participant's sex) influence the participants' attribution of positive and negative health attributes to the targets (Table 1).

We analyzed the characteristics most strongly associated with attributions of positive health attributes and found a significant main effect of attractiveness (all  $ps < .01$ ) and an interaction between target's attractiveness and target's sex (see Table 1). The effect of participant's sex was not significant. In order to better understand these results, we performed separate  $\chi^2$  tests on tables considering (1) only target's attractive-

<sup>1</sup> Available upon request from the corresponding author.



**Figure 1.** Participants' perception of targets' health as a function of targets' attractiveness.

**Table 1.** Participants' attributions of positive and negative health conditions to targets (in %)

Item		% not attractive (n)	% moderately attractive (n)	% attractive (n)	Attractiveness $\chi^2(4)$	Target Gender $\times$ Attractiveness $\chi^2(2)$
Positive associations						
Which of these individuals						
... in the best health?	male	2.1 (2)	30.2 (29)	67.7 (65)	82.1***	18.6***
	female	11.5 (11)	50.0 (48)	38.5 (37)		
... the most careful with his/her health?	male	18.5 (17)	33.7 (31)	47.8 (44)	21.4***	14.1**
	female	19.8 (19)	57.3 (55)	22.9 (22)		
... the most comfortable "in his/her skin"?	male	6.3 (6)	21.9 (21)	71.9 (69)	77.2***	15.6***
	female	11.5 (11)	44.8 (43)	43.8 (42)		
Negative associations						
Which of these individuals						
... runs the highest risk of developing a sexually transmitted disease (STD)?	male	37.2 (35)	21.3 (20)	41.5 (39)	44.1***	16.7***
	female	16.7 (16)	13.5 (13)	69.8 (67)		
... is most likely to present an illness?	male	78.7 (74)	13.8 (13)	7.4 (7)	140.8***	2.1, ns
	female	71.9 (69)	14.6 (14)	13.5 (13)		
... runs the highest risk of having an infarct?	male	31.2 (29)	26.9 (25)	41.9 (39)	5.9*	7.3*
	female	49.0 (47)	25.0 (24)	26.0 (25)		
... runs the highest risk of developing cancer?	male	46.7 (43)	19.6 (18)	33.7 (31)	21***	10.9**
	female	52.1 (50)	33.3 (32)	14.6 (14)		
... is ill most often?	male	85.3 (81)	9.5 (9)	5.3 (5)	159.2***	6.6*
	female	69.8 (67)	18.8 (18)	11.5 (11)		
... takes medication?	male	73.7 (70)	6.3 (12)	13.7 (13)	88.3***	5.5, ns
	female	59.4 (57)	12.6 (24)	15.6 (15)		
... runs the highest risk of developing a psychological disorder?	male	75.8 (72)	15.8 (15)	8.4 (8)	81.8***	18.9***
	female	54.2 (52)	12.5 (12)	16.8 (32)		

Note. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

http://econtent.hogrefe.com/doi/pdf/10.1024/1421-0185/a000192 - Thémistoklis Apostolidis <themistoklis.apostolidis@univ-amu.fr> - Tuesday, March 21, 2017 7:22:55 AM - IP Address: 147.94.134.30

ness and (2) the interaction between target's attractiveness and target's sex (see Table 1). Only the male attractive target was rated as being the healthiest. In fact, the attractive male target was rated as being the healthiest by 67.7% of the participants ( $p < .05$ ), as being the most careful with his health by 47.8% of the participants ( $p < .05$ ), and as being the one who felt good about himself by 71.9% of the participants ( $p < .06$ ). However, the moderately attractive female target also received systematically high ratings: She was rated as being the healthiest by 50% of the participants ( $p < .07$ ), as being the most careful about her health by 57.3% of the participants ( $p < .05$ ), and as being the one who felt most comfortable with herself by 44.8% of the participants ( $p < .05$ ).

We analyzed the participants' attributions of negative health attributes to the targets and again found a significant main effect of target's attractiveness (all  $ps < .05$ ) and an interaction between target's attractiveness and target's sex (see Table 1). For the question "Which of these people is more likely to carry a disease?" we only found a significant main effect of target's attractiveness. To better understand these results, we performed separate  $\chi^2$  tests on the tables considering (1) only target's attractiveness and (2) the interaction between target's attractiveness and target's sex (see Table 1).

Overall, the participants attributed negative health to unattractive targets. Irrespective of target sex, 75% ( $p < .001$ ) of the participants responded that the unattractive targets were more likely to carry a disease; 40% ( $p < .05$ ) responded that the unattractive targets ran a higher risk of having an infarct; 49.5% ( $p < .001$ ) responded that they ran a higher risk of developing cancer; 77.9% ( $p < .001$ ) responded that they were ill most often, and 64% ( $p < .001$ ) responded that they ran a higher risk of psychological distress.

Although we found a clear association between the target's (lack of) attractiveness and the participants' perception of the target having a higher health risk, the participants attributed some health issues to attractive or nonattractive targets differently, depending on the target's sex. For instance, 69.8% of the participants associated the risk of contracting a sexually transmitted disease with the attractive female target, but only 41.5% associated this risk with the attractive male target ( $p < .05$ ). The same held true for psychological distress: 33.3% of the participants associated psychological distress with the attractive female target, but only 8.4% associated psychological distress with the attractive male participant ( $p < .01$ ).

On the other hand, the participants associated some illnesses more with the attractive male target: 41.9% of the participants tended to associate the risk of an infarct with the attractive male target, while only 26% tended to associate the risk of an infarct with the attractive female target ( $p = .08$ ). Also, 33.7% of the participants considered the attractive male target to run a higher risk of developing cancer, while only 14.6% considered the attractive female target to run a higher risk of developing cancer ( $p < .05$ ).

## Discussion

According to our results, culturally driven assumptions related (but not restricted) to a person's appearance can significantly influence one's assessment of that person's state of health. This is in line with our initial expectation that participants would perceive attractive targets as being healthier (Figure 1). More specifically, as for perceived differences between targets, the difference between the participants' perception of the moderately attractive versus the unattractive targets' health was largest, which suggests that lack of attractiveness might be a salient feature with a strong impact on our perceptions of others' health. The impact of a lack of attractiveness on our perceptions of a lack of health in others is plausible in that people often attribute negative stereotypes to those who lack control over their bodies (Joffe & Staerklé, 2007) – or who do not at least make an effort to improve their appearance despite their natural gifts.

These findings are further clarified by the results of the second task in which participants compared targets on the basis of their perceptions of the targets' health (Table 1). In line with the above-mentioned results, attractiveness was generally associated with positive health attributes and thus considered a health-protective characteristic from a social standpoint. Also, unattractiveness was systematically associated with negative health attributes, irrespective of the target's sex.

Moreover, given that this societal logic is also unavoidably contextualized by gender relations, this aspect must also be taken into account in the analysis of how health states are perceived. Interestingly, the participants attributed some kinds of health vulnerabilities to the attractive targets – sometimes male (risk of infarct) and sometimes female (risk of contracting a sexually transmitted disease; see Table 1). This suggests that the attribute of being attractive takes on different, gender-related meanings. For instance, attractive women are, to a much greater extent than attractive men (69.8% vs. 41.5%), viewed as being more vulnerable to sexually transmitted diseases. This implies that there is a double standard of sexual morality that puts attractive women – simply on the basis of being attractive – at a greater disadvantage than attractive men. These results illustrate how gendered social relationships developing in a sexual context end up actualizing the shared sociosymbolic relational matrices that govern them.

These results were equivalent for male and female participants. The fact that this rationale is shared across sexes further suggests that social information such as someone's attractiveness, as well as gendered expectations, are socially shared at the level of our ideological references, that is, the cultural matrix from which we draw meaning for interpersonal and intergroup inferences in everyday life.

Our results illustrate how the perception of health in others also constitutes an area in which broader cultural frames become active guides for our assessment of others. So, to further explore how normative features become important criteria for

assessing others, we studied another socially valued characteristic that people use to assess others' health, namely, the control of others over destiny or the future.

## Study 2

In their analysis of future time perspective (FTP) as a social norm, Guignard et al. (2014) found a strong relationship between FTP and social utility value, but no relationship between FTP and social desirability value. Since a construct with social utility in a given society is normative in that society, FTP can be considered a social norm. Considering this normativity to be anchored in broader ideological expectations governing all areas of our social and private life (Foucault, 1979), we anticipate that participants will attribute healthier behavior to targets ranking high in destiny control than to those ranking low in destiny control.

In this quasiexperimental study, we explore the effect of perceived FTP on health-related judgments using an impression formation task similar to the one used in Study 1. Our goal is to examine the extent to which FTP is socially valued influences participants' perception of a target's health-related behavior. If it does, we will also perform a multiple mediator analysis (Preacher & Hayes, 2008) to identify which social value (social desirability or social utility) most actively influences the relationship between FTP and the attribution of health-related behavior.

Moreover, based on the above-mentioned strong valorization of characteristics associated with a greater self-control in occidental societies, we hypothesize that participants will perceive a high-FTP target as having healthier behavior than a low-FTP target. Moreover, considering that the normative nature of FTP is associated with the attribution of the social utility value, we also expect social utility (and not social desirability) to mediate the relationship between the participants' perception of the target's FTP and their attributions of health-related behavior to him/her.

## Method

### Participants

A group of 213 participants (91 male, 122 female) from Aix-Marseille University completed a questionnaire. The participants were on average 20.4 years old ( $SD = 3.59$ , full range: 18–44) and were evenly distributed across experimental conditions.

### Procedure

The participants received a booklet that had instructions printed on the first page. The validated French version of the FTP

scale (Apostolidis & Fieulaine, 2004; 12 items, i.e., "I am able to resist temptation when I know that there is work to be done," "It upsets me when I am late for appointments," "I complete projects on time by making steady progress"), which contained the ostensible responses of a target with high or low FTP. Participants were then required to give a picture of the target-person whose answers they were about to judge in terms of health-related behaviors, social desirability, and utility.

After the participants had read the target's FTP responses and before they had rated the target's FTP scale responses with respect to health-related behavior, social desirability, and utility, we performed a manipulation check by asking the participants to report their perception of the target's level of FTP. To this end, the participants responded to three items from the validated French version of the Consideration of Future Consequences Scale (CFC), an example item of which is "I often engage in a particular behavior in order to achieve outcomes that may not result for many years" (Demarque, Apostolidis, Chagnard, & Dany, 2010). Five participants failed to give appropriate responses and were dropped from the sample. In the end, the data of 208 participants were retained for analysis.

### Target Manipulation

We manipulated the targets' future time perspective (FTP) by presenting each participant with two FTP scales (Zimbardo & Boyd, 1999), one of which had ostensibly been completed by a student target with a high level of FTP and the other of which had ostensibly been completed by a student target with a low level of FTP. We took this manipulation from a previous study in which participants completed the Zimbardo FTP scale (Apostolidis, Fieulaine, Simonin, & Rolland, 2006). On the basis of these results ( $M = 3.18$ ,  $SD = .60$ ), we subtracted two standard deviations from the mean to create the low-FTP target condition ( $M_{\text{low-FTP}} = 1.75$ ) and added two standard deviations to the mean to create the high-FTP target condition ( $M_{\text{high-FTP}} = 4.25$ ). To render the manipulation more credible, the high- and low-FTP target questionnaires were completed manually.

The targets were presented as university students; their age (21 years old), name (Pierre/Léa), and FTP score were shown on the FTP questionnaire they had ostensibly completed. Thus, this study had a  $2 \times 2$  (FTP [high; low]  $\times$  Target's Sex [male, female]) between-subjects design.

### Instruments

*Health-related behavior.* On a scale from 1 (*totally disagree*) to 7 (*totally agree*), the participants reported the extent to which they believed that the target smoked cigarettes (reversed), had a balanced diet, drank alcohol (reversed), had regular medical check-ups, smoked cannabis (reversed), got vaccinations, and regularly used condoms when engaging in sexual intercourse.

These items were submitted to a factor analysis that yielded a one-factor solution explaining 53.3% of item variability (Kaiser-Meyer-Olkin test for sampling adequacy = .85; Bartlett's test of sphericity:  $\chi^2(21) = 561.2$ ,  $p < .001$ ). We averaged the items

into a single general health index ( $\alpha = .87$ ), whereby higher scores indicated healthier behavior and lower scores indicated less healthy behavior.

**Social utility and desirability.** We used adjectives that had been identified as indicative of social utility and social desirability value dimensions (Cambon, 2006). For social utility, three positive (dynamic, ambitious, and hardworking) and three negative traits (naive, shy, and emotional) were averaged into a single index ( $\alpha = .65$ ). For social desirability, three positive (sympathetic, sincere, and nice) and three negative traits (selfish, pretentious, and hypocritical) were averaged into a single index ( $\alpha = .70$ ). On a scale from 1 (*not at all*) to 7 (*very much*), the participants reported whether they thought each trait was characteristic of the target. There was no correlation between the social utility scale and the social desirability scale (Pearson  $r(206) = .02, p = .75$ ).

## Results

We performed a  $2 \times 2 \times 2$  (Participant's Sex [male, female]  $\times$  Target's Sex [male, female]  $\times$  2 FTP Level [low, high]) between-subjects ANOVA on the aggregated measure of health-related behavior attributed to the target. We found a significant main effect of FTP ( $M_{\text{FTP-high}} = 4.89, SD = .87; M_{\text{FTP-low}} = 3.24, SD = .92$ ),  $F(1, 200) = 165.2, p < .001, \eta_p^2 = .45$ , and of participant's sex ( $M_{\text{female}} = 4.21, SD = 1.27; M_{\text{male}} = 3.91, SD = 1.13$ ),  $F(1, 200) = 4.8, p < .05, \eta_p^2 = .02$ , on health-related behavior attributed to the target. No other effects were significant. These results confirm our expectation that FTP, as a normative psychological construct, would play a role in the attribution of health-related behavior to the target: The higher the target's FTP, the healthier the behavior attributed to the target. This once again demonstrates how the perception of health can be influenced by socially meaningful variables such as FTP.

After observing the effect of target's FTP on the health-related behavior attributed to the target, we aimed to determine which social value (social desirability or social utility) had a greater influence on the relationship.

### Multiple Mediator Analysis

To assess which social value had a greater influence on the relationship between the target's FTP and the attribution of health-related behavior to the target, we performed a multiple mediator analysis (Preacher & Hayes, 2008). We were interested in the process (mediators) by which one variable exerts influence over another, so we conducted mediator analyses. The procedures proposed by Baron and Kenny (1986) do not allow one to test more than one mediator at a time, which could result in omitted variable bias (Judd & Kenny, 1981). In short, "testing the total indirect effect of X on Y is analogous to conducting a regression analysis with several predictors, with the aim of determining whether an overall effect exists" (Preacher & Hayes, 2008, p. 881).

We performed multiple mediator analysis using the PROCESS macro for SPSS (Hayes, 2015). FTP was the independent variable (dummy coded: 0 = low-FTP; 1 = high-FTP) and health-related behavior attributed to the target was the dependent variable. The social utility and social desirability attributed to the target were the mediators (see Figure 2).

Consistent with our previous results, we found that the target's FTP had a significant positive effect on the health-related behavior attributed to the target – that is, the participants attributed healthier behavior to the high-FTP target than to the low-FTP target,  $R^2_{adj} = .46, F(1, 206) = 170.44, p < .001$  (Figure 2). The total effect is slightly weaker when indirect effects are taken into account (Table 2): The mediator social utility attributed to the target significantly contributed to the model ( $SE = .142$ ), while the mediator social desirability attributed to the target did not ( $SE = .019$ ) – see confidence intervals presented in Table 2.

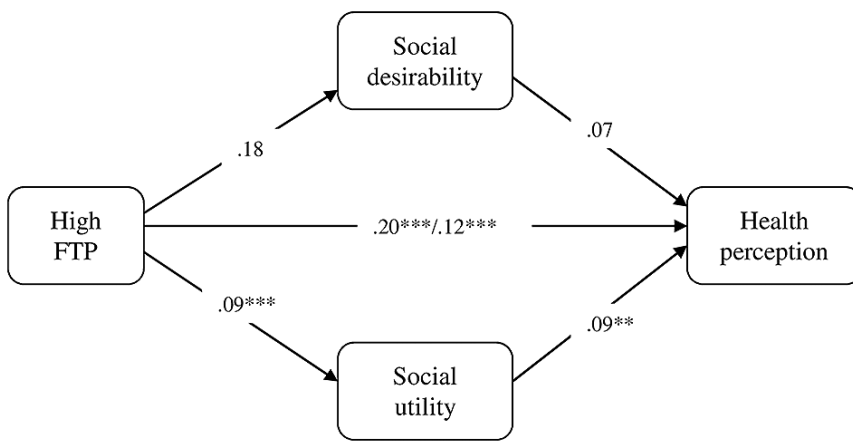
These results indicate that the effect of the target's FTP on the health-related behavior attributed to the target was partially mediated by the social utility traits attributed to the target: The direct effect of the target's FTP on the health-related behavior attributed to the target remained significant even when the influence of the mediators was taken into account. The results are therefore in line with our expectations: The target's level of FTP influences the health-related behavior attributed to the target by having a positive effect on the social desirability traits attributed to the target, but that is not the only way it does so (see Table 2).

## Discussion

As expected, we found that the target's level of FTP, as socially valued information, was positively associated with participants' perceptions of the target's health-related behavior: The participants perceived the future-oriented (high-FTP) target as having healthier behavior than the present-oriented (low-FTP) target. Previous studies have found a positive relationship between future orientation and healthy behavior (e.g., Adams, 2009). However, our goal was not to determine whether people realize that those who anticipate future health problems avoid risky consequences. Our goal was to clarify whether the simple fact of being future oriented (according to a self-control logic) influences the extent to which we attribute healthier behaviors in someone.

Our results present an interesting demonstration of the influence of a self-control logic over health behaviors by clarifying through what type of social value this influence occurs: The influence of the target's level of FTP on the participants' perception of the target's health-related behavior was partially mediated by the social utility traits attributed to the target – and not by the social desirability traits attributed to the target. This suggests that there was not only a direct relationship between the target's FTP and participants' perceptions of the target's





**Figure 2.** Test of the multiple mediator model: High FTP (independent variable), health perception (dependent variable), social desirability, and social utility as moderators. FTP was inserted in the model as a dummy variable (0 = low FTP; 1 = high FTP). FTP = future time perspective.

**Table 2.** Total, direct, and indirect effects of target’s future time perspective on participants’ perception of target’s health

Effects	Point estimate	95% BCa CI
Total effect of target’s future time perspective on participants’ perception of target’s health	.188	[1.397, 1.894]
Direct effect of target’s future time perspective on participants’ perception of target’s health	.126	[.846, 1.588]
Total indirect effects	.143	[.148, .688]
Participants’ perception of target’s social utility traits	.142	[.147, .686]
Participants’ perception of target’s social desirability traits	.019	[−.017, .071]

Note. BCa = bias corrected and accelerated using 1,000 bootstrap samples.

health-related behavior: The target’s FTP also had a positive influence on the participants’ perceptions of the target’s health-related behavior through the activation of participants’ perceptions of the target’s social utility traits. However, we must be careful when interpreting these results: Only some of the effect of the target’s FTP was mediated by the participants’ perceptions of the target’s social utility traits because the direct effect of target’s FTP on the participants’ perception of the target’s health-related behavior remained significant when the influence of the mediators was taken into account.

Therefore, the participants viewed future orientation as being socially useful, which elicited their perception of the future-oriented target having healthier behavior. According to Beauvois (2003), social utility reflects our judgment about an individual’s chances of success or failure in his/her social life, which is correlated with the extent to which he/she meets the social expectations of his/her environment. These results demonstrate how a normative logic, anchored in the dominant ideology of the homo economicus model (Foucault, 1979), is active in our perception of a person’s health-related behavior through, in the case of this study, our perception of future orientation in that person.

These findings invite us to more closely analyze how broader cultural ideologies are (also) active in our everyday attributions of healthy behavior to others. They thus provide an interesting illustration of how broader social norms, through the attribu-

tion of social utility (but not social desirability), are represented in the mundane judgments we (also) make about others’ health.

## General Discussion

The two studies presented above converged to demonstrate the social logic underlying the construction of our perceptions of others’ health-related dispositions and behavior. This social logic can be found in everyday informal situations in which fragments of information are available and valued by the dominant social order (e.g., attractiveness and future orientation) and are used as guides to infer others’ state of health and anticipate their health-related behavior. Thus, our findings provide new empirical evidence about the existence of complex sociocognitive functioning when analyzing the role of cultural ideologies and social norms that guide our judgments of others’ health-related dispositions and behaviors.

In Study 1, we found that participants implicitly associated a target’s attractiveness with that target’s health-related behavior. On the whole, the participants perceived attractive targets as being healthier than nonattractive targets. However, when applied to a single individual, this logic inevitably involves gender issues. Indeed, we found that this widely shared logic dif-

ferred as a function of the target's sex: The participants perceived attractive men as running a higher risk of infarct and attractive women as running a higher risk of contracting a sexually transmitted disease. These results provide an important illustration of how our shared sociosymbolic relational matrices govern and are activated by gendered social relationships in a sexual context. Accordingly, the wider cultural expectations discussed in this paper are contextualized by other social logics involving, in our case, gender-related ideologies.

Study 2 illustrated that the availability of information to others about a target's future orientation can trigger others' judgments about his/her health-related behavior. We found that participants perceived targets with a high level of future orientation as having healthier behavior than targets with a low level of future orientation. There was also a normative influence on this relationship in that the effect of the target's future orientation on the participants' perceptions of the target's health-related behavior was partially mediated by the participants' perceptions of the target's social utility. Considering the importance of social utility in the reproduction of a given societal structure (Beauvois, 2003), this once again illustrates how meaning making surrounding health statuses is elaborated in correspondence to what is socially adapted, and thus fits the so-called "technologies of the self" by which individuals constitute themselves within and through systems and strategies of power (Foucault, 1979).

In these two independent studies, we used different methodologies (the first study using a quasiexperimental mixed design with analysis of categorical output variables and the second using a quasiexperimental between-subjects design with analysis of only quantitative variables) and different contexts (attractiveness and future orientation). In future studies, the way in which information that is valued within the framework of our dominant ideology influences healthcare and evaluation should be analyzed more systematically. In addition, the consequences of reproducing these ideologies should be investigated.

The perspective adopted in this paper also offers a new approach to the study of social normative influences on health-related behavior (Mollen, Ruiter, & Kok, 2010). The analysis of how cultural ideologies activate the valorization of specific health-related habits and behavior requires us to take more into account than individual-level variables (weight, height, appearance, ethnicity, etc.): We need to consider a broader societal level so that the valuation or devaluation of certain characteristics can inform us about a dominant set of values and norms. This perspective allows us to take into consideration, as suggested early on by Stoetzel (1960), that because of the ontological nature of health and illness as psychosocial states they may be so intertwined with the general worldview of a given society that they end up being indistinguishable from them.

In a more applied perspective, especially preventive healthcare messages could take advantage of such an analysis. Preventive healthcare messages are not only informative

about healthcare. They also convey normative information about what one should do and how one should act. During this communicative process, normative dimensions can have a great impact on the reception of preventive healthcare messages by different audiences. Normative concerns can help us to understand, for instance, the risk-denial strategies used by certain groups who engage in risky behavior (Apostolidis et al., 2006). Therefore, preventive healthcare and health-promoting institutions should take these findings into account to examine their own interventions from a new perspective, that is, by taking the normative aspects of their proposals into account. This would allow them to improve the efficiency of healthcare campaigns that are targeted for specific populations by avoiding interventions with highly normative contents and developing more interventions that are only focused on objectified states of health.

In conclusion, the present findings show the relevance of a socioconstructivist approach to the deep social embeddedness of states of and assessments of health. Thus, the state of health of others is a social construction drawn from a system of socially regulated knowledge that is intertwined with social functioning. With this paper, we aimed to contribute to the extensive critical reflection on health as an institution (Massé, 2001). More precisely, we aimed to provide findings that stimulate the readers' reflection on normative aspects of health issues in everyday life. Whether one is perceived as more or less healthy can also be related to whether one conforms to or deviates from social norms and is, thus, related to the social order.

This type of study constitutes a way of understanding how people come to regulate or anticipate their health conditions as a function of dominant social norms (Blood, 2005) and how people help to validate and maintain social norms. The concept of normalization (Foucault, 1977) is a useful heuristic for understanding processes that are occurring. The concept of normalization helps us to understand how individuals measure, judge, discipline, and correct their behavior and ways of coping with or anticipating their health conditions. This "inspecting gaze" (Foucault, 1977) is observed through social norms that legitimize self-examination, self-discipline, and – as pointed out above – the evaluation of others.

Thus, as a social construct, health appears to be profoundly affected by the normative concerns contained in lifestyles (appearance, attitudes, and values) reproduced among society by individuals and groups (Murray, Pullman, & Rodgers, 2003). This underscores the importance of a deeper understanding of the cultural, normative, and ideological roots of health-related beliefs and judgments, which seem to have little to do with health issues per se. These concerns include, but are not restricted to, being attractive or future-oriented, which puts coercive and normative pressure on individuals to constitute themselves within and through systems and strategies of power in the specific sociohistorical context of our time.

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