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Gender and Health-related Attitudes: The Role of a "Macho" Self-concept

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Abstract. This article discusses two studies examining the relationship of a "macho" self-concept and health-relevant variables. A macho self-concept was operationalized through its similarity to a "Marlboro man" prototype, which had been assessed in a prior study. The first study was conducted with medical students and physicians and assessed their motivation to participate in a stress management course in relation to their self-concept. The second study tested the hypothesis that a macho self-concept influences self-ratings of health and physical symptoms among East and West German university students. Results from both studies support the hypothesis that a macho self-concept is strongly related to variables associated with ill health. This association was more pronounced among men than among women.

Keywords: gender roles, health attitudes, health behavior, physical symptoms, self-concept

1. Introduction

Behavioral factors, especially the higher prevalence of negative health behavior in men, are seen as fundamental causes in the etiology of gender differences in health and illness [1,2]. In general, men tend to engage in more health-risk behaviors than women, such as smoking, using guns, heavy drinking, using illicit drugs, and reckless driving [3,4,5,6]. Complementing this tendency, fewer men than women engage in positive or preventive health behaviors (with the exception of men's greater physical activity). Women show healthier behaviors than men do across a wide range of activities, such as fruit consumption, regular blood pressure check-ups, and health care utilization [2,7].

Gender roles appear to be very closely related to gender differences in health-related behavior. In her cultural and historical review of gender- and health-related behavior, Waldron concluded that "gender differences in specific types of health-related behavior are strongly influenced by the compatibility of the behavior with general sex roles and expectations concerning appropriate male and female behavior" [3, p. 204, see also Waldron in this volume].

The question is **how** gender roles influence the health-related behavior of a person, because identification with societal gender roles varies considerably among individuals of the same sex. In this article the gender role self-concept is proposed as the main psychological mediating variable. The gender role self-concept can be defined as a person's identification with personal attributes that are seen as appropriate for a typical man or woman in a given society. This gender role self-concept is often operationalized by self-description scales, such as the Personal Attributes Questionnaire [8] or the Bem Sex Role Inventory [9]. The similarity of the self-concept with a special societal male or female prototype is introduced in this article as an alternative and promising way of operationalization.

To explain the altogether more negative health behavior of men, identification with a traditionally male "macho" stereotype, characterized by strength, independence, and willingness to take risks, is assumed to be particularly relevant. Just as fast and hazardous driving or high alcohol consumption is seen as "manly" [10], preventive behavior such as the use of professional help might well be seen as "unmanly." Similarly, it could be seen as "unmanly" to suffer from physical symptoms. In this chapter, two studies are presented that investigate the role of a "macho" self-concept on (a) the motivation to engage in a specific type of preventive behavior, and on (b) self-rated physical symptoms.

2. Study 1: Gender differences in preventive health behavior: Is it "unmanly" to participate in stress management training?

Preventive health behavior displays substantial gender differences. There are, for example, significant differences in how men and women use medical examinations for the prevention and early detection of illness. As shown in the Health Report for Germany, in 1995 48 % (West: 49 %, East: 43 %) of all women in Germany, but only 14 % of all men in Germany (West: 15 %, East 10 %) who were entitled to a free preventive examination for early cancer detection actually took advantage of it. Between 1985 and 1995 the percentage of women who participated in the free cancer exam climbed steadily, while the percentage of men who participated showed only a slight increase [11].

The situation with measures for health consultation and health promotion is quite similar. As mandated by new social welfare legislation, in the late 1980s and early 1990s German health insurance providers offered a broad palette of measures to promote good health, especially in the areas of nutrition, movement, non-smoker training, relaxation, and stress management. In 1992, such courses attracted 160,000 individuals insured by one provider (Barmer Ersatzkasse); only a minority, however, were men. The share of women averaged 86 %. The share of men varied from 6 % in nutrition courses to 15 % in courses on movement training and 16 % in stress management training, and peaked at 35 % in non-smoker training [12]. Analyses of participation quotas for other insurance providers in various German cities yield similar results [13].

In order to assess the significance of a macho self-concept for preventive behavior, I selected the example of individual motivation to participate in stress management training [14]. Stress influences the etiology and maintenance of illness in various ways, such as through alterations in health-related behavior or increased physiological reactivity [15]. Stress management training is concerned with analyzing the sources of stress, replacing ineffective coping strategies with more effective ones, and learning how to regulate stress-related psycho-physiological agitation, for example, through relaxation exercises.

It is necessary here for the individual to admit that he or she needs help, and be willing to talk about emotions and problems. The classic male stereotype is irreconcilable with such behavior. Most societies define independence, achievement, power, and strength as masculine qualities [16,17]. I thus assumed that a man with a traditionally masculine self-concept (what one could also call a "macho" man) would be less motivated to participate in a stress management course than an average man (or even men called "softies" in Germany). The "Marlboro man," a familiar figure from movie-theater commercials (twenty minutes of commercials before a movie is common in Germany) and billboards, offers a visible and concrete embodiment of the traditional image of masculinity.

2.1 Method

2.1.1 Procedure

In a previous study, the prototype of the "Marlboro man" was determined from a sample of male and female participants (N = 68, mean age: M = 28 years, SD = 8) by means of a semantic differential (see reference 14 for more details). As expected, the "Marlboro man" prototype received high scores for typically masculine traits such as independent, secure, not anxious, self-sufficient, strong, and manly (see Figure 1).

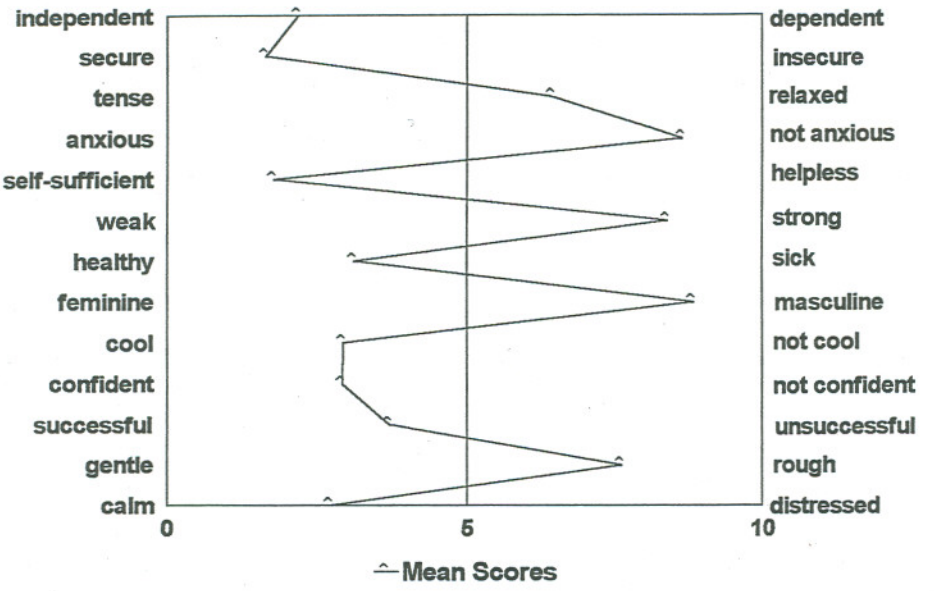

Figure 1. The "Marlboro man" prototype: Results of the pre-study

In the main study (N = 161), physicians at a university hospital (male and female, age: M = 37 years, SD = 7) and medical students (age: M = 23 years, SD = 4) were asked to complete a questionnaire on "stress and stress management." They were asked about their usual workweek (in hours) and subjective stress frequency (in the last year) on an 11-level scale ranging from 0 ("almost never") to 10 ("almost always"). Each individual was also asked to rate his or her motivation to participate in a stress management course by means of an 11-level scale ranging from 0 ("no, by no means") to 10 ("yes, by all means"). Their self-concept was assessed by means of the same semantic differential used in the previous study. The similarity (or dissimilarity) between self-concept and the "Marlboro man" prototype was determined on the basis of the Cronbach and Gleser procedure [18] for comparing profiles:

Discrepancy between self-concept (SC) and Marlboro man prototype (MM):

$$D^2(SC–MM) = \Sigma(x_{iMM} - x_{iSC})^2.$$

Here the mean scores from the pre-study (x_{iMM}) were used to calculate the difference between self-concept and "Marlboro man." The discrepancy score was calculated across all pairs of traits with the exception of the pair "masculine – feminine." The inclusion of these traits would have artificially enlarged the gender variation in the differential scores. The larger the discrepancy score $D^2(SC–MM)$, the larger the discrepancy is between self-concept and the "Marlboro man" prototype. The smaller the discrepancy score, the greater the similarity is between self-concept and the "Marlboro man" prototype. The similarity between self-concept and the "Marlboro man" stereotype

(as defined in the pre-study) served to operationalize a "macho" self-concept. (For a detailed description of the study see reference 14).

2.2 Results

The general evaluation modus for the mean-score comparison of the four groups under investigation was two-factorial variance analyses with the factors sex and professional status (medical students versus physicians). Overall, the participants felt that they had frequently been under stress in the last year ($M = 6.4$, $SD = 2.4$). As expected, professional status was significant in both analyses. Physicians reported a higher number of hours worked per week than did students, $M = 56.5$, $SD = 9.1$ for physicians versus $M = 33.0$, $SD = 13.0$ for students, $F(1,149) = 165.6$, $p < .001$. Physicians experienced stress more often, $M = 6.9$, $SD = 2.3$ versus $M = 5.9$, $SD = 2.4$ for students, $F(1,155) = 5.4$, $p < .05$.

Sex was not significant for either the number of hours worked per week or for subjective stress frequency. In motivation for participating in stress management, however, sex turned out to be a significant main effect. Men were clearly less motivated than women to participate in such a course (men: $M = 3.9$, $SD = 3.2$; women: $M = 5.4$, $SD = 3.2$; $F(1,157) = 9.21$, $p < .01$). Sex was also a significant main effect in the discrepancy score D^2(SC–MM); the discrepancy scores were significantly smaller for men ($M = 83.2$ $SD = 51.7$) than for women ($M = 99.4$, $SD = 57.4$), $F(1,155) = 4.2$, $p < .05$. In other words, in describing their self-concept, men came closer to the "Marlboro man" than did women.

To check the hypothesis that a self-concept similar to the MM prototype was a significant predictor of motivation to participate in a stress management course, we used a hierarchical multiple regression analysis to learn if the effects of the variables positively correlated with motivation to attend the course. The sociodemographic variables sex and professional status were entered in step 1, and subjective stress frequency in step 2. The discrepancy between self-concept and the "Marlboro man" prototype was entered in step 3. In the final step, the two-fold interactions (sex or professional status) were entered with the discrepancy variable from step 3. The results of this regression analysis are presented in Table 1.

Table 1. Hierarchical regression predicting motivation to participate in stress management training

Step	Variables	R^2	Beta	t
1.	*Sociodemographic variables*	.05		
	Sex[a]		.17	2.2*
	Professional status			< 1
2.	Subj. stress frequency	.10	.16	2.1*
3.	D^2(SC–MM)	.14	.18	2.3*
4.	*Interactions*	.17		
	Sex × D^2(SC–MM)		–.15	–2.0*
	Status × D^2(SC–MM)			–1.8

Note. * $p < .05$; [a]codification of sex: 1 = male, 2 = female; for regression, beta and t are at final step. R^2 reflects increment in R^2 at time of entry.

The two sociodemographic variables were able to explain only 5 % of the overall variance in motivation to participate in a stress management course. The variable of sex was the significant predictor. By including the variable of stress frequency, R^2 increased to .10. Another significant predictor for explaining the variance was the discrepancy between self-concept and the "Marlboro man" prototype. The greater this discrepancy – in other words, the less the subject's self-concept resembled the MM prototype – the greater the motivation to participate in stress management training. By including the interactions in step 4, the explained variance could be increased further (to $R^2 = .17$). The interaction between sex and the discrepancy between self-concept and the "Marlboro man" prototype was significant; the meaning of this interaction is illustrated in Figure 2.

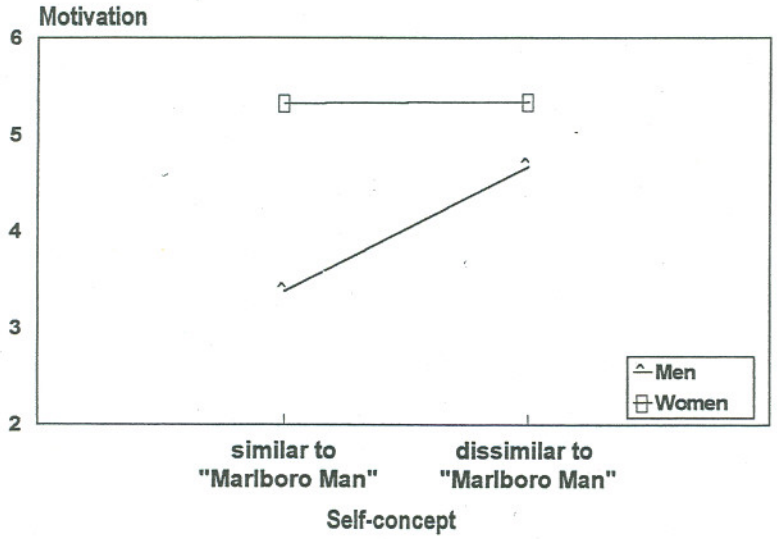

Figure 2. Motivation to participate in stress management training as a function of the interaction between sex and similarity of self-concept to the "Marlboro man" prototype; possible answers from 0 ("no, by no means") to 10 ("yes, by all means")

The sample was divided into two groups (MED = 78) by means of median dichotomization of the variable discrepancy between self-concept and the MM prototype, D^2(SC–MM). The motivation to take a stress management course was dependent only for men on the similarity between self-concept and the MM prototype. Those men whose self-concept resembled the "Marlboro man" (= below average discrepancy scores) expressed a clearly lower motivation than did men whose self-concept was not similar to MM (= above average discrepancy scores). For women, in contrast, we find that the discrepancy between self-concept and MM did not affect their motivation to take stress management training; motivation was high in both groups (see Figure 2). Separate regression analyses for each sex confirm this result: the discrepancy between self-concept and the MM prototype was a significant predictor of motivation for men only (men: beta = .31, $p < .01$; women: beta = .09, $p = .47$).

Results confirm that the motivation to sign up for a course on stress management is influenced by a person's perceived similarity to the "Marlboro man" prototype, but this result holds true for male participants only.

3. Study 2: Gender differences in self-ratings of health and physical symptoms: "Marlboro men" do not report suffering from physical symptoms

Self-ratings of health and physical symptoms are essential factors for assessing health-relevant behavior, such as giving up risk behaviors (quitting smoking) or initiating preventive behaviors (using professional help). In terms of the gender-specific comparison of subjective health, most studies – regardless of where they are conducted – find that men more frequently rate their health as "very good," while women judge their health to be "not so good" or "bad." Over the last several years, however, these gendered differences appear to have become far less pronounced. The majority of men and women are either satisfied with their health, or characterize it as good or very good. Depending on the study, this number lies between 75 and 90 % [19].

The contrast in reports about physical symptoms is clearer than the gendered difference in self-ratings of health [20]. One finds a larger number of symptoms among women, regardless of how these are measured. One recent comprehensive review [21] summarized evidence for women's higher rates of physical symptoms from three different research bodies: health surveys, studies on symptom reporting, and registration of health complaints by physicians.

Along with this gender difference, a series of health surveys in Germany revealed an East-West difference in physical symptoms. After the Wall came down in November, 1989, a series of surveys were conducted to analyze the German health situation by comparing the responses of East and West residents. Investigations conducted during the years immediately following 1989 revealed a distinctive pattern in health self-ratings. This pattern is no longer found in recent studies; see, for example, [22]. Not only did East German men assess their health as better overall in comparison to women in East and West Germany, they also believed it was better than the health of West German men. East German men also reported far fewer physical symptoms and complaints than did West German men.

The studies conducted by the Robert Koch Institute in the early 1990s used representative samples of East and West Germans to examine subjective health restrictions through 24 different physical and general symptoms based on the "symptom list" [23] commonly used in Germany. The sum score reveals the extent to which an individual feels restricted by physical and general symptoms. It can range from 0 to 72 points, whereby 0 means that an individual "does not suffer at all" from any of the 24 symptoms listed and 72 means that an individual "suffers severely" from all symptoms.

The Robert Koch studies showed that subjective health restriction was related to three factors: sex, age, and origin (East or West Germany). The frequency of symptoms was higher among women, older adults, and West Germans (see Figure 3). The comparison of East and West German men is particularly informative. Whereas the pattern of symptoms among West German men across all age groups resembled that of women in the sample (albeit at a somewhat lower level), the symptom curve among East German men fell clearly below all other groups. Differences between East and West German men in the 30- to 40-year-old group were particularly pronounced. Here the studies found parallels to other East-West comparative surveys [24,25], which also showed that East German men gave a more positive overall assessment of their health than did West German men.

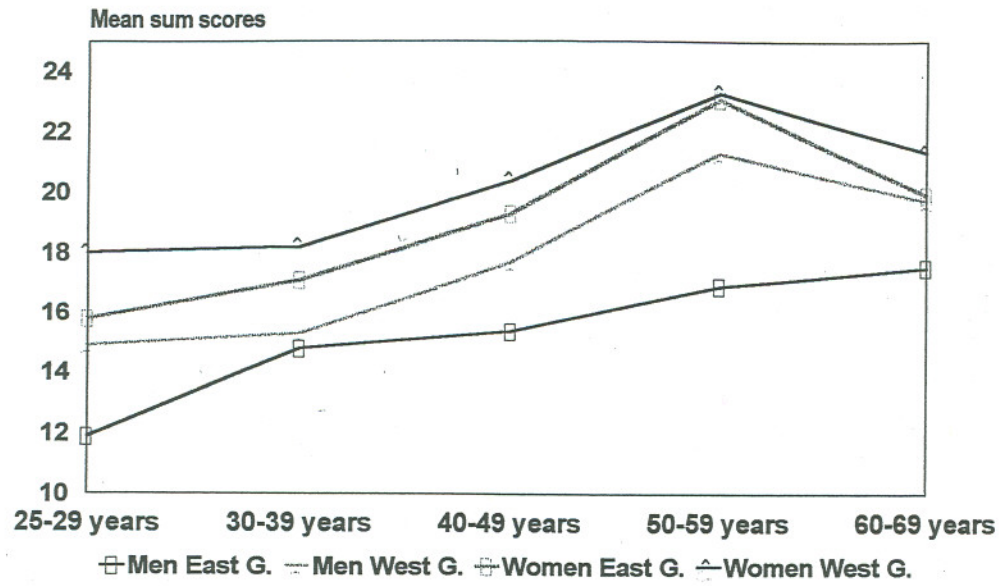

Figure 3. Self-reports of physical and general symptoms according to age, origin, and sex; mean sum scores in the Symptom Checklist (Zerssen, 1976); $N_1 = 8.000$ (West Germany), $N_2 = 4.000$ (East Germany); Source: Robert Koch-Institut: The Health of the Germans (Hoffmeister & Bellach, 1995)

Such findings cannot be explained by either medical or social factors. For example, the thesis of the Lueschen research group – that West German men would enjoy better health because of their social and professional situation – was not confirmed. "The latter result for men is a surprise given the economic and social experiences of East Germans," (24, p. 1319). If only social factors are considered, this result is difficult to explain. West German men had higher incomes, were an average of two years younger than East German men, and exercised more, all factors generally associated with better health. As the authors concluded, "To explain the health situation of the West German men remains, however, difficult and puzzling. ... Thus, there have to be other factors not accounted for in this analysis." (24, p. 1321). A more psychological explanation would be that men in general see the admission of physical complaints as "unmanly" and that East German men were (or possibly still are?) more strongly bound to a traditionally masculine image as compared with West German men.

The significance of gendered self-concepts for the self-assessment of psychological health has been repeatedly studied and demonstrated. Most studies show that the masculine (or instrumental) component of self-concept is the decisive predictor, whereas the feminine (or expressive) component contributes little to explaining variance [26,27]. However, very few studies have investigated the self-rating of physical health and physical symptoms in relation to gender-role expectations contained in self-concept. My hypothesis is that persons whose self-concept resembles the "Marlboro man" prototype give a more positive self-assessment of their health and report fewer physical symptoms in comparison to persons whose self-concept does not resemble the "Marlboro man." Here I also assume (on the basis of results from the first "Marlboro man" study described in this article) that the similarity of self-concept to the MM prototype plays a larger role for men than it does for women. We also tested the assumption that men who grew up in East Germany have a stronger "Marlboro man" self-image than do men who grew up in West Germany.

3.1 Method

3.1.1 Samples

The sample consisted of 471 German students. Some had grown up in East Germany until they entered university (101 men and 121 women), and others had grown up in West Germany (118 men and 130 women). The participants were studying at various universities in Berlin, Leipzig, and Potsdam. They were between 18 and 34 years old, with an average age of M = 23 years (SD = 3).

3.1.2 Variables

Self-concept was measured with the semantic differential from the Marlboro 1 study. The determination of similarity between self-concept and the MM prototype was likewise measured on the basis of the discrepancy score D^2 (SC–MM).

Participants were asked to rate their overall health on a five-level scale ranging from 0 ("very poor") to 4 ("very good"). The Zersson symptom checklist (23) was used to determine both general and physical symptoms. This list contains 24 symptoms. Participants are asked to rank how much they suffer from a particular symptom ("severely," "somewhat," "very little," or "not at all").

3.2 Results

First, sex and country of origin (East or West Germany) were checked for significant main effects on the variables by means of 2 × 2 ANOVAs. There were no significant effects on self-rated health. In all four groups, the mean scores were relatively high (M = 3.1, SD = .7), as would be expected in a sample of young students. The symptom scores showed a significant main effect for sex: $F(1,468) = 11.7$, $p < .01$. As shown in numerous studies, women participants in this study reported a higher level of symptoms (women: M = 18.6, SD = 9.6; men: M = 15.7, SD = 9.3). In the 2 × 2 ANOVA with sex and origin as between-subject factors and the discrepancy score D^2 (SC–MM) as the dependent variable, a significant main effect of sex emerged (women: M = 91.3, SD = 66.4; men: M = 78.4, SD = 51.1); $F(1,467) = 5.84$, $p < .05$. Men described themselves as more similar to the "Marlboro man" than women did.

Next, the scores of the two male groups were compared by t-tests. The mean scores for health and physical symptoms did not differ significantly (t's < 1). In contrast, the mean discrepancy scores between self-concept and the "Marlboro man" prototype did differ significantly: $t(217) = 1.98$, $p < .05$. The average discrepancies are significantly lower among East German men (M = 71.1, SD = 44.3) than among West German men (M = 84.7, SD = 55.8). This finding confirms the thesis that the self-concept of East German men bears a stronger resemblance to the "Marlboro man" prototype than does the self-concept of West German men.

The extent to which the similarity of self-concept to the MM prototype contributes to the variance in self-rated health and physical symptoms was analyzed by multiple hierarchical regression analyses. The sociodemographic variables sex, age, and origin were entered in step 1 (forced entry); the discrepancy scores were entered in step 2. In step 3, interactions of the discrepancy scores with the sociodemographic variables were evaluated.

In both self-ratings, the discrepancy score turned out to be the most important predictor studied. Here only a small share of the overall variance could be explained with the variable "self-rated health" ($R^2 = .06$), which is certainly linked to the fact that the overall variance in responses to this single item variable was very low. The sole significant

predictor of self-rated health was the discrepancy between self-concept and the MM prototype (Beta = –.22, t = – 4.8, p .001). The greater the similarity was between self-concept and MM prototype, the higher the rating was of one's own health.

In contrast, a clearly higher share of variance (R^2 = .18) could be explained in the responses to general and physical symptoms (see Table 2).

Table 2. Hierarchical regression predicting symptom scores

Step	Variables	R^2	Beta	t
1.	*Sociodemographic variables*	.03		
	Sex[a]			1.6
	Age			–1.5
	Origin[b]			–1.3
2.	D^2(SC–MM)	.16	.44	8.6***
3.	*Interactions*	.18		
	Sex × D^2(SC–MM)		–.12	–2.4*
	Age × D^2(SC–MM)		–.09	–2.0*
	Origin × D^2(SC–MM)			< 1
	Sex × Origin × D^2(SC–MM)			< 1
	Sex × Age × D^2(SC–MM)			< 1

Note. * p < .05; ** p < .01, *** p < .001; [a]codification of sex: 1 = male, 2 = female, [b]codification of origin: 1 = West Germany, 2 = East Germany; for regression, beta and t are at final step. R^2 reflects increment in R^2 at time of entry.

In step 1, sex was a significant predictor of symptom scores. However, sex, together with the other sociodemographic variables, could explain only a very small share of variance (3 %). By incorporating the discrepancy score (discrepancy between self-concept and the "Marlboro man" prototype) in step 2, it was possible to increase the share of the explained variance by 13 % to a total of 16 %. The greater this discrepancy, the more symptoms were reported.

Step 3 of the analysis showed a significant interaction between sex and the discrepancy score. As in the Marlboro 1 study, here, too, the discrepancy (or similarity) between self-concept and the MM prototype was more relevant for predicting the scores of male participants. A median dichotomization of the variable D^2(SC–MM) (MED = 68) was used to divide the sample into two groups: persons with a below-average discrepancy (their self-concept was similar to the MM prototype) and persons with a higher than average discrepancy (their self-concept was not similar to the MM prototype).

Table 3 illustrates the percentages of participants in these two groups. As expected, most people in the MM dissimilar group were females from East and West Germany. West German male students were divided evenly into both groups. In addition, more than half of the East German students resembled the "Marlboro man" prototype.

Table 3. Percentage of persons similar and dissimilar to "Marlboro man" in the four subgroups: results of median dichotomization

	MM similar	MM dissimilar
Men East Germany (n = 101)	61 %	39 %
Men West Germany (n = 118)	50 %	50 %
Women East Germany (n = 121)	43 %	57 %
Women West Germany (n = 130)	48 %	52 %

Figure 4 illustrates the mean symptom scores in relation to sex and similarity to MM prototype. One sees that across all groups, MM-similar persons reported fewer symptoms than did MM-dissimilar persons. This effect was, however, clearly more pronounced among male students.

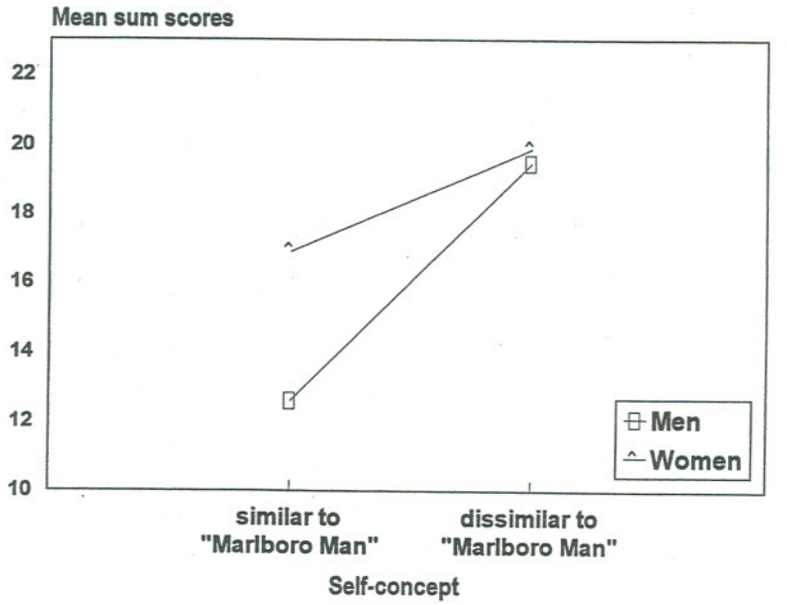

Figure 4. Self-reports of physical symptoms in relation to sex and self-concept to the "Marlboro man" prototype; mean sum scores in the Symptom Checklist (Zerssen, 1976)

4. Discussion

Both studies corroborate the utility of a "macho" self-concept in explaining gender differences in health-relevant attitudes. Expressing a self-concept similar to the Marlboro man prototype was shown to be a powerful psychological predictor. The finding that men engage in fewer healthy behaviors and more unhealthy behaviors than women does seem to be at least partly caused by the fact that some behaviors defined as "healthy" are not compatible with the traditional male role. This traditional role expects men to be strong,

independent, self-reliant, and risk-taking and to avoid any "sissy stuff" [28] such as complaining about symptoms or using professional help.

These role expectations do not homogeneously influence the attitudes of men. Role expectations are mediated by identification with a traditional male stereotype in a man's self-concept. The results of the first study clearly support the thesis that using professional help to manage stress is irreconcilable with a macho self-concept. A similar self-concept to the Marlboro man prototype was a more powerful predictor to explain the lack of motivation to engage in stress management training in comparison to other predictors such as professional status, sex, or subjective stress frequency. Further study is needed on the extent to which similar effects can be found for other preventive behavior patterns, such as using medical examinations for early cancer detection.

The results of the second study support the hypothesis that self-concept influences the self-rating of health and physical symptoms. This is particularly true for predicting physical symptoms when a similar self-concept to the MM prototype could explain a significant share of overall variance. Those persons whose self-concept was similar to the Marlboro man reported markedly fewer symptoms than persons whose self-concept showed a greater discrepancy to the MM self-concept. Just as participating in stress management training is seen as "unmanly," the admission of physical symptoms is not, apparently, reconcilable with a "macho-like" self-concept. When this psychological variable is considered, the (biological) variable sex ceases to be a significant predictor of physical symptoms, as shown in the hierarchic regression analysis. It seems likely that the gendered difference found in self-reports of physical symptoms could be traced largely to corresponding differences in self-concept.

On the basis of this study, it is not possible to make statements about the extent of "actual" symptoms reported by the various participants. Physical symptoms are not a direct reflection of somatic pathology; rather, bodily cues, as well as situational and psychological factors, influence self-reports of physical symptoms (20). At the same time, the results of this study show how important it is to consider psychological variables when interpreting self-assessments of health. Although the sample consists of a fairly homogenous group of young, well-educated persons, one can – particularly among men – identify two subgroups, each with clear differences in their self-reported symptoms and each distinguished by a relatively easily measured self-concept variable. Are these two groups of men equivalent to what Germans call the "Harten" and "Zarten," or "machos" and "softies?" (Interestingly, "softie" is a more affectionate and less pejorative term than "wimp" and probably corresponds to the "sensitive" type.) Physical symptoms are important determinants of illness behavior [20,29,30], so one could assume that the health and illness behaviors of "Marlboro men" and "softies" would differ. The health-related behavior of the latter group may bear more resemblance to what women do than to what "Marlboro men" do. However, this is a hypothesis for further studies.

This study found differences between East and West Germans. Male students who grew up in East Germany were more similar in their self-concept to the "Marlboro man" than were men socialized in West Germany. Perhaps this finding can explain why several broad surveys conducted after German unification found – contrary to what sociological theories predicted – that East German men gave better self-ratings of health and reported far fewer physical symptoms.

A possible explanation for the greater similarity of East German men to the "Marlboro man" stereotype is the different approaches to gender issues in West and East Germany. Gender issues, including traditional gender roles, have been hotly debated in West German society since the 1960s, led by the student protest and women's movements. Such discussions were less common in the former GDR (East Germany). There the equality of women in the working world – at least in lower and intermediate positions –

had been realized to a far greater extent than in West Germany. The GDR promoted the legally guaranteed equality of men and women, but it did not encourage (and sometimes prohibited) the kind of wide-ranging scholarship on women and feminist literature found in the West. In West Germany, massive questioning of the traditional "macho" role, encouraged largely by women and spanning both the public and private spheres, seems to have had an impact. Even though West German men continue to admire traditional masculine movie idols like Arnold Schwarzenegger and Sylvester Stallone, many men have apparently emancipated their own self-image from such outdated male clichés. However, it is possible that more West German men responded in the study according to social expectations and thus presented themselves as less "macho" than they might actually be.

But how are the results of this study relevant to health and preventive behavior? What does it mean when "Marlboro men" are satisfied with their health and report few symptoms? Earlier studies attributed gender differences in self-reports on health and physical symptoms to the idea that it was more socially acceptable for women to complain. Today the assumption might be that women have a relatively more realistic view of their own overall health while men, or at least some men, overestimate their health.

There is disagreement over the extent to which positive illusions might be good for health, but most of this discussion focused on **psychological** and not **physical** health [31]. Others have offered convincing arguments and empirical evidence that an illusionary psychological health, particularly if it is built on the defensive denial of stress, can have physiological costs, which present a risk factor for physical health [32]. An unrealistically positive view of one's own physical health and ignoring or not admitting physical symptoms could pose a health risk. People who will not admit or accept restrictions on their *health* might assume too many professional or other burdens, and not make choices to maintain or recover their health, such as taking breaks at work, going on vacation, or accessing professional help [33,34]. It is likely that an unrealistically positive view of one's health also relates to risk behavior. I would surmise that "Marlboro men" tend to consume higher amounts of alcohol and nicotine, and are more likely to be reckless drivers than the "softies" or "wimps" who are often ridiculed.

The "Marlboro man" hypothesis might also help explain the health situation of men in Eastern Europe. It again seems likely that, compared to Western Europe or the United States, there has been less questioning of traditional macho clichés until now. The "Marlboro man" in Eastern Europe probably copes differently with the enormous burdens resulting from profound social upheavals than Eastern European women and "softie" men, both in terms of risk behaviors (smoking, alcohol consumption, and reckless driving), and in terms of preventive health behaviors (such as using professional help). In the United States and, to a lesser extent, in parts of Western Europe, a relatively new body of research on male health is investigating the negative effects of the masculine role on health [17,35,36]. Perhaps for Eastern Europe as well, questioning the traditional "macho" role is a necessary prerequisite for improving men's health.

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