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The title is not an incantation. It would be more reasonable to see it as a hope. It would, of course, be amazing if culture had a positive effect on our health. Perhaps the title is just wishful thinking. It could even be seen as establishing an error. Perhaps it should instead read that culture does not promote health. The former Minister of Culture, Bengt Göransson, used to hold a lecture with a similarly provocative title, "Culture Doesn't Make You Feel Well". He was not always convinced that culture had a therapeutic impact on health (Göransson 2008). But this hypothesis persists in research on health, and some supporting evidence exists. Professor of medicine, Töres Theorell, who is a leader in the field, thus explains the problem:

> *"In conclusion, cultural activities have great potential when it comes to the task of promoting health. But it is difficult to scientifically capture which particular mechanisms are at work. However, the work has begun. In my view, it is important research because expanding our knowledge can teach us which kinds of cultural activities actually promote health, and for which people, and under which circumstances they may work to positively or negatively impact health" (Theorell 2008: 136).*

Töres Theorell's research was one of the sources of inspiration when we decided to test the hypothesis in a large-scale social science study. Public health is one area where medicine and social science intersect (National Institute of Public Health, 2012). If we define health as public health, a social science perspective becomes highly relevant. In light of the fact that the SOM surveys have been in place for many years, and contain a large amount of data which applies to both cultural exposure /cultural practice, while also including information on various indicators related to health, we have developed a research project aimed at studying the relationship between culture and health in the Swedish public.[ii]

In addition to highlighting the role that culture plays in health, one of the ideas behind the project is to introduce people's personality traits as an interaction variable between cultural practice/exposure and degree of health. Therefore, we have systematically measured SOM participants' personalities according to psychologists' five-factor model ("The Big Five") in SOM surveys from 2009-2011 (Holmberg and Weibull 2010; see also Holmberg, Weibull and Gunnarson 2011).

Early Mapping

The first task of the study is to empirically chart possible relationships between people's different exposure to or practice of culture and their degree of health. As far as we know, no such major systematic mapping has been previously done in Sweden, or, for that matter, elsewhere internationally. We distinguish between culture as a practice, for example singing in a choir, writing poetry or drawing or painting, and culture as consumption, for example going to the theatre, attending a concert or reading a book. For years, the SOM Institute has asked questions in their surveys about both types of cultural experiences (e.g. Höglund and Wahlström, 2007; Nilsson and Weibull, 2010).

Because of these two perspectives on culture, the hypothesis will be tested in two ways. (I): Cultural practice or cultural exposure has a positive correlation with the degree of health. (II): Cultural practice has a stronger positive correlation with the degree of health than mere cultural exposure. Note that the hypotheses only apply to statistical relationships. Causal mechanisms and whether the impact stems primarily from culture to health or from health to culture are not specified. Only once we have determined whether the relationships exist on a single bivariate level would it be interesting or worth

the effort to go further and investigate more complicated patterns. Certain minor multivariate tests will be performed, but these will not be the main focus of the study. The purpose here is primarily to implement an initial, simple *benchmark*.

Health, the dependent variable in the analysis, can be defined in many different ways. But a broad definition has become the accepted standard. Health is something beyond simply not being sick. The World Health Organization (WHO) had already concluded in 1946 that: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." The definition of health also covered subjectively experienced conditions. As Karin Johanisson points out, health came to be defined culturally, as something of worth (Johanisson 2008: 18).

In its surveys, the SOM Institute has asked questions about both subjective health, as well as about recurring problems in different areas (see the introductory chapter in this volume). In our analysis, we have operationalized the degree of health in two ways. First, using a question in which the respondents have been asked to report recurrent health concerns from nine different areas, of which we will study seven - headache/dizziness, joint/muscle pain, cardiovascular disease, stomach discomfort, sleep disorders, anxiety/depression, and impaired physical mobility.[iii] The respondents can indicate the extent to which they suffer from the aforementioned issues using a five-point scale which ranges from never to daily. Our second health indicator is a subjective measure which asks the respondents to state their general state of health on an eleven-point scale which ranges from 0 (very bad) to 10 (very good).[iv]

Our independent cultural variable consists of ten measurements of the degree to which respondents exposed themselves to different traditionally defined cultural experiences (going to the movies, theatre, ballet, musicals, classical concerts, rock concerts, museums, art exhibits, as well as visiting the library or reading literature), and measures the extent to which the respondents participated in the following eight cultural activities – singing in a choir, dancing, playing a musical instrument, drawing/painting, keeping a diary/writing poetry, photography/film, theatre/performing, or engaging in handicrafts/crafts. The answers could be provided on a seven-point scale which ranged from never to several times a week.

Almost No Relationship

The results in Tables 1 and 2 show the statistical relationships (Pearson's correlation coefficients (s)) between the eight health variables and our eighteen cultural variables. According to the hypotheses, the correlation coefficients should be negative (-) for the connection between the seven health concerns and the different cultural experiences- a lot of culture should go hand in hand with fewer health problems. Correlations which are statistically significant on the .01 level have been highlighted in bold.[v]

If one had expected to see strong and clear relationships, then the results are rather disappointing. Some relationships exist, but they are far from strong or particularly clear. The average correlation between the seven perceived health concerns and our ten cultural activities that measure the degree of exposure is -.02. The negative correlation lines up with our hypothesis - the more cultural activity the fewer health concerns, but the strength of the relationship is, of course, discouraging. The conclusion has to be that generally and on average, when taking into account exposure to a broad range of traditional cultural experiences, no connection can be found between cultural activity and health. However, a number of individual relationships show a high correlation (between -.07 to -.18) which is statistically significant at the .01 level. This applies to eighteen of the seventy correlations.

When we test whether these relationships hold for different obvious controls, such as whether they hold after we have taken into account the gender, age and educational level of respondents, it appears that in most cases, they do not remain statistically significant.[vi] Controlling for age, level of education and

gender is, of course, obligatory if you want to go beyond simple bivariate relationships. A lot of cultural activity and good health is clearly linked to gender and age. Women and the highly educated are more engaged in cultural activities than men in most of the areas, and older people have more health concerns than younger people (see introductory chapter, Table 5). This is to say that our conclusion still holds, even after controlling for sex, level of education and age. Hypothesis 1 does not apply - at least not for the connection between exposure to cultural activities and perceived health concerns.

The conclusion does not change even when we look at the connections between *cultural activity* and health concerns. Here, the relationships tend to be even weaker than for exposure and might even be in the opposite direction. The average correlation between the seven perceived health concerns and the eight different cultural activities is only +.02; in other words, no relationship at all. The fifteen significant correlations out of a total of fifty-six found in the results are reduced, in most cases, making them insignificant when we control for age, level of education and gender.[vii] Therefore, Hypothesis 1 does not apply to cultural practice.

Table 1 ***Very Weak Connection between Cultural Exposure/Cultural Activity and Perceived Health Issues (Pearson's r)***

	Health Issue							
Cultural Exposure	Headache	Joint/muscle pain	Cardiovascular disease	Stomach discomfort	Sleeping problem	Anxiety	Physical mobility	Average
Movies	**+.07**	**-.12**	**-.12**	+.04	-.02	+.04	**-.18**	-.04
Theatre	**-.08**	**-.06**	-.04	-.05	-.01	-.04	-.06	-.05
Ballet/Dance	-.00	**-.08**	-.02	-.04	+.00	-.00	**-.08**	-.03
Musicals	-.04	-.01	+.01	-.02	+.02	-.04	-.04	-.02
Classical concerts	**-.07**	-.04	+.03	-.05	+.06	-.00	-.02	-.01
Rock/Pop concerts	.06	**-.18**	**-.09**	-.00	-.04	+.02	**-.15**	-.05
Museums	-.03	**-.07**	-.03	+.02	+.01	+.03	**-.08**	-.02
Art exhibits	-.04	-.05	-.01	-.01	+.03	+.02	-.07	-.02
Library	+.03	-.04	-.03	+.04	**+.07**	**+.10**	-.04	+.02
Reading Literature	-.01	-.03	-.05	+.02	**+.09**	**+.08**	-.06	+.01
Average	-.01	-.07	-.04	-.01	+.02	+.02	-.08	

	Health Issue							
Cultural Activity	Headache	Joint/muscle pain	Cardiovascular disease	Stomach discomfort	Sleeping problem	Anxiety	Physical mobility	Average
Singing in a Choir	+.02	-.02	+.01	+.01	-.03	+.03	-.01	+.00
Dancing	**+.08**	-.06	-.06	+.04	-.01	+.04	**-.10**	-.01
Playing a Musical Instrument	+.02	**-.09**	-.01	+.04	-.02	**+.07**	-.01	+.00
Drawing/Painting	**+.13**	-.03	-.05	**+.09**	+.03	**+.12**	-.03	+.04
Keeping a Diary/ Writing Poetry	+.06	**+.07**	+.01	**+.09**	**+.07**	**+.10**	+.05	+.06
Photography/Film	**+.10**	-.06	**-.13**	+.05	-.04	+.04	**-.10**	-.02
Theatre/Performing	+.02	-.01	-.02	+.02	+.01	+.05	+.03	+.01
Handicrafts	+.02	**+.10**	+.02	+.03	+.04	+.05	+.06	+.05
Average	+.06	-.01	-.03	+.05	+.01	+.07	-.02	

Comments: The results are based on data from the national SOM survey from 2011. Cultural variables have been measured on a seven-point scale ranging from "never" (1) to "multiple times a week" (7). The question is "How often have you done the following in the past 12 months?" The health variables have been measured on a five-point scale ranging from "never" (1) to "daily" (5). The question is "How often during the past 12 months have you experienced the following types of recurrent health issues?" A positive correlation (+) means the more cultural exposure/activity, the more health problems, while a negative correlation (-) indicates that the more cultural exposure/activity, the fewer health problems. Correlations displayed in bold are statistically significant at the .01 level.

Since Hypothesis 1 fails to hold for both cultural exposure and cultural practice, this means that Hypothesis 2 also fails to apply. Hypothesis 2 states that the link between culture and health must be stronger for cultural activity than for solely culture exposure. But this is not reflected in our results. If anything can be said, it is rather the opposite that a slightly stronger positive relationship exists between cultural exposure and health than between cultural practice and health. But in both cases, the relationship is very weak and, in the vast majority of cases, the relationships are statistically uncertain.

If you are hoping to find a connection between culture and health, then the results in Table 2 are slightly more optimistic, but only marginally so. Now the analysis takes into account the connection between subjective health and different cultural activities. According to the hypotheses, we would expect to see positive correlations - the more cultural activities you participate in, the better you will feel. The results show the relationships between the ten dimensions of cultural exposure and participants' subjective state of health is indeed positive in all cases, with an average of +.09. A majority of the coefficients are also statistically significant (eight out of ten). Moreover, most of the relationships remain at a significant level even when we control for gender and age. After controlling for gender, level of education and age, there is a statistically significant connection between going to the movies, theatre, musicals or museums, for example, and feeling healthier.

It is important to note that the results do not mean that you become healthier by going to the movies or visiting a museum. The health measurements relate to a person's subjectively perceived degree of health. There is a relationship between going to the movies/visiting a museum and *believing* that one is healthier, or perhaps more precisely there is a relationship between this activity and the *perception* that one feels better.

Hypothesis 1, which was not supported when we examined the relationship between culture exposure and experiencing more concrete health concerns, now receives some weak support when we examine the relationship between cultural exposure and a person's subjectively-perceived degree of health. In other words, subjectively, there is a certain connection between exposure to culture and health, but this connection is not present when examined concretely. Subjectively-experienced health has a connection, but not culture and concrete health issues.

In terms of *cultural practice*, we have also found positive relationships concerning self-assessed degrees of health. But the average correlations are lower (+.03), and only two connections of eight remain significant after controlling for age, level of education and gender. Hypothesis 2, which states that the relationships should be stronger for cultural practice than for solely culture exposure, does not hold here, either. We can only see that actively participating in various traditional kinds of culture, such as playing musical instruments or singing in a choir, does not show a stronger association with the absence of health concerns or self-perceived degree of health than more "superficial" exposure to culture exhibits. And, in addition to this, in both cases the relationships are very weak, if present at all.

Table 2 Weak Links between Cultural Exposure/Practice and Subjectively Experienced Degree of Health (Pearson's r)

	Correlation with Subjective Degree of Health	Significant Independent Effect in Regression Analysis
Cultural Exposure		
Movies	+ .12	Yes
Theatre	+ .12	Yes
Ballet/Dance	+.10	Yes
Musicals	+ .12	Yes
Classical concerts	+.07	Yes
Rock/Pop concerts	+.06	No
Museums	+.11	Yes
Art exhibits	+.09	Yes
Library	+.02	No
Reading literature	+.07	Yes
Average	+.09	
Cultural Practice		
Singing in a choir	+.01	No
Dancing	+.09	Yes
Playing a musical instrument	+.01	No
Drawing/Painting	-.00	No
Keeping a diary/Writing poetry	-.03	No
Photography/Film	+.13	Yes
Theatre/Performing	-.01	No
Handicrafts	+.04	No
Average	+.03	

Comment: See Table 1. The health variable is measured on an eleven-point scale ranging from 0 (very bad) to 10 (very good). The question reads: "How would you rate your general state of health?" A positive correlation means the more cultural exposure/activity, the better perceived health, while a negative correlation means that the more cultural exposure/activity, the worse perceived health. The correlation in bold is significant at the .01 level. In addition to the cultural variable, gender, age, and level of education are also included as independent variables in the regression analysis with subjective health as the dependent variable; significance level = .01.

The Former Minister of Culture was Both Right and Wrong

The main conclusion of our analyses is essentially negative. When we define health as the absence of various more concrete problems, no support is found for Hypothesis 1 regarding a positive relationship between culture and health, regardless of whether we mean cultural exposure or cultural practice. If, on the other hand, we define health more subjectively, and include self-assessed degrees of health, the outlook is slightly better for Hypothesis 1. A positive but weak relationship exists between the various kinds of cultural exposure and one's perceived degree of health. But the relationship only applies to cultural exposure, not to cultural practice.

Hypothesis 2, which states that active cultural practice should show a stronger relationship with health than cultural exposure alone, is not supported by any of the results - not when looking at the absence of health concerns, nor when looking at self-assessed degrees of health. Taking part in cultural activities is wonderful, but it has no simple relationship with health.

The only positive result we have found is that there is a certain weak connection between traditional cultural exposure and self-assessed degree of health. And perhaps this is not so trivial. Theoretically we can imagine that, for some, such a relationship might even be causal. Traditional cultural exposure in the form of going to the movies, seeing theatre, musicals or visiting a museum, makes a person feel better meaning that their *self-assessed* degree of health is also better. Culture promotes perceived subjective health, but not concrete physical health.

When Bengt Göransson provocatively stated that "Culture doesn't make you healthy" he was correct. But also slightly wrong. Culture does not make you healthier, but it does make you *feel* healthier. Our results indicate that people can perceive that they are healthier and better off because of culture. Culture makes us feel good. Allow us to refer back to an age-old divide. Our results show that culture has little to do with our physical health. But when it comes to our soul, and how we perceive our health, culture does play a certain role. Continued social science and medical research on the relationship between culture and health is not wasted work.

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Notes

[i] This article was first published in Sweden as Kultur befrämjar hälsa (Holmberg & Weibull, 2012).

[ii] The project is called *Culture, Health and Personality*. It is funded by the Sten A Olsson's Foundation for Research and Culture and applies to measurements from 2009 to 2011.

[iii] This also includes allergies and other kinds of health issues, not included in this study.

[iv] In the introductory chapter of this volume, an overview is provided of the subjective health in Sweden from 2009 to 2011, as well as the frequency of recurrent health issues, and how often these occur in different groups.

[v] In this context, we are only interested in an initial overview of the relationships. We are, of course, aware of the need for further study. Next, we intend to further analyze and investigate any nonlinear relationships, and develop merged indices for cultural exposure and cultural practices, respectively.

[vi] We have tested the relationships using regular linear regression analysis where the different health variables are defined as dependent variables, and gender, age (four categories), and cultural activities are defined as independent variables. The b-value for a cultural exposure is significant at the .01 level in only seven instances.

[vii] Only two of the seven relationships remain supported and significant after controlling for other factors.

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