



## TV, Time, and Happiness

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**Abstract** Watching television, and more generally media consumption, is a dominant activity in most persons' lives. Europeans spend on average over 3 hours a day in front of the TV and US Americans even about 5 hours. We present empirical research on media use by Europeans, which suggests that watching TV is related to less happiness. Listening to the radio, and even more reading newspapers, is on the other hand related to higher life satisfaction. The causal relationships between media consumption and happiness have been analyzed for TV but need to be explored for the case of radio and newspapers.

**Keywords** media, subjective well-being, life satisfaction, self-control problem.

### 1. Television's Dominance

Leisure activity today is dominated by watching television. In 2006, Europeans spent on average over 3 hours a day in front of the TV and US Americans even about 5 hours (IP Network 2007). Watching television thus takes up a considerable share of the time. In many countries nowadays, watching TV occupies on average almost as much time as working (Corneo 2005). The reduction in (paid and unpaid) working hours achieved over the past decades, resulting in more leisure time, has to a large extent been used up by watching television (Robinson and Godbey 1999: 338–347).

TV is the technical invention of the 20th century with the highest and

quickest diffusion rate. After only seven years 75% of US households were in possession of a TV set. Neither the fridge (23 years to reach 75% of US households) nor the telephone (67 years) had a similar success. Only radio diffused with a comparable speed (eight years) (Bowden and Offer 1994).

Studying TV consumption and how it affects our well-being is therefore not only interesting but also of considerable relevance. Despite this great relevance, there is hardly any economic literature on TV consumption. In economics, television has mainly been analyzed from the supply side. Market analyses and market failure, regulations and competition policy, and media production have been major themes. There is also a growing literature on political-economic aspects of the media (see e.g. Brunetti and Weder 2003; Djankov et al. 2003; Strömberg 2004; Gentzkow 2006; Oberholzer-Gee and Waldfogel 2009). The demand side has received only scant attention (recent exceptions are e.g. Hosp and Eichenberger 2005; Prat and Strömberg 2005; Bruni and Stanca 2006, 2008).

This paper endeavors to fill part of this gap. We first analyze the time aspect more carefully by comparing the media use in Europe. TV use is compared with listening to the radio and reading newspapers, both overall, and with respect to acquiring news. Section III discusses whether media consumption, and TV in particular, can usefully be considered a rational activity. It will be argued that self-control problems may indeed play a substantial role, and that many TV viewers, according to their own evaluation, spend excessive time with this activity. Section IV produces empirical evidence suggesting that watching TV to a great extent reduces people's life satisfaction. The situation is quite different with respect to radio and newspapers where persons not, or only little, engaging in that activity are shown to be less happy than those spending more time with these activities. According to our estimates, persons spending more time reading the papers are happier. This also applies to those individuals who listen to the radio very often. Section V concludes.

## 2. Time Spent on the Media

Time use studies offer detailed information on the role of media in people's lives. The data show that TV watching is by far the dominant media consumption activity. It occupies considerably more time than listening to the radio or reading newspapers and magazines (e.g. Grahn et al. 2003). This is probably due to the fact that TV offers entertainment rather than only being a source of information.

Data from the European Social Survey (Jowell et al. 2003; 2005; 2007) show the time spent watching TV, listening to the radio, and reading newspapers. In addition, the data allow us to separate the information function of

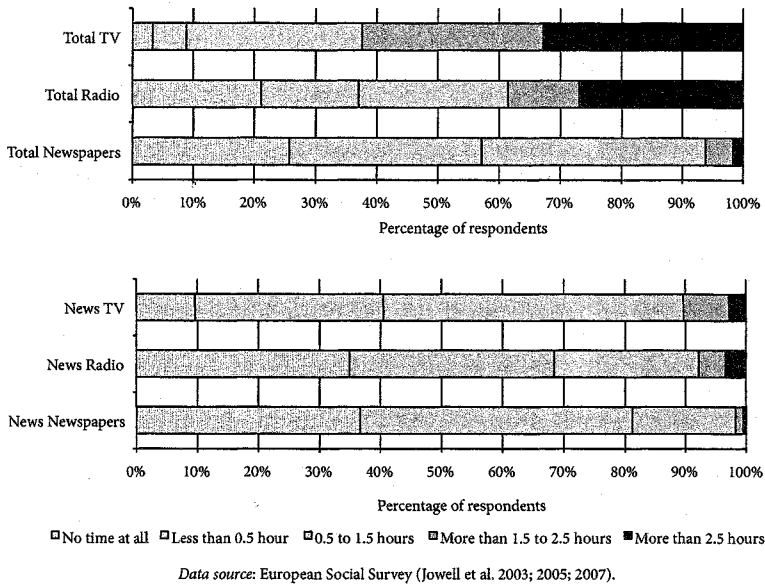


Fig. 1

the different media types from their other functions. Respondents are asked how much time, in total, they spend watching television, listening to the radio, and reading the newspapers on an average weekday. They are also asked how much of the time they spend consuming each of the three types of media is devoted to news or programs about politics and current affairs. They can indicate their answer on an 8-point scale ranging from 'no time at all' to 'more than 3 hours'.<sup>1</sup>

The upper part of Fig. 1 presents data on people's time spent on media consumption covering both entertainment and information for 32 European countries from all three waves of the European Social Survey.<sup>2</sup> The statis-

<sup>1</sup>This data is less precise than electronically measured TV viewing data as published by IP Germany or diary based time use data. Nevertheless, answers to such questions seem to be a reliable measure for general time use. A comparison of US TV viewing data shows that different measurement methods give similar average results (Robinson and Godbey 1999: 152). Furthermore, the data has the advantage of being comparable between countries and of being linked to a large amount of information at the individual level.

<sup>2</sup>The waves cover the various European countries in a somewhat different way: Austria (wave 1-3), Belgium (wave 1-3), Bulgaria (wave 3), Switzerland (wave 1-3), Cyprus (wave 3), Czech

tics are based on answers of more than 135,000 respondents. To render the analysis less complicated, the eight original time use categories have been combined into five categories ranging from 'no time at all' to 'more than 2.5 hours'. The statistics reveal that TV is by far the dominant medium. About one third of the respondents indicate that every day they spend more than two and a half hours in front of the TV set. More than 60% watch more than one and a half hour per day. This is a large share not only of the leisure time but also of the total time available per day after sleeping. In contrast, only 3% do not watch any TV at all. Listening to the radio is clearly less popular than watching television. While more than one fourth of the respondents spend more than 2 and a half hours with this activity, surprisingly enough more than 20% do not listen to the radio at all. About a quarter of the respondents do not read newspapers at all. Most people (57%) spend less than half an hour reading the papers and only a small fraction (6%) reads for more than one and a half hours a day.

To appreciate the differences in the consumption of the three media it should be taken into account that their demand on time, or time opportunity costs, differ. Reading the newspaper requires full attention; it is not easily possible to do other activities at the same time.<sup>3</sup> In contrast, radio is usually listened to while undertaking another activity, such as cooking or working. TV is somewhere in between: some people do have their TV set running while undertaking other activities such as eating or even conversing with friends. Time use studies show that about two thirds of TV viewing time is exclusively devoted to television (Robinson and Godbey 1999; Grahn et al. 2003). However, the way the question on television use is asked in the European Social Survey suggests that the time indicated by the respondents refers to sitting in front of the TV set, and thus actually, at least partly, focusing on the broadcast.

The lower part of Fig. 1 presents data on the time devoted to acquiring news from the various media types. The picture looks different when concentrating on the information function of the different types of media than when looking at total media consumption. TV watching is still the most time consuming activity, but the differences between the three types of media are

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Republic (wave 1-2), Germany (wave 1-3), Denmark (wave 1-3), Estonia (wave 2-3), Finland (wave 1-3), France (wave 1-3), UK (wave 1-3), Greece (wave 1-2), Hungary (wave 1-3), Ireland (wave 1-3), Israel (wave 1), Island (wave 2), Italy (wave 1), Luxembourg (wave 1-2), Latvia (wave 3), Netherlands (wave 1-3), Norway (wave 1-3), Poland (wave 1-3), Portugal (wave 1-3), Romania (wave 3), Russia (wave 3), Spain (wave 1-3), Sweden (wave 1-3), Slovenia (wave 1-3), Slovakia (wave 1-2), Turkey (wave 2), Ukraine (wave 2-3). Wave 1 was conducted 2002/2003, wave 2 2004/2005, and wave 3 2006/2007. The data are archived and distributed by the Norwegian Social Science Data Services (NSD).

<sup>3</sup> But newspaper reading can to some extent be combined with, e.g. commuting in public transport or eating.

much smaller. About 3% of respondents watch or listen to news programs on TV and radio for more than 2.5 hours a day. About 0.5% read in the papers for more than 2.5 hours. More than one third do not use radio and the newspapers for informational purpose at all, while almost 10% do not watch news on TV.

The data suggest that TV consumption follows other principles than radio or newspaper consumption. Much of television viewing is done for entertainment only but this does not exclude that the news offered on TV, especially the evening news, are an important source of information. Watching TV is an activity almost everyone undertakes, while a considerable share of the people do not listen to the radio or read the papers. It seems to be difficult to simply explain these differences by time opportunity costs. Thus, television is extremely time consuming compared to radio (which easily allows other activities being undertaken at the same time), and should therefore be undertaken little – which is certainly not the case in reality. We argue that it is useful to go beyond standard neoclassical theory to try to understand the various types of media consumption.

### 3. Rational Television Consumption?

In traditional neoclassical economics, the question why people watch so much TV can be answered quite easily. Individuals are assumed to engage in this completely voluntary activity because they enjoy it. They derive utility from it and therefore undertake it; a clear case of revealed preference. TV offers information, entertainment, and relaxation almost for free. The large program choice of cable and satellite caters for a huge variety of tastes. Moreover, cognitive and physical costs of TV viewing are low (Kubey and Csikszentmihalyi 1990: 173). One just has to press a button. In contrast to going to the cinema, the theater or any other outdoor activity, there is no need to be appropriately dressed before leaving the house, to buy a ticket or reserve a seat in advance. Unlike other leisure activities, TV viewing does not need to be coordinated with other persons. One can sit alone in front of the TV, while other leisure activities, such as tennis or golf, require a partner with similar time availability and similar preferences. In short, TV viewing offers high immediate marginal benefits at low immediate marginal costs.

Theories in the field of *Psychology and Economics* (e.g. Frey and Stutzer 2007; DellaVigna 2009) cast doubt on the conclusion that TV consumption is completely rational. Exactly the favorable characteristics of television described above may cause people to fall prey to *excessive* TV watching. One important reason is that many of the negative consequences resulting from TV viewing are not experienced immediately. The effects of lack of sleep, for instance, only arise the next day, and the consequences of not spending time

with family and friends or not studying for an exam take much longer to appear. The trade-off between immediate rewards and future costs often poses a problem. Lack of willpower or self-control problems induce people not to stick to their plans (see e.g. O'Donoghue and Rabin 1999) – like going to bed early, seeing friends, or finishing some work instead of watching another episode of their favorite soap – or they do not foresee the negative consequences of their behavior that might arise in the future. Their consumption choice is time-inconsistent (for a recent survey, see Frederick et al. 2002). TV consumption is here seen as a prominent case of such a self-control problem.

#### 4. Media consumption and Life Satisfaction

It is difficult to judge whether two, three or four hours a day spent in front of the TV screen are too much for an individual person. It may just be that they greatly enjoy watching the broadcasts. In order to inquire whether this is really the case we take as a standard of evaluation people's *own* assessment of their life satisfaction. If people just watch the amount of TV they consider good for themselves, their well-being is not affected by hours of TV viewing, taking all other major determinants into account. However, if they regularly spend more time in front of the TV than they plan to, or consider good for themselves *ex post*, their well-being is reduced.

We study data from all three waves of the European Social Survey, an exceptionally rich data set providing information for more than 135,000 people from 32 different countries in Europe for the period 2002–2007. We seek to capture the effect of TV viewing, radio listening and newspaper reading on people's self-reported well-being, or, more exactly, life satisfaction. The dependent variable is the response to the question: 'All things considered, how satisfied are you with your life as a whole nowadays?' Answers are given on a scale ranging from 0 'extremely dissatisfied' to 10 'extremely satisfied'. This measure has been shown to be a trustworthy and reliable proxy for individual well-being (Frey and Stutzer 2002a; b)

Table 1 presents the econometric estimates of how life satisfaction and the time intensity of use of the three media are related.

Ordered probit estimates are used because the dependent variable – life satisfaction – is a categorical variable. In order to control for differences between different persons, as well as between countries and time, individual socio-demographic control variables,<sup>4</sup> and country- and wave-fixed effects are used. The number of observations is very large (more than 135,000) but the share of the variance explained by the variables is rather small, as is normal for cross-section estimates based on individual observations.

<sup>4</sup>Individual controls include variables for working hours, logarithmic household income (adjusted for purchasing power), size of household (square root), sex, age, age squared, education, employment status, marital status, children living at home, citizenship, and area of living.

Table 1 — Media Consumption and Life Satisfaction

Dependent Variable:	TV		Radio		Newspapers	
	Coefficient	Marginal Effect (10)	Coefficient	Marginal Effect (10)	Coefficient	Marginal Effect (10)
Life satisfaction						
No time at all	-0.005 (0.020)	-0.0007 (0.003)	-0.050** (0.010)	-0.007** (0.001)	-0.066** (0.008)	-0.010** (0.001)
Less than 0.5 hr.	Reference Group					
	-0.033** (0.013)	-0.005** (0.002)	0.010 (0.009)	0.002 (0.001)	0.051** (0.007)	0.008** (0.001)
1.5 to 2.5 hrs.	-0.033* (0.013)	-0.005** (0.002)	0.015 (0.011)	0.002 (0.002)	0.095** (0.014)	0.015** (0.002)
More than 2.5 hrs.	-0.050** (0.013)	-0.007** (0.002)	0.074** (0.009)	0.011** (0.001)	0.084** (0.023)	0.013** (0.004)
Individual controls	Yes		Yes		Yes	
Country-fixed effects	Yes		Yes		Yes	
Wave fixed-effects	Yes		Yes		Yes	
No. of observations	135,841		135,565		135,721	
Pseudo R <sup>2</sup>	0.06		0.06		0.06	

*Notes to Table 1* (1) Estimates are ordered probit. (2) Standard errors in brackets. (3) Marginal effects are calculated for the top life satisfaction category (score 10). (4) Individual controls include variables for working hours, logarithmic household income (adjusted for purchasing power), size of household (square root), sex, age, age squared, education, employment status, marital status, children living at home, citizenship, and area of living. (5) Significance levels: \*\*  $p < 0.01$ , \*  $0.01 < p < 0.05$ , (\*).

*Data Sources* European Social Survey (Jowell et al. 2003; 2005; 2007), World Development Indicators (World Bank several years).

The econometric estimates reveal the following main results:

- All individuals watching television more than half an hour per day are less satisfied with their lives than those watching less or none at all. The negative marginal effect on life satisfaction is the larger the more time people watch.
- Individuals listening to the radio experience no such negative effect; indeed those listening over 2 and a half daily hours are shown to be happier than those listening less.
- In contrast, persons never listening to the radio are less happy than the listeners.
- The same holds for newspapers: those persons never reading them are less satisfied with their lives than newspaper users.
- Newspaper readers exhibit a statistically significant increase in life satisfaction the more time they devote to this activity.

The empirical research on media use by Europeans thus suggests that the consumption of TV is associated in quite different ways with life satisfaction than the use of radio and newspapers. On the whole, watching TV is related to less happiness, while listening to the radio, and even more reading the papers, is related to higher life satisfaction.

These results can be explained by two quite different *causal mechanisms*. Watching television may either depress people and make them less happy, or unhappy persons may more often turn to TV than other persons because, for example, they have fewer social contacts than the more happy ones. It has been shown (Frey et al. 2007) that both causal directions apply but that the negative effect of TV consumption on life satisfaction occurs especially for those persons having high opportunity costs of time, such as the self-employed. For persons with low opportunity costs of time, such as the unemployed or the retired, TV consumption of any duration does not depress self-reported well-being. The question arises why individuals watching too



much television do not decide to cut back, and to therewith raise their happiness level. One possible and reasonable answer is that the heavy TV watchers are subject to a self-control problem: they would like to spend less time in front of the TV but are unable to do so in a consistent and enduring way. According to this interpretation, TV consumption makes people to some extent dependent, as is the case for alcohol, cigarettes or drugs. They therefore find it difficult or impossible to change their behavior and are caught in a situation in which they feel less happy than they know they could.

It would be interesting to analyze the causal relationships between media consumption and happiness for the case of radio and newspapers. At present one can only speculate. It may well be that unhappy people do not listen to the radio and do not read the newspapers because they feel it to be too taxing. In contrast, happy persons enjoy reading the newspaper to be better informed about all kinds of aspects, and to put on the radio as a background to their work and other leisure activities. At the same time one can well imagine that listening to the radio, and especially reading the papers raises one's satisfaction with life.

## 5. Conclusions

Watching television today is a dominant activity in most person's lives. Many persons, over their lifetime, spend a similar amount of time in front of their TV set than they spend on work. It is therefore an important task to inquire how this time use compares to other media, in particular radio and newspapers, and how the various forms of media consumption relate to life satisfaction. The empirical research on media use by Europeans presented in this paper suggests that watching TV is related to less happiness while listening to the radio, and even more reading the papers is related to higher life satisfaction. It is known that unhappy people tend to watch more television and that at the same time persons with many other opportunities in life experience a reduction in their own, self-reported happiness when they watch TV for too long. This 'irrational' type of behavior can be attributed to a lack of self-control which seems to be difficult to overcome.

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