Demographics of Medical Roles on Television

INTRODUCTION

Television is often seen as a persuasive teacher that socializes and cultivates children and adolescents and teaches them knowledge, perceptions, attitudes and behaviors about a large variety of subjects including health (Atkin & Wallack, 1990; Brown & Walsh-Childers, 2002; Bandura, 2002; Gerbner et al., 2002). Since childhood next to sleeping and going to school watching television is the most important activity for children. Recent studies have shown that adolescents watch television approximately 22 hours a week (Van den Bulck, 2004). Millions of people have become so dependent of television that it has become their most important source for all kinds of information (Collee, 1999). Watching entertainment programs is also related to health related perception of viewers (Snyder & Rouse, 1995). Furthermore, beside doctors and dentists television is seen as the most credible source for health information (O'Keefe, Boyd & Brown, 1998).

But, as other studies have shown, the specific health messages and information shown by television are often not correct (Smith, Trivax et al.,1972; Collee, 1999). Manfredini states that also the representation of the medical world in fiction programs is not realistic and not educational (Manfredini, 1999). Several studies have dealt with the depiction of health-care and medical roles in television broadcasting. Some studied the content of doctor and hospital series others looked at fiction programming. In this study we deal with the depiction of medical roles in fiction as well as non-fiction programming.

The depiction of medical roles on television

In 1975 McLaughlin studied the representation of doctors and nurses on television. He concluded that doctors on television can not always cure their patients but that they will always solve the patients' personal problems. The doctor also has a form of personal power over the patients and their families. The role of the doctor on television is this of a "*Powerful, almost omnipotent, healer who performs his duties above and beyond normally expected capacities"* (McLaughlin, 1975, p. 184).

In the context of the Cultural Indicators Project also Gerbner did some research on the representation of medical roles on television. Together with Morgan and Signorielli he did study this theme from the perspective of the cultivation analysis (Gerbner, Morgen & Signorielli, 1982). They concluded that every viewer sees approximately 12 doctors and 6 nurses a week in prime-time programming. 9 out of the 10 doctors on television are male, white and young or middle-aged. Doctors are also relatively good, successful and calm. Doctors are also presented as being more honest, sociable and warmer as most of the other characters. Doctors are clearly superior to the mostly female nurses and they have the right to command them (Gerbner et al., 1982; Turow, 1992). Just as doctors, nurses are also represented unrealistically on television (Meier, 1999). In contrast, they are virtually invisible in media coverage on health (Sieber, Power et al., 1998). In her research, Neuendorf deals with the evolution of the number of medical roles in television. She concludes that the number of medical roles on television has only increased in the period from 1951 till 1988 (Neuendorf, 1990, p. 127).

Although the representation of medical roles and specifically doctors on television is traditionally very positive, researchers indicate a shift towards a less positive image of doctors (Pfau & Mullen, 1995; Chory-Assad & Tamborini, 2001).

Concluding we can say that older studies describe a very idealistic and stereotype depiction of medical roles. The more recent studies come to less positive or incompatible results.

Content analyses examining the depiction of medical roles in non-fictional television programming are scarce. In 1985 Turow and Coe did study fiction as non-fiction programs, news programs and commercials (Turow & Coe, 1985). But most of these studies focused on the representation of certain illnesses and healthcare. There is a deficiency in the number of studies dealing with the presentation of medical roles in non-fictional programming. Furthermore, most large scale content analyses are conducted in the United States, while there is no evidence that Flemish television shows the same depictions of medical roles.

With this study we want to give on more recent overview of how and how many medical roles are presented on Flemish television. In accordance with the study of Chory-Assad & Tamborini, we also included all television content. This means that all fictional and non-fictional programs were coded (except for commercials, trailers and news), and prime-time as well as non prime-time programs were coded (Chory-Assad et al., 2001). For this study, we consequently decided to not only to look at the health-related content broadcasted by television, but we also tried to identify what the received television content of adolescents would be.

METHODS

Television sample

In order to construct our sample from a '*content received*' point of view, we used recently collected data on media use gathered in a longitudinal cohort study in the SOMAH project (Study on Adolescent Media Use and Health). In that study 3509 Flemish adolescents were questioned on their media use and health perceptions, attitudes and behavior. Results of the media use questions show that almost ten percent of the adolescents watch television on weekdays before going to school. Nearly four percent also watch television at noon during lunch break on weekdays. Subsequently adolescents start watching again after school at 3 p.m. In the weekends, 13% of the adolescents watch in the morning and even more than 8% watches television at noon. At 8 pm 70% of the adolescents watches television. Figure 1 gives on overview of the viewing behavior of the adolescents on an average Tuesday and Saturday. Using this data, a specific recording schedule was constructed that included not only prime-time television broadcasting, but also other moments of the day on which adolescents appeared to watch television.

Figure 1 about here

For this study, we recorded a one week sample of television broadcasting for the five largest public (TV1 and Ketnet/Canvas) and commercial (VTM, Kanaal2 and VT4) Flemish television stations. These television stations are free and commonly spread. They do not focus on a specialized public. In total the sample provided 430 hours of recorded programs.

Reliability

The instrument used for the analysis was tested in a pilot study. During this pilot study the instrument was used simultaneously by two coders. The results of both coders were compared and were used to construct a definitive instrument.

The sample recordings were coded separately by two coders who both coded half the sample. To make sure that every coder had the same amount of recordings of each recording moment of the day (morning, evening,…), weekday or channel, the sample was randomly divided between both coders. From the total sample, a 40 hours sample was at random selected to be double-coded in order to compute Krippendorff's alpha (Krippendorff, 2004). We used Hayes SPSS macro for computing Krippendorff's alpha (Hayes, 2005). Although only variables with reliability above $\alpha = .80$ are used in our analysis, total reliability of all variables in the study averaged $\alpha = .87$.

Content Variables

The analysis was based on coding all health related images broadcasted by television. In this paper only the Health-Related Content (HRC) of programs is studied. HRC of publicity, trailers and news was also coded but not used in this paper. In this study, only *the representation of medical roles* is the subject of research. Content was coded on two different levels: the program level and the scene level. The program level included variables as the genre and type of the program, duration of the program, number of medical roles and number of characters in the program. On scene level the duration of the Health-Related (HR) scene is coded. The definition of 'Health-Related Scene' that is used in this study is the following:

A Health Related scene is any scene that included visual or verbal information related to mental or physical health, medical treatments, substance use (i.e. tobacco, alcohol, drugs), food/nutrition, body image, fitness/exercise, promiscuous sex, or safety (Gerbner et al., 1981; Wallack & Dorfman, 1992; Byrd-Bredbenner et al., 2003). In this study, only the scenes that deal with medical roles are used here.

HR scenes are coded from the start till the end of the scene in which medical roles are shown or talked about. Scenes end when the camera moves to another place. HR scenes that include medical roles are either coded as '*act*', '*visual*' or '*verbal*'. This refers to the way medical roles are shown in the scene. '*Act*' refers to the medical role as an active player in the storyline (e.g. doctor who is treating a patient in the hospital) while '*visual*' refers to refers to a medical role that can be seen by the viewer while not being part of the storyline (e.g. a nurse that can be seen from the patient's room walking through the hallway). '*Verbal*' points to a verbal reference of one of the characters concerning a medical role (e.g. two patients discussing the behavior of their doctor). Byrd-Bredbenner uses roughly the same division in her content analysis of health behavior (Byrd-Bredbenner et al., 2003). For every scene four separate medical roles can be coded. If there are more than four medical roles in the scene that are shown in the same way they can be coded as '*a large group*' (e.g. six nurses in an operation room assisting a doctor but that are not a part of the plot and therefore are coded as *visual*).

Furthermore, for every medical role in a HR scene demographic variables are coded (*gender*, *age* and *race*). The sort of medical role is also coded (*doctor, nurse, ambulance driver, psychiatrist, other health professional (e.g. homecare professional)* or

medical role unknown (e.g. when there is a visual reference to a certain medical role but is not clear what the role exactly is).

RESULTS

Program Characteristics

The 430 hours of DVD recordings resulted in 783 programs, 5078 commercials, 157 news programs and 1269 trailers. Three quarters of the broadcasting time is devoted to programs (329.57 hours), one-fourth to publicity, ten percent to news and news programs and two and a half percent to trailers. The mean length of programs was 25.25 ± 27.51 standard deviation (SD) minutes (range 0.42 to 230.50 minutes).

In all programs coded, 418 health-related scenes dealing with medical roles were coded and 656 medical roles were coded as *act*, 72 as *visual* and 20 as *verbal*. The mean length of HR scene concerning medical roles was 1.08 ± 1.18 minutes (range 0.02 to 10.93), total length of the medical role scenes was 458.90 minutes (2.32% of the total program time). The coding resulted in 116 unique doctors and 90 unique nurses (every character is only counted once even if it appears in more HR scenes).

Table 1 gives an overview of the number and the duration of medical role scenes in the different types of television programs. Almost 10% of all programs contain 1 or more medical role scenes. Especially medical programs show medical roles. But also Dutch spoken police series score strong: three out of four of these programs include medical roles. The storyline of approximately 30% of all films contains medical characters. Also 31% of all soaps show health professionals. In addition also in Dutch

and English spoken series, docusoaps and reality-TV a great deal of medical roles are shown. But, for the two last types, the small number of programs in the sample should be taken into account. Also the relation between the total duration of the different program types and the duration of the medical roles scenes is being investigated in table 1. Once more the medical series score high. Respectively in 43% and 71% of the total time of Dutch spoken and English spoken medical series medical roles are shown or talked about. Also Dutch spoken series score strong. 22% of the broadcasting time is spend on medical role scenes. In total, in more than 2.5% of all broadcasting time of fiction and non-fiction programs medical roles are shown or talked about.

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table 1 about here

Demographic Characteristics of doctors

Of all the medical roles coded, 45.86% is a doctor, 25.86% a nurse, 3.71% an ambulance driver, 4.43% a psychiatrist, 12.57% another health professional and 7.57% has an unidentified medical role. In this paper we will have a closer look at the dispersion of doctors and nurses between sex and age on television and in real-life. Table 2 gives an overview of the doctors on television and in real-life.

More than 7 out of 10 of all the doctors on television is male, and young or middle-aged. Only 3% of the television doctors is older than 60 years, while in real-life 18% of the doctors older than 60. The television sample was compared to the real-life

demographics using non-parametric Chi-square tests. The age of the sample of television doctors differs significantly from the real-life population of doctors. Specifically, the age of male television doctors is significantly different from the age of real-life doctors. On television young doctors are overrepresented, whilst doctors older than 60 are extremely underrepresented. The data concerning sex are less various. 74% of the television doctors is male whereas 67% of the real-life doctors is male. There is no significant difference between the real-life population and the television sample, but there is a difference for the young and the middle-aged television doctors. Male doctors of these age categories are over-represented, females are not.

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table 2 about here

As stated in the introduction, this study aims to compare the basic representation of doctors and nurses in different types of programs. Tables 3 and 4 give an overview of the demography of doctors in fiction and non-fiction programming and prime-time and non prime-time programming. When we look at the difference between prime-time doctors and non prime-time doctors, we notice that the age of the sample of prime-time television doctors differs significantly from the real-life population, whereas the age of the non prime-time doctors does not. But, only the sex of television doctors in non-prime time programming seems to be different from the real-life. This difference is caused by an imbalance between in the male prime-time sample and the real-life population. There is

an over-representation of young male doctors in prime-time programming (23.44 vs. 4.55%).

The non prime-time sample of TV doctors does not differ from the real-life population for age, but it does for sex. In non prime-time programming, male doctors are over-represented, but this is not the case for prime-time programming.

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table 3 about here

The difference between fiction and non fiction doctors and the real-life doctors is shown in table 4. Fiction doctors are significantly younger than real-life doctors, but non-fiction doctors are not. Furthermore, only male fiction doctors differ from real-life doctors. Especially young male doctors are over-represented. The sex of the samples of television doctors does not significantly differ from real-life doctors, although young and middle-aged male are significantly over-represented in fiction programming.

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table 4 about here

Demographic Characteristics of nurses

The television samples of nurses (prime-time programming, non prime-time programming, fiction programs and non-fiction programs) are also compared with the real-life population of nurses. Investigation shows that the correct number of nurses in Belgium is not calculated recently. Therefore, the figures of The Netherlands are used for comparing the samples of nurses. There is a significant difference for age between the population and the television sample. However, only the dispersion of the female nurses is significant different from the real-life population. Young nurses are seriously over-represented, middle-aged and old nurses are under-represented on television. On the other hand, television gives a fairly accurate image of the number of male and female nurses.

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table 5 about here

Table 6 gives an overview of the difference between prime-time and non prime-time programming. Both prime-time and non prime-time television samples of nurses are different from the real-life sample for age. Young female nurses are over-represented in both the prime-time and the non prime-time samples. For the male non prime-time nurses no chi-square could be calculated because there was only one in the sample. Logically, we can say that this sample also differs from the population of male nurses, in contrast with the male prime-time nurses, who do not differ from the nurse population.

table 6 about here

Table 7 compares both the fiction and non-fiction sample of nurses with the real-life population. Both the fiction and the non fiction sample differ from the real-life population for age but nor for sex. Only female fiction nurses are different from the population for age. Numbers for the non-fiction sample are too small to calculate separate chi-squares for both sexes.

table 7 about here

DISCUSSION

As the results show, television doctors generally differ from real-life doctors. Doctors on television are younger, and more likely to be male than in real-life. But there seems to be a different representation according to the type of program. Prime-time and fiction programs give a less correct image when looking at age, nevertheless the depiction of the sex of doctors is not correct in non prime-time programming. The televised representation of nurses is not as incorrect as other research would suggest. For all samples in this study, only the depiction of the age of the television nurses does not

correspond with the real-life population. The depiction of sex was in accordance with the population. There was no difference between the results of the separate samples.

These results indicate that studies investigating television content should not only be limited to prime-time programming or fiction programming. Health related and other television content can possibly differ over the different types of programming and the moment of broadcasting. The results of certain media-effect studies can possibly differ if this is taken into account. Investigating the presence of medical roles in all the different genres and types of programs would possibly lead to the construction of an even better measure to predict media influence on perceptions.

Important is to take into account that the numbers of nurses in America and the Netherlands are rather dissimilar. For example, in the Netherlands more than 15% of the nurses is male whereas in America only 5% is (Spatley et al., 2000). Although the medical demography in America is possibly unrelated to the demography of Belgium or the Netherlands, television content and health related content probably also is. For Belgian media-effect studies it is consequently useless to compare the Belgian television demography with the American numbers of medical roles.

Limitations of the study

One can argue that the number of 'unique' medical characters is not the correct measure to determine the television population of medical roles and that the total number of all medical roles in all the coded scenes is a better and stronger measure for the television demography of medical characters. In table 8 both methods are compared for both samples of doctors. Sample 1 is the unique sample used in this study. Sample 2 is made

of the total of medical roles in all scenes. Consequently medical characters that are shown in more different scenes are represented exponentially in this last sample. Sample 2 even differs more from the population than the sample that was used in the analysis. When looking at media affect sample 2 is arguably the better sample when the exposure to images is the main criterion, although the comparison with the population of medical roles is false.

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table 8 about here

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Tables

Table 1: Number and duration of the medical role scenes and the type of programs.

Number and duration of the medical role scene and the type of program	All television stations				
	Number of programs in which MR appear (%)	Percentage of total number of programs of this type	Number of MR scenes	Total duration of the MR scenes (in minutes)	Proportion MR scene of the total duration of this program type
Films	8 (10.5%)	27.59%	43 (10.3%)	27.98	1.11%
Dutch spoken police series	3 (3.9%)	75.00%	3 (0.7%)	3.73	1.85%
English spoken police series	2 (2.6%)	16.67%	3 (0.7%)	4.15	0.86%
Soaps	14 (18.4%)	31.11%	37 (8.9%)	37.83	3.51%
Action series	0 (0.0%)	0.00%	0 (0.0%)	0	0.00%
Horror series	0 (0.0%)	0.00%	0 (0.0%)	0	0.00%
Dutch spoken series	7 (9.2%)	58.33%	47 (11.2%)	103.40	22.40%
English spoken series	8 (10.5%)	24.24%	28 (6.7%)	90.98	6.89%
Dutch spoken hospital series	2 (2.6%)	66.66%	87 (20.8%)	66.78	43.41%
English spoken hospital series	2 (2.6%)	100.00%	70 (16.5%)	76.50	70.80%
Cartoons	8 (10.5%)	4.32%	16 (3.8%)	8.65	0.28%
Talk shows	0 (0.0%)	0.00%	0 (0.0%)	0	0.00%
Erotic series	0 (0.0%)	0.00%	0 (0.0%)	0	0.00%
Dutch spoken humoristic programs	2 (2.6%)	20.00%	8 (1.9%)	8.28	2.92%
English spoken humoristic programs	6 (7.9%)	14.29%	9 (2.2%)	13.42	1.34%
Music programs	0 (0.0%)	0.00%	0 (0.0%)	0	0.00%
Documentary	0 (0.0%)	0.00%	0 (0.0%)	0	0.00%
TV series for youngsters	2 (2.6%)	2.50%	13 (3.1%)	16.43	1.40%
Docusoaps[1]	1 (1.3%)	33.33%	18 (4.3%)	10.33	10.81%
Reality tv	1 (1.3%)	33.33%	2 (0.5%)	0.53	0.49%
Quizzes	0 (0.0%)	0.00%	0 (0.0%)	0	0.00%
Information programs	6 (7.9%)	10.91%	28 (6.7%	23.37	1.81%
Sport programs	1 (1.3%)	10.00%	1 (0.2%)	0.97	0.22%
Tele shopping	0 (0.0%)	0.00%	0 (0.0%)	0	0.00%
Music videos	0 (0.0%)	0.00%	0 (0.0%)	0	0.00%
Sms games	0 (0.0%)	0.00%	0 (0.0%)	0	0.00%
Other	3 (3.9%)	3.95%	5 (1.2%)	10.2	0.40%
Total	76	9.71%	418 (100.0%)	503.53	2.54%

[1] A recent addition to the broad category of "reality TV" that crosses the border between fact and fiction and, in particular, between documentary and soap opera (Dhoest, 2005).

Table 2: Comparison of the demographics of television and real-life doctors.

Age	Doctors	Sex				Total	
		Male		Female			
		Television	Real-life[1]	Television	Real-life[1]	Television	Real-life[1]
Young (-30 years)	Frequency	16	1804	9	2567	25	4371
	Row	(64.00%*)	(41.27%)	(36.00%*)	(58.72%)	(100.00%)	(100.00%)
	Column	(18.60%*)	(5.83%)	(30.00%)	(16.77%)	(21.55%*)	(9.45%)
	Cell	(13.79%)	(3.90%)	(7.76%)	(5.55%)		
Middle-aged (30-60 years)	Frequency	67	21773	20	11790	87	33563
	Row	(77.01%*)	(64.87%)	(22.99%*)	(35.13%)	(100.00%)	(100.00%)
	Column	(77.91%*)	(70.32%)	(66.67%)	(77.03%)	(75.00%*)	(72.54%)
	Cell	(57.76%)	(47.06%)	(17.24%)	(25.48%)		
Old (+60 years)	Frequency	3	7385	1	949	4	8334
	Row	(75.00%)	(88.61%)	(25.00%)	(11.39%)	(100.00%)	(100.00%)
	Column	(3.49%*)	(23.85%)	(3.33%)	(6.20%)	(3.45%*)	(18.01%)
	Cell	(2.59%)	(15.96%)	(0.86%)	(2.05%)		
Total	Frequency	86	30962	30	15306	116	46268
	Row	(74.14%)	(66.92%)	(25.86%)	(33.08%)		
	Column	(100.00%)	(100.00%)	(100.00%)	(100.00%)		

a = the χ^2 values could not be calculated because one of the cells of the television sample has zero as value.
* = significant χ^2 value in comparison with the real-life population.
[1] The real-life numbers of doctors in Belgium are published by the Federal Public Service Economy, SMEs, Self-employed and Energy (FPS Economy, S., S., E., 2004).

Table 3: Comparison of the demographics of television (prime-time and other programs) and real-life doctors.

Age	Doctors	Sex						Total		
		Male			Female					
		Prime-time TV	Non prime-time TV	Real-life[1]	Prime-time TV	Non prime-time TV	Real-life[1]	Prime-time TV	Non prime-time TV	Real-life[1]
Young (-30 years)	Frequency	15	1	1804	8	1	2567	25	2	4371
	Row	(65.22%*)	(50.00%)	(41.27%)	(34.78%*)	(50.00%)	(58.72%)	(100.00%)	(100.00%)	(100.00%)
	Column	(23.44%*)	(4.55%)	(5.83%)	(29.63%)	(33.33%[a])	(16.77%)	(21.55%*)	(8.00%	(9.45%)
	Cell	(16.48%)	(4.17%)	(3.90%)	(8.79%)	(4.17%)	(5.55%)			
Middle-aged (30-60 years)	Frequency	47	20	21773	18	2	11790	87	22	33563
	Row	(72.31%)	(90.91%*)	(64.87%)	(27.69%)	(9.10%*)	(35.13%)	(100.00%)	(100.00%)	(100.00%)
	Column	(73.44%*)	(90.91%)	(70.32%)	(66.67%)	(66.67%[a])	(77.03%)	(75.00%*)	(88.00%)	(72.54%)
	Cell	(51.65%)	(83.33%)	(47.06%)	(19.78%)	(8.33%)	(25.48%)			
Old (+60 years)	Frequency	2	1	7385	1	0	949	4	1	8334
	Row	(66.67%)	(100.00%[a])	(88.61%)	(33.33%)	(00.00%[a])	(11.39%)	(100.00%)	(100.00%)	(100.00%)
	Column	(3.13%*)	(4.45%)	(23.85%)	(3.70%)	(00.00%[a])	(6.20%)	(3.45%*)	(4.00%)	(18.01%)
	Cell	(2.20%)	(4.17%)	(15.96%)	(1.10%)	(00.00%)	(2.05%)			
Total	Frequency	64	22	30962	27	3	15306	91	25	46268
	Row	(70.33%)	(88.00%*)	(66.92%)	(29.67%)	(12.00%*)	(33.08%)			
	Column	(100.00%)	(100.00%)	(100.00%)	(100.00%)	(100.00%)	(100.00%)			

a = the χ^2 values could not be calculated because one of the cells of the television sample has zero as value.
* = significant χ^2 value in comparison with the real-life population.
[1] The real-life numbers of doctors in Belgium are published by the Federal Public Service Economy, SMEs, Self-employed and Energy (FPS Economy, S., S., E., 2004).

Table 4: Comparison of the demographics of television (fiction and non-fiction programs) and real-life doctors.

Age	Doctors	Sex						Total		
		Male			Female					
		Fiction programs	Non Fiction programs	Real-life[1]	Fiction programs	Non Fiction programs	Real-life[1]	Fiction programs	Non Fiction programs	Real-life[1]
Young (-30 years)	Frequency	16	1	1804	9	0	2567	25	1	4371
	Row	(64.00%*)	(100.00%[a])	(41.27%)	(36.00%*)	(0.00%[a])	(58.72%)	(100.00%)	(100.00%)	(100.00%)
	Column	(20.51%*)	(12.50%)	(5.83%)	(33.33%)	(0.00%[a])	(16.77%)	(23.81%*)	(9.09%)	(9.45%)
	Cell	(13.79%)	(0.86%)	(3.90%)	(7.76%)	(0.00%)	(5.55%)			
Middle-aged (30-60 years)	Frequency	60	6	21773	17	3	11790	77	9	33563
	Row	(77.92%*)	(66.67%)	(64.87%)	(22.08%*)	(30.00%)	(35.13%)	(100.00%)	(100.00%)	(100.00%)
	Column	(76.92%*)	(75.00%)	(70.32%)	(62.96%)	(100.00%[a])	(77.03%)	(73.33%*)	(81.82%)	(72.54%)
	Cell	(51.72%)	(5.17%)	(47.06%)	(14.66%)	(2.59%)	(25.48%)			
Old (+60 years)	Frequency	2	1	7385	1	0	949	3	1	8334
	Row	(66.67%)	(100.00%[a])	(88.61%)	(33.33%)	(00.00%[a])	(11.39%)	(100.00%)	(100.00%)	(100.00%)
	Column	(2.56%*)	(12.50%)	(23.85%)	(3.70%)	(00.00%[a])	(6.20%)	(2.86%*)	(9.09%)	(18.01%)
	Cell	(1.72%)	(0.86%)	(15.96%)	(0.86%)	(00.00%)	(2.05%)			
Total	Frequency	78	8	30962	27	3	15306	105	11	46268
	Row	(74.29%)	(72.73%)	(66.92%)	(25.71%)	(27.27%)	(33.08%)			
	Column	(100.00%)	(100.00%)	(100.00%)	(100.00%)	(100.00%)	(100.00%)			

a = the χ^2 values could not be calculated because one of the cells of the television sample has zero as value.
* = significant χ^2 value in comparison with the real-life population.
[1] The real-life numbers of doctors in Belgium are published by the Federal Public Service Economy, SMEs, Self-employed and Energy (FPS Economy, S., S., E., 2004).

Table 5: Comparison of the demographics of television and real-life nurses.

Age	Nurses	Sex				Total	
		Male		Female			
		Television	Real-life[2]	Television	Real-life[2]	Television	Real-life[2]
Young (-30 years)	Frequency	3	2.203	22	24.939	25	27.152
	Row	(12.00%)	(8.1%)	(88.00%)	(91.8%)	(100.00%)	(99.9%)
	Column	(17.65%)	(6.0%)	(30.14%*)	(12.7%)	(27.78%*)	(11.7%)
	Cell	(3.33%)	(1.0%)	(24.44%)	(10.7%)		
Middle-aged (30-60 years)	Frequency	13	32.690	49	158.802	62	191.492
	Row	(20.97%)	(17.0%)	(79.03%)	(82.9%)	(100.00%)	(99.9%)
	Column	(76.47%)	(90.0%)	(67.12%*)	(82.4%)	(68.89%*)	(82.5%)
	Cell	(14.44%)	(14.08%)	(54.44%)	(68.5%)		
Old (+60 years)	Frequency	1	1.434	2	12.049	3	13.483
	Row	(33.33%)	(10.6%)	(66.67%)	(89.4%)	(100.00%)	(100.0%)
	Column	(5.88%)	(3.9%)	(2.74%*)	(6.9%)	(3.33%*)	(5.8%)
	Cell	(1.11%)	(0.6%)	(2.22%)	(5.2%)		
Total	Frequency	17	36.327	73	195.790	90	232.117
	Row	(18.89%)	(15.65%)	(81.11%)	(84.4%)		
	Column	(100.00%)	(99.9%)	(100.00%)	(100.0%)		

a = the χ^2 values could not be calculated because one of the cells of the television sample has zero as value.
* = significant χ^2 value in comparison with the real-life population.
[2] Because there are no numbers of the Belgian registered nurse population available, numbers from the Netherlands are used (BIGregister, 2005).

Table 6: Comparison of the demographics of television (prime-time and other programs) and real-life nurses.

Age	Nurses	Sex						Total		
		Male			Female					
		Prime-time TV	Non Prime-time TV	Real-life[1]	Prime-time programs	Non Prime-time TV	Real-life[1]	Prime-time TV	Non Prime-time TV	Real-life[1]
Young (-30 years)	Frequency Row Column Cell	2 (11.76%) (12.50%) (2.22%)	1 (12.50%) (100.00%a) (1.11%)	2.203 (8.12%) (6.06%) (0.95%)	15 (88.24%) (28.30%*) (16.67%)	7 (87.50%) (35.00%*) (7.78%)	24.939 (91.88%) (12.74%) (10.74%)	17 (100.00%) (24.64%*)	8 (100.00%) (38.10%*)	27.142 (100.00%) (11.69%)
Middle -aged (30-60 years)	Frequency Row Column Cell	13 (26.00%) (81.25%) (14.44%)	0 (0.00%a) (0.00%a) (0.00%)	32.690 (17.07%) (89.99%) (14.08%)	37 (74.00%) (69.81%*) (41.11%)	12 (100.00%a) (60.00%*) (14.44%)	158.802 (82.93%) (81.12%) (68.41%)	50 (100.00%) (72.46%*)	12 (100.00%) (57.14%*)	191.492 (100.00%) (82.50%)
Old (+60 years)	Frequency Row Column Cell	1 (50.00%) (6.25%) (1.11%)	0 (0.00%a) (0.00%a) (0.00%)	1.434 (10.64%) (3.95%) (0.62%)	1 (50.00%) (1.89%*) (1.11%)	1 (100.00%a) (5.00%*) (1.11%)	12.049 (89.36%) (6.15%) (5.19%)	2 (100.00%) (2.90%*)	1 (100.00%) (4.76%*)	13.483 (100.0%) (5.81%)
Total	Frequency Row Column	16 (23.19%) (100.00%)	1 (4.76%) (100.00%)	36.327 (15.65%) (100.00%)	53 (76.81%) (100.00%)	20 (95.24%) (100.00%)	195.790 (84.35%) (100.01%)	69	21	232.117

a = the χ^2 values could not be calculated because one of the cells of the television sample has zero as value.
* = significant χ^2 value in comparison with the real-life population.
[2] Because there are no numbers of the Belgian registered nurse population available, numbers from the Netherlands are used (BIGregister, 2005).

Table 7: Comparison of the demographics of television (fiction and non-fiction programs) and real-life nurses.

Age	Nurses	Sex						Total		
		Male			Female					
		Fiction programs	Non Fiction programs	Real-life[1]	Fiction programs	Non Fiction programs	Real-life[1]	Fiction programs	Non Fiction programs	Real-life[1]
Young (-30 years)	Frequency Row Column Cell	3 (13.64%) (20.00%a) (3.33%)	0 (0.00%a) (0.00%a) (0.00%)	2.203 (8.12%) (6.06%) (0.95%)	19 (86.36%) (29.69%*) (21.11%)	3 (100.00%a) (33.33%) (3.33%)	24.939 (91.88%) (12.74%) (10.74%)	22 (100.00%) (27.85%*)	3 (100.00%) (27.27%*)	27.142 (100.00%) (11.69%)
Middle -aged (30-60 years)	Frequency Row Column Cell	12 (21.43%) (80.00%a) (15.19%)	1 (16.67%) (50.00%a) (1.11%)	32.690 (17.07%) (89.99%) (14.08%)	44 (78.57%) (68.75%*) (48.89%)	5 (83.33%) (55.56%) (5.59%)	158.802 (82.93%) (81.12%) (68.41%)	56 (100.00%) (70.89%*)	6 (100.00%) (54.55%*)	191.492 (100.00%) (82.50%)
Old (+60 years)	Frequency Row Column Cell	0 (0.00%a) (0.00%a) (0.00%)	1 (50.00%) (50.00%a) (1.11%)	1.434 (10.64%) (3.95%) (0.62%)	1 (100.00%a) (1.56%*) (1.11%)	1 (50.00%) (11.11%) (1.11%)	12.049 (89.36%) (6.15%) (5.19%)	1 (100.00%) (1.27%*)	2 (100.00%) (18.18%*)	13.483 (100.0%) (5.81%)
Total	Frequency Row Column	15 (18.99%) (100.00%)	2 (18.18%) (100.00%)	36.327 (15.65%) (100.00%)	64 (81.01%) (100.00%)	9 (81.82%) (100.00%)	195.790 (84.35%) (100.01%)	79	11	232.117

a = the χ^2 values could not be calculated because one of the cells of the television sample has zero as value.
* = significant χ^2 value in comparison with the real-life population.
[2] Because there are no numbers of the Belgian registered nurse population available, numbers from the Netherlands are used (BIGregister, 2005).

Table 8: Comparison of the demographics of television doctors in two separate television samples (Unique characters sample versus cumulative sample).

Age	Doctors	Sex				Total	
		Male		Female			
		Television sample 1	Television sample 2	Television sample 1	Television sample 2	Television sample 1	Television sample 2
Young (-30 years)	Frequency	16	69	9	40	25	109
	Row	(64.00%)	(63.30%)	(36.00%)	(36.70%)	(100.00%)	(100.00%)
	Column	(18.60%)	(28.87%)	(30.00%)	(49.38%)	(21.55%*)	(34.06%*)
	Cell	(13.79%)	(21.56%)	(7.76%)	(12.50%)		
Middle-aged (30-60 years)	Frequency	67	163	20	40	87	203
	Row	(77.01%)	(80.30%)	(22.99%)	(20.10%)	(100.00%)	(100.00%)
	Column	(77.91%)	(68.20%)	(66.67%)	(49.38%)	(75.00%*)	(63.44%*)
	Cell	(57.76%)	(52.50%)	(17.24%)	(12.50%)		
Old (+60 years)	Frequency	3	7	1	1	4	8
	Row	(75.00%)	(87.50%)	(25.00%)	(12.50%)	(100.00%)	(100.00%)
	Column	(3.49%)	(2.93%)	(3.33%)	(1.23%)	(3.45%*)	(2.50%*)
	Cell	(2.59%)	(2.19%)	(0.86%)	(0.31%)		
Total	Frequency	86	239	30	81	116	320
	Row	(74.14%)	(66.92%)	(25.86%)	(33.08%)		
	Column	(100.00%)	(100.00%)	(100.00%)	(100.00%)		

* = significant χ^2 value ($p<0.001$)

Figures

Figure 1: Proportion of adolescents watching television on the different moments of the day.