


Television, family atmosphere and perception of values in teenagers with and without ADHD

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Abstract

The current media culture offers few opportunities for people to maintain their attention over prolonged periods of time and may complicate the understanding of the meaning of the transmitted messages. Thus, this research aims to establish the similarities and differences between teenagers with and without Attention Deficit Hyperactivity Disorder (ADHD) in terms of television preferences in relation to the family atmosphere and the perception of values. The study is based on the opinions of 209 teenagers with and without ADHD and aged between 14 and 18 years. The results, which are based on answers to the CH-TV 0.2 and VAL.TV.02 questionnaires, indicate that there are two majority TV-viewer profiles among the sample of teenagers. These profiles are differentiated by the preference towards certain TV genres, the importance granted to the physical attractiveness of TV characters, which is related to the values of openness to change and self-enhancement, and family cohesion and expressiveness. However, there are remarkable differences between the ADHD and normal groups with regards to those profiles. This study aims to contribute to the study of individual differences in relation to media consumption, and to the development of educational media literacy programmes for children and teenagers, according to the characteristics of their target audience.

Keywords

Television; family; values; teenagers; Attention-Deficit Hyperactivity Disorder (ADHD); learning and development difficulties.

Contents

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1. Introduction

In recent years, teenagers with Attention Deficit Hyperactivity Disorder (ADHD) have aroused a great deal of interest among parents, educators and researchers due to the challenges involved in the upbringing and education of this sector of the population.

Apart from the negative implications that ADHD may have in the cognitive, emotional and social functioning of the teens, parents, educators and researchers have started to wonder about the possible

influences of the current multi-screen culture on this group since, according to some studies, children and teens with ADHD are more likely to become addicted to the use of audiovisual screens, like video games, TV and the Internet (Castells, 2009) or, at least, to make a different use of them (Aierbe, Medrano, 2011; Arrizabalaga, Aierbe, Medrano, 2010).

From the psycho-educational and communication fields, there are many authors who point out that the current audiovisual culture, which is based on the involuntary abuse of the public's attention (Bermejo, 2005; Del Rio, Alvarez, Del Rio, 2004) and on the proliferation of models that favour immediate external reinforcements (such as video games, TV, Internet, etc.), offers few opportunities for people to maintain their attention over prolonged periods of time, to obtain delayed rewards, and to develop reflective strategies. Moreover, as most authors agree, the impact of the audiovisual culture is probably greater on people with ADHD.

In this line of thought, the Internet and its social networks have allowed people to develop new more fragmented and less mediated relations, and a more segmented and instantaneous attention ability (Campos, 2008).

Today, something that reveals itself in relation to the media is the dispersion of attention and the difficulty to make sense of the media products (Pérez Tornero, 2008). These aspects should be taken into account when developing media literacy programmes for children and teenagers. Specifically, there is a more volatile and fragmented media consumption characterised by the impulsive selection of content and the continuous change of one screen for another, i.e. from one source of information and entertainment to another.

Nowadays, young people are especially skilled in simultaneously using different screens. They seem to be continuously connected to networks and have many possibilities to select content, which allows them to develop a more autonomous and personalised perception style. However, the saturation of information may prevent young people from understanding the messages. For this reason, media literacy in young people is very important. By media literacy we refer to the development of skills not only to use the different media, but also to interpret, evaluate and critically reflect about the information presented by the media, and to create audiovisual messages (Pérez, Delgado, 2012).

We are living in environments of multimedia convergence and, thus, we must take into account the influence of the audiovisual media in the ways young people perceive reality and how they see themselves reflected in the media because the media contribute to the configuration of their identity (Aierbe, Medrano, Martínez de Morentín, 2011). With regards to the values offered to teens by television, today the values offered by this medium tend to be less pro-social and more materialistic (Dates, Fears, Stedman, 2008), although other studies have emphasised that television also transmits altruistic behaviours (Smith, Pieper, Yoo, Ferris, Downs, Bowden, 2006).

However, a recent cross-cultural study that took into account Spanish, Irish and Latin American teens found that teens from different cultures perceive in their favourite television characters both individualist values (e.g. independence, ability to create and explore) as collectivist values (e.g. helpfulness, honesty and respect to others) (Medrano, Aierbe, Martínez de Morentín, 2011).

Now, if we focus on teens' preferences in terms of television genres, what findings have been offered by previous research works? Among the favourite television genres for teens, fiction occupies the first

place (Aierbe, Medrano, Martínez de Morentín, 2010; Livingstone, D'haenens, Hasebrink, 2001; Montero, 2006; Ramírez de la Piscina, Zarandona, Basterretxea, Idoiaga, 2006; Von Feilitzen, 2008). Fiction is followed by sports, news shows and cultural programs. At the opposite end, debates and celebrity-gossip shows are the least preferred genres (Medrano, Aierbe, Orejudo, 2009; Montero, 2006; Pasquier, 1996).

Other studies have obtained different results, like Pindado (2005), who found that, regardless of the media platform, suspense/terror is the preferred genre among Malaga's teen boys and girls, followed by series and talk shows. Sabés (2005) has indicated that Aragon's teens watch television mainly to obtain information and entertainment; but that political, economic and cultural contents are of no interest for them.

Taking into account that our study focuses on teenagers, it is necessary to consider that one of the main tasks they must carry out is to deal with the construction of their identity (Erikson, 1993). During adolescence, people seek real and fictional points of identification (like family and peers and media characters). In this sense, television can be one of the many agents that can contribute to the configuration of the personal, collective and professional identity of teenagers through the provision of characters that become of source of identification (Hoffner, Levine, Sullivan, Crowell, Pedrick, Berndt, 2008). In short, television characters constitute a group of pseudo-amigos for teens, and increase teens' emotional autonomy from their parents (Giles, Maltby, 2004).

According to the available empirical data, teens use the media to understand the world and to find role models to identify with (Bryant, Vorderer, 2006). With regards to the reasons why teens identify with characters some studies have concluded that teens tend to identify with characters of the same gender and age, and that for them the most important traits in characters are personality and intelligence (Hoffner, 1996), while physical attractiveness is not really important (Aierbe, Medrano, 2011; Medrano, Cortés, Aierbe, Orejudo, 2010).

In contrast, other studies, like the one carried out by Ruiz, Conde, Torres (2005), have indicated that one of the most important features for teens to like a TV characters is its physical attractiveness. The aforementioned authors carried out a cross-sectional study, which was based on three age groups (8, 14 and 17 years) and 12 previously selected groups that included both sexes, in order to analyse the importance of physical attractiveness in TV representations. They concluded that physical attractiveness is a desirable characteristic for all age groups. However, physical appearance has more influence on the youngest group than in 14-year-olds and 17-year-olds. These older groups show less rigid stereotypes because, although the most attractive characters obtained high scores in all cases, the least attractive characters obtained the highest scores in features such as generosity and altruism.

Grandío (2009) points out that the rapid media consumption, the instant gratification, the partial identification with characters, and the attraction towards a good-looking world, are the main characteristics of the television experience of fans. Viewers would change their physical appearance to look more like their favourite TV characters. Thus, certain viewers may be particularly influenced by fictional characters for which they feel greater empathy to learn and understand the content from their point of view. In addition, the situations presented in fiction programmes can serve as guides for viewers to solve similar problems that can be found in real life (Calvert, Strouse, Murray, 2006).

Watching TV drama series can also promote and increase social interactions, as they are a source of conversation topics and opinions for the social relations of teens (Fedele, García Muñoz, 2010). Thus, teen's relation with TV series and its characters is based on individual emotional ties and on collective negotiations and interactions with peers and family members. Discussions about TV programmes are a way of exploring the moral values and the ethics of relationships (Pasquier, 1996).

In fact, the family atmosphere influences the adoption of the values transmitted by the media. The "family atmosphere" refers to the shared perception that exists between parents and children about the specific features of the family functioning, such as the existence and intensity of family conflicts, the quality of communication and expression of opinions and feelings between family members, and the degree of emotional cohesion between them (Aierbe, Medrano, Martínez de Morentín, 2010; Musitu, Buelga, Lila, Cava, 2001).

Some studies relate the quality of parent-child relations with teens' family satisfaction (Caprara, Patorelli, Regalia, Scabini, Bandura, 2005), their degree of social adaptation, their psychological adjustment and self-concept (Estevez, Murgi, Musitu, Herrero, 2005). Moreover, all of these studies have concluded that family cohesion and expressiveness are decisive factors in media consumption.

For this reason, this study examines the values teens perceive in their favourite TV characters, not only in relation to individual differences, but also in relation to their family atmosphere.

To determine why children and teenagers with ADHD can be particularly vulnerable to the effects of television, Internet, or other screens, we need to consider their individual characteristics (low tolerance to frustration, difficult interpersonal relations, etc.), the conditions of the contexts in which they grow, which can often involve, for example, family conflicts or interaction difficulties with teachers and peers (Barkley, 2006), and the current multiscreen culture.

Several studies have tried to characterise families with children with ADHD in order to get a better understanding of the influence of family atmosphere in the development of the disorder. However, the findings of these studies are not conclusive. For instance, the study carried out by Montiel Nava, Montiel Barber, Peña (2005) indicates that the family atmosphere is significantly different between families with teens with ADHD and families with normal teens, in terms of cohesion, and preferences towards intellectual and recreational activities. Moreover, serious cases of ADHD were related to less cohesion and more family conflict. Some studies associate the excessive use of TV by teens (more than three hours per day) with a greater risk of developing attention problems, learning difficulties and, in the long run, poor academic performance (Johnson, Cohen, Kasen, Brook, 2007). However, other studies, like the one carried out by Ferguson (2011) reject the idea that children and teens who spend many hours watching television develop ADHD.

In addition, other studies have investigated the relation between ADHD and the addiction to audiovisual screens (Swing, Gentile, Anderson, Walsh, 2010). Some studies, for example, have found that children and teenagers with ADHD play video games more often than teens without ADHD (Arrizabalaga, Aierbe, Medrano, 2010; Bioulac, Arfi, Bouvard, 2008). However, with regards to the use of the Internet the results indicate the opposite (Jiménez Torres, López Sánchez, Guerrero Ramos, 2010). These data, therefore, do not allow us to affirm that in general terms there is a greater use of audiovisual screens among children and teenagers with ADHD.

A previous study on teens with ADHD and normal teens from the Autonomous Community of the Basque Country (Aierbe, Medrano, 2011) found that in general terms the total number of hours devoted to television and screens per week was similar in both groups. However, in comparison to the normal group, on weekends the ADHD group dedicated more time to TV and less time to alternative activities, like spending time with the family or friends. In comparison to the normal group, the ADHD group dedicated less time to the Internet but more time to video games. Thus, there was a differential use of some screens among the two groups.

In summary, the results of the studies that relate ADHD and TV viewing are inconclusive because some of them argue that television has a negative influence on children and teens with ADHD while others deny such influence. In addition, these studies have not taken into account the different types of media content, viewers' identification with TV characters, or the characteristics of the family, school, and social environments of viewers, which due to their mediating role can be very influential in the perception of values and interpretation of media content by children and teenagers. As a result, this work aims to advance some aspects that have not been considered by previous studies.

According to the previous literature review, this study aims to investigate the similarities and differences between teens with ADHD and without ADHD (the "normal" group) in terms of television consumption (TV genres preference and reasons to like favourite characters) and the values perceived in relation to the family atmosphere. To be precise, the specific objectives are:

1. To identify the similarities and differences in terms of TV genres preferences between teens with ADHD and normal teens.
2. To analyse the similarities and differences in both groups regarding the reasons taken into account to like/identify with TV characters.
3. To establish the relation between the reasons to like/identify with TV characters and the values perceived in them (based on the four dimensions of values proposed by Schwartz), in teens with and without ADHD.
4. To identify and compare the different TV-viewer profiles existing in the subsamples, based on TV genres preferences and the reasons to like/identify with TV characters.
5. To establish the relation between TV-viewer profiles, family atmosphere and values perceived in favourite TV characters across the sample of participants.

2. Methods

2.1. Methodological strategies

This study is descriptive, comparative, correlational and "ex post facto", because it does not involve manipulation of the independent variables or randomisation in the selection of samples and the assignment of groups. The aim of the study is not to define causal relations but to analyse and compare the TV profiles (TV genre preferences and reasons to choose favourite characters), perception of values and family atmosphere among teens with and without ADHD.

2.2. Population and sample

The total sample consists of 209 teenagers aged between 14 and 18 years. The ADHD group consists of 25 teens (18 males and 7 females), with an average age of 15.20 years. The group without ADHD (the normal group) consists of 184 teens (100 males and 84 females), with an average age of 16.44 years.

Convenient sampling was used in this study. Participants had to meet the age criteria: 14 to 18 years. Participants without ADHD were fourth-year secondary students and second-year high school students from one public school and one private school, both from the Donostia-San Sebastián municipality (Basque Country). The group with ADHD also had to meet the following criteria: they had to be diagnosed with ADHD and be registered to the public health network; they had to be students in public or private schools, and/or to be related to any association of people affected by ADHD.

2.3. Instruments for collecting information

The instrument used to investigate the TV-viewer profile was the Television Habits Questionnaire (CH-TV.02) (Medrano, Aierbe, 2008) which is divided in two parts: the first investigates socio-economic data (studies and employment status of parents, and family structure), while the second part consists of 24 items grouped into 14 indicators. This study used the following indicators: 1) TV-genres preferences, which considers 13 genres (series, movies, game shows, soap operas, music shows; cartoons, comedy, late-night shows, talk shows, reality shows and celebrity-gossip shows). 2) Reasons to like/identify with TV characters (physical attractiveness, intelligence, friendliness and sense of humour, personality, work, nonconformist attitude, and rebellious attitude). 3) Family atmosphere (cohesion, expressiveness, conflict).

This study also used the Val.TV 0.2 questionnaire (Medrano, Aierbe, 2008), which measures the values perceived by teens in their favourite characters. This questionnaire is an adaptation of Schwartz's (2003) Portrait Value Questionnaire (PVQ), which consists of 21 items, whose responses are structured in a Likert-type scale with values that range from 1 to 6. Schwartz conceptualises values as cognitive representations that have been produced by basic biological needs, the social interaction needs, and the demands of the various social institutions.

The structure of values or domains proposed by Schwartz is organised in two dimensions: one dimension consists of openness to change (self-direction, stimulation and hedonism) vs. conservation (tradition, conformity and security), while the other dimensions consists of self-enhancement (achievement and power) vs. self-transcendence (universalism and benevolence). The structure of the values proposed by this model allows us to evaluate the values perceived by teens in the characters they identify with.

Participants with ADHD were examined with the Magellan tests to identify and assess attention deficit in teenagers (the ESMIDA-J and ESMITDA-J questionnaires, according to their initials in Spanish) (García, Magaz, 2006) in order to determine their particular condition (Attention Deficit and Hyperactivity Disorder or only Attention Deficit Disorder) and the impact of their condition in the current family, school and social environments. This test consist of 20 items and lasts from 5 to 10 minutes. In addition, the parents and teachers of these participants completed the corresponding version of the ESMIDA questionnaire in order to triangulate the information.

2.4. Procedure

In the first stage of the study, the authors adapted the CH-TV 0.2 and VAL.TV.02 questionnaires and pilot-tested them in order to be able to reduce the number of questions. The questionnaires were evaluated by eight experts before their final application. Additionally, the questionnaires for teens with ADHD were subjected to some adaptations, such as the shading of keywords. Finally, teens with ADHD were given more time to complete the questionnaires.

The normal group answered the questionnaire together and in an online-format. During the completion of the questionnaire, the normal group had the assistance of a tutor and researcher, who were there to clarify possible doubts. Teens with ADHD were invited to a research institute where two researchers explained to them the purpose of the study and then asked them to answer (by hand) the TV habits questionnaire (CH-TV 0.2) in printed format. Parents of teens with ADHD completed the ADHD-assessment questionnaire.

Subsequently, the questionnaire to assess ADHD was answered at home by the participants with ADHD. Their tutors were also asked to answer this questionnaire. Some participants received the questionnaires via postal mail, along with instructions to answer it and a telephone and e-mail for contact. Finally, the information provided in the printed questionnaires was passed on to the online questionnaires to allow the subsequent statistical analysis. The answering of the questionnaires, both printed and online versions, lasted approximately 45 minutes.

SPSS 17.0 was used to perform the statistical analysis of the data. The tests used in the analysis were frequencies, descriptive statistics (mean, median, normal deviation, asymmetry and kurtosis) and inferential statistics tests, like the Kolmogorov-Smirnov test to verify the parametric assumption of normality.

In the case of breach of normality, and given the ordinal character of most variables, we performed the Mann Whitney non-parametric test to compare the central tendency between two independent samples (normal group vs. ADHD group) and the Kruskal Wallis test for three or more groups.

The analysis also included instruments to measure association like the Spearman correlation coefficient; the Tukey's Multiple Comparison test; and the cluster analysis which, through the use of a set of multivariate techniques, allows the grouping of objects and individuals based on their characteristics and the identification of groups of individuals that are more internally homogeneous and heterogeneous among them.

3. Results

3.1. Television genres preferences

First of all, as table 1 shows, we have analysed the TV genres preferences in both subsamples based on a list of 13 different genres.

According to the average scores, the favourite genres for normal teens are, in decreasing order: movies, comedy, series, cartoons, sports, documentaries, late-night shows, music shows, game shows, reality shows, celebrity-gossip shows, soap operas, and talk shows.

For teens with ADHD the favourite genres are: movies, comedy, cartoons, series, sports, documentaries, game shows, late-night shows, music shows, reality shows, talk shows, celebrity-gossip shows and soap operas.

Table 1. Average scores received by the different TV genres from the normal and ADHD groups

	NORMAL GROUP	ADHD GROUP
Movies	3.3	3.58
Comedy*	3.07	3.54
Cartoons*	2.75	3.5
Series	3.05	2.87
Sports	2.71	2.66
Documentaries	2.31	2.5
Game shows	2.17	2.41
Late-night shows	2.26	2.2
Music shows	2.18	2.04
Reality shows*	2.1	1.66
Talk shows	1.48	1.41
Celebrity-gossip shows	1.63	1.37
Soap operas	1.57	1.33

The comparison between the ADHD and normal groups, with the Mann-Whitney test, showed significant differences in relation to some television genres. One of the significant differences is that teens with ADHD give higher scores to comedy shows ($Z=-2.761$ [$p< .01$]), with averages of 3.54 vs. 3.07, and cartoons ($Z=-3.717$ [$p< .01$]), with averages of 3.5 vs. 2.75. On the other hand, teens with ADHD give lower scores to reality-shows ($Z=-2.049$ [$p< .05$]) than the normal group, with averages of 1.66 vs. 2.1.

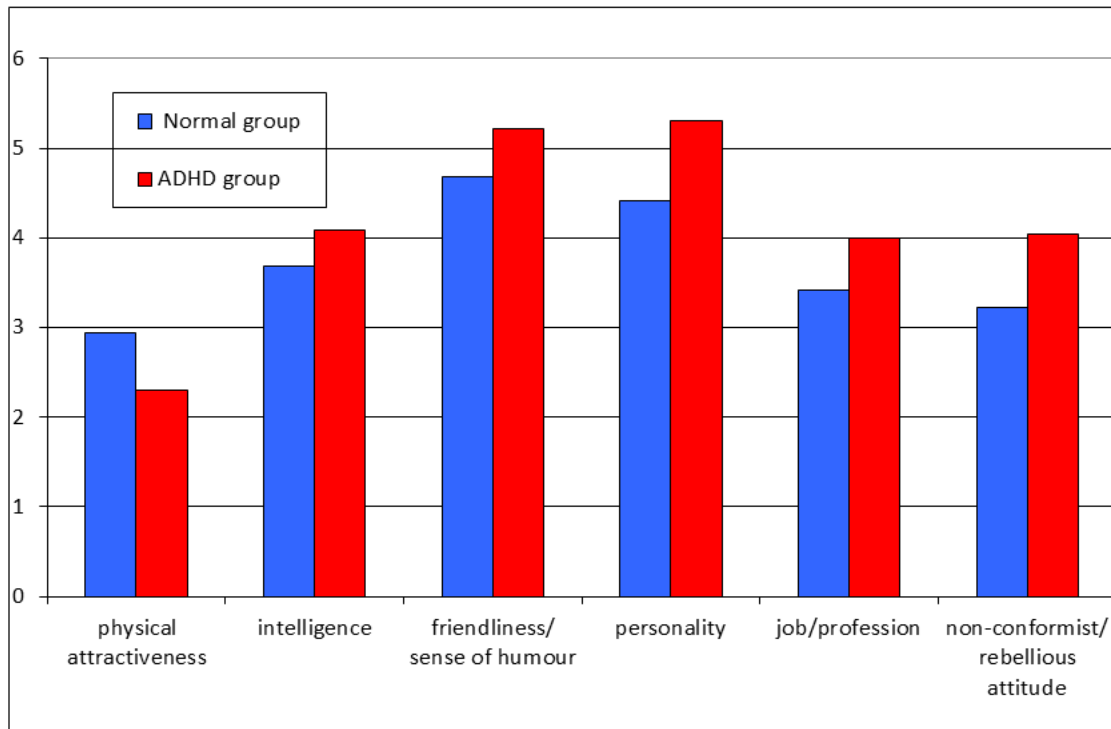
3.2. Reasons why teens like their favourite characters

Another indicator examined in this study refers to the reasons why teens like/identify with TV characters (physical attractiveness, intelligence, friendliness/sense of humour, personality, work or a nonconformist/rebellious attitude).

The study indicates that friendliness/sense of humour and personality are the most important features for both groups; while the least important feature is physical attractiveness.

Figure 1 shows the averages scores that the normal and ADHD groups gave to the different reasons for which the like/identify with a character.

Figure 1: Average scores given by the normal and ADHD groups to the different reasons for which they may like/identify with a TV character



The application of the Mann-Whitney test showed that, in comparison to the normal group, the ADHD group gives higher scores to personality ($Z= 2.526$ [$p< .05$]), with average scores of 5.3 vs. 4.42, work ($Z=-1.716$ [$p=.086$ bilateral]), with averages of 4 vs. 3.41, and nonconformist/rebellious attitude ($Z=-2.131$ [$p< .05$]), with averages of 4.04 vs. 3.23.

3.3. Relation between reasons to like a TV character and the values perceived in them, across both subsamples

The application of the Kolmogorov-Sminov test showed that the assumption of normality is met only for the subscales of self-enhancement and conservation values. Meanwhile, the Spearman correlation was applied over the six reasons to like a TV character (physical attractiveness, intelligence, friendliness/sense of humour, personality, work and nonconformist/rebellious attitude) and the four dimensions of values of Schwartz (openness to change, conservation, self-enhancement and self-transcendence), for both the normal and ADHD groups.

The results from the whole sample indicate that the dimension of values that presents more correlations is self-transcendence (5 correlations), followed, in equal measure, by Self-enhancement and Openness to change (both with 3 correlations), and finally by Conservation with 2 correlations.

The reason for identifying with a character that showed more significant correlations with the different dimensions of values is “work” (5 correlations distributed across the different dimensions of values), followed by physical attractiveness (3 correlations), then personality and nonconformist/rebellious

attitude (both with 2 correlations), and intelligence (1 correlation). “Sense of humour” did not show any significant correlation.

In terms of quantitative differences across subsamples, the analysis of the most important reasons to like/identify with a TV character, in relation to the dimensions of values, shows that the ADHD group shows more correlations between work (3) and physical attractiveness (2) with the dimensions of values than the normal group. Moreover, the normal group has correlations between personality (2) and intelligence (1) with different values while the ADHD group does not show any correlation between these last factors (personality and intelligence) and the dimensions of value.

Table 2: Correlations between reasons to like TV characters and the dimensions of values perceived in them, across subsamples

Dimensions of values	Openness to change Self-direction Stimulation Hedonism		Conservation Tradition Conformity Security		Self-enhancement Achievement Power		Self-transcendence Universalism Benevolence	
	ADHD	normal	ADHD	normal	ADHD	normal	ADHD	normal
REASONS								
Physical attractiveness	-.191	.090	-.647**	.106	.115	.160*	-.530*	.072
Intelligence	.046	.128	-.317	.027	-.086	.042	-.088	.163*
Sense of humour	-.136	.149	-.025	-.103	.090	.094	-.025	-.040
Personality	-.314	.254**	.295	-.109	-.228	.074	.115	.166*
Work	.494*	.097	-.183	.215**	.562*	.117	-.462*	.209**
Nonconformist/ rebellious attitude	-.515*	.136	.241	.010	-.196	.246**	-.203	.018

*p <.05 **p<.01

Finally, sense of humour as reason to identify with a character does not have a correlation with any of the different dimensions of value in any subsample (ADHD and normal).

As table 2 shows, in the normal group there are relations, all of them direct, between: election of physical attractiveness with self-enhancement; intelligence with self-transcendence; personality with openness to change and self-transcendence; work with conservation and self-transcendence; and nonconformist/rebellious attitude with self-enhancement.

The analysis of the correlations shows that the ADHD group has direct and inverse correlations. For instance, there is a significant inverse relation between the election of physical attractiveness with conservation and self-transcendence. In other words, teens with ADHD who score high in conservation

(tradition, conformity and security) and self-transcendence (universalism and benevolence) give lower scores to the physical attractiveness of their favourite character.

In addition, teens with ADHD relate work directly with openness to change (self-direction, stimulation and hedonism) and self-enhancement (achievement and power), and inversely with self-transcendence (universalism and benevolence). In other words, in the latter case, the more teens with ADHD point out work as a reason to identify with a character the less they perceive self-transcendence values in them. Finally, the preference for nonconformist/rebellious attitude is inversely related to openness to change (self-direction, stimulation and hedonism), so the more a character is liked for its rebelliousness the less the value of openness to change is perceived in it.

3.4. Television profiles

Another objective of this study is to identify the TV profiles of the sample of teens in terms of TV genres preferences and the reasons to like a favourite character.

In order to reduce the information collected from participants with respect to their preferences concerning the 13 TV genres, their responses were grouped according to similar preferences, based on the cluster technique. This technique allows us to create groups of subjects or profiles in relation to the following TV genres: A genres: Talk show, reality show and celebrity-gossip shows; B genres: Series, movies, game shows, soap operas and music shows; C genres: cartoons, comedy and late-night shows.

Teens were asked to score their level of preference towards these genres with a 1 to 4 scale (nothing, little, moderately, much) and to score the importance (high, medium or low) of a list of possible reasons why they may like their favourite character (physical attractiveness, intelligence, friendliness and sense of humour, personality, work, nonconformist/rebellious attitude). Based on these scores, we identified six TV viewer profiles (see table 3).

Profile 1 (N= 81) is characterised for giving high scores to friendliness, personality and, to a lesser extent, intelligence, work and nonconformist/rebellious attitude. This profile gives low importance to the physical attractiveness of their favourite TV character. This profile, the largest one, likes the C genre moderately, the B genre a little, and the A genre almost nothing. This profile is identified as the “moderately C genres-low physical attractiveness profile”.

Profile 2 (N= 64) is very similar to Profile 1 with regards to the reasons to like/identify with a TV character, with the exception that these teens give high importance to the physical attractiveness of the character. This profile has a similar average level of preference for the three TV genres profiles (A, B and C), i.e. we could say it is an “Average genres-high physical attractiveness profile”.

Profile 3 (N= 19) is characterised for giving high levels of importance to the friendliness/sense of humour of his favourite character, and low scores to the other reasons, except for personality which is given some level of importance. This profile is similar to profile 1 in terms of TV genres preferences. This profile has been called the “moderately C genres-high friendliness profile”.

Profile 4 (N= 12) is characterised for giving the lowest scores to the reasons to like/identify with a TV character. In comparison to the other profiles, this profile likes television the least. They like the B and

C genre just a little, and the A genre almost nothing. This profile has been called the “low genres-low reasons profile”.

Profile 5 (N= 6) gives high scores to three reasons: personality, friendliness/sense of humour, and nonconformist/rebellious attitude. In contrast they give low scores to physical attractiveness and, to a higher extent, work, and, particularly, to intelligence. This profile likes the C genres much, the B genre a little, and the A genre absolutely nothing. This profile has been called the “very high C genres-high rebelliousness/low intelligence profile”.

Profile 6 (N= 5) values personality and friendliness higher than all the other features that can make them like a TV character. This profile gives lower scores to work and nonconformist/rebellious attitudes, and even lower scores to physical attractiveness and intelligence. This is characterised for linking the A genre much, the B genre moderately, and the C genre a little. This profile has been called the “very high A genres-medium rebelliousness/low intelligence profile”.

Table 3: TV-viewer profiles in the normal and ADHD groups

	Normal	ADHD	Total
Profile 1 Moderately C genres- low physical attractiveness	68 (41.2%)	13 (59.1%)	81 (43.3%)
Profile 2 Average preference genres- high physical attractiveness	58 (35.2%)	6 (27.3%)	64 (34.2%)
Profile 3 Moderately C genres- high friendliness	19 (11.5%)	0 (0%)	19 (10.2%)
Profile 4 Low genres- low reasons	12 (7.3%)	0 (0%)	12 (6.4%)
Profile 5 Very high C genres- high rebelliousness/low intelligence	4 (2.4%)	2 (9.1%)	6 (3.2%)
Profile 6 Very high A genres-medium rebelliousness/low intelligence	4 (2.4%)	1 (4.5%)	5 (2.7%)
Total	165 (100%)	22 (100%)	187 (100%)

In general, taking into account the responses of the whole sample, the more predominant profiles among both subsamples are 1 and 2. Table 3 shows the distribution of TV profiles across the two subsamples: ADHD and normal.

Of the ADHD group, formed by 22 teens (the information of 3 participants is not available), thirteen are profile 1, six profile 2, two profile 5, and one profile 6. Therefore, the responses of teens with ADHD indicate they fit predominantly the profile 1 and, to a lesser extent, the profile 2. The study indicates that about two thirds of this group have a profile 1, i.e. they choose mainly comedy, cartoons and late-night shows but also tend to choose favourite characters based on their physical attractiveness.

The information of 19 teens without ADHD is not available so the analysis of the normal group is based on the answers of 165 participants. The study indicates that the responses of normal teens indicate that most of them fit the profile 1 and 2, in very similar proportions. These profiles are followed, very far behind, by profiles 3 and 4, and even further behind by profiles 5 and 6.

The main difference between the ADHD and normal groups is that the ADHD group is characterised for having only two TV profiles; 1 and 2. However, almost 60% of the ADHD group fits profile 1, which is 20% more than the normal group. Moreover, 35% of the normal group fits the profile 2, which is 8% more than the ADHD group. Meanwhile, the normal group contains similar shares of participants fitting profiles 1 and 2, but also, to a lesser extent, includes participants that fit other profiles. Another difference is that in the ADHD group there is no participants with profiles 3 and 4.

3.5. Analysis of TV viewer profiles in relation to family atmosphere and perception of values

After the more predominant TV profiles were identified, the analysis focused on comparing the 6 TV profiles in relation to family atmosphere (cohesion, expressiveness and conflict) across the whole sample. The application of the Kruskal Wallis test showed significant differences between TV profiles and the degree of family cohesion: ($\chi^2_{(5)} = 12.648, p = .027$). According to the obtained data, all the profiles have high levels of family cohesion but profile 2 (the “average preference for all genres-high physical attractiveness profile”) presents the highest average (111.72), in comparison to profile 1 (“high preference for C genres-low physical attractiveness profile”), whose average is 89.16, and profile 6 (“very high preference for A genres-medium rebelliousness/low intelligence profile”), whose average is 45.5.

Table 4: Mean differences in family cohesion between profile 2 and the rest of the TV-viewer profiles

Profiles	Mean differences	Typical error	Sig.	Confidence interval of 95%	
				Lower limit	Upper limit
2					
1	.41664	.15784	.009	.1053	.7280
3	.43281	.24432	.078	-.0492	.9148
4	.25781	.30002	.391	-3.341	.8497
5	.65067	.37968	.088	-.0983	1.3997
6	1.00781	.44287	.024	.1341	1.8815

Afterwards, we applied the Tukey’s multiple comparison tests in order to establish the mean differences in family cohesion between the different profiles across the whole sample.

The following table (4) only includes the results of the Tukey's test concerning the mean differences in family cohesion between profile 2 and the other profiles. The results show that there are significant differences between this profile and profile 6.

Finally, the Mann Whitney test was applied over the whole sample only to compare the most predominant profiles, 1 and 2, in relation to family atmosphere (cohesion, expressiveness and conflict) and the perception of values (openness to change, self-promotion, conservation, and self-transcendence).

The results show significant differences between profile 1 and 2 in openness to change (self-direction, stimulation and hedonism) with a Z value of -1.867 ($p < .05$), self-enhancement (achievement and power) with a Z value of -1.810 ($p < .05$). Moreover, there are significant differences between both profiles in the familiar dimensions of cohesion, with a Z value of -2.525 ($p < .01$), and expressiveness, with a Z value of -2.359 ($p < .01$). The study found that in all cases profile 2 scored higher than profile 1.

4. Discussion and conclusions

A general analysis of the data indicates that there are some similarities and differences between the ADHD and normal groups in relation to TV genres preferences and reasons to like TV characters. Now, the order of priority given to the reasons to like TC characters varies when we analyse them across TV-viewer profiles (which are based on genres preferences and the reasons to like TV characters) and this provides relevant information since all the sample is mainly formed by two TV profiles (numbers 1 and 2).

With regards to the first objective, the favourite genres among both groups are movies, comedy shows, series and cartoons; although the ADHD group shows greater preference for comedy shows and cartoons over series. These fictional genres are followed by sports, news and cultural programmes, as pointed out by Ramírez de la Piscina *et al.* (2006); and Von Feilitzen (2008). The question is, whether the ADHD group prefers comedy shows and cartoons because they do not like the characters represented in series or movies? Probably, this group is more entertained by comedy shows and cartoons because they have a faster pace and more spectacular images than the characters of the series or movies.

The fact that celebrity-gossip shows are the least liked genre among both groups confirms the findings of previous studies examining teens from the Basque Country and other cultures (Aierbe, Medrano, Martínez de Morentín, 2010; Medrano, Aierbe, Orejudo, 2009; Medrano, Aierbe, Palacios, 2010; Montero, 2006; Pasquier, 1996). However, our findings partly contradict the results obtained by Pindado (2005) in regards to talk shows.

Another interesting finding is that the ADHD group also shows less interest in reality shows than the normal group. The question is whether these genres are less attractive for teens with ADHD due to the fact that their parents exercise more control over this type of content.

Regarding the second objective of this study, to establish the main reasons teens like TV characters, friendliness/sense of humour and personality are the reasons mentioned the most by both groups. On the other hand, the reason mentioned the least was physical attractiveness, which is consistent with other studies (Aierbe, Medrano, 2011; and Medrano, Aierbe, Orejudo, 2010).

The fact that the ADHD group values personality, work and rebellious attitudes more than the normal group could lead us to think that perhaps the former group tends to identify with characters that do not follow social conventions and norms. However, the subsequent analysis of the relation between the reasons to identify with TV characters and the TV-viewer profiles has shown that the relevance given in both groups to the reasons to like characters can vary greatly as well as the values associated with those reasons. For example, the nonconformist/rebellious attitude in the normal group is directly related to self-enhancement while in the ADHD group the nonconformist/rebellious attitude is inversely related to openness to change.

With regards to the third objective, to establish the relation between the reasons to like a character with the values perceived in them, the study found that the dimension of value that has more correlations is Self-transcendence and the one that has less correlations is Conservation. This is very consistent with the characteristic features of adolescence (Erickson, 1993), during which the values of friendship and sensitivity to others are prioritised over more conservative values like tradition, conformity or security. In any case, teens that participated in this study perceive both collectivist and individualist values in their favourite characters (Aierbe, Medrano, Martínez de Morentín, 2010), because the values of self-enhancement and openness to change appear equal measure along self-transcendence.

Taking into account the whole sample, there is little relation between the most-selected reasons to like TV characters (sense of humour and personality) and the dimensions of values. However, while there were no important correlations in the ADHD group, in the normal group there is a relation between personality with openness to change and self-transcendence. Interestingly, sense of humour as a reason to identify with a character has shown no relation with any of the dimensions of value. The question is whether sense of humour as a reason to identify with a character is independent from the dimensions of value? Is it that a comedy character is liked/selected as favourite because, in addition to its entertainment function, it fulfils a social function as a topic of conversation with peers but not so much as a role model?

The fact that in the whole sample the reasons that relate the most to the different dimensions of value are work followed by physical attractiveness, indicates that for both the normal and ADHD groups work is associated with self-enhancement (achievement and power), but for the ADHD group work is also associated with openness to change (self-direction, stimulation and hedonism) and inversely with self-transcendence (universalism and benevolence).

Moreover, the values perceived also differ with respect to the physical attraction since the normal group associates it with self-enhancement; in contrast the ADHD group perceives an inverse relation between physical attractiveness and conservation and self-transcendence. In other words, the greater preference of teens with ADHD for physical attractiveness the less values of conservation (tradition, conformity and security) and self-transcendence (universalism and benevolence) they perceive. This does not allow us to confirm the results of Ruiz *et al.* (2005) with regards to the normal group. On the other hand, the ADHD group is the one who relates the less attractive characters with collectivist values next to conservative values.

Therefore, for the normal group the values linked the most to the reasons to identify with characters (work, physical appearance, rebellion) are self-enhancement values (achievement and power), however, for teens with ADHD the range of reasons and the diversity of values perceived according to these reasons for choosing a character is greater.

Regarding the fourth objective, which was to identify the different TV-viewer profiles existing in the whole sample of teens, our study shows that there are two predominant profiles: n° 1 and n° 2. These profiles similar in some respects but differ in the importance granted to physical attractiveness (hardly appreciated in profile 1 and very appreciated in profile 2) and the preferences towards TV genres since profile 2 like all genres, at a medium level, while the profile 1 prefers cartoons, comedy and late-night shows (the C genre).

It is interesting that when analysing the reasons why teenagers, with and without ADHD, identify with a TV character the physical attractiveness is the least important. However, the identification of TV-viewer profiles (based on genres and reasons to like characters) has allowed us to differentiate a subset (profile 2) that ranks physical attractiveness among the first reasons to identify with a character and also associates it with the values of openness to change and self-enhancement. In this sense, our findings are consistent with those of Ruiz, Conde and Torres (2005), who have pointed out that physical attractiveness was a fundamental attribute of the TV characters chosen as favourite by teenagers.

It is necessary to investigate the relation between physical attractiveness as a reason to identify with a character and the perceived values in future research studies since the relegation of physical attractiveness to the last place may be prompted by participants' desire to complete the questionnaire "socially correct". A more exhaustive analysis in relation to the perceived values indicates that there are a considerable percentage of teens that ranks physical attractiveness among the first reasons to identify with a character. Physical attractiveness could even be related to certain moral values that are more individualistic than we could initially imagine in, for example, the normal group.

With regards to the fifth objective, which refers to the relation between TV-viewer profiles, family atmosphere, and the perceived values in the whole sample, the results confirm the findings of the previous study carried out by Medrano, Aierbe, Martínez de Morentín (2011), who point out that there is a the presence of individualistic and collectivist values. However, the dimensions of value that establish differences between the two main profiles are openness to change and self-enhancement vs. self-transcendence and conservation. It is possible that in adolescence these last two dimensions of values work as constants while the variability is provided by the first two dimensions.

Similarly, the general results indicate that cohesion and expressiveness are the family dimensions that define the differences between the two TV-viewer profiles. However, this does not apply to family conflict, which could indicate that family conflict is a factor that is independent of the TV-viewer profiles and the perceived values. It could also be due to the fact that teenagers perceive some degree of cohesion and expressiveness, independently of this process of individualisation concerning their parents and in general a less conflictive perceptions that would be expected in accordance to the evolutionary stage.

There are still much to investigate in relation to the way in which the TV profiles interact with the perception of values and the family atmosphere. In these studies on media consumption it would be important to consider, in addition to the relational dimension (cohesion, expressiveness and conflict), other family dimensions such as, for example, family organisation, following the recommendation made by Montiel Nava, Montiel Barbero, Peña (2005). In any case, the data obtained in this work go along the line of research that defends the importance of these factors (cohesion and expressiveness vs. conflict) in personal development (Caprara *et al.*, 2005; Estevez, Musitu, Herrero, 2005) and the perception of values and the configuration of identity (Hoffner *et al.*, 2008).

This study has a limitation that should be noted: its findings cannot be generalised to the whole population of teens with ADHD because the sampling was small and conveniently selected. Therefore the study should be based on a larger sample, selected in a stratified manner, and taking into account the different subtypes of ADHD. It would be interesting to investigate in future studies the different profiles and to analyse in a case-by-case basis from a qualitative perspective.

The study aims to contribute to the study of individual differences in media consumption, and to the design of educational media literacy programmes, which through the establishment of TV profiles can be more adequately adapted to the characteristics of their target audience.

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