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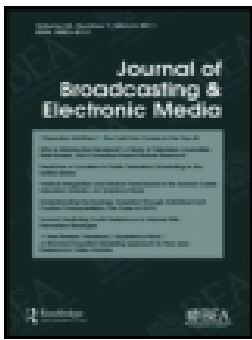
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From Admiration to Devotion? The Longitudinal Relation between Adolescents' Involvement with and Viewing Frequency of Reality TV

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ABSTRACT

Research indicates that reality TV viewing frequency and involvement with reality TV are linked. However, previous studies employed cross-sectional designs and were carried out among college students and general adult population, but not among the most frequent consumers of reality TV: adolescents. To better understand the causal link between this demographic segment's reality TV viewing and involvement, we conducted a longitudinal study among 392 adolescents (ages 15 to 17). Frequency of reality TV viewing increased narrative engagement, parasocial interaction, emotional empathy, merging with the characters, wishful identification, perceived realism, and enjoyment of reality TV six months later. No reverse effects on viewing existed.

Reality TV is often referred to as “guilty pleasure TV” (e.g., Pozner, 2010), and it is a “catch-all category for a variety of different one-off programs, series, and formats that follow real people and their everyday or out of the ordinary experiences” (Hill, Weibull, & Nilsson, 2007, p. 18). The genre became widespread throughout the 1990s, when MTV introduced *The Real World* in 1992 (produced in the U.S., aired worldwide), Castaway Television Productions introduced *Expedition Robinson* in 1997 (known as *Survivor* in the U.S.), and Endemol introduced *Big Brother* in 1999 (originally produced in the Netherlands, format sold and executed in 58 different countries) (Big Brother, n.d.; Expedition Robinson, n.d.; Franko & Krieger, 2011). All the aforementioned shows are still

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running today, and the continued popularity of the reality TV genre across the globe has inspired many researchers to study its appeal.

Traditionally, communication scholars employed a uses and gratifications perspective to explain audience interest in reality TV. Research tested, and refuted, the assumption that reality TV is popular for enabling viewers to indulge in voyeuristic tendencies (Nabi, Biely, Morgan, & Stitt, 2003). Follow-up research indicated that reality TV viewing can be predicted based on peoples' personality needs (Reiss & Wiltz, 2004), and that the most salient viewing motives are to pass time and seek entertainment (Papacharissi & Mendelson, 2007), as well as escapism and social affiliation (Lundy, Ruth, & Park, 2008). Reality TV's zany storylines and plot twists apparently enable viewers to enjoy themselves, relax, and chat with others. Moreover, as Godlewski and Perse (2010) have shown, the degree of satisfaction viewers gain from watching reality TV – and, thus, the potential amount of future viewing – is predicted by their cognitive and emotional involvement with reality TV.

Although highly informative, previous research on the relationship between involvement with reality TV content and the frequency of viewing has two limitations. First, past studies were mostly conducted among college students (e.g., Lundy et al., 2008; Papacharissi & Mendelson, 2007) and/or among adults (e.g., Godlewski & Perse, 2010; Nabi et al., 2003; Reiss & Wiltz, 2004). Little is known about involvement with reality TV content and the frequency of reality TV viewing among younger audiences, such as adolescents, who also watch reality TV programs. Second, previous studies were either based on qualitative interviews and focus groups (Lundy et al., 2008) or cross-sectional surveys (e.g., Godlewski & Perse, 2010; Martins & Jensen, 2014; Nabi et al., 2003; Papacharissi & Mendelson, 2007; Reiss & Wiltz, 2004), which hinder causal conclusions regarding long-term effects

This study is the first to examine the relationship between adolescents' involvement with reality TV and viewing frequency of reality TV content using a longitudinal design. We aim to address three research questions: First, are adolescents' involvement with reality TV and viewing frequency of reality TV content related (RQ1)? Second, does adolescents' involvement with reality TV at Time 1 predict viewing frequency of reality TV content at Time 2 (RQ2)? Third, is adolescents' involvement with reality TV at Time 2 predicted by viewing frequency of reality TV content at Time 1 (RQ3)?

The investigation of adolescents' involvement with and viewing frequency of reality TV is relevant for at least three reasons. First, the genre is highly popular among adolescents (Nielsen, 2009; Niemann-Lenz, Gölz, & Schenk, 2018; Patino, Kaltcheva, & Smith, 2011), and it is generally believed that adolescents' experience the greatest involvement with reality TV (Bartsch, 2012). However, adolescents' actual involvement with reality TV content is yet to be determined. Whereas older viewers may engage in so-called

downward comparison and be skeptical of reality TV content, adolescents typically engage in upward comparison and idolize stars (Raviv, Bar-Tal, Raviv, & Ben-Horin, 1996). For adolescents, reality television stars are role models whose behaviors present an opportunity for social learning (Godlewski & Perse, 2010). Watching the behaviors of reality TV stars allows adolescents to learn about different gender and relationship ideals, and to create and shape their own ideals (Coyne, Padilla-Walker, & Howard, 2013).

Second, although adolescents may enjoy viewing reality television, concern has been voiced about negative viewing effects. Reality television viewing was linked to body dissatisfaction (Egbert & Belcher, 2012), materialism (Lee, Chen, & Harmon, 2016; Oprea & Kühne, 2016), narcissism and entitlement (Oprea & Kühne, 2016), and aggression (Gibson, Thompson, Hou, & Bushman, 2016). In addition to studies on the effects of overall reality TV viewing, other cross-sectional and short-term experimental studies investigated the effects of specific shows; for instance, the effects of viewing *The Girls Next Door* on sexual permissiveness (Cato & Dillman Carpentier, 2010), of *Teen Mom* and/or *16 and Pregnant* on teen parenthood beliefs (Behm-Marowitz, Aubrey, Pennell, & Kim, 2019; Martins & Jensen, 2014), and of *Jersey Shore* on narcissism (Gibson, Hawkins, Redker, & Bushman, 2016). If admiration of reality TV content indeed leads to a devotion to the genre, adolescents may be at an increased risk of experiencing potentially adverse effects.

Third, adolescents' involvement with reality TV and their viewing of reality TV content could be reciprocally related: Involvement with reality TV content may lead to higher viewing frequencies that, in turn, may lead to higher involvement due to greater familiarity with the storylines and characters for instance. If true, the relationship between involvement with and viewing frequency of reality TV could result in a reinforcing spiral (see Slater, 2013) that increases adolescents' susceptibility to reality TV. The potential implications of reinforcing spirals are apparent in research showing that people with high involvement with media content are typically more susceptible to its messages (Moyer-Gusé, 2008).

The Interplay between Reality TV Viewing and Forms of Involvement

In this study, we seek to investigate whether reality TV viewing and adolescents' involvement with the genre are related; whether reality TV viewing can evoke involvement; and whether involvement feeds into reality TV viewing. By addressing these topics, we aim to contribute to a better understanding of the genre's popularity among adolescents. Because of our focus on adolescents, we operationalized reality TV viewing as the viewing of reality TV content on MTV. Indeed, reality TV is generally highly appealing for adolescents (Nielsen, 2009; Niemann-Lenz et al., 2018; Patino et al., 2011), but this is particularly true for the

MTV reality TV shows, which specifically target adolescents and emerging adults (Franko & Krieger, 2011). Moreover, we focus on forms of involvement that are, on the one hand, prevalent in entertainment research and, on the other hand, likely to be relevant during exposure to reality TV: narrative engagement, parasocial interaction, identification, wishful identification, perceived realism, and enjoyment (Moyer-Gusé, 2008). Below, we introduce the different types of involvement and discuss their relationships with reality TV viewing.

Narrative Engagement

Narrative engagement is a prerequisite for a positive viewing experience and return to the genre. It is the key driver in evoking other emotional responses, including identification and enjoyment (Busselle & Bilandzic, 2009). The first set of hypotheses posit that adolescents' reality TV viewing and narrative engagement are positively related (**H1**) and that reality TV viewing at Time 1 positively predicts narrative engagement at Time 2 (**H1a**).

According to Busselle and Bilandzic (2009), narrative engagement is characterized by a state of flow, and consists of four dimensions being narrative understanding, attentional focus, emotional engagement, and narrative presence. In order for narrative understanding to occur, viewers must be capable of linking settings, characters, and situations to their knowledge about the real world (Busselle & Bilandzic, 2009).

Attentional focus, emotional engagement, and narrative presence, in turn, refer to an immersive viewing experience in which the viewer typically loses awareness of one's surroundings, of himself/herself, and of time (Busselle & Bilandzic, 2009). Due to MTV reality TV's easy-to-comprehend settings (e.g., for *The Real World*, a communal house), characters (unknown/ordinary cast members in their late teens or early twenties), and situations (e.g., clubbing, socializing, and working), and due to the fact that reality TV provides adolescents with an emotionally intense entertainment experience (Bartsch, 2012), we expect that adolescents' reality TV viewing and narrative engagement are positively related.

Parasocial Interaction

The casts of MTV shows like *The Real World* and similar shows such as *Jersey Shore*, and *Geordie Shore* are carefully selected to contain a representation of males and females with different sexual orientations, ethnicities, and personalities. Cast members are selected with the viewer audience in mind: Each viewer should have at least one character they could consider as their friend and build a so-called parasocial relationship with. Our hypotheses presume that adolescents' reality TV viewing and parasocial interaction are positively related (**H2**) and that reality TV viewing at Time 1 positively predicts

parasocial interaction at Time 2 (**H2a**). In their study on soap opera involvement, Rubin and Perse (1987) explain how the genre's characteristics could foster parasocial interaction:

Content and production techniques encourage viewers to relate to characters, to think about stories, and to discuss content. Plot complexity, crises, and an emphasis on conversation encourage cognitive and behavioral involvement, especially thinking about and discussing stories trying to predict future outcomes. Soap operas rely on conversation to advance plots and provide viewers with secondhand self-disclosure and an opportunity to "get to know" the characters. (pp. 250–251).

Interestingly, this description can be directly applied to MTV reality shows, which have a high emphasis on conversation and frequently include individual shots of cast members in which they reflect back on previous events or contemplate on future events. The communal houses of shows like *The Real World* typically have a confession booth in which the casts members can voluntarily, or upon requests, record individual or group confessions. Because such confessions create ample opportunity for viewers to establish a parasocial interaction with (at least one of) the characters, it is likely that adolescents' reality TV viewing and parasocial interaction are positively related.

Identification and Wishful Identification

The high diversity of cast members may not only result in viewers perceiving one of the cast members as their friend, but also in perceiving one very similar to themselves. Narrative engagement and genre characteristics may not only stimulate parasocial interaction but also identification. Traditionally, identification has been operationalized and studied in two ways: First, identification *during* viewing, "by which an individual puts him- or herself in the place of a character and vicariously participates in the character's experiences during a program" (Hoffner & Buchanan, 2005, p. 326); Second, identification *beyond* viewing, "the desire to be like or become the celebrity" (i.e., wishful identification, Hoffner & Buchanan, 2005, p. 327).

In this study, we focus on both types of identification. First, we hypothesize that adolescents' reality TV viewing and identification are positively related (**H3**) and that reality TV viewing at Time 1 positively predicts identification at Time 2, more particularly emotional empathy (**H3a**), cognitive empathy (**H3b**), and merging (**H3c**). According to Igartua and Barrios (2012), these dimensions of identification respectively capture the viewers' tendency to become emotionally involved with the character, to adopt the character's point of view, and to imagine being one of the characters.

Assuming that the reality TV format fosters identification *during* viewing, it seems likely that results in identification *beyond* viewing too. Therefore, our hypotheses postulate that adolescents' reality TV viewing

and wishful identification are positively related (**H4**) and that reality TV viewing at Time 1 positively predicts wishful identification at Time 2 (**H4a**). Importantly, wishful identification is not just “wanting to become the character.” In a less extreme form, it refers to “the desire to be like or act like the character” (Hoffner & Buchanan, 2005, p. 325). Reality TV casts are typically older than the adolescent viewer, resulting in upward comparison. Hoffner and Buchanan (2005) found that upward comparison may lead to wishful identification, which suggests a theoretical link between reality TV viewing and wishful identification.

Perceived Realism

Adolescents will only aspire to be like or act like the character when they believe that the portrayed lifestyle is both attainable and leads to positive outcomes. The name of the genre (i.e., “reality TV”) suggests that what is shown is real, and most adolescents do indeed not realize that reality TV is actually scripted (Pozner, 2010). We hypothesize that adolescents’ reality TV viewing and perceived realism are positively related (**H5**) and that reality TV viewing at Time 1 positively predicts perceived realism at Time 2 (**H5a**). According to Cho, Shen, and Wilson (2014), perceived realism consists of five dimensions: perceived plausibility, perceived typicality, perceived factuality, perceived narrative consistency, and perceived perceptual quality.

The final two dimensions are show-specific, and relate to the extent the narratives within a show are congruent and coherent and to the extent “to which the audio, visual, and other manufactured elements of a media narrative comprise a convincing and compelling portrayal of reality” (Cho et al., 2014, p. 832). Perceived plausibility, typicality, and factuality, however, are transcending and genre encompassing. These concepts refer to the extent to which the portrayed events *could* happen in real life, are in line with social expectations, and accurate. Plausibility, typicality, and factuality are judged based on one’s own reality. Because of the close proximity in age between the adolescent viewers and the cast members and the high similarity in interests (i.e., high social focus), adolescents can easily relate to the MTV reality content. We, therefore, expect that the more reality TV adolescents watch, the more events/situations they will recognize, and the higher their perceived realism of the genre will be.

Enjoyment

Finally, a main outcome and predictor of media use and genre preferences is enjoyment. Our hypotheses posit that adolescents’ reality TV viewing and enjoyment are positively related (**H6**) and that reality TV viewing at Time 1 positively predicts enjoyment at Time 2 (**H6a**). A variety of media contents

can elicit enjoyment, including positive contents (e.g., comedies), negative contents (e.g., sad films), and arousing contents (e.g., thrillers) (Busselle & Bilandzic, 2009; Oliver & Bartsch, 2010). As Bartsch (2012) showed, adolescents are particularly drawn to emotionally arousing content.

Reality TV could appeal to adolescents because it is driven by emotions: The storylines are simple – for instance, the catchphrase for *Are You The One?* is “If your Perfect Match was standing right in front of you, would you even know it?” and the series is essentially a game show in which 22 contestants have to discover who of the other cast members is their Perfect Match –, yet ‘spiced’ with exaggerated crushes, quarrels, and fights (Poniewozik, 2006). As the storylines are deliberately scripted to achieve maximum emotional impact, we posit that there will be a strong relationship between adolescents’ reality TV viewing and enjoyment of the genre.

Reciprocal Causality

So far, we have argued that different forms of involvement can result from viewing reality TV. However, involvement may also be a driving force for reality TV viewing. If viewing results in positive experiences (e.g., narrative engagement and enjoyment), uses and gratifications theory would propose that viewers seeking these experiences would revisit the content (Katz, Blumler, & Gurevitch, 1973). Idolization may result in imitation (i.e., adaptation of style and behaviors), worship (e.g., information sharing with other fans), and consumerism (i.e., watching additional episodes) (Raviv et al., 1996).

MTV actively tries to elevate viewership by creating reality TV show spin-offs in which “old” cast members are invited on “new” shows (e.g., *The Gantlet* for *The Real World*, and *Are You The One: Second Chances* for *Are You the One?*). Old cast members can form complete new casts as in the previous examples, but MTV sometimes only uses one or two of the recent viewer favorites to introduce new shows. These old cast members can then either be part of the fixed cast (i.e., each season of *Ex on the Beach* includes one or two fixed cast members from *Geordie Shore*) or be recruited for guest appearances (i.e., several episodes of *Just Tattoo of Us* also include *Geordie Shore* cast members).

Based on MTV’s own practices, we derived the following hypothesis (H7): Adolescents’ narrative engagement, parasocial interaction, identification, wishful identification, perceived realism, and enjoyment at Time 1 are positive predictors for reality TV viewing frequency at Time 2.

Method

Participants

A two-wave panel survey was conducted among Dutch adolescents (ages 15 to 17). The first wave (T1) was conducted in late November and early December 2015

(across 10 days), the second wave (T2) was implemented six months later in the end of May and early June 2016 (across 15 days). Out of the 657 adolescents who completed the questionnaire at T1, 392 (56% male; $M_{age} = 15.94$, $SD_{age} = .80$) completed the questionnaire at T2. To cope with panel attrition, participants at T1 were oversampled to achieve a sample of about 400 participants at T2. Through a MANOVA procedure, we compared dropouts and non-dropouts with regard to their scores on the variables of interest (i.e., the mean indices of reality TV viewing and the different types of involvement) measured at T1 (see measures section). Roy's Largest Root showed significant ($p = .004$) albeit small group differences ($\eta^2 = .04$). Dropouts watched ($p = .007$, $\eta^2 = .01$) and enjoyed reality TV ($p < .001$, $\eta^2 = .02$) slightly more, yet there were no other significant group differences. Thus, sample attrition is unlikely to have biased any findings.

The data was collected by Novio Research, a survey agency experienced with scientific collaborations and research on adolescents. Participants were recruited through an online panel approximately representative of the Netherlands with regard to age, sex, and geographical distribution. The sampling population consisted of adolescents aged 15 to 17. Potential participants were identified by the survey agency based on sociodemographic background information. Batches of randomly selected panel members were successively contacted until the aspired sample size was reached. Participants were contacted through their parents: Panel members with an adolescent in the relevant age group received a personalized invitation. Participants were informed that the study was about television viewing, possessions, and happiness. They were also notified that they could end their participation any time as well as request their data to be removed after participation. Informed consent was obtained from the participating adolescents as well as from their parents. The study received IRB approval from the University of Amsterdam.

Measures

The questionnaires measured reality TV viewing, different forms of involvement, and a series of covariates. The measures were translated from English into Dutch by the authors, and are available upon request. To study longitudinal relationships, reality TV viewing and involvement were measured at both T1 and T2. [Table 1](#) contains the means, standard deviations, and Cronbach's alphas of all measurements at T1 and T2. All scales were reliable, and scale scores were created by averaging the single item scores.

Reality TV Viewing

Reality TV viewing was measured by asking participants to indicate how often they watched certain MTV reality shows (see, e.g., Nabi, 2009). We identified nine shows that fit our definition of reality TV and were aired at the time the

Table 1. Descriptive statistics.

	Time 1			Time 2		
	Mean	SD	α	Mean	SD	α
Reality TV Viewing	1.52	0.77	n/a	1.56	0.78	n/a
Narrative Engagement	2.70	0.85	0.87	2.70	0.83	0.87
Parasocial Interaction	2.61	0.90	0.96	2.62	0.88	0.96
Identification	2.54	0.89	0.97	2.54	0.90	0.97
Emotional Empathy	2.70	0.97	0.93	2.68	0.99	0.94
Cognitive Empathy	2.62	0.94	0.92	2.63	0.95	0.93
Merging with characters	2.34	0.93	0.96	2.36	0.94	0.97
Wishful Identification	2.66	0.76	0.76	2.66	0.77	0.80
Perceived Realism	3.10	0.71	0.74	3.11	0.71	0.78
Enjoyment	2.90	1.00	0.95	2.89	1.03	0.96

N = 392.

study was conducted: *16 and Pregnant*, *Are You the One?*, *Catfish: The TV Show*, *Geordie Shore*, *Jersey Shore*, *Made*, *Teem Mom 2*, *The Hills*, and *Snooki & JWOWW*. As is common on Dutch television, the original versions of these shows were aired in English with Dutch subtitles. For each show, participants could indicate their frequency of viewing on a five-point scale ranging from “1” (“never”) to “5” (“very often”).

Narrative Engagement

We used a set of items that were compiled by Busselle and Bilandzic (2009) to measure narrative involvement. The measure includes six items which were slightly adapted to refer to reality TV viewing (e.g., “When watching reality TV shows, I want to learn how the story ends”).

For all measures of involvement, including the measurements described below – the response categories ranged from “1” (“strongly disagree”) to “5” (“strongly agree”) – unless otherwise mentioned.

Parasocial Interaction

We used the Parasocial Interaction Scale by Rubin and Perse (1987). Participants were asked to indicate their perceptions of and responses to their favorite reality TV character. The reference to the favorite character was necessary because interactions and relationships emerge in response to particular media personas (e.g., Cohen, 2004). The measure functioned as a proxy for the general tendency to parasocially interact with reality TV protagonists (for a similar approach see Jin & Kim, 2015). The scale includes ten items (e.g., “My favorite character makes me feel comfortable, as if I am with a friend”).

Identification

We adapted the scale by Igartua and Barrios (2012) to measure participants’ identification with their favorite reality TV character. Our measure includes 11

items which assess three dimensions of identification: emotional empathy (three items; e.g., “When watching reality TV shows, I understand my favorite character’s feelings or emotions”), cognitive empathy (four items; e.g., “... I am concerned about what is happening to my favorite character”), and the sensation of becoming the character or merging (four items; e.g., “... I feel as if I were my favorite character”).

Wishful Identification

Following Hoffner and Buchanan (2005), wishful identification was measured by asking participants to indicate how much they desired to be like their favorite reality TV character. The scale includes five items (e.g., “My favorite character is the sort of person I want to be like myself”).

Perceived Realism

We employed the Plausibility subscale from Cho et al.’s (2014) Perceived Realism Scale. This subscale was used because plausibility represents the core of perceived realism that is at the foundation of other aspects of perceived realism (Cho et al., 2014). The subscale includes five items which assesses the degree to which media narratives could occur in the real world. The items were adapted to refer to reality TV (e.g., “The stories in reality TV programs can actually happen in real life”).

Enjoyment

We adapted the scale by Oliver and Bartsch (2010), which assesses the experience of fun when watching a movie. The measure includes three items (e.g., “Reality TV programs are entertaining”).

Covariates

Age, sex, household SES, and overall TV viewing were measured as covariates at T1 because they may confound the relationships between reality TV viewing and involvement. Previous research indicates that younger, female, and/or low SES (e.g., less educated) audiences are more likely to watch and be involved with reality TV (Baruh, 2010). Overall TV viewing was controlled, in order to distinguish the effects of reality TV viewing from the effects of overall TV viewing.

Household SES was measured with the item “Thinking of the household you grew up in, did your household have less or more money to spend than the average household?” (1 = much less to 10 = much more) ($M = 5.93$, $SD = 1.83$). Overall TV viewing was measured by adapting the instrument by Lee, Hornik, and Hennessy (2008). Participants had to indicate on how many days during the week (0 to 5 days) and during the weekend (0 to 2 days) they watch television. The average amount of hours and minutes of watching on weekdays and weekend days were measured with two open-ended questions. By multiplying the

number of days with the average viewing time per day, a score for television viewing during the week and a score for television viewing during the weekend were calculated. The two scores were summed to form a score of overall TV viewing per week in hours ($M = 17.50$, $SD = 13.79$).

Results

The analyses included three steps. First, we inspected the distribution of each variable (i.e., skewness and kurtosis) to identify outliers that may bias the analyses (Byrne, 2010). If a distribution deviated from normality, we inspected its boxplot to identify and remove outliers. Second, to test whether reality TV viewing and involvement were related, cross-sectional zero-order correlations were calculated both at T1 and T2. Third, to investigate the longitudinal relationships between reality TV viewing and involvement, autoregressive cross-lagged models were estimated.

Assessment of Distributions

Inspecting each univariate distribution revealed that overall TV viewing was not normally distributed (skewness = 4.26, kurtosis = 30.11). The boxplot showed that there were six cases with extreme values that correspond to an overall TV viewing time of 68 hours or more per week. The six cases were excluded from all further analyses. An analysis of the remaining 386 cases revealed that all variables were approximately normally distributed (skewness $\leq |1.68|$, kurtosis $\leq |2.40|$).

Cross-Sectional Relationships between Reality TV Viewing and Involvement

To test whether adolescents' involvement with reality TV and viewing frequency of reality TV are related (RQ1), zero-order correlations were estimated. As shown in Table 2, at both T1 and T2, positive and significant cross-sectional correlations were observed between adolescents' reality TV viewing and the following variables: narrative engagement, parasocial interaction, identification (reflecting emotional empathy, cognitive empathy, and merging with characters), wishful identification, perceived realism, and enjoyment. These results corroborated the assumptions proposed in Hypotheses 1 through 6. However, longitudinal analyses are necessary to substantiate causal interpretations of these relationships, and to determine whether adolescents' involvement with reality TV at T1 *predict* viewing frequency of reality TV content at T2 (RQ2) and/or whether adolescents' involvement with reality TV at T2 *predicted by* viewing frequency of reality TV content at T1 (RQ3).

Table 2. Cross-sectional zero-order correlations between reality TV viewing and involvement.

	Hypothesis	Time 1		Time 2	
		<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Narrative Engagement	H1	.40	<.001	.41	<.001
Parasocial Interaction	H2	.36	<.001	.33	<.001
Identification	H3	.36	<.001	.32	<.001
Emotional Empathy	"	.37	<.001	.32	<.001
Cognitive Empathy	"	.36	<.001	.30	<.001
Merging with Characters	"	.30	<.001	.30	<.001
Wishful Identification	H4	.25	<.001	.22	<.001
Perceived Realism	H5	.16,	.001	.14	.007
Enjoyment	H6	.43	<.001	.42	<.001

N = 386.

Longitudinal Relationships between Reality TV Viewing and Involvement

We estimated autoregressive cross-lagged models, which are currently a standard approach to investigate causal relationships with panel data. Albeit longitudinal models cannot definitively prove causality, they provide much stronger evidence on the existence of causal relationships than cross-sectional models (Finkel, 1995).

Model Specification

For each type of involvement, an autoregressive cross-lagged model (see Figure 1) was estimated in AMOS 25 using maximum likelihood estimation. Reality TV viewing and the respective type of involvement at T1 were included as predictors of reality TV viewing and involvement at T2 (i.e., autoregressive and cross-lagged paths were estimated). Age, sex, household SES, and overall TV viewing (all measured at T1) were included as covariates, that is, as additional predictors of reality TV viewing and involvement

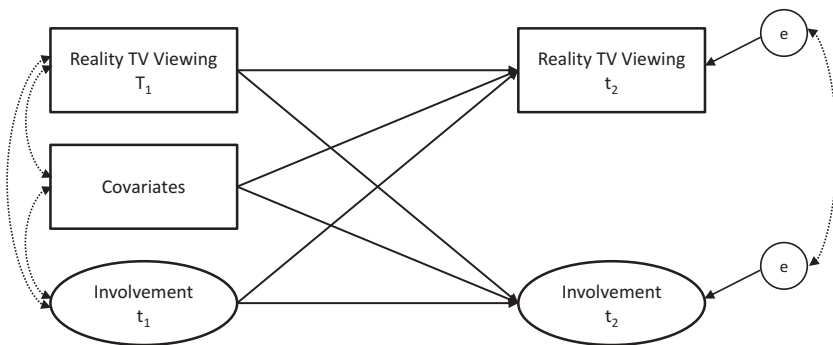


Figure 1. Autoregressive cross-lagged model of relationships between reality TV viewing and involvement.

at T2. The error terms of reality TV viewing and involvement at T2 were allowed to correlate.

Each type of involvement was modeled as a latent variable. The error terms of like indicators were correlated across time to account for indicator-specific variance (see Finkel, 1995). Moreover, we tested whether the loadings of like indicators were stable across time. When all loadings are stable across time, (full) metric invariance holds. When some but not all loadings are stable across time, partial metric invariance also holds steady. Full or at least partial metric invariance is a precondition for the analysis of longitudinal relationships (e.g., Steenkamp & Baumgartner, 1998). Metric invariance can be assessed by comparing the fit of a baseline model – in which factor loadings are freely estimated at T1 and T2 – with the fit of a nested invariance model – in which factor loadings are constrained to be equal across T1 and T2. Metric invariance holds when the fit of the nested model is not significantly worse than the fit of the baseline model.

The fit of each model was assessed by inspecting the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). An acceptable fit is indicated by a CFI larger than .90, a RMSEA smaller than .08, and an SRMR smaller than .10 (Byrne, 2010). The comparisons of model fit were based on chi-square difference tests.

Estimating the models revealed two problems. First, the model with narrative engagement ($\chi^2(107) = 736.86, p < .001$; CFI = .88, RMSEA = .12, SRMR = .06) and the model with perceived realism ($\chi^2(77) = 634.04, p < .001$; CFI = .84, RMSEA = .14, SRMR = .10) had a low fit. Modification indices suggested that for narrative engagement and perceived realism – three error correlations and one error correlation – had to be added, respectively. The suggested errors correlations are substantively plausible because they seem to be the result of a conceptual overlap between the respective indicators (see Byrne, 2010); they were thus added to the models.

After these modifications, all models had an acceptable fit. The fit indices of each model are summarized in Table 3. A second issue was that full metric invariance could not be established for the measure of perceived realism (i.e., the chi-square difference test was significant; see Table 3). An inspection of the unconstrained factor loadings indicated that the loading of one indicator of perceived realism was not stable across time. However, a partially invariant measurement model of perceived realism – in which the loading of the problematic indicators was freely estimated at T1 and T2 – fitted the data well; this suggested that longitudinal analyses were still possible. The results of all nested model comparisons that were conducted to assess (partial) metric invariance are summarized in Table 3.

Tests of Longitudinal Relationships

For the evaluation of the hypotheses about the longitudinal relationships between reality TV viewing and involvement, the (standardized) path coefficients and

Table 3. Fit indices and nested model comparisons.

Model	Model Fit						Nested Model Comparison		
	χ^2	<i>df</i>	<i>P</i>	CFI	RMSEA	SRMR	$\Delta\chi^2$	Δdf	<i>p</i>
Narrative Engagement									
Baseline (Modified)	183.92	101	.000	.98	.05	.06	-	-	-
Metric Invariance	185.84	105	.000	.98	.04	.06	1.92	5	.860
Parasocial Interaction									
Baseline	827.17	267	.000	.93	.07	.04	-	-	-
Metric Invariance	834.09	276	.000	.93	.07	.04	6.92	9	.646
Emotional Empathy									
Baseline	49.91	29	.009	.99	.04	.02	-	-	-
Metric Invariance	50.59	31	.015	.99	.04	.02	.68	2	.711
Cognitive Empathy									
Baseline	112.92	51	.000	.98	.06	.03	-	-	-
Metric Invariance	113.05	54	.000	.98	.05	.03	.14	3	.987
Merging with Characters									
Baseline	97.76	51	.000	.99	.05	.02	-	-	-
Metric Invariance	102.51	54	.000	.99	.05	.02	4.75	3	.191
Wishful Identification									
Baseline	138.26	77	.000	.99	.05	.03	-	-	-
Metric Invariance	141.42	81	.000	.99	.04	.03	3.16	4	.531
Perceived Realism									
Baseline (Modified)	139.34	75	.000	.98	.05	.06	-	-	-
Metric Invariance	153.56	79	.000	.98	.05	.06	14.22	4	.007
Partial Metric Invariance	146.55	78	.000	.98	.05	.06	7.21	3	.065
Enjoyment									
Baseline	27.91	29	.523	1.00	.00	.01	-	-	-
Metric Invariance	30.56	31	.489	1.00	.00	.01	2.65	2	.266

N = 386.

Table 4. Longitudinal relationships between reality TV viewing and involvement.

	Effect of Reality TV Viewing (T1) on Involvement (T2)			Hypothesis 7: Effect of Involvement (T1) on Reality TV Viewing (T2)	
	Hypothesis	β	<i>p</i>	β	<i>p</i>
Narrative Engagement	H1a	.17	<.001	.06	.066
Parasocial Interaction	H2a	.13	.007	.01	.751
Emotional Empathy	H3a	.10	.047	.00	.919
Cognitive Empathy	H3b	.15	<.001	.03	.392
Merging with Characters	H3c	.08	.123	.01	.662
Wishful Identification	H4a	.14	.003	-.00	.940
Perceived Realism	H5a	.12	.013	-.00	.969
Enjoyment	H6a	.13	.004	.03	.418

N = 386.

corresponding *p*-values of the (partial) metric invariance models were inspected. All path coefficients and *p*-values are presented in Table 4: Columns 3 and 4 present the results related to the longitudinal effects of reality TV viewing on the different types of involvement. Columns 5 and 6 show the results related to the longitudinal effects of involvement on reality TV viewing. The findings reveal a clear pattern: With the exception of merging with characters, reality TV viewing at T1 had a significant and positive effect on all types of involvement at T2 –

confirming H1a, H2a, H3a, H3b, H4a, H5a, and H6a. Involvement at T1, however, did not affect reality TV viewing at T2 – rejecting H7. In summary, reality TV viewing had a longitudinal effect on involvement, but no reverse effect existed.

Discussion

This study investigated the relationship between adolescents' viewing frequency of and involvement with reality TV – i.e., narrative engagement, parasocial interaction, identification (i.e., cognitive empathy, emotional empathy, merging with the characters), wishful identification, perceived realism, and enjoyment. Cross-sectional analyses revealed that adolescents' viewing frequency of reality TV was positively related to all nine forms of involvement. The longitudinal analysis, in addition, revealed a clear causal pattern. Reality TV viewing at Time 1 was a significant and positive predictor of adolescents' narrative engagement, parasocial interaction, emotional empathy, merging with the characters, wishful identification, perceived realism, and enjoyment at Time 2. In contrast, the different forms of involvement at Time 1 did not predict reality TV viewing at Time 2.

All in all, only two of our original expectations were not met. First, reality TV viewing at Time 1 did not predict cognitive empathy at Time 2. This result is understandable when looking at the nature of the different types of involvement. Narrative engagement, parasocial interaction, emotional empathy, merging with the characters, wishful identification, and enjoyment are primarily emotional responses to reality TV viewing, whereas perceived realism and cognitive empathy entail more elaborate cognitive processes – which may be elicited to a lesser degree by the contents of reality TV. When watching reality TV, it is easy to get swept away by excitement – much like the characters, who tend to act on emotion rather than scrutiny – but reality TV may not stimulate more elaborate cognitive processes, such as perspective taking and reflection about one's own behaviors, which are essential components of cognitive empathy (Igartua & Barrios, 2012). This could explain why adolescents' are likely not to overthink their character's actions and why an effect of reality TV viewing on cognitive empathy did not emerge.

The second hypothesis that needed to be rejected proposes that adolescents' scores on the involvement measure at Time 1 would predict their reality TV viewing frequency at Time 2. Here, we can think of two explanations of why our hypothesis did not hold. First of all, because the involvement measures pertained to specific shows and characters, they may be more predictive of the viewing frequencies of those particular shows than of the overall genre. Second, the time lag between our waves was quite substantial. Our reality TV viewing frequency measure is based on shows that were aired at both waves. However, because six months had elapsed, many of these shows had

either entered reruns or new seasons. Viewership of reruns tends to be lower, and shows gain and lose audiences between seasons. In addition, audience retention may be higher for shows retaining similar casts across seasons than for shows with changing casts per season or episode – and we did not control for this. Hence, high involvement may have lead the adolescents' to finish the current season of their favorite reality TV show, but once a season has finished they may have gotten involved with a different show instead.

Another limitation of this study is the panel attrition of 40%. We cannot completely rule out that panel attrition affected our results, though it is highly unlikely that it did. Upon testing the mean differences on all eleven key variables, significant differences were only found for reality TV viewing and enjoyment and these were of the smallest magnitude (i.e., $\eta^2 = .01$).

This study points out several directions for future research. The study aimed at investigating whether adolescents' reality TV viewing and involvement with the genre were positively related within and across time. We found that reality TV viewing has a causal effect on involvement, rather than vice versa. Future research employing a cross-sectional design should bear these findings in mind. Still, we would be hesitant to conclude that involvement does not predict viewing frequency *at all*. We would strongly encourage future research to zoom into viewership of specific shows, into different (i.e., shorter) time frames, and into a potential threshold for involvement to affect viewing. More particularly, it is plausible that involvement with specific shows is only predictive of the future viewing frequency of those specific shows rather than the viewing frequency of the overall genre; that involvement is a stronger predictor for whether or not viewers watch the next episode or finish the season than for whether or not they watch reruns or future seasons; and that the effect of involvement on viewing frequency is only present for a show's biggest fans.

In addition to the suggestions above, future longitudinal research with shorter time lags might benefit from including an additional wave of data collection. This would enable researchers to investigate the dynamic effects of media use and outcomes, and provide even stronger evidence for the presence or absence of a reinforcing spiral – between adolescents' reality TV viewing – and involvement with the genre (Slater, 2013). Even so, it is worth pointing out that including an additional wave would cost additional time and money. Researchers could start small by conducting a small-scale experiment to determine if there is a minimum number of episodes that a viewer should watch in order for him/her to reach the minimum level of involvement that would predict future viewing. Although genre preferences take time to develop (i.e., it requires watching more than one or two shows to get “hooked”), program-specific preferences may develop rather soon. In such cases, the reinforcing spiral might still be absent for the overall genre, but very much present for specific reality TV shows.

Last, but not least, we want to stipulate the importance of our finding that adolescents' reality TV viewing is a positive causal predictor for their level of involvement with the genre. The fact that adolescents who watch reality TV content become involved with its content, could potentially make them more vulnerable to its questionable life lessons (Moyer-Gusé, 2008). Future research is needed to determine whether their growing involvement makes adolescents more susceptible to the effect of reality TV viewing on documented negative outcomes such as body dissatisfaction (Egbert & Belcher, 2012), materialism (e.g., Lee et al., 2016), narcissism and entitlement (Oprea & Kühne, 2016), and aggression (Gibson et al., 2016).

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