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You are who you watch: Identification and transportation effects on temporary self-concept

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Identification and transportation are believed to be major moderators of the impact of media consumption on its consumers. A study ($N = 118$) was conducted to examine the effects of identification and transportation on activation of media concepts in the "real world" lives of media consumers. Results indicated that under conditions of high identification, participants temporarily displayed increased activation of trait characteristics displayed by a character in a film clip within their self-concept. Supportive albeit inconsistent evidence of a similar role for transportation was also obtained. These findings indicate that traits exhibited by media characters may spill over into the self-concept of the viewer, and identification and transportation appear to play a significant role in such increased activation.

Keywords: Identification; Transportation; Media; Self-concept.

Among the most important societal shifts in the last few generations is the ubiquity of the mass media. From magazines to blogs, television to video games, media consumption comprises a massive chunk of the day-to-day lives of most people in the developed world. It allows us access to information, opinion, entertainment, and social connections on a scale and at a rate inconceivable by past generations, and there is no apparent end to the increasing presence of media in nearly every aspect of our lives.

With the steady growth of media penetration, however, has come an increasing concern with the potential effects of media on its consumers. This is particularly true of entertainment media, which is typically fictional or

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a dramatized version of factual events. Entertainment media is essentially a series of simulated situations (Mar & Oatley, 2008). Because entertainment media often centers on violent, promiscuous, and amoral characters (e.g., Cowan & O'Brien, 1990; Bar et al., 2001; McIntosh, Murray, Murray, & Manian, 2003), many in the public and scientific spheres (e.g., Anderson et al., 2003; Bartholow, Bushman & Sestir, 2006) have expressed concerns that characteristics and behaviors modeled in the media could influence the characteristics and behaviors of their audience. With this concern have come sporadic efforts to regulate, restrict, or ban access to books, television shows, video games, and websites. There is also widely reported anecdotal evidence of media consumers, typically young men, copying the violent tendencies depicted in their preferred movies or video games. For example, the Columbine school shooters notoriously favored a violent game modified to incorporate two player characters, unlimited ammunition, and enemies that could not fight back (Glick & Keene-Osborn, 1999).

But the primary question continues to be: how and when does media consumption shape the mindset and worldview of its consumers? A great deal of theoretical and empirical research (e.g., Homer & Yoon, 1992; Nabi & Clark, 2008) has investigated the effects of our interactions with media products. Perhaps the most direct attempt to address the impact of media consumption on the perceptions and beliefs of frequent consumers is cultivation theory. Cultivation theory (Gerbner, Gross, Morgan, & Signiorelli, 2002; Shrum, Burroughs, & Rindfleisch, 2005) argues that media consumers come to internalize messages from their preferred media and apply them to the real world. Cultivation theory essentially argues that people come to view the real world as similar to the world portrayed in the media.

However, cultivation theory has generally been used to address changes in the perceptions or worldview of media consumers. We were interested to see if comparable effects could occur for something as fundamental as self-concept, the traits that individuals believe themselves to possess. Where cultivation theory focuses on the impact of mediated "meta-messages" over time, our research looks to establish an acute effect of character-displayed personality traits over a short period of exposure. Previous research has demonstrated media effects on other aspects of the self, including body image (e.g., Harrison & Hefner, 2006) and social identity (e.g., Fryberg, Markus, Oyserman, & Stone, 2008).

Anecdotally, nearly everyone has experienced characters within a narrative who seemed to have a personality that transcended the scope of the work itself—in short, to have taken on a life of their own, at least in the mind of the viewer. Additionally, most have had the experience of a narrative that was so enjoyable or well crafted that they responded as if the situations depicted were actually occurring, and as if they themselves were the main characters. Individuals may emulate admired characters

(as demonstrated by research in the social cognitive theory tradition), but can exposure to media characters have even deeper effects on individuals' self-concept, or the accessibility of characteristics that are perceived as describing the self (Green, 2005)?

The primary aim of this research is to investigate whether exposure to media narratives can lead to an increase in the accessibility of character traits in the mind of the viewer, and specifically, whether media exposure can cause changes (even temporary ones) in the self. In other words, can viewing a narrative produce changes in something as central as the viewer's self-concept? We believe two factors, character identification and transportation, to be primary moderators of this relationship.

IDENTIFICATION

Identification with media characters, from a theoretical perspective, is something of a slippery term: while it is self-evident that identification involves a perceived connection between viewer and character, the actual definition of the term varies across researchers. Identification has been conceptualized as synonymous with liking (Cohen, 2001) and perceived similarity (Hoffner & Cantor, 1991). However, the most commonly used definition of identification is a process whereby viewers vicariously take the place of a media character and react to his or her experiences as if they were happening to the viewer (Horton & Wohl, 1956; Rosengren & Windahl, 1972).

Identification is typically viewed as temporary, and subject to fluctuations throughout the media viewing experience (Cohen, 2006). Increased identification appears to lead to an increased likelihood of mimicking the behavioral tendencies of the identified character (Cohen, 2001). Hypothesized causes include increased message involvement and thus higher elaboration (Cohen, 2001), or a simpler social learning-type mechanism (e.g., Bandura, 1977), where identification leads to greater vicarious impact of rewards experienced by the media character, and thus a greater likelihood of behavioral modeling by the viewer.

IDENTIFICATION AND SELF-IDENTIFICATION

Empirical research has been conducted on the connection between identification and trait self-identification, defined as an increase, temporary or otherwise, in the belief that one possesses a given trait, in this case those traits displayed by a character the viewer identifies with (McDonald & Kim, 2001). Developmental research has repeatedly found strong, albeit correlational, evidence that children tend to identify strongly with media characters and describe themselves as being highly similar to the characters with whom they identify. These results have been found in radio

(Cantril & Allport, 1971), television (Schramm, Lyle, & Parker, 1961), and video games (McDonald & Kim, 2001). However, there is little experimental evidence to support this relationship, and children reliably were more likely to report identifying with characters who were demographically similar to them, casting doubt on a causal effect of identification on similarity. Additionally, because all the relevant studies have been run with children, there are questions about the generalizability of these findings to adults. However, if there is in fact a causal relationship of identification on perceived similarity, it is likely that viewing media characters may also lead to an activation of the traits of those characters within the viewers' own self-concepts. That is, viewers may come to see themselves (at least temporarily) as possessing the same traits as media characters.

Identification is in some ways similar to parasocial interaction (Cohen, 2001), with the primary conceptual distinction being that, under parasocial interaction, media characters are still seen as "other" and the consumer cognitively "interacts" with them as if they were an external entity, as opposed to the greater self–other overlap seen with identification (e.g., Horton & Wohl, 1956). Given the aim of examining changes in self-concept, we expect that eliciting identification would produce stronger effects than the use of parasocial interaction. Hence, parasocial interaction was not used as a factor in our design. Furthermore, although individuals typically identify with positive characters, under some circumstances they might (perhaps only temporarily) identify with more negative ones. Because our proposed effects may occur with a range of characters, identification is a more appropriate construct than alternatives such as liking or wishful identification, which assume primarily positive feelings toward a character.

In addition to the potential impact of identification, transportation has been shown to be a powerful moderator of media effects, and may affect trait activation within the self-concept.

TRANSPORTATION

The state of feeling cognitively, emotionally, and imaginally immersed in a narrative world has been labeled transportation (Gerrig, 1993; Green & Brock, 2000). Being highly transported has been compared to the experience of flow (Csikszentmihalyi, 1990) or to some researchers' conceptualizations of high involvement (Klimmt & Vorderer, 2003).

Transportation is presumed to affect not only the perceived entertainment value of the media, but also the cognitive and emotional responses of the viewer. Individuals who are transported are more likely to process the messages of the narrative via peripheral route processing (Escalas, 2007), with fewer negative cognitive responses and greater affective response (Green, Chatham, & Sestir, 2010).

Importantly, transportation is also viewed as a strong moderator and mediator of the impact of narratives on attitudes (Green & Brock, 2000). As a reader or viewer of a narrative becomes more immersed in its events, the narrative world, its inhabitants, and its situations begin to feel more real, and the consumer responds both emotionally and cognitively as if they were. Thus we treat the things that happen within it much as we do stimuli within the real world itself. Over time we may eventually begin to see the real world through the filter of the media-created worlds into which we feel most transported, rather than the other way around.

Transportation overlaps conceptually with identification to a degree: both involve an increase in perceived verisimilitude of some aspect or aspects of a media narrative. However, the two are conceptually distinct. Transportation involves a general sense of immersion in a mediated situation or environment, whereas identification is specific to a single character. Theoretically, transportation can occur without identification, and identification can occur in the absence of transportation, although the latter is less likely. While the two are hardly orthogonal, and often are seen in concert, each operates independently. Thus, identification and transportation may independently and/or additively lead to activation of character traits within the self-concept of the viewer.

If transportation and identification effects on self-concept were to occur, they are most likely to be seen for the traits that are most salient for a given character. Therefore we expect only those traits identified as being primary to the character to be activated in the viewer's self-concept.

- **H1a.** Under high identification, participants will be more likely than low-identification participants to display responses consistent with increased accessibility of traits seen as relevant to a viewed character's personality, but will show no such tendency for traits not seen as relevant.
- **H1b.** Under high transportation, participants will be more likely than low-identification participants to display responses consistent with increased accessibility of traits seen as relevant to a viewed character's personality, but will show no such tendency for traits not seen as relevant.

Additionally, if identification and transportation increase activation of character traits in the self-concept, we expect that traits displayed by the character that were initially not a part of the viewer's self-concept could temporarily switch to being identified as part of the self-concept.

- **H2a.** Under high identification, participants will be more likely than low-identification participants to switch from initially not

self-identifying with a character-relevant trait to later self-identifying with that trait, but will show no such tendency for character-irrelevant traits.

- **H2b.** Under high transportation, participants will be more likely than low-identification participants to switch from initially not self-identifying with a character-relevant trait to later self-identifying with that trait, but will show no such tendency for character-irrelevant traits.

In the study, participants watched one of several film clips. Each clip had been pre-tested to ensure it was seen as containing one primary character who exhibited particular personality traits. The primary independent variables were explicit instructions designed to induce higher (or lower) levels of transportation and identification in participants, and trait activation was measured through a pre- and post-stimulus administration of a ''me/not-me'' task designed to assess trait self-identification.

METHOD

Participants

Participants were 127 undergraduates (76 female and 51 male) in introductory psychology classes at UNC-Chapel Hill.

Materials

Me/Not-Me task. The Me/Not-Me task is primarily a reaction time task. Participants were shown a series of 19 trait words (pretested to be either relevant or irrelevant to the film characters) and asked to press one key for traits they believed described themselves, and another for traits they believed did not. The variables of interest are the classification of each item, and the speed at which it is chosen. Reaction time changes (difference scores) in milliseconds from pre-test to post-test provided the dependent variable for H1a and H1b, and changes in classification were used to test H2a and H2b.

Identification/transportation instructions. Transportation and identification were manipulated through explicit written instructions. All participants were given viewing instructions of similar length and format, which varied by condition: participants were asked to observe the clip ''as if you were an independent observer of the narrative'' watching the characters interact (low identification), or ''as if you were the main character in the clip'' (high identification). Additionally, participants were instructed to either put themselves into the narrative by ''focus[ing] on the events as if you were inside the movie itself'' (high transportation) or ''focus on the color scheme used in the movie clip'' (low transportation) from either the low or high

identification perspective. Hence, identification instructions manipulated the personal perspective of the viewer, and transportation instructions manipulated the content the viewer was asked to focus on from that perspective. Participants verified that they understood the instructions by reading a short summary of the requested viewing focus and circling ''Yes'' to state that they understood.

Movie questionnaire. The movie questionnaire measured reactions to the film clip and served as a manipulation check. It consisted of 21 questions assessing transportation, identification, and other reactions to the clip. Eight items ($\alpha = .62$) assessed transportation (Green & Brock, 2000). Additionally, two dummy items addressed the ''low-transportation'' conditions. These items assessed perceptions of the ''color scheme'' of the clip. Three items ($\alpha = .79$) assessed character identification. All transportation and identification items are listed in the Appendix. The remaining items addressed secondary concerns, such as whether the participants had previously seen the clip. Each item on the Movie Questionnaire, except for the ''previously seen'' question, was rated on a 1 (*not at all*) to 7 (*very much*) scale.

Character trait questionnaire. This questionnaire consisted of 19 items, matching the 19 items used for the Me/Not-Me task. Participants were asked to what extent they believed the main character of the clip possessed each trait on a 1 (*not at all*) to 7 (*very much*) scale. Ratings from this measure were used to analyze crossover items.

Film clips. Four film clips were used as stimuli. Clips were pre-tested to determine the primary character in each clip, as well as the traits and moral valence displayed by each character. The clips were from the movies *Fight Club*, *City of Angels*, *American Psycho*, and *There's Something About Mary*. Each clip was between 7 and 10 minutes long, with a single character as the focus.

Procedure

Prior to each experimental session, condition was randomized by means of two coin flips. Upon arrival, participants were escorted to a laboratory booth and told a cover story: that the study was investigating how individuals with different personality traits viewed media presentations. They were then given instructions for the Me/Not-Me task. After 16 practice trials dealing with basic physical characteristics and behavioral tendencies, participants completed the primary task.

When the initial administration of the Me/Not-Me task was complete, participants were given transportation/identification instructions.

Participants then viewed the movie clip. Following the clip, participants completed the Me/Not-Me task again, preceded by another brief practice period. Participants were then given the movie questionnaire. Once finished, participants were debriefed, thanked, and excused.

RESULTS

Participants

Nine participants were dropped from analyses due to outlying responses or equipment failure. Of these, seven had more than 50% "crossover" items (rated as Me on one administration and Not-Me on the other, regardless of order), indicating either random responses, inattentiveness to the task, or deliberate alteration of response from pre- to post-stimulus administration (to compare, the remainder of the sample had 6% crossover items).[1] Two participants experienced technical difficulties and could not hear the movie clips. Thus 118 participants were included in the final analyses.

Manipulation check

Participants in the high-identification conditions reported significantly higher levels of identification ($M = 5.13$; $SD = 1.04$) than those who were not ($M = 4.29$; $SD = 1.42$), $F(1, 114) = 12.65$, $p = .001$, $d = 0.67$. Participants in the high-transportation conditions reported significantly higher levels of transportation ($M = 5.43$; $SD = .64$) than participants who were not ($M = 5.15$; $SD = .75$), $F(1, 114) = 4.63$, $p = .03$, $d = 0.40$. Neither manipulation had a significant effect on the other variable's scale, and there were no significant transportation $\times$ identification interactions for either the transportation scale, $F(1, 114) = 0.09$, $p = .76$, or the identification scale, $F(1, 114) = 0.01$, $p = .95$.

Me/Not-Me task

Mean ratings of character traits obtained in a pretest were used to classify scores on the Me/Not-Me task, to determine which traits were perceived as being possessed by viewed characters, and which were not. Each clip had between three and seven traits in each category. Traits for each clip with a mean pretest rating of 4.5 or higher were classified as Character-Relevant Traits; traits rated as 2.5 or lower were classified as Character-Irrelevant Traits. Traits with average ratings between 3.0 and 4.5 were discarded from later analyses.

[1]Inclusion of these participants only significantly affected results for H2a and H2b: both became non-significant, probably due to erratic responses of high crossover participants.

The mean number of Character-Relevant Traits for each clip was 4.0, and 4.5 for Character-Irrelevant Traits (traits that were rated as not part of the character's personality). The traits rated as Character-Relevant for the *American Psycho* clip were Arrogant, Intelligent, and Selfish. For the *Fight Club* clip, the relevant traits were Friendly, Helpful, Intelligent, Loving, Pleasant, and Trustworthy. The primary character in the *City of Angels* clip was seen as Friendly, Helpful, Humorous, Intelligent, and Loving. The relevant traits for the *Something about Mary* character were Friendly, Intelligent, and Outgoing.

Primary analyses

H1a was supported: as predicted, there was a main effect for Identification on reaction time changes in Character-Relevant Traits. This was true both for Relevant Traits rated as Me traits, $F(1, 111) = 11.03$, $p < .001$, $d = -0.64$, and Relevant Traits rated as Not-Me traits, $F(1, 31) = 7.06$, $p = .01$, $d = 0.99$. The pattern of effects matched predictions: participants in the high-identification condition showed faster reaction times from pre- to post-test on Character-Relevant Me traits ($M = -166.94$ ms; $SD = 217.83$), relative to those in the low-identification condition, ($M = -9.13$ ms; $SD = 274.38$). For Character-Relevant Not-Me traits, high-identification participants became slower to rate those traits from pre- to post-test ($M = 145.71$ ms; $SD = 327.62$), relative to those in the low-identification condition, ($M = -214.67$ ms; $SD = 397.14$). Cell means are displayed in Table 1. Analogous effects were not present for Character-Irrelevant Traits rated as Me traits, $F(1, 33) = 0.018$, $p = .89$, or as Not-Me traits, $F(1, 113) = 0.12$, $p = .72$.

H1b was not supported: transportation had no significant effect on change in reaction time for Character-Relevant Me traits, $F(1, 111) = 0.71$, $p = .40$, or Character-Relevant Not-Me traits, $F(1, 31) = 2.29$, $p = .14$. Cell means are displayed in Table 2. There was no effect of Transportation on either Character-Irrelevant Me traits, $F(1, 33) = 0.2547$, $p = .62$, or Character-Irrelevant Not-Me traits, $F(1, 113) = 1.92$, $p = .17$. In addition, there was no

TABLE 1
Effects of identification on mean reaction times for character-relevant items identified as "Me" or "Not-Me" traits in both administrations

Trait categorization	*Identification*	*Pre-test mean (ms)*	*Post-test mean (ms)*
"Me" traits	High	894	727
	Low	881	872
"Not-Me" traits	High	912	1058
	Low	1348	1136

TABLE 2
Effects of transportation on mean reaction times for character-relevant items identified as "Me" Or "Not-Me" traits in both administrations

Trait categorization	*Transportation*	*Pre-test mean (ms)*	*Post-test mean (ms)*
"Me" traits	High	947	843
	Low	833	768
"Not-Me" traits	High	1197	1028
	Low	1153	1165

significant Transportation × Identification interaction for either Character-Relevant Me traits, $F(1, 111) = 1.22$, $p = .27$, or Character-Relevant Not-Me traits, $F(1, 31) = 1.12$, $p = .30$.

Crossover items

A small proportion of the total items (6%) were "crossover" items, where participants rated a trait as "Me" on one administration, and "Not-Me" on the other. We predicted that participants in the high-identification and/or high-transportation conditions would crossover from "Not-Me" to "Me" for Character-Relevant Traits more often than the reverse. To test this, a chi-square test was run on crossover items for Character-Relevant, and for comparison purposes, Character-Irrelevant traits. To more closely fit the analysis with the subjective experience of each participant, individual ratings of character traits, rather than pretest averages, were used for all crossover item analyses (results of above analyses with individual data were similar to pretest data). Traits rated as 6 or 7 on the 1–7 rating scale were classified as Character-Relevant for that participant; those rated as 1 or 2 were classified as Character-Irrelevant.

H2a was supported: for Character-Relevant Traits, identification led to a significantly greater proportion of Not-Me to Me crossover items. Under low identification, 7 out of 17 items (41.2%) crossed in this direction, and under high identification, 13 out of 17 items (76.5%) did so, $x^2(1, N = 34) = 4.37$, $p = .04$, $\varphi = .36$. This test was not significant for Character-Irrelevant Traits, $x^2(1, N = 50) = 3.46$, $p = .06$. While this result approached significance, the pattern was the reverse of that for Character-Relevant Traits, with high identification decreasing the likelihood of crossover from Not-Me to Me. Under low identification, 12 out of 22 items (54.5%) crossed from Not-Me to Me, whereas under high identification only 8 out of 28 items (28.6%) did so.

H2b was also supported: low-transportation participants crossed over from Not-Me to Me on 6 out of 16 total items (37.5%), and

high-transportation participants on 14 out of 18 items (77.8%), $x^2(1, N = 34) = 5.67$, $p = .02$, $\varphi = .41$. This test was not significant for Character-Irrelevant Traits, $x^2(1, N = 50) = 1.39$, $p = .24$.

Secondary analyses

A separate univariate analysis of variance was conducted to assess the impact of Movie Clip as a factor. There was no significant main effect of Movie Clip on any dependent variable. There was, however, a significant Movie × Transportation interaction for Character-Relevant Me Traits, $F(3, 114) = 2.89$, $p = .04$, $\eta_p^2 = .08$, such that high transportation led to substantially faster reaction times from the first to second administration for participants who watched the *American Psycho* or *Fight Club* clips, relative to shifts in reaction times for participants who watched the *City of Angels* or *There's Something About Mary* clips, for which effects were non-significantly in the opposite direction. This may help explain why there was no significant main effect for transportation on changes in self-concept accessibility. There were no significant effects for having previously viewed the clip.

DISCUSSION

The research described here provides an important addition to existing knowledge about media effects. While many major theories relevant to media consumption have implied that consumers might, at least temporarily, come to adopt the perceived characteristics and traits of characters with whom they identify, our research provides an initial empirical demonstration of these effects. Specifically, individuals in high-identification conditions were quicker to respond to character-relevant personality traits that were also self-descriptive, without comparable effects for traits not displayed by the character, or traits not identified as self-descriptive. Furthermore, our study provides initial support to the general hypothesis of media trait activation, as well as beginning to delineate a mechanism by which such trait activation can take place.

This research has sought to ascertain connections between transportation, character identification, and activation of media characteristics in media consumers. H1a and H2a were strongly supported, indicating a causal connection between identification and character trait activation. This provides a promising initial indication of circumstances under which media characteristics can be activated in viewers. While identification has been shown to promote the perception of similarity between character and viewer (Hoffner & Cantor, 1991), this research establishes that a perception of similarity may be at least temporarily accompanied by a shift in self-concept toward the traits of the character.

This finding opens up a potentially broad line of inquiry. While past research (Eyal & Rubin, 2003; Hoffner & Buchanan, 2005) has found that similarities in personality promote identification, this study has found the opposite pattern to be true as well. If, at least in some cases, identification activates media-portrayed characteristics in something as central as the self-concept of viewers, it is possible that media effects could manifest themselves in many as yet uninvestigated realms of psychological function.

Transportation effects, however, were not consistently supported: obtained results did not match those predicted by H1b, although the pattern of crossover items supported H2b. A possible explanation for these mixed results is that transportation's influence may not translate as directly to character trait activation. Transportation is typically seen as a general cognitive state (Green & Brock, 2000), whereas identification is character specific (Rosengren & Windahl, 1972). The nature of the dependent measures may have been more conducive to eliciting identification effects than transportation effects.

Additionally, although the sample size was considerably smaller, evidence was found to indicate that transportation and identification each increase the likelihood of a shift in trait ratings from Not-Me to Me items. If this finding is replicable, it strengthens the previous results by indicating that exposure to media characters may not only affect trait activation in terms of faster or slower accessibility, it may temporarily change the categorization of some traits in the self-concept. This is a finding with substantial implications; however, additional study of the existence and extent of this effect is necessary before further conclusions can be drawn.

Limitations

The current findings are not without their caveats. First, questions may be raised about the generalizability of effects. Our hypotheses purport to apply to general media consumption, yet the paradigm studied only one media modality consumed in a controlled laboratory environment that differs from "real-world" exposure. However, the current paradigm, while restricted to one modality, used multiple movie clips displaying various traits and moral valences, lending some evidence of generalizability. Nonetheless, further research across a variety of modalities and types of narratives is needed. For example, it is possible these effects will be largest within more interactive media such as video games, and recent research suggests that artistic/literary texts may have stronger effects on personality growth and change than non-literary texts (Djikic, Oatley, Zoeterman, & Peterson, 2009). However, we believe these mechanisms to be general and to be likely to manifest under any circumstances where transportation or identification occurs in

the viewer. Although generalizability issues are beyond the scope of this research, our findings are a promising starting point.

It is also possible that the effects found here could be attributable to simple priming effects. However, all of our experimental conditions encouraged participants to focus on the video clips (albeit from slightly different perspectives), so all participants were exposed to the characters and their traits. Extensive prior work on subliminal primes (e.g., Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001) and other "incidental" primes such as scrambled sentences (Bargh, Chen, & Burrows, 1996) has established that directed, conscious attention is not necessary for priming effects to occur. Therefore, if priming were the only mechanism for our effects, we would expect unilateral effects across all viewers independent of condition, which was not seen. Although priming may contribute to increased accessibility of character traits generally in the minds of viewers, a priming explanation cannot account for the fact that self-concept effects emerged under high but not low identification.

Future directions

These results not only aid our understanding of the mechanism by which individuals may temporarily assume the traits of media characterizations, but also help open the door to a wide array of future research. If identification and transportation are indeed the major media moderators that they are presumed to be, it is likely that they can be linked to media effects ranging from script and behavioral acquisition to cultivation-type attitudes to media-based aggression research. The array of potential follow-up studies to ascertain the breadth and depth of identification and transportation effects is quite broad. However, our results suggest that identification may be more powerful in some circumstances (measures related directly to characters), whereas previous research suggests that transportation may have more general effects (e.g., attitude change).

Next, while the research described here attempts to measure temporary activation of traits, it is possible that repeated exposure to a favorite identified character could lead to chronic activation of those same traits, leading to a deep-seated change in the overall self-concept. Longitudinal research would contribute to answering this question.

In addition, one of the most intriguing aspects of video games and other sorts of "new media" is that as the sophistication and technological resources of media creators increases, typical levels of identification and transportation could become higher. A recent study has found that newer, more graphically sophisticated video games produce higher levels of presence, involvement, and arousal than analogous, less sophisticated older games (Ivory & Kalyanaraman, 2007). Along with this, recent games

allow for nearly limitless customization of increasingly realistic character models, increasing the potential for strong character identification. Further, while anecdotal stories of individuals ''losing themselves'' in a game have existed since the dawning of the medium, newer games are immersing their players to a point heretofore unseen, to the point that a phenomenon labeled ''video game addiction'' is becoming increasingly accepted by legitimate researchers and practitioners (Hauge & Gentile, 2003). While the accuracy of such a diagnosis is questionable, it is obvious that the likelihood and degree of immersion in newer media has increased substantially. Thus the effects of extremely high levels of transportation can provide a rich vein of potential research as well.

Conclusion

While transportation and identification are conceptually a large piece of the media effects puzzle, empirically little has been done to link them to these effects. This research has attempted to fill in those blanks by examining the impact of character identification and transportation on the temporary activation of character traits within the self-concept of media consumers. The current results open the door to a broad area of research and a deeper understanding of the mechanism by which we can become what we consume.

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APPENDIX

Identification and transportation scale items

Identification items

1. When good things happened to (CHARACTER NAME), I felt happy, but when negative things happened to (CHARACTER NAME), I felt sad.
2. When you watched the clip, how often did you feel or react as if the experiences of (CHARACTER NAME) were happening to you?
3. When watching the movie clip, I wanted (CHARACTER NAME) to succeed in achieving his/her goals.

Transportation items

1. While I was watching the movie, I could easily picture the events in it taking place.
2. While I was watching the movie, activity going on in the room around me was on my mind. [reverse scored]
3. I could picture myself in the scene of the events shown in the movie.
4. I was mentally involved in the movie while watching it.
5. After the movie ended, I found it easy to put it out of my mind. [reverse scored]
6. The movie affected me emotionally.
7. I found my mind wandering while watching the movie. [reverse scored]
8. I had a vivid mental image of (CHARACTER NAME).

All items are answered on a scale from 1 (*not at all*) to 7 (*very much*).