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Experiencing Racial Humor with Outgroups: A Psychophysiological Examination of Co-Viewing Effects

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Research on co-viewing (or group viewing) is scarce. Yet, co-viewing has important implications for the viewers' entertainment experience and the way viewers respond to and evaluate entertainment—especially those with controversial messages. The present study investigated responses to racial humor content among racial in-group and out-group viewing contexts. Specifically, the study examined the extent to which Blacks and Whites would experience discomfort when viewing racial slurs in comedies with in-group compared to out-group members. Employing real-time psychophysiological data and multilevel time series

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models, the study found a significant increase in emotional arousal (indicated by SCRs) and distraction (indicated by RSA) among Blacks in the context of out-group viewing compared to in-group viewing, but not for Whites. Implications of findings are discussed.

Racial humor has become prevalent in comedy programming within the past decade. The line between acceptable and offensive racial humor is not always clear and, as such, stand up comics and comedy writers have experienced the repercussions of audiences' ambivalence toward humor that disparages minority groups. For example, comedian Stephen Colbert received backlash for his characterization of a Chinese man on his show *The Colbert Report*, which he named "Ching Chong Ding Dong." After Comedy Central tweeted the punch line, a hashtag movement to cancel the show emerged (*The Wall Street Journal*, 2014). *South Park* creators, Trey Parker and Matt Stone, have also been criticized for their politically incorrect humor messages, which sometimes target different racial groups (Hughley & Muradi, 2009). Black cartoonist, Aaron McGruder was criticized for his portrayals of Blacks (Cornwell & Orbe, 2002; Rockler, 2002) and his liberal use of the "N word" in his comic strip-turned-cable program, *The Boondocks* (Kyles, 2005; Rushing, 2004). Situations like #CancelColbert and criticisms of *South Park* and *The Boondocks* demonstrate the unease with which audiences experience humor that targets minority racial groups. Nonetheless, such humor messages persist until the next time the indefinable boundary is violated.

The presumable progress toward post-racialism in the United States is one reason for the proliferation of racial humor in mainstream platforms. Post-racialism expects viewers to make jest of our differences and laugh at our prejudice without any ramifications. Post-racialism also suggests that the expression of racial messages that are deemed harmful should be scrutinized at the individual level, whereby a person is responsible for his or her racial joke, and political systems and industries are colorblind (Oh & Banjo, 2012). Nonetheless, institutional and personal discrimination continues and, thus, complicates the interpretation and evaluation of racial humor.

Perhaps, it remains a persistent challenge for comics and comedy writers to figure out the context where racial humor may be appropriate. Likely, audience responses to racial humor largely depend on the source of the humorous message, the individual audience, and the situation of the humorous message. The purpose of the present study is to examine the interactions between these factors and its impact on audiences by asking the following research question: What impact does the viewing situation have on the responses to racial humor messages? Specifically, this study uses psychophysiological responses during viewing and multilevel time series models to examine the real-time attentional and emotional responses to racial slurs in animated comedies and how these responses are moderated by the racial

minority status of the audience members as well as the ingroup and outgroup co-viewing context.

CO-VIEWING AND THE ENTERTAINMENT EXPERIENCE

Media enjoyment is a complex process that depends on numerous factors including mood states (Zillmann, 1988), personality traits (Nabi & Riddle, 2008), media preferences (Oliver, 2002) and viewers' identification (J. Cohen, 2001). Denham (2004) specifically argues that media enjoyment outcomes are significantly influenced by perceived social norms, media content, and, media use context. Comedic racial messages or racial cues in television present an opportunity for studying the effects of these competing influences on heterogeneous audiences. In addition, uses and gratifications research purport that television viewing is often a social event, something shared with others (Lull, 1980; Rubin, 1993). Moreover, classic studies on humor (e.g., Chapman & Chapman, 1974; Malpass & Fitzpatrick, 1959) long established that the humor experience largely depends on the social situation. Therefore, our consumption, engagement, and enjoyment of media also largely depend on our social identities and on the company we keep, also referred to as co-viewing.

Co-viewing, sometimes referred to as group viewing, is the shared consumption of an entertainment product whether in public, with a stranger, or privately with a friend, and has many implications for how viewers select and respond to media entertainment. E. L. Cohen and Lancaster (2013) purport that in today's social networking world television viewers rely on social media outlets to feel connected to a community of viewers. For example, Haridakis and Hanson (2009) found that co-viewing predicted YouTube users' viewing habits and selection. Other research has shown that viewers who consume an entertainment product with at least one other person are likely to be more attentive, more engaged, and experience more emotional gratification than if they viewed alone (Foote, 2004; Yang, Zhao, Erdem, & Zhao, 2010). E. L. Cohen, Bowman, and Lancaster (2013) found that the presence of others while viewing a television program increased emotional intensity and, thus, the overall enjoyment experience. Whereas previous research has considered television viewing with familiar others, little to no research has considered the effects of viewing a program with members of an outgroup.

To date, most studies on co-viewing have focused primarily on families. For example, David Morley's (1988) classic work on the social uses of television in the family revealed how fathers and mothers use television to meet their interpersonal needs. In addition, many studies have examined how parents mediate learning outcomes when viewing television with their children (Buijzen and Valkenburg, 2005; Nathanson, 2001; Warren, Gerke and Kelly, 2002). While an overwhelming amount of the research on co-viewing

influence has focused on family viewing, explorations of social viewing—that is, viewing with friends or with strangers—is lacking. There are a series of studies on humor appreciation and the laughter behavior of others, but the “others” in these studies have usually been operationalized as a recorded laugh track instead of the actual physical presence of another person (Bore, 2011; Leventhal & Mace, 1970; Platow et. al., 2005).

In contrast to previous studies that purport that co-viewing environments foster greater emotional gratification, Harris and Cook (2010) contend that the presence of others in a viewing situation may actually inhibit emotional reactions, thereby disrupting the enjoyment experience. They found interactions between the media content and viewing context, and concluded that personal reactions to media were both dependent on the type of co-viewer and the content. For example, while participants reported experiencing moderate discomfort with sexual content, they reported greater discomfort when thinking about viewing sexual content with their parents. Thus, viewers’ social relationships with those watching with them play a significant role on how viewers’ respond to content that is potentially uncomfortable. Ferguson and Ford (2008) recommend that research on group disparagement humor should examine affective processes beyond amusement and evaluate the effect of disparagement humor on negative feelings. Harris and Cook (2010) found greater co-viewing impacts with racial comedies more than with any other genre, suggesting that watching racial comedies with socially distinct others might elicit discomfort. The present study advances Harris and Cook’s work by investigating the impact of racial disparaging humor on viewers’ real-time attentional and emotional responses in co-viewing situations.

RACIAL CUES AND AUDIENCE RESPONSE

Race has been a prominent social identity in U.S. history and society, particularly for racial minority groups (Smedley, 1999; Takaki, 1993). Being Black was and is still a prominent identity marker for Black people in the United States. Distinctiveness theory posits that a distinctive characteristic that sets a numeric minority apart from the majority is highly salient for members of that minority group (McGuire, 1984). Blacks, being a racial minority, are found to have more salient awareness of their race compared to Whites (Jaret & Reitzes, 1999; McGuire et al., 1978). Blacks place much more importance on race than Whites (Jaret & Reitzes, 1999). Messages regarding racial identity are a prominent factor in Blacks’ interpersonal communication with Whites (Hecht, Larkey, & Johnson, 1992) and consumption of the media (Appiah, 2004; Dates, 1980). The race of a model may influence the type of processing strategy used by viewers, particularly when the viewer is a member of a numeric minority. A salient racial cue like skin color (e.g., Black) is likely to appeal to Blacks and heighten their perception of message relevancy, thereby

increasing their level of attention to and comprehension of the message presented by the source.

Distinctiveness theory suggests that race will be more significant in the identity of people whose racial group is in the minority of a specific population than it would for people who make up a majority group in a specific environment (McGuire, McGuire, Child, & Fujioka, 1978). Blacks, for instance, are more likely to employ processing strategies that utilize racial cues based on their racial distinctive trait when attending and evaluating social and mediated environments than are White majority members based on their nondistinctive racial trait (Grier & Brumbaugh, 1999).

As a result of race being more salient and valued to them, numeric minorities like Blacks express more ingroup favoritism than those members who are tied to a numeric majority (Appiah, Knobloch-Westerwick, & Alter, 2013). Social identity theory has been frequently used to explain individuals' responses to ingroup and outgroup members (Tajfel & Turner, 1986). The theory suggests that group identities are important components of one's self-concept and may guide individual behaviors in various contexts. The theory suggest that the greater the salience of a group's trait (e.g., race) and the strength of the identification with that trait, the greater one's ingroup favoritism (Appiah, 2004; Fujioka, 2005).

In fact, media effects research on race suggests Whites have no ingroup preference for same-race characters vis-à-vis different-race characters, whereas Blacks' consistently show ingroup favoritism toward same-race characters (Appiah, 2003; Hoplamazian & Appiah, 2013; Banjo, Appiah, Wang, Brown, & Walther, 2015). Specifically, Black audiences are attracted to and are more likely to select Black characters (Knobloch-Westerwick, Appiah, & Alter, 2008), rate Black characters more positively (Whittler, 1991; Appiah, 2007), develop more favorable attitudes toward Black-targeted media and its content (Aaker, Brumbaugh, & Grier, 2000; Appiah, 2001, 2002), and pay more attention to Black than White characters in the media (Appiah, 2007; Appiah & Elias, 2010). These studies suggest that when Black viewers encounter a same-race character or program they will demonstrate more interest and attention in that character or show than will White viewers who are exposed to a character or show featuring their same race.

RACIAL CUES AND AUDIENCE RESPONSE IN CO-VIEWING CONTEXTS

However, existing research on the role of racial cues in communication and media processing have been restricted to isolated contexts (e.g., viewing the stimuli individually in front of a computer). These reactions to Black vis-à-vis White characters and programs, as reviewed above, may be affected by the

co-viewing context of the audience member. For example, Blacks may feel uncomfortable or a sense of social anxiety, and avoidance tendencies can be triggered when viewing race-specific programs around White audiences.

Indeed, these are suggested by motivated cognitive resource allocation theories of media processing (e.g., Lang, 2006; Wang, Lang, & Busemeyer, 2011; Wang, Vang, Lookadoo, Tchernev, & Cooper, 2015). The appetitive and aversive motivational systems have evolved to help organisms survive and thrive (for a review, see Bradley, 2000). They are activated by emotional inputs from real-world and mediated experiences (Lang, 2006; Reeves & Nass, 1996). Typically, the valence (positive, negative) of the inputs determines which motivational system is activated (and both can be activated simultaneously; see Wang, Solloway, Tchernev, & Barker, 2012), and the intensity of the inputs determines the strength of activation. Activation of the motivational systems, in turn, “initiates a cascade of sensory and motor processes, including mobilization of resources, enhanced perceptual processing, and preparation for action.” (Bradley, 2009, p.1). Specifically, the appetitive system is typically activated by positive stimuli, which facilitates approach tendency or behaviors, including mobilizing attentional resources for sensory intake. The aversive system is activated by negative stimuli such as threats and fearful objects. At low to moderate levels of activation, more attentional resources are allocated to sensory intake (e.g., identifying threats and opportunities), but with increased intensity of emotional stimuli, the attentional pattern often switches to the mode of information rejection (e.g., low attention to stimuli) so as to mobilize resources to prepare for actions (e.g., decision making, fight or flight; Lang, 2006; Wang, Morey, & Srivastava, 2014). This response switch occurs especially quickly for the aversive system (Lang, 2006).

In the context of viewing television shows with racial content, likely the close presence of a racial outgroup co-viewing member with Black viewers, who are already highly sensitive and responsive to the content, can trigger intense aversive motivational activation. This should hold true not only when a Black viewer watches a program with another White viewer, but should be especially true when a Black viewer is outnumbered by White viewers when watching a program. The numeric minority status in this viewing context should intensify the salience of race by the Black viewer, and lead a greater sense of perceived threat and competition from Whites. Research on social identity contingencies demonstrates that numerical underrepresentation of a group can trigger threat to individuals with a minority status in a particular setting or context (Purdie-Vaughns, Steele, Davies, Ditlman, & Crosby, 2008). For example, Black college students on predominately White colleges can feel stigmatized, marginalized, and socially alienated by White students on campus, which can cause them to develop anxiety around Whites (Bennett & Okinaka, 1990; Steele, 1992). Therefore, it seems reasonable to expect that Blacks may feel more aroused (emotionally intense) and lower attention to the

show (avoidance tendencies) around White outgroup members compared to Black ingroup members, particularly when viewing racial humor.

Concerning White consumers, there is an assumption among many scholars that Whites display ingroup preference by identifying only with and responding favorably to other Whites in personal and mediated environment. However, among Whites, racial similarity plays little role in how Whites respond to media with White or Black characters. Whites do not generally think of themselves as distinctly part of a specific ethnic group (Phinney, 1992; Royce, 1982) and, as such, have been found to consistently place significantly lower importance on their racial and ethnic identity (Phinney, 1992). Researchers (e.g., Coleman, Jussim, & Kelley, 1995) argue that characteristics such as personal appearance, dialect style, and socioeconomic status have a greater impact on Whites' evaluations of a source than does the race of a source. Therefore, as a majority and nondistinctive group, Whites should display no difference in their response to race-specific media despite the racial context of the co-viewing environment.

In fact, a growing body of work that has investigated how White audiences respond to ethnic-specific media and characters clearly shows that Whites respond no differently based on the characters featured in the media (e.g., Appiah, 2002, 2003, 2007; Knobloch-Westerwick et al., 2008). However, findings from these studies may be questioned given that many of them involved forced exposure experimental methods, which may not have adequately addressed the issue of participants providing socially desirable responses. In the past, scholars have argued that research methodologies may facilitate socially desirable responses among Whites (e.g., Oliver & Fonash, 2002). The argument is generally based on experimental studies that force-expose White respondents to race-specific content where participants are assigned to view media featuring either White or Black characters. Researchers have argued that most Whites hold egalitarian values and are quite concerned with presenting themselves as fair and committed to racial equality (Gaertner & Dovidio, 1986; White & Harkins, 1994). Out of this concern, Whites are likely to be highly sensitive in interracial situations and respond favorably to Black sources in an effort not to appear racist or unfair.

Gauging potentially sensitive racial attitudes is challenging since people may consciously alter their responses to conform to established social norms (Dovidio & Fazio, 1992). For example, explicit attitude measures are likely to permit deliberate, conscious processing that can lead participants to intentionally suppress and not report their negative racial attitudes (Dovidio, Kawakami, Johnson, & Howard, 1997). Studies that use more subtle, unobtrusive, implicit attitude measurements are likely to uncover actual or more accurate racial attitudes and behaviors that are not apparent using explicit measurement techniques. In addition, in previous studies, the explicit measures were typically administered after viewing the media stimuli, which could be affected not only by social desirability but also memory limitations and

hedonic judgment (e.g., recency effects, peak and end effects). To account for the possible limitations in previous work, the current study used real-time psychophysiological measures during viewing to test the effects of racial comedies and co-viewing contexts on White and Black viewers' physiological responses. This study builds on previous work, as reviewed, to test the following two hypotheses:

H1a: Compared to White viewers, Black viewers will experience stronger arousal when viewing racial comedies with outgroup than with ingroup members.

H1b: Compared to White viewers, Black viewers will be less attentive when viewing racial comedies with outgroup than with ingroup members.

In addition, although in many situations, the appetitive and aversive motivational systems are negatively correlated, theoretically they are independent and both can be activated at the same time (Cacioppo & Bernston, 1994). Stimuli that activate both systems are called coactive, such as the presence of addictive substance in anti-drug messages (Wang et al., 2012). Because they activate both motivational systems, coactive stimuli have been found to have the special capability to attract attention easily as long as they are not too arousing to trigger information rejection mode that mobilizes resources to actions (Wang et al., 2012). In our research context, the racial humor can be viewed as a moderately arousing coactive stimulus because although humor is positive, the sensitivity or stigmatization to racial content can be, at least slightly, negative. Thus, we hypothesize:

H2: Both Black and White viewers will experience increased attention and arousal after exposure to a racial slur.

Racial slurs are highly emotional (Hoggard, Jones, & Sellers, 2016; Merritt, Bennett, Williams, Edwards, & Sollers, 2006). Hence, racial slurs only have a main effect on attention and arousal as proposed in Hypothesis 2. That is, regardless of their race and co-viewing contexts, the viewers will show increased attention and arousal upon a racial slur. However, if the attention- and arousal-increasing effects of racial slurs do not reach a ceiling effect, the race and co-viewing group contexts, as proposed in Hypotheses 1a and 1b may further interact with the effects of racial slurs in that racial slurs can amplify the effects proposed in Hypotheses 1a and 1b. Therefore, we will explore:

RQ: Will the interaction effects between race and co-viewing group contexts, as proposed in Hypotheses 1a and 1b, be further amplified by exposure to racial slurs?

METHODS

Participants and Procedures

Undergraduate students recruited through communication classes and the Office of Minority Affairs at a large U.S. Midwestern university participated in the experiment for either course credit or monetary compensation. In total, 69 participants completed the physiological experiment, including 26 Black and 43 White participants. They were 18–34 years old ($M = 21.26$, $SD = 3.4$), and 46 were female. Some participants' data were excluded from analysis because of excessive movement artifacts, electrodes malfunction, and reported health conditions that could affect psychophysiological measures. Finally, 66 healthy participants' cardiovascular and respiratory data, and 44 healthy participants' skin conductance data were included for analysis.

The study used a multilevel time series design. Over all, cross participants, the study employed a 2 (Viewer Race: Black, White) \times 2 (Group Context: ingroup, outgroup) between-subjects design. Then, each participant viewed two television animated comedy episodes that featured many racial slurs (see the section on Stimuli below). The two episodes were randomly ordered for each participant. For every 30-s interval of the two episodes, the following variables were coded: (1) the frequency of racial slurs during the interval (“*slurs*”), (2) how many times the slurs were said by a White character (“*White characters*”), (3) how many times the slurs were said by a Black character (“*Black characters*”), and (4) the number of camera changes or edits during the interval (“*pacing*”). The first three media variables directly relate to testing our hypotheses, and the last one (pacing) has been shown to affect the psychophysiological measures used in our study (Potter & Bolls, 2012; Wang et al., 2015) and would be statistically controlled for in our analysis. Two trained graduate students coded both episodes independently; disagreement (less than 1% of all coding decisions) was discussed and resolved based on discussion.

The experiment was conducted individually in a psychophysiological laboratory. Whereas previous co-viewing studies have manipulated the presence of others using social media (E. L. Cohen & Lancaster, 2013) or trusting participants self-report of viewing company (E. L. Cohen & Bowman, 2013), the present study relied on actual face-to-face interaction and observation through the method of confederates. Each participant viewed two episodes seated comfortably in a small television room between two confederates of either the same racial group (i.e., a Black participant with two Black confederates, or a White participant with two White confederates) or a different racial group (i.e., a Black participant with two White confederates, or a White participant with two Black confederates). These were the ingroup and outgroup co-viewing context manipulations, respectively. The confederates were hired undergraduate students who did not know the participants and were

trained to behave naturally as normal experimental participants and act consistently across experimental sessions. The gender of the two confederates and the gender of the participant were paired through randomization.

The confederates arrived at the laboratory at the same time as the participant. There were three experimenters, who greeted the participant and the two confederates, introduced them to each other, and described the study. Before beginning the experiment, the experimenters obtained informed consent and prepared the participant by attaching physiological electrodes in a private room. The experimenters also placed dummy electrodes on the two confederates in a different room. The participant was told that the intention of the study was to investigate viewers' reactions to humorous cartoon television. After setting up the data acquisition equipment, the experimenters left the room to provide privacy during viewing. Physiological data (cardiovascular, skin conductance, and respiratory) were recorded during the viewing. After viewing both episodes, the participant removed the electrodes, and then completed a questionnaire that included demographic questions.

Stimuli

Two episodes were selected for the experiment: *The Boondocks*' "Return of the King" and *South Park*'s "With Apologies to Jesse Jackson." These shows were selected because of their similarity in content. Both programs employ racial stereotypes, highlight the problems of discrimination and diversity, disparage historical civil rights leaders, and use the same racial slur—the N word. In addition, as mentioned earlier, both shows have been controversial for their racial humor although one features mostly Black characters and the other mostly White characters.

The Boondocks is an animated adult comedy show created by Aaron McGruder's that began airing on Cartoon Network's Adult Swim in 2005. The show primarily follows two Black boys, Huey and Riley Freeman, who move from inner-city Chicago to a predominantly White suburb with their grandfather. The episode "Return of the King" (22 min) features Martin Luther King, Jr. recovering from a coma over 30 years after his historic shooting in Memphis. Huey introduces him to contemporary Black culture, which greatly disappoints King to the point where he calls Black people the N word.

South Park is an animated adult comedy show created by Trey Stone and Matt Stone that has aired on Comedy Central since 1997. The show typically follows four White boys, Stan Marsh, Kyle Broflovski, Eric Cartman, and Kenny McCormick, in the suburban Colorado town of South Park. The episode "With Apologies to Jesse Jackson" (22 min) features Randy Marsh, father of Kyle, saying the N word on *The Wheel of Jeopardy*. The episode follows Randy as he tries to overcome being a social outcast for using racist language, and Kyle as he tries to apologize to his Black friend, Token.

Physiological Measures

Cardiovascular, skin conductance, and respiratory data were recorded using Bio-nex Model 3711-08 (Mindware Technologies, Gahanna, OH, USA) at the sample rate of 1,000 Hz during viewing of the comedies. The comedy stimuli were shown to the participants on a computer controlled by E-Prime 2.0.8.90 software.

Respiratory Sinus Arrhythmia (RSA). The rhythmic time-related changes in cardiovascular interbeat intervals, called heart period variability (HPV), can indicate physiological and psychological processes (Berntson, Cacioppo, & Quigley, 1993; Berntson, Quigley, & Lozano, 2007). Typically, Fourier transformation is used to convert the time-domain variance of HPV to a frequency domain representation (Berntson et al., 2007). One of the most studied and interested frequency bands of HPV is its high-frequency band (0.15–0.40 Hz), which is often called RSA. RSA differs from other cardiovascular measures, such as heart rate and interbeat intervals, which reflect influences from both branches of the autonomic nervous system (ANS): the parasympathetic nervous system (PNS) and the sympathetic nervous system (SNS). In comparison, RSA is relatively devoid of the influence from SNS and, thus, is a good indicator of the PNS activation (Grossman, Stemmler, & Meinhardt, 1990). The PNS controls the “rest and digest” activities, allowing humans to mobilize mental resources to take in sensory information and be responsive to the environment. Psychophysiological research using television and other media stimuli has correlated the activation of PNS to greater attention to take in sensory information (e.g., Lang, 1994; Potter & Bolls, 2012; Wang, Morey et al., 2014). Thus, in our experimental context, RSA is interpreted as attention to external media stimuli (e.g., Porges, 1995, 2007; Potter & Bolls, 2012). Following Qu et al. (1986) and Berntson et al. (2007), two 7-mm Ag/AgCl electrodes were attached to the C4 and T9 spot of the dorsum and another two on the ventrum, and a fifth one to the distal end of the right collarbone. RSA data were obtained offline by Fourier transforming the interbeat interval data.

Skin Conductance Responses (SCRs). The frequency of SCRs collected on palms of the hand and soles of the feet indicates activation of the SNS. SNS controls fight or flight responses and innervates the eccrine sweat glands on palms and soles. In information processing literature, the frequency of SCRs is often used to indicate emotional arousal (emotional intensity) to media content (e.g., Wang & Lang, 2012; Potter & Bolls, 2012). In our experimental context, the frequency of SCRs indicates autonomic arousal caused by stress related to the group context and racial slurs (e.g., Murphy, Steele, & Gross, 2007). The data were collected using the exosomatic method (Stern, Ray, & Quigley, 2001) from two 7-mm Ag/AgCl electrodes attached to the thenar and hypothenar eminences of the nondominant hand.

Respiration Rate and Amplitude. Because respiration affects RSA and SCRs (Stern et al., 2001; Berntson et al., 2007; Grossman & Taylor, 2007), they were also measured in the study and controlled in the analysis. The method used to collect

cardiovascular activities, as described above, also measured respiration rate and amplitude.

DATA REDUCTION AND ANALYSIS

Racial slurs, characters, and pacing of the television stimuli, as described earlier, were coded using 30-s intervals as the unit of analysis. This generated a time series of 88 data points for the two episodes for each of the four television content input variables (slurs, White characters, Black characters, and pacing). For each dependent psychophysiological measure, the raw data were visually inspected and averaged for every 30-s interval, generating 88 total data points for each participant.

Time series cross sectional modeling (TSCS) analysis was conducted on the time series data of all participants using the *xtreg* command in STATA. TSCS simultaneously estimates the cross-time and cross-individual variations in the multi-level data as described. The generalized least squares (GLS) estimator was used to fit random-effects models (Baltagi & Liu, 2008). As shown in Table 1, the model for SCRs and for RSA includes the following terms to test our hypotheses.

1. The first- and second-order autoregressive terms: They account for the endogenous feedback effects of the physiological systems so that we can more accurately estimate the effects from the exogenous media and context variables (more discussion below; also see Wang et al., 2011; Wang, Morey et al., 2014; Wang et al., 2012).
2. Main effects and two-way interaction effects for the key media variables (slurs, White characters, and Black characters): The main effect of slurs directly tests Hypothesis 2, while the effects of White and Black characters are controlled for in the model.
3. Main effects and two-way interaction effects for the viewer's race and the co-viewing group context condition: These terms directly test Hypotheses 1a and 1b.
4. Three-way interaction effect of the slurs, race, and the co-viewing group context condition: To explore the research question, this is included, along with their lower-order terms (i.e., two-way interactions of these terms).
5. Age, sex, pacing, respiration rate and amplitudes: These were controlled for in the model because they can affect SCRs and RSA (e.g., Stern et al., 2001; Potter & Bolls, 2012). The model fit and estimation are summarized in Table 1.

RESULTS

Before we present the findings with respect to our hypotheses, it is worth pointing out the importance of the two lagged feedback terms in our time

TABLE 1 Model Fit and Estimated Coefficients of the TSCS Models (Random-Effects GLS)

	SCR _{<i>i,t</i>}	RSA _{<i>i,t</i>}
	<i>M</i> (<i>SE</i>)	<i>M</i> (<i>SE</i>)
Intercept	-1.16 (.50)*	2.68(.16)
System feedback _{<i>i,t-1</i>}	.38(.02)*	.42(.01)*
System feedback _{<i>i,t-2</i>}	.24(.02)*	.38(.01)*
Slurs _{<i>i,t</i>}	.44(.20)*	.22(.08)*
White characters _{<i>i,t</i>}	-.55(.16)*	-.14(.06)*
Black characters _{<i>i,t</i>}	-.38(.18)*	-.17(.07)*
Slurs _{<i>i,t</i>} × White Characters _{<i>i,t</i>}	.04(.03)	-.01(.01)
Slurs _{<i>i,t</i>} × Black Characters _{<i>i,t</i>}	.01(.01)	.002(.004)
Race _{<i>i</i>}	.47(.11)*	-.13(.04)*
Group context _{<i>i</i>}	.59(.26)*	-.27(.10)*
Race _{<i>i</i>} × Group Context _{<i>i</i>}	-.34(.15)*	.16(.06)*
Race _{<i>i</i>} × Slurs _{<i>i,t</i>}	-.03(.06)	-.03(.02)
Group Context _{<i>i</i>} × Slurs _{<i>i,t</i>}	-.06(.15)	-.03(.05)
Race _{<i>i</i>} × Group Context _{<i>i</i>} × Slurs _{<i>i,t</i>}	-.01(.09)	.02(.03)
Age _{<i>i</i>}	.04(.01)*	-.02(.003)*
Sex _{<i>i</i>}	.20(.07)*	.04(.03)
Pacing _{<i>i,t</i>}	-.02(.01)	.002(.004)
Respiration rate _{<i>i,t</i>}	.01(.01)	-.05(.004)*
Respiration amplitude _{<i>i,t</i>}	3.07(.92)*	.09(.26)
Model <i>R</i> ² within	.1090	.0479
Model <i>R</i> ² between	.9706	.9861
Model <i>R</i> ² overall	.3428	.6129

Note. Subscripts for each model coefficient: *i* = each individual participant, *t* = each time point (i.e., each 30-s show segment) of the variables. For example, RSA_{*i,t*} is RSA of the individual *i* at time point *t*, where *i* ranges from 1 to 66 and *t* ranges from 1 to 88.

**p* < .05.

series models. Consistent with previous research using time series models on real-time processing—as indicated by psychophysiological responses—of continuous and dynamic media content (Wang et al., 2011; Wang et al., 2012; Wang et al., 2014; Wang et al., 2015), the first- and second-order (i.e., lag 1 and lag 2) feedback effects of the physiological system included in the TSCS models for SCR and RSA were significant. As shown in Table 1, the current SCR frequency was predicted by the SCR frequency from the preceding 30-s time interval (i.e., the lag 1 feedback term of the model) and the interval beginning 60 s prior (i.e., the lag 2 feedback term of the model; *ps* < .05). Similarly, RSA during the current time interval was predicted by those from the preceding lag 1 and lag 2 intervals as well (*ps* < .05). Note that these two feedback terms were, in turn, affected by their own preceding system feedback terms and, thus, they accounted for a quite enduring accumulation effect of the media content on the physiological system over time (for detail discussion, see Wang et al., 2011; Wang et al., 2012). The findings support the approach to model physiological systems as dynamic systems that are featured

by feedback loops as formalized by the two feedback (i.e., autoregressive) terms in the models. The approach helps tease apart the exogenous media and context effects from the endogenous system feedback effects (Buzsàki, 2006; Kelso, 1995; Wang et al., 2012; Wang et al., 2014). Thus, our estimation of the media and context effects, presented next, were more accurate than those without considering the physiological system's endogenous feedback effects because our estimation does not confound the exogenous effects of the media variables on the system with the system's endogenous feedback effects (Buzsàki, 2006; Wang et al., 2014).

Hypothesis 1a predicted a two-way interaction effect of viewers' race and group context on SCR in that the Black viewers would show an increase of SCRs (indicating higher emotional intensity or arousal) in the outgroup condition than in the ingroup condition while White viewers would not. This was supported as the interaction between the race and group context was significant ($b = -.34, p < .05$). As shown in Figure 1, Black viewers showed a large increase in SCR frequency—from .45 count per 0 s in the ingroup condition to about .74 count per 30 s in the outgroup condition. In comparison, White participants showed a small decrease: SCRs frequency was slightly lower (.85 count per 30 s) in the outgroup condition than the ingroup condition (.94 count per 30 s). The findings here suggest that Blacks were more emotional aroused or anxious when watching racial humor among White outgroup members than when watching with Black ingroup members.

Hypothesis 1b predicted a two-way interaction effect of viewers' race and group context on RSA in that the RSA would drop (indicating lower attention) in the outgroup condition among Black viewers while not among White

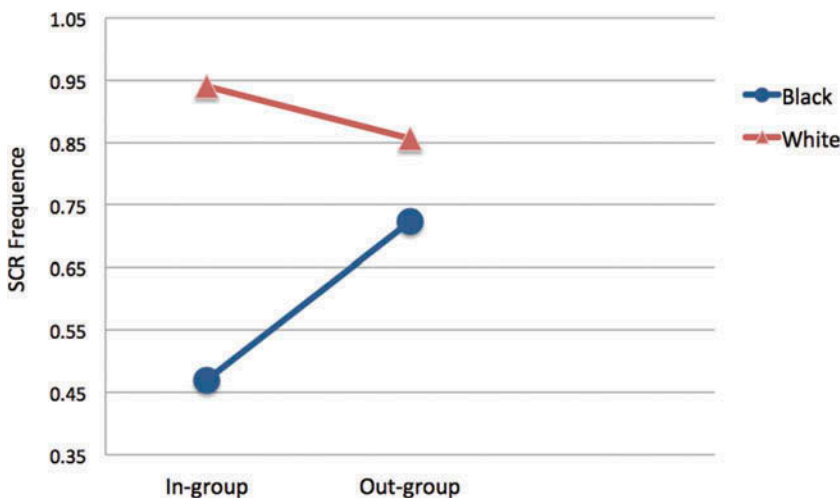


FIGURE 1 The interaction effect of viewers' race and group context on the SCR frequency (counts/30 seconds).

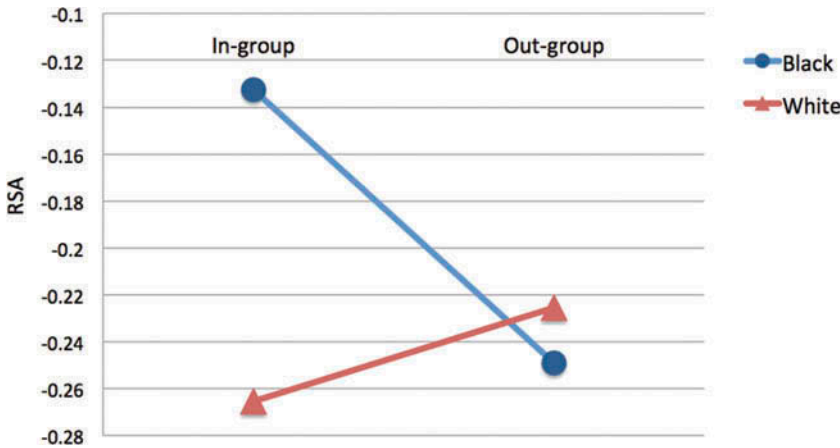


FIGURE 2 The interaction effect of viewers' race and group context on the RSA (ms^2).

viewers. This was supported. The interaction between viewers' race and group context was significant ($b = .16, p < .05$). As shown in Figure 2, Black viewers' RSA was much lower in the outgroup condition (-0.25 ms^2) than in the ingroup condition (-0.13 ms^2), while White viewers' RSA was slightly higher in the outgroup condition (-0.23 ms^2) than in the ingroup condition (-0.27 ms^2).

Hypothesis 2 predicted that racial slurs would both capture attention and increase arousal, thus increase both SCR and RSA. That is, we predicted an interesting pattern of the ANS—coactivation of the SNS and PNS branches—as a response to racial slurs in this context. This is supported. As the number of slurs increased, so did SCR frequency ($b = .44, p < .05$) and RSA ($b = .22, p < .05$). Participants' arousal and attention increased after hearing racial slurs.

Interestingly, there was no evidence that the effects of racial slurs on SCR and RSA moderated the interaction between race and co-viewing contexts. Thus, the answer to our research question is that the effect of racial slurs might have reached a ceiling effect so that regardless of their race and co-viewing group contexts, the viewers illustrated increased attention and arousal to racial slurs.

DISCUSSION

The present study set out to examine the context in which ingroup and outgroup members experience discomfort when exposed to racial cues via humor messages in television programs. Findings revealed that Black participants experienced greater arousal, anxiety, and less attention (avoidance tendencies) when viewing with White outgroup members. In contrast, White participants experienced only slight, nonsignificant changes in attention and arousal when viewing with Black outgroup members. Regardless of

conditions, both groups experienced greater arousal and attention upon hearing racial humor messages.

The findings of this study support previous scholarship, which suggests Blacks feel uncomfortable with Whites' evaluation of their group (Park, Gabbadon, & Chernin, 2006; Sigelman & Tuch, 1997). In a similar study, Banjo (2013) used self-report measures to examine Black participants attitudes toward White co-viewers and found that Black participants who viewed with White participants were more likely to express concern regarding the harmful effects of Black media on White audiences than those who viewed with ingroup members. Blacks are aware of Whites' stereotypes of Blacks and are generally concerned about being viewed through the lens of stereotypes, and fear doing something that would inadvertently reinforce social perceptions of Blacks (Perry, Steele, & Hilliard, 2003). Banjo et. al. (2015) found that Black participants reported a more positive enjoyment experience when viewing a Black-oriented program with ingroup members compared to outgroup members. Not only are Black viewers concerned about the effect of racial messages or racial cues on White audiences, but according to the findings of the present study, Black viewers actually feel distressed when viewing racial messages, especially those using racial slurs, with White outgroup members. Although pejorative terms like the N word appears acceptable among many Blacks (Motley & Craig-Henderson, 2007) and youth culture in general, its use and meaning is complicated when in the presence of White majority members.

Meanwhile White viewers are not as impacted by racial humor messages. In their study, Banjo et al. (2015) found that viewing condition did not impact White viewers' enjoyment experience of racially charged entertainment as indicated by self-report measures. Similarly, as seen in this study, viewing condition did not significantly impact White viewers' arousal and attention as measured by implicit, real-time psychophysiological measures. The findings for Whites were consistent with the literature (Appiah, 2003). Empirical studies consistently demonstrate that Whites select, evaluate, recall, identify with, and respond to Black media content and characters no differently than they do to White media and characters (Appiah, 2003; Appiah et al., 2013). A number of explanations can be considered. First, given Whites dominant status in society economically, politically, educationally, and numerically, Whites may be comfortable with their social standing in society and thus, do not perceive Blacks as competition to their social hierarchy. As a result, White viewers may be less aware of and concerned about Blacks' impressions of them when co-viewing a racial humor messages. A more compelling argument for Whites' resistance to racial humor messages is that Whites do not necessarily identify with or have a strong bond to their racial group (Martin, Krizek, Nakayama & Bradford, 1996; Phinney, 1992; Royce, 1982). As a result, race plays little importance in defining their self-concept (Jaret & Reitzes, 1999) or in their evaluations of racial humor messages.

Interestingly, both Black and White participants reported higher arousal and attention when exposed to racial slurs. This finding is an indication of how much the U.S. has evolved and suggests that the sting of racism and discrimination persists even within a multi-cultural, post-racial framework. Therefore, there needs to be clear boundaries for racial messages in general and in a humorous context.

IMPLICATIONS FOR RESEARCH

As media industries seek to capitalize on racial minority audiences, there seems to be a growth of diverse characters and programming which involve issues unique to racial minority groups. Increased inclusion is often accompanied with labeling of differences via racial humor. Because media content is not just accessible to a niche group on a specific channel or network, it is imperative to explore how ingroup and outgroup members receive messages about racial groups in the context of humor.

There are a number of implications derivable from the present study. Media psychology scholars note that media effects research has often overlooked the role that others play in our overall entertainment experience, and such investigations have important implications for viewers selective exposure, selective perception and overall entertainment experience (Bryant & Davies, 2006, E. L. Cohen & Lancaster, 2013). Examining co-viewing situations shed meaningful insight into audience responses, interpretations, and evaluations of media content—especially those that are hot button topics. Co-viewing research can also help to elaborate affective theories of enjoyment. For example, applying Zillmann's (2003) excitation transfer theory to this line of research we may be able to unpack the degree to which prior history with a co-viewer or an outgroup representative influences the attributions viewers make to their overall viewing experience. Applying disposition theories (Raney, 2003), scholars may be able to ascertain the degree to which others' presence impacts viewers' liking of characters.

Media creators can also benefit from this line of research. Designers of satirical, controversial, or prosocial media content can consider ways in which to, not only stimulate viewers but to sustain their attention enough to facilitate learning. In other words, media creators who employ stereotypes or racial humor for the sole purpose of making audiences uncomfortable may also want to consider how to keep the audience engaged so that they can better discern the message behind the controversy. This study could help media creators understand the boundaries with which most audience members are comfortable. They may want to consider whether their humor is spreading or squelching the flames of racist beliefs and create content that creatively addresses the problem of racism and discrimination. Last, this line of research could help media creators and designers understand and value the impact of other audiences' attention and emotional responses.

LIMITATIONS AND FUTURE RESEARCH

Extending current racial identity and media use research, the current study tested the hypotheses using methods with several important advantages. First, it created the co-viewing context experiences through well-trained confederates, which increased external validity from existing studies that mostly relied on self-reported experience. Second, it employed psychophysiological measures to indicate real-time attentional and emotional responses, which did not rely on self-report measures that are often biased by memory and social desirability. Third, the multilevel dynamic time series modeling approach helped more accurately estimate the effects from media and viewing context variables.

However, there are a few limitations that need to be noted. First, the sample size for Black participants was relatively small in comparison to White participants. A larger sample size is likely to yield greater effects and perhaps more conclusive results. Second, this study only examined two conditions, a homogenous group compared to a mixed-viewing group. Future research can include an alone control condition to measure baseline arousal levels. Third, it is interesting to observe that racial slurs increased both attention and arousal among viewers, regardless of their race and viewing contexts. This is expected based on the known effects of co-presence of negative and positive content, or coercive content (Wang et al., 2012). It is the first time that racial slurs are conceptualized as coercive stimuli. Future studies can directly measure whether indeed racial slurs elicit both positive and negative responses among viewers using self-report and physiological measures (facial electromyography).

Although the psychophysiological method revealed the extent to which participants experienced arousal and differences in attention, these measures do not aptly explain the cognitive processes or attitudinal motivations behind these outcomes. Along with employing physiological methods, future research should consider the impact of previous interracial experience and existing racial bias on viewers' comfort levels with racial messages in comedies. In particular, because of the dynamic, mutual influences between information processing and choice behaviors (Wang, 2014), how people process racial information in media content should be affected by their previous interracial experiences, but should also further determine how they choose to interact with other racial groups. In addition, racial identity is another important variable to be considered in future research in this area. Studies on racial identity have shown its utility for predicting minorities' communication and social interaction preferences and behaviors (Ethier & Deaux, 1994). The mutual influences of racial information processing and choice behaviors, as just described, may reinforce or weaken racial identity in the long run.

The present study employed racial humor that used a controversial racial slur. Whereas derogatory language is a part of disparaging racial humor, the

direct use of a slur might yield unique effects. Future research should examine racial humor with varying degrees of disparaging humor, subtle, moderate, and extreme. By examining different degrees of racial humor, scholars may be able to identify the boundary for which audiences deem racial humor acceptable or not. Future research should also consider examining responses to stand-up comedy compared to scripted television comedy. The comedian's dynamic with an audience could influence participants' comfort with racial humor.

This study focuses on racial comedy that targets Blacks. It may also be useful to examine how participants evaluate humor that disparages outgroup members (e.g., White). Furthermore, it could be useful to examine how participants' evaluation of group members who are neither Black nor White (e.g., South Asian). Perhaps participants will experience less arousal and increased attention when the target of the humor is socially distant from both the ingroup and outgroup in a shared viewing experience.

Shared viewing experiences are more common than not, especially in the world of video streaming and video sharing. As such, conflicts between content and viewing context are highly probable. More research needs to be done to realize and remedy the consequences of these interactions. In a hyper-social mediated world and in the context of post-identity politics, it is more important now than before to explore the role of co-viewing on audiences' entertainment experiences.

REFERENCES

- Aaker, J., Brumbaugh, A., & Grier, S. (2000). Non-target market effects and viewer distinctiveness: The impact of target marketing on attitudes. *Journal of Consumer Psychology, 9*, 127–140. doi:0.1207/S15327663JCP0903_1
- Appiah, O. (2001). Ethnic identification on adolescents' evaluation of advertisements. *Journal of Advertising Research, 41*, 7–22.
- Appiah, O. (2002). Black and White viewer's perception and recall of occupational characters on television. *Journal of Communication, 52*, 776–793. doi:10.1111/j.1460-2466.2002.tb02573.x
- Appiah, O. (2003). Americans online: Differences in surfing and evaluating race-targeted web sites by Black and White users. *Journal of Broadcasting & Electronic Media, 47*, 537–555. doi:10.1207/s15506878jobem4704_4.
- Appiah, O. (2004). Effects of ethnic identification on web browsers attitudes toward, and navigational patterns on, race-targeted Sites. *Communication Research, 31*, 312–337. doi:10.1177/0093650203261515
- Appiah, O. (2007). The effectiveness of “typical-user” testimonial advertisements on Black and White browsers' evaluations of products on commercial websites: Do they really work? *Journal of Advertising Research, 47*(1), 14–27. doi: 10.2501/S0021849907070031
- Appiah, O., & Elias, T. (2010). Race-specific advertising on commercial websites: Effects of ethnically & N. M. Burns (Eds.), *Handbook of research on digital media and advertising* (pp. 161–179). Hershey, PA: IGI Global.

- Appiah, O., Knobloch-Westerwick, S., & Alter, S. (2013). In-group favoritism and outgroup derogation: Effects of news valence, character race, and recipient race on selective news reading. *Journal of Communication*, *63*, 517–34. doi:10.1111/jcom.12032
- Baltagi, B. H., & Liu, L. (2008). Testing for random effects and spatial lag dependence in panel data models. *Statistics & Probability Letters*, *78*(18), 3304–3306.
- Banjo, O. O. (2013). For us only? Examining the impact of context on Blacks' evaluations of Black entertainment. *Race and Social Problems*, *5*(4), 309–322. doi: 10.1007/s12552-013-9106-x
- Banjo, O. O., Appiah, O., Wang, Z., Brown, C., & Walther, W. O. (2015). Co-viewing effects of ethnic-oriented programming: an examination of in-group bias and racial comedy exposure. *Journalism & Mass Communication Quarterly*, *92*(3), 662–680. doi: 10.1177/1077699015581804
- Bennett, C., & Okinaka, A. M. (1990). Factors related to persistence among Asian, Black, Hispanic, and White undergraduates at a predominantly White university: Comparison between first and fourth year cohorts. *Urban Review*, *22*, 33–60.
- Berntson, G. G., Cacioppo, J. T., & Guigley, K. S. (1993). Respiratory sinus arrhythmia: Autonomic origins, physiological mechanisms, and psychophysiological implications. *Psychophysiology*, *30*, 183–196. doi:10.1111/j.1469-8986.1993.tb01731.x
- Berntson, G. G., Quigley, K. S., & Lozano, D. (2007). Cardiovascular psychophysiology. In J. T. Cacioppo, G. Tassinary, & G. G. Berntson (Eds.), *Handbook of psychophysiology* (pp.182–210). New York, NY: Cambridge University Press.
- Bore, I.K. (2011). Laughing together? TV comedy audiences and the laugh track. *The Velvet Light Trap*, *68*, 24–34. doi:10.1353/vlt.2011.0011
- Bradley, M. M. (2000). Emotion and motivation. In J. T. Cacioppo, L. G. Tassinary, & G. Berntson (Eds.), *Handbook of psychophysiology* (pp. 602–642). New York, NY: Cambridge University Press.
- Bradley, M. M. (2009). Natural selective attention: Orienting and emotion. *Psychophysiology*, *46*, 1–11.
- Bryant, J., & Davies, J. (2006). Selective exposure processes. In J. Bryant and P. Vorderer (Eds.), *Psychology of entertainment* (pp. 19–34). Mahwah, NJ: Erlbaum.
- Buijzen, M., & Valkenburg, P. M. (2005). Parental mediation of undesired advertising effects. *Journal of Broadcasting & Electronic Media*, *49*, 153–165. doi:10.1207/s15506878jobem4902_1
- Buzsáki, G. (2006). *Rhythms of the brain*. New York, NY: Oxford University Press.
- Cacioppo, J. T., & Berntson, G. G. (1994). Relationships between attitudes and evaluative space: A critical review with emphasis on the separability of positive and negative substrates. *Psychological Bulletin*, *115*, 401–423.
- Chapman, A.J., & Chapman, W.A. (1974). Responsiveness to humor: Its dependency upon a companion's humorous smiling and laughter. *Journal of Psychology: Interdisciplinary and Applied*, *88*, 245–252. doi:10.1080/00223980.1974.9915735
- Cohen, J. (2001). Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communication & Society*, *4*, 245–264. doi:10.1207/S15327825MCS0403_01
- Cohen, E. L., & Lancaster, A. L. (2013, April). *Individual differences in connected viewing: The role of emotional contagion, need for belonging, and co-viewing orientation in mediated and non-mediated co-viewing*. Paper presented at

- Broadcast Education Association Research Symposium, Media and Social Life: The Self, Relationships, and Society, Las Vegas, NV.
- Cohen, E. L., Bowman, N. D., & Lancaster, A. L. (2013, November). *Are u with some1? Using text message experience sampling to examine the relationship between co-viewing, enjoyment, and eudaimonia*. Paper presented at the annual meeting of the National Communication Association, Washington, DC.
- Coleman, L. M., Jussim, L., & Kelley, S. H. (1995). A study of stereotyping: Testing three models with a sample of Blacks. *Journal of Black Psychology, 21*, 332–356. doi:10.1177/00957984950214004
- Cornwell, N., & Orbe, M. (2002). “Keepin’ it real” and/or “Sellin’ out to the man”: African-American responses to Aaron McGruder’s *The Boondocks*. In R. Means Coleman (Ed.), *Say it loud!: Black audiences, media, and identity* (pp. 27–43). New York, NY: Routledge.
- Dates, J. (1980). Race, racial attitudes and adolescent perceptions of Black television characters. *Journal of Broadcasting & Electronic Media, 24*, 549–560. doi:10.1080/08838158009364007
- Denham, B.E. (2004). Toward an explication of media enjoyment: the synergy of social norms, viewing situations, and program content. *Communication Theory, 14*, 370–387. doi:10.1111/j.1468-2885.2004.tb00320.x
- Ethier, K. A., & Deaux, K. (1994). Negotiating social identity when contexts change: Maintaining identification and responding to threat. *Journal of Personality & Social Psychology, 67*, 243–251. doi:10.1037/0022-3514.67.2.243
- Ferguson, M. A., & Ford, T. E. (2008). Disparagement humor: A theoretical and empirical review of psychoanalytic, superiority, and social identity theories. *Humor-International Journal of Humor Research, 21*, 283–312.
- Foote, N. (2004). Television: Watch with mother and everyone else. Retrieved July 20, 2014 from <http://www.ft.com/cms/s/1/32c10b7a-41ba-11d9-95ae-00000e2511c8.html#axzz4F4dOMmFz>
- Fujioka, Y. (2005). Emotional TV viewing and minority audience: How Mexican Americans process and evaluate TV news about in-group members. *Communication Research, 32*, 566–593.
- Gaertner, S. L., & Dovidio, J. F. (1986). The aversive form of racism. In J. F. Dovidio & S. L. Gaertner (Eds.), *Prejudice, discrimination, and racism* (pp. 61–89). Orlando, FL: Academic Press.
- Grier, S. A., & Brumbaugh, A. M. (1999). Noticing cultural differences: Ad meanings created by target and non-target markets. *Journal of Advertising, 28*(1), 79–93. <http://dx.doi.org/10.1080/00913367.1999.10673578>
- Grossman, P., Stemmler, G., & Meinhardt, E. (1990). Paced respiratory sinus arrhythmia as an index of cardiac parasympathetic tone during varying behavioral tasks. *Psychophysiology, 27*, 404–416.
- Grossman, P., & Taylor, E.W. (2007). Toward understanding respiratory sinus arrhythmia: relations to cardiac vagal tone, evolution, and bio-behavioral functions. *Biological Psychology, 74*, 263–285. <http://dx.doi.org/10.1016/j.biopsycho.2005.11.014>
- Haridakis, P., & Hanson, G. (2009). Social interaction and co-viewing with YouTube: Blending mass communication reception and social connection. *Journal of Broadcasting & Electronic Media, 53*, 317–335. doi:10.1080/08838150902908270

- Harris, R. J., & Cook, L. (2010). How content and co-viewers elicit emotional discomfort in moviegoing experiences: Where does the discomfort come from and how is it handled?. *Applied Cognitive Psychology*, *25*, 850–861. doi:10.1002/acp.1758
- Hecht, M. L., Larkey, L. K., & Johnson, J. N. (1992). African American and European American perceptions of problematic issues in interethnic communication effectiveness. *Human Communication Research*, *19*, 209–236. doi:10.1111/j.1468-2958.1992.tb00300.x
- Hoggard, L. S., Jones, S. C., & Sellers, R. M. (2016). Racial cues and racial identity implications for how African Americans experience and respond to racial discrimination. *Journal of Black Psychology*. doi:10.1177/0095798416651033
- Hoplamazian, G. J., & Appiah, O. (2013). Viewer responses to character race and social status in advertising: Blacks see color, Whites see class. *Journal of Current Issues & Research in Advertising*, *34*(1), 57–76. <http://dx.doi.org/10.1080/10641734.2013.754709>
- Hughley, M.W., & Murad, S. (2009). Laughing matters: Economies of hyper-irony and manic-satire in South Park & Family Guy. *Humanity & Society*, *33*, 206–237. doi:10.1177/016059760903300304
- Jaret, C., & Reitzes, D. C. (1999). The importance of racial-ethnic identity and social setting for blacks, whites, and multiracials. *Sociological Perspectives*, *42*, 711–737.
- Kelso, J. (1995). *Dynamic patterns: The self-organization of brain and behavior*. Cambridge, MA: MIT Press.
- Knobloch-Westerwick, S., Appiah, O., & Alter, S. (2008). News selection patterns as a function of race: The discerning minority and the indiscriminating majority. *Media Psychology*, *11*, 400–417. doi:10.1080/15213260802178542
- Kyles, K. (2005). Toxic toon; “Boondocks” heads to cartoon network with its irreverence intact. *Chicago Tribune*, p. 47.
- Perry, T., Steele, C., & Hilliard, A. (2003). *Young, gifted, and Black. Promoting high achievement among African-American students*. Boston, MA: Beacon.
- Potter, R. F., & Bolls, P. D. (2012). *Psychophysiological measurement and meaning: Cognitive and emotional processing of media*. New York, NY: Routledge.
- Lang, A. (1994). What can the heart tell us about thinking? In A. Lang (Ed.), *Measuring psychological responses to media* (pp. 99–112). Hillsdale, NJ: Erlbaum.
- Lang, A. (2006). Using the limited capacity model of motivated mediated message processing (LC4MP) to design effective cancer communication messages. *Journal of Communication*, *56*, 1–24.
- Leventhal, H., & Mace, W. (1970). The effect of laughter on evaluation of a slapstick movie. *Journal of Personality*, *38*, 16–30. doi:10.1111/j.1467-6494.1970.tb00634.x
- Lull, J. (1980). The social uses of television. *Human Communication Research*, *6*, 197–209. doi:10.1111/j.1468-2958.1980.tb00140.x
- Martin, J. N., Krizek, R. L., Nakayama, T. K., & Bradford, L. (1996). Exploring whiteness: A study of self labels for White Americans. *Communication Quarterly*, *44*, 125–144. doi:10.1080/01463379609370006
- Malpass, L. F., & Fitzpatrick, E. D. (1959). Social facilitation as a factor in reaction to humor. *Journal of Social Psychology*, *50*, 295–303. doi:10.1080/00224545.1959.9922004

- McGuire, W. (1984). Search for the Self: Going beyond self-esteem and the reactive self. In R. A. Zucker, J. Aronoff, & A. I. Rabin (Eds.) *Personality and the prediction of behavior* (pp. 73–120). New York, NY: Academic Press.
- McGuire, W., McGuire, V., Child, P., & Fujioka, T. (1978). Salience of ethnicity in the spontaneous self-concept as a function of one's ethnic distinctiveness in the social environment. *Journal of Personality and Social Psychology, 36*, 511–520. doi:10.1037/0022-3514.36.5.511
- Merritt, M. M., Bennett, G. G., Williams, R. B., Edwards, C. L., & Sollers, J. J. (2006). Perceived racism and cardiovascular reactivity and recovery to personally relevant stress. *Health Psychology, 25*, 364–369.
- Morley, D. (1988). Domestic relations: the framework of family viewing in Great Britain. In J. Lull (Ed.), *World families watch television* (pp. 22–48). London, UK: Sage.
- Motley, C. M., & Craig-Henderson, K. M. (2007). Epithet or endearment? Examining reactions among those of the African Diaspora to an ethnic epithet. *Journal of Black Studies, 37*, 944–963. doi:10.1177/0021934705282094
- Murphy, M. C., Steele, C. M., & Gross, J. J. (2007). Signaling threat: How situational cues affect women in math, science, and engineering settings. *Psychological Science, 18*, 879–885. doi:10.1111/j.1467-9280.2007.01995.x
- Nabi, R. L., & Riddle, K. (2008). Personality traits, television viewing, and the cultivation effect. *Journal of Broadcasting & Electronic Media, 52*, 327–348. doi:10.1080/08838150802205181
- Nathanson, A. I. (2001). Parent and child perspectives on the presence and meaning of parental television mediation. *Journal of Broadcasting & Electronic Media, 45*, 201–220. doi:10.1207/s15506878jobem4502_1
- Oh, C., & Banjo, O. O. (2012). Outsourcing postracialism: Voicing neoliberal multiculturalism in Outsourced. *Communication Theory, 22*, 449–470. doi:10.1111/j.1468-2885.2012.01414.x
- Oliver, M. B. (2002). *Individual differences in media effects*. Mahwah, NJ: Erlbaum.
- Oliver, M. B., & Fonash, D. (2002). Race and crime in the news: Whites' identification and misidentification of violent and nonviolent criminal suspects. *Media Psychology, 4*, 137–156. doi:10.1207/S1532785XMEP0402_02
- Park, J. H., Gabbadon, N. G., & Chernin, A. R. (2006). Naturalizing racial differences through comedy: Asian, Black, and White views on racial stereotypes in *Rush Hour 2*. *Journal of Communication, 56*, 157–177. doi:10.1111/j.1460-2466.2006.00008.x
- Perry, T., Steele, C., & Hilliard, A. (2003). *Young, gifted, and Black. Promoting high achievement among African-American students*. Boston, MA: Beacon.
- Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research, 7*, 156–176. doi:10.1177/074355489272003
- Platow, M. J., Haslam, S.A., Both, A., Chew, I., Cuddon, M., Goharpey, N.,... Grace, D. M. (2005). "It's not funny if they're laughing": Self-categorization, social influence, and responses to canned laughter. *Journal of Experimental Social Psychology, 41*, 542–550. doi:10.1016/j.jesp.2004.09.005
- Porges, S. W. (1995). Orienting in a defensive world: Mammalian modifications of our evolutionary heritage: A Polyvagal theory. *Psychophysiology, 32*, 301–318. doi:10.1111/j.1469-8986.1995.tb01213.x

- Porges, S. W. (2007). The polyvagal perspective. *Biological Psychology*, *74*, 116–143.
- Potter, R. F., & Bolls, P. D. (2012). *Psychophysiological measurement and meaning: Cognitive and emotional processing of media*. New York, NY: Routledge.
- Purdie-Vaughns, V., Steele, C. M., Davies, P. G., Dittmann, R., & Crosby, J. R. (2008). Social identity contingencies: How diversity cues signal threat or safety for African Americans in mainstream institutions. *Journal of Personality and Social Psychology*, *94*, 615–630. doi:10.1037/0022-3514.94.4.615
- Qu, M., Zhang, Y., Webster, J. G., & Tompkins, W. J. (1986). Motion artifact from spot and band electrodes during impedance cardiography. *IEEE Transactions on Biomedical Engineering*, *11*, 1029–1036.
- Raney, A. A. (2003). Disposition-based theories of enjoyment. In J. Bryant, D. Roskos-Ewoldsen, & J. Cantor (Eds.), *Communication and emotion: Essays in honor of Dolf Zillmann*, (pp. 61–84). Mahwah, NJ: Erlbaum.
- Reeves, B., & Nass, C. (1996). *The media equation: How people treat computers, television, and new media like real people and places*. New York, NY: Cambridge University Press.
- Rockler, N. (2002). Race, whiteness, “lightness,” and relevance: African American and European American interpretations of *Jump Start* and *The Boondocks*. *Critical Studies in Media Communication*, *19*, 398–418. doi:10.1080/07393180216569
- Royce, A. P. (1982). *Ethnic identity: Strategy of diversity*. Bloomington, IN: Indiana University Press.
- Rubin, A. M. (1993). Audience activity and media use. *Communications Monographs*, *60*, 98–105. doi:10.1080/03637759309376300
- Rushing, K. (2004). *Racy “Boondocks” comics expose Black culture rift*. Retrieved October 6, 2006, from <http://www.blackamericaweb.com>
- Sigelman, L., & Tuch, S. A. (1997). Metastereotypes: Blacks’ perceptions of Whites’ stereotypes of Blacks. *The Public Opinion Quarterly*, *61*(1), 87–101.
- Smedley, A. (1999). *Race in North America: Origin and evolution of a worldview* (2nd ed.). Boulder, CO: Westview Press.
- Stern, R. M., Ray, W. J., & Quigley, K. S. (2001). *Psychophysiological recording* (2nd ed.). New York, NY: Oxford University Press.
- Steele, C. M. (1992, April). Race and the schooling of Black Americans. *The Atlantic Monthly*, 68–78.
- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Chicago, IL: Nelson-Hall.
- Takaki, R. (1993). *A different mirror: A history of multicultural America*. New York, NY: Little, Brown.
- The Wall Street Journal*. (2014). Retrieved March 30, 2014 from <http://blogs.wsj.com/speakeasy/2014/03/29/stephen-colbert-racism-and-the-weaponized-hashtag/>
- Wang, Z. (2014). Bridging media processing and selective exposure: A dynamic motivational model of media choices and choice response time. *Communication Research*, *41*, 1064–1087. doi:10.1177/0093650214534963
- Wang, Z., & Lang, A. (2012). Reconceptualizing excitation transfer as motivational activation changes and a test of the television program context effects. *Media Psychology*, *15*, 68–92. doi:10.1080/15213269.2011.649604

- Wang, Z., Lang, A., & Busemeyer, J. R. (2011). Motivational processing and choice behavior during television viewing: An integrative dynamic approach. *Journal of Communication, 61*, 72–94. doi:10.1111/j.1460-2466.2010.01527.x
- Wang, Z., Morey, A. C., & Srivastava, J. (2014). Motivated selective attention during political ad processing: The dynamic interplay between emotional ad content and candidate evaluation. *Communication Research, 41*, 119–156. doi:10.1177/0093650212441793
- Wang, Z., Solloway, T., Tchernev, J., & Barker, B. (2012). Dynamic motivational processing of anti-drug messages: Coactivation begets attention. *Human Communication Research, 38*, 485–509. doi:10.1111/j.1468-2958.2012.01431.x
- Wang, Z., Vang, M. H., Lookadoo, K. L., Tchernev, J., & Cooper, C. (2015). Engaging high-sensation seekers: The dynamic interplay of sensation seeking, message visual-auditory complexity and arousing content. *Journal of Communication, 65*(1), 101–124. doi:10.1111/jcom.12136
- Warren, R., Gerke, P., & Kelly, M. A. (2002). Is there enough time on the clock? Parental involvement and mediation of children's television viewing. *Journal of Broadcasting & Electronic Media, 46*(1), 87–111. doi:10.1207/s15506878jobem4601_6
- White, P.H., & Harkins, S. G. (1994). Race of source effects in the elaboration likelihood model. *Journal of Personality and Social Psychology, 67*, 790–807. doi:10.1037/0022-3514.67.5.790
- Whittler, T. E. (1991). The effects of actors' race in commercial advertising: Review and extension. *Journal of Advertising, 20*(1), 54–60. <http://dx.doi.org/10.1080/00913367.1991.10673207>
- Yang, S., Zhao, Y., Erdem, T., & Zhao, Y. (2010). Modeling the intrahousehold behavioral interaction. *Journal of Marketing Research, 47*, 470–484. doi:http://dx.doi.org/10.1509/jmkr.47.3.470
- Zillmann, D. (1988). Mood management through communication choices. *American Behavioral Scientist, 31*, 327–341. doi:10.1177/000276488031003005
- Zillmann, D. (2003). Theory of affective dynamics: Emotions and moods. In J. Bryant, D. Roskos-Ewoldsen, & J. Cantor (Eds.), *Communication and emotion: Essays in honor of Dolf Zillmann*, (pp. 533–567). Mahwah, NJ: Erlbaum.