

# “The Rippled Perceptions”: The Effects of LGBT-Inclusive TV on Own Attitudes and Perceived Attitudes of Peers Toward Lesbians and Gays

Harry Yaojun Yan<sup>1</sup>

## Abstract

This study explores the effects and influence of presumed influence of consuming recent lesbian, gay, bisexual, and transgender (LGBT)-inclusive TV on attitudes toward lesbians and gays (ATLG) and perceived attitudes toward lesbians and gays (PATLG) among peers. Adding to previous research, this study testifies to the modest yet positive effects of current entertainment narratives on viewers' ATLG. The results demonstrate dynamics of “the rippled perceptions”: people's own attitudes are the “origin of peer perceptions”; media consumption and interpersonal contact predict participants' own attitudes; the influence of presumed influence attenuates as the analysis moves from self, to close friends, and those of the same age.

## Keywords

TV entertainment, peer perceptions, attitudes toward lesbians and gays, presumed media influence

If you strongly oppose gay marriage, chances are high that you don't know anyone who supports it and the sort of media you consume tends to rarely cover the rapidly increasing support for gay marriage.

—*The Washington Post*, 5 March 2014

---

<sup>1</sup>Indiana University Bloomington, USA

### Corresponding Author:

Harry Yaojun Yan, The Media School, and Complex Networks & Systems, The School of Informatics, Computing, and Engineering, Indiana University Bloomington, 601 E Kirkwood Ave, Bloomington, IN 47405, USA.

Email: [haryan@iu.edu](mailto:haryan@iu.edu)

This is what journalist Chris Cillizza (2014) took away from the results of polls conducted by the Public Religion Research Institution in February 2014. Consistent with other contemporary polls, these results indicated that over 50% of Americans held favorable attitudes toward gay and lesbian individuals. Meanwhile, this particular poll also indicated that there was a gap between most Americans' views and their perceptions of other people's views of gays and lesbians.<sup>1</sup>

Building on this observation, this study further investigates the dynamics between media exposure, viewers' own attitudes, and viewers' perceptions of peer attitudes toward lesbians and gays (ATLG). Investigating effects of certain TV shows on ATLG and perceived attitudes toward lesbians and gays (PATLG) of others among non-lesbian, gay, bisexual, and transgender (LGBT) Americans is examining the role that entertainment media play in the public opinion formation process. First, this study follows a sizable body of research and examines the unobtrusive but direct effects of entertainment narratives on attitude change in general (e.g., Moyer-Gusé & Nabi, 2010) and in the context of how it affects viewers' judgments of marginalized groups (Ward, Reed, Trinh, & Foust, 2013). More importantly, the current investigation additionally emphasizes the indirect media effects on perceptions of peers' attitudes (i.e., PATLG).

While perceptions of peers' attitudes contribute to the formation and expression of one's own ATLG and behaviors toward LGBT individuals (Calzo & Ward, 2009a; Hall & LaFrance, 2012), such perceptions have been shown to be susceptible to the effects of media (Hetzel, 2011). While scholarly attention focused more on news media (e.g., Liebler, Schwartz, & Harper, 2009), it is unclear if and how entertainment media and different characteristics of peers can shape the PATLG and its interactions with ones' own attitudes.

This study adopts the "influence of presumed influence" (IPI) model (Gunther, 1998; Gunther & Storey, 2003; Paek & Gunther, 2007) to investigate how consumption of "LGBT-inclusive" TV predicts the presumed influence of these TV shows on one's own and one's perceived attitudes, and whether this leads to more united or polarized ATLG. The selection of this model is based on its ability to capture both direct media effects, that is, cultivation effects (Chia & Gunther, 2006), and indirect media effects, that is, presumed media influence (Paek & Gunther, 2007). The current application further aims to advance the model in three directions. First, it incorporates interpersonal contacts (Huge & Glynn, 2015) and psychological distance of targeted referents as explanatory factors (Paek & Gunther, 2007). Second, this research looks at the model's validity in a controversial or arguably prosocial context. Finally, adopting a within- and between-subjects design, this study examines a recent argument (Chock, 2011; David, Liu, & Myser, 2004; Shen, Palmer, Mercer Kollar, & Comer, 2015) regarding whether the self-other differentiation of presumed media influence as well as attitudes are extant cognitions or methodological artifacts.

Media activism groups have long recognized the persuasive nature of including LGBT characters in TV narratives. For example, Gays and Lesbians Alliance Against Defamation (GLAAD) has tracked all of the shows featuring regular and recurring LGBT characters since 1996. As discerned from the Network Responsibility Index

(NRI) reports of the last decade, the 2014-2015 viewing season included 101 characters, of which 83 regular and 18 recurring were clearly identified and recognized as gay, lesbian, bisexual, or transgender, whereas the number was only 41 in the 2005-2006 season (GLAAD, 2015b).

Practically speaking, examinations of both direct and indirect effects contribute to the evaluation of the decades-long media campaigns, which rely on changing media visibility to change attitudes toward homosexuality in society. This study provides additional evidence of the effectiveness of the changing visibility of LGBT representations on TV. Moreover, the results shed new light on how TV shows collectively serve as indicators of public opinion, and on the robustness of changing attitudes and perceptions of public opinion with regard to homosexuality. Accordingly, the difficulties in advancing the attitudes change as well as recommendations for media campaigns and LGBT-related activisms are discussed.

## **Literature Review**

### **ATLG, PATLG, and LGBT-Inclusive TV**

Many demographic and related psychological factors have been studied that are closely related to ATLG: gender and gender role, ethnicity, religion and religiosity, and political ideology (Herek & Capitanio, 1996; Lee & Hicks, 2011). Media exposure is no exception. However, the results have been mixed from previous research. Many laboratory studies empirically supported positive persuasive effects of viewing recent LGBT storylines on ATLG. Studies that focused on individual programs, such as the movie *Milk* (Riggle, Ellis, & Crawford, 1996), TV comedies and dramas, for example, *Will & Grace*, *Queer as Folk*, and *Six Feet Under* (Ortiz & Harwood, 2007; Schiappa, Gregg, & Hewes, 2006) have positive effects in changing ATLG. As a review, Ward and colleagues (2013) concluded,

Media exposure [i.e., recent gay and lesbian stories in TV episodes and films] leads to an attitude shift in which individuals with positive attitudes and those with negative attitudes move toward a moderate acceptance of homosexuality. (p. 396)

Audiences establish relations with characters, which potentially function as substitutes for interpersonal contacts with LGBT individuals that they either lack or do not have clear knowledge of (Schiappa et al., 2006). These positive results revalidated the interpersonal contact hypothesis, which presumes people who have LGBT individuals in their social circles will have more positive attitudes toward homosexuality than people who do not (Herek & Capitanio, 1996).

Nonexperimental studies, however, have generated mixed results. Nisbet and Myers' (2012) analysis of General Social Survey (GSS) data from 1972 to 2008 supported the cultivation hypothesis that heavy exposure to TV shows which included gay and lesbian characters predicts higher tolerance of homosexuals. In contrast, Calzo and Ward (2009b)'s cross-sectional research demonstrated no significant positive

association between favorable attitudes toward homosexuals with overall media exposure, which included TV, music videos, movies, and magazines. They attributed it to the complex nature of media content.

Perceptions of *others'* attitudes toward lesbians and gays (PATLG), have received relatively scarce attention from the academics in the past, but show more potential in recent years. Research demonstrated that observations of peers' attitudes and social norms, as one of the major sources of information, contribute to the formation of people's own attitudes toward homosexuality (Calzo & Ward, 2009a), especially when the chances of establishing interpersonal contacts with gays and lesbians are low (Crandall & Eshleman, 2003). Other explorations of related concepts like "perceived homophobia" demonstrated that overt gay slurs, such as "fag" or "faggot," conveyed messages which associate homosexuality with negativity and subsequently influenced individual attitudes (Hall & LaFrance, 2012). Providing fake polling results to respondents, Hetzel (2011) showed that perceptions of public opinion strongly affect their intentions to support gay and lesbian advocacy organizations.

The current research, following Nisbet and Myers' (2012) practice, targets LGBT-inclusive TV. In this study, it is formally defined as popular TV drama or comedy series where LGBT characters, along with majority of characters being non-LGBT, served as either regular or recurring roles in narratives. The theoretical support for the concentration on LGBT storylines is the content homogeneity assumption from the cultivation hypothesis: no matter which channels and medium types, if it follows the similar narrative mechanism (e.g., similar characters), overall media consumption tends to instill audiences with similar ideological patterns of belief (Morgan & Shanahan, 2010). In other words, focusing on certain scripted TV series that include regular and recurring LGBT characters presumes a moderately higher level of homogeneity of the content than general TV entertainment viewing. This definition of LGBT-inclusive TV also excludes shows that are primarily catering to LGBT audiences, but shows like *Walking Dead*, a post-apocalyptic zombie story, are included. In programs such as this, it is more likely for non-LGBT audiences to "be accidentally exposed to" LGBT storylines without preexisting expectations.

While it is clear that people's own ATLG are interrelated with their social contexts such as personal connections with LGBT individuals and their PATLG in friends and peers, how media messages shape the self-other differential perceptions in this context is unclear. Following developing academic interests on this topic, the current study applies the IPI model, a theory that addresses the trilateral relationships between self, others, and media, to explore the interrelationships between ATLG, PATLG, and LGBT-inclusive TV.

### ***The IPI Model***

Gunther and Storey (2003) proposed the IPI model, which incorporates both direct media effects (i.e., second-order cultivation; Chia & Gunther, 2006) on one's own attitudes, and indirect media effects as consequences of *perceived media influence* (PMI) on others (Gunther, 1998). Therefore, it is an integration of "the relationship

between perceptions of both media content and media influence, and resultant perceptions of public opinion" (Gunther, 1998, p. 487). Paek and Gunther (2007) noted that the explanatory power of this model resides in testing "media as the origin of peer perceptions . . . and outlines an entire process through which perceptions of peers could mediate the association between media messages and individual's attitude and behavior change (p.411)."

They further developed the IPI model and demonstrated how different referents (i.e., "close friends" vs. "people of your age group") moderated the presumed media influence. By summarizing various theories that explain the social perceptions of others (e.g., Festinger, 1954; Tajfel & Turner, 1986), an underlying presumption can be extracted: *others* at a closer psychological distance show more perceived similarities with self and play more important roles in the formation of one's own attitudes. Therefore, direct effects proposed by the IPI model are divided into two layers—perceived attitudes among proximal peers (i.e., close friends) and the distal peers (i.e., people of the same age), and so are indirect effects.

Gunther (1998) stressed that the model shares the heavy-viewer assumption from the classic cultivation hypothesis and hypothesized the effects of TV viewing on both one's own attitudes or values and estimates of public opinion (other similar schematic models see Diefenbach & West, 2007; Shanahan & Scheufele, 2012). The hypothesized *direct* effects within the IPI model, therefore, speak for effects on both one's own attitudes and perceived reality, including perceived attitudes among proximal and distal peers:

**H1:** Consumption of LGBT-inclusive TV is positively associated with attitudes toward lesbians and gays.

**H2:** Consumption of LGBT-inclusive TV is positively associated with perceived attitudes toward lesbians and gays among (a) proximal and (b) distal peers.

The hypothesized indirect effects in the model suggest that two potential mediating variables sequentially lead to perceived attitudes among peers: perceived exposure and presumed media influence on peers. The first step of the *persuasive media inference* (PMI) sequence hypothesizes that the more people are consuming certain media messages, the more similar media content they think their (proximal/distal) peers are consuming as well (Gunther, 1998). The phenomenon is rooted in the "law of small-number bias": people are willing to make strong inferences based on very limited amount of data (Tversky & Kahneman, 1971). In the case of TV entertainment, the bias may be further amplified by its ability to reach a broad audience (Gunther, 1998). Therefore, the following hypothesis is proposed:

**H3:** The consumption of LGBT-inclusive TV is positively associated with perceived consumption among (a) proximal and (b) distal peers.

Gunther and Storey (2003) bridged assumptions about perceived exposure with the third-person effect (TPE), which stated a person would presume that certain media

content will have a greater impact on others than on self (Davison, 1983). Sun et al.'s (2008) meta-analysis showed consistency and robustness of the perceptual component of TPE. Although not as decisive, a few studies (e.g., McLeod, Eveland, & Nathanson, 1997; Paek & Gunther, 2007) confirmed that presumed higher exposure among peers is one of the necessary conditions for the inference of the stronger media effects on others. Therefore, the following hypothesis is proposed:

**H4:** Perceived consumption of LGBT-inclusive TV among (a) proximal and (b) distal peers is positively associated with presumed media influence on (a) proximal and (b) distal peers' attitudes toward lesbians and gays.

The last assumption is simply a logical extension of how presumed media influence affects people's perceptions of peers' attitudes (Gunther, 1998). The hypothesis would be that the more the audience thinks media content affects their peers, the affected attitude or opinions in a greater degree they would infer:

**H5:** Presumed media influence on (a) proximal and (b) distal peers' attitudes of gays and lesbians will be positively associated with perceived (a) proximal and (b) distal peers' attitudes toward lesbians and gays.

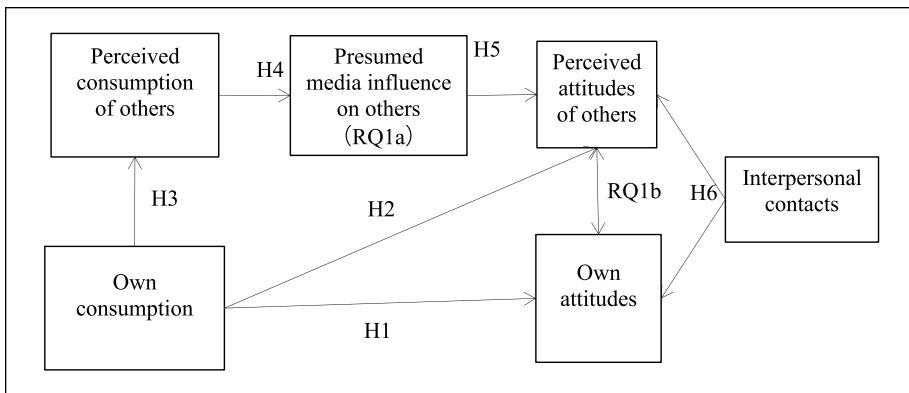
While perceptions of social norms or social reality are more likely to be influenced by media messages (Hawkins & Pingree, 1982), having direct interpersonal contacts with LGBT individuals in personal experiences has been tested as the most effective way of changing people's own ATLG (Herek & Capitanio, 1996). Huge and Glynn (2015) also demonstrated that interpersonal conversations moderate the evaluations of presumed media influence and its consequences. The current research aims to examine the validity of the interpersonal contact hypothesis on one's own attitudes and extend it to perceptions of peers' attitudes.

**H6:** People who have closer interpersonal relationships with LGBT individuals will have more (a) positive attitudes, as well perceived attitudes toward lesbians and gays among (b) proximal and (c) distal peers.

The hypothetical model is presented in Figure 1.

### *Self-Other Differential Perceptions of Media Influence and Attitudes*

The IPI model concerns differential perceptions of media exposure, then media influence, and consequentially peers' attitudes in regard to self and others. Perceptions of media influences are documented in the TPE literature as one of the well-studied topics in the communication field (Davison, 1983; Sun, Pan, & Shen, 2008). The optimism bias mechanism has also been frequently applied to explain third-person perceptions (TPP; Gunther & Mundy, 1993), which focused on the perceptual gap of presumed media influence (Sun et al., 2008). It postulates that people are motivated



**Figure 1.** The hypothetical model.

Note. Variables that are relevant to *others* (i.e., perceived consumption, presumed media influence, perceived attitudes) of different psychological distance (i.e., proximal peers and distal peers) are collapsed. H = hypothesis; RQ = research question.

naturally to maintain positive self-concept through presuming stronger media influence on others than on self. Sun's et al. (2008) meta-analysis supported this argument and examined the two critical factors that affect the directionality (i.e., stronger on self vs. stronger on others) and magnitude of the perceptual gap (i.e., the discrepancy between presumed media on self and on others): desirability of the media content (i.e., anti-social vs. pro-social) and the characteristics of others (e.g., social distance).

Content desirability in the current study refers to whether seeing LGBT storylines in entertainment TV is deemed as a "good" or "bad" thing. The current study, however, does not preestablish or assume the social desirability of the LGBT-inclusive TV: Although the visibility and representations of LGBT characters on TV have "improved" over the years (Hilton-Morrow & Battles, 2015), the issue and its evaluation remains ideologically polemic (Liebler et al., 2009).

According to TPE literature, when judging socially desirable media content, people tend to report "reversed" TPPs, otherwise known as "first-person perceptions" (FPPs), which assume that media content has stronger effects on themselves than on others (Golan & Day, 2008). As with TPPs, FPPs are also constrained by the two factors—the "message attributes (anti-social vs. pro-social)" and "the traits of others" (Wei, Lo, & Lu, 2007). Nevertheless, scholars have demonstrated the asymmetry of the magnitudes (i.e., the discrepancy between presumed media influence on self and other) between TPPs and FPPs: the latter are often smaller (e.g., Gunther & Mundy, 1993). The asymmetry of the magnitudes denotes one overarching factor: "individuals' perceptions of media effects (e.g., powerful media vs. limited effect)" (Wei et al., 2007, pp. 680-681). In other words, the audience usually "assumes [that] oneself being influenced by media is a bad thing" (Shen et al., 2015, p. 264). The default self-immunity from media effects functions in line with TPP but in opposite to FPP.

In this case, although arguably LGBT-inclusive TV could be seen as being in favor of changing people's ATLG, to what degree the influence of LGBT-inclusive TV can change other people's attitudes is affected by the social distance of the referents and moderated by how people perceive media influence in general. How people perceive media influence in general often accords with how people perceive media influence on self. Therefore, the first research question is presented as follow:

**RQ1a:** To what extent will people with different perceptions about the influence of watching LGBT-inclusive TV on self presume the influence on proximal and distal peers' attitudes toward lesbians and gays differently?

People's self-other differentiation regarding attitudes shares a similar mechanism with perceptions of media influence (Brewer, 2007). One possibility is that people might directly project their personal experiences and attitudes on their peers directly, which is the so-called "projection" or "looking-glass effect" (Fields & Schuman, 1976). Then it could be hypothesized that people's own ATLG are consistent with their PATLG. Alternatively, social identity (Tajfel & Turner, 1986) and social categorization theory (Festinger, 1954) propose rationales for differential perceptions between self and others. Led by a similar optimism bias mechanism, people tend to engage in social comparisons that favor their own self-concepts or their in-group identities (Tajfel & Turner, 1986). Similarly, there are also two factors predicting the self-other differential perceptions with regard to attitudes toward certain judged matter: social desirability of the issues and social distance of the referents. To further explore the relationship between people's ATLG and PATLG, the open-ended research question is raised:

**RQ1b:** To what extent will people with different attitudes toward lesbians and gays perceive attitudes toward lesbians and gays among the proximal and the distal peers differently?

In recent theoretical developments, scholars (e.g., Chock, 2011; David et al., 2004; Shen et al., 2015) have suggested that self-other perceptual gaps of media influence and attitudes might not be the mere result of motivated processing. In other words, three variables in the PMI sequence predicted within the IPI model (i.e., perceived exposure, presumed media influence, and perceived attitudes) are rooted in participants' extant cognitions. Scholars have already found people's mental representations of themselves and their close friends are inseparable, especially in socially desirable contexts (Otten & Eptude, 2006). Shen et al. (2015) concurred that perceptual gaps of media influence are actual presentations of cognitions. However, they also demonstrated how the magnitude of TPP could be susceptible to anchoring effects, such as being primed with either similarity or disparity between referents and participants. Thus, the research question is raised:

**RQ2:** Are people's differential perceptions of the influence from LGBT-inclusive TV on, and of attitudes toward lesbians and gays among self, proximal, and distal peers actual cognitive presentations or mere consequences of motivated comparisons?

## Method

Participants ( $N = 856$ ) were recruited via convenience sampling on Amazon Mechanical Turk (MTurk). Each participant was paid 50 cents as an incentive. For data collection, both heterosexual and nonheterosexual individuals were recruited, and only participants who identified as heterosexual or straight were included for data analysis.<sup>2</sup>

To test if the comparison between self and others are results of methodological artifacts (R2), a within- and between-subjects design (see similar designs in e.g., Chock, 2011; David et al., 2004) was embedded in this survey, described as follows. All the participants ( $N = 856$ ) answered questions with regard to demographics, interpersonal contacts, and consumption of the selected LGBT-inclusive TV shows, as well as general TV watching habits. Half of the participants ( $n = 434$ ) were assigned to the within-subjects condition, the other half ( $n = 422$ ) into the between-subjects conditions. In the within-subjects condition, they answered questions regarding perceived media consumption of both proximal and distal peers, presumed media influence on self, proximal, and distal peers, and own attitudes and perceived attitudes among proximal and distal peers. Participants in the between-subjects conditions were further randomly assigned into three conditions: the self, the friend, and the peer condition. Participants in the self condition ( $n = 143$ ) only answered questions pertaining to presumed media influence on self and ATLG. Participants in the friend ( $n = 140$ ) or the peer condition ( $n = 139$ ) only responded to the questions in regard to perceived consumption of, presumed media influence on, and perceived attitudes of close friends or people of the same age in America respectively. All the questions within each condition were randomized to reduce the anchoring effects caused by the different order of how the questions are asked (i.e., self first vs. others first; Shen et al., 2015).

## Demographics

Compared to convenient student samples that are usually predominantly young and white, and yet frequently used to study relevant topics (Ward et al., 2013), the participants in this research showed considerable variance in their demographic profiles. Among all the participants, age ranged from 18 to 83 ( $M = 37.41$ ,  $SD = 12.94$ ) and a majority fell into the 18 to 49 age group (78.7%,  $n = 674$ ). Female participants (56.3%,  $n = 482$ ) were slightly more numerous than male. Nevertheless, this sample indeed overly represented White (78.8%), liberal/Democrats (41.4%), young, well-educated (51.9% have bachelor or higher degrees), and less religious (42.5% never go to church/temple/mosque) people. Chi-square and one-way analysis of variance (ANOVA) were performed to test the homogeneity of demographics and general TV viewing habits across the four conditions, and no significant differences were found (all  $p > .05$ ).

## Consumption and Perceived Consumption of LGBT-Inclusive TV

Participants were asked how many episodes they have watched of each of the selected 35 LGBT-inclusive TV shows, with a seven-point scale representing “none” to “all.”

The sum ( $M = 32.18$ ,  $SD = 19.87$ ) of each participant's viewing was calculated as the total consumption. First, 30 TV series were purposely sampled, per the aforementioned definition,<sup>3</sup> from 101 shows that included LGBT recurring or regular characters in the 2014-2015 season (GLAAD, 2015). To shorten the time of completing each questionnaire, only 30% of the shows were selected. The sample of shows proportionally represented across channels (broadcasting/cable), genres (comedy/drama), and LGBT characters' positions (regular/recurring). The shows with the highest ratings among total viewers in each category are selected. In addition to the 30 currently on-air series, two Netflix originals, which were not indexed by GLAAD (2015b) at the time, and three finished shows in the past were also included (see Table 1). The 35 shows in total were randomized into five groups of seven and displayed on each web page.

Perceived consumption among close friends ( $M_{within} = 4.41$ ,  $SD = 1.60$ ;  $M_{friend} = 4.17$ ,  $SD = 1.72$ ) and people of the same age ( $M_{within} = 4.64$ ,  $SD = 1.53$ ;  $M_{peer} = 4.59$ ,  $SD = 1.47$ ) was measured separately after participants had finished answering all the selected 35 shows, with two single-item 7-point scales. From "not at all" to "very," they were asked to estimate "how popular these shows are among your close friends/people of your same age in America."

### ATLG and PATLG Measures

This study used the scale developed by Herek (1984, 1998) to measure the attitudes of audiences toward lesbians and gays. The original version (1984) had 20 items and tested explicit attitudes toward gays (ATG) and lesbians (ATL) separately. To shorten the length of the questionnaire,<sup>4</sup> a five-item revision was then selected from the original scale to measure attitudes toward both gays and lesbians (ATLG) in one scale. Two items were selected to cover the generic and religious attitudes toward homosexuality, and the rest of the three covers attitudes toward the civil rights for people of homosexuality. Wordings are modified according to the ongoing discussions: (a) "Homosexuality is disgusting." (b) "Homosexual couples should be allowed to adopt children the same as heterosexual couples." (c) "Homosexuality is a sin." (d) "Laws approving same-sex marriage should be repealed." (e) "A person's homosexuality should not be a cause for job discrimination in any situation." The revised measurement (Within-subjects Cronbach's  $\alpha = .87$ ,  $M_{within} = 5.50$ ,  $SD = 1.64$ ,  $n = 456$ ; Self-condition Cronbach's  $\alpha = .88$ ,  $M_{self} = 5.61$ ,  $SD = 1.54$ ,  $n = 143$ ) took the form of a 1 to 7 numeric scale, where a greater number means a higher level agreement with the statements.

After ATLG, PATLG were measured using the same items. Following Paek and Gunther (2007), proximal peers are defined as "your close friends" (Within-subjects Cronbach's  $\alpha = .87$ ,  $M_{within} = 5.31$ ,  $SD = 1.50$ ,  $n = 456$ ; Friend-condition Cronbach's  $\alpha = .89$ ,  $M_{friend} = 5.35$ ,  $SD = 1.63$ ,  $n = 140$ ;) and distal peers (Within-subjects Cronbach's  $\alpha = .87$ ,  $M_{within} = 5.22$ ,  $SD = 1.31$ ,  $n = 456$ ; Peer-condition Cronbach's  $\alpha = .87$ ,  $M_{peer} = 5.25$ ,  $SD = 1.41$ ,  $n = 139$ ) are defined as "people of your age in America."

**Table 1.** Selected 35 (30 Current +5 Historic) Lesbian, Gay, Bisexual, and Transgender-Inclusive TV Shows.

Name	Genre	Positions	Channels	Total episodes
Gotham	Drama	Regular	Broadcast	22
Grey's Anatomy	Drama	Regular	Broadcast	244
Empire	Drama	Regular	Broadcast	30
How to Get Away With Murder	Drama	Regular	Broadcast	15
Scandal	Drama	Regular	Broadcast	71
Arrow	Drama	Recurring	Broadcast	71
Hannibal	Drama	Recurring	Broadcast	39
The Following	Drama	Recurring	Broadcast	45
Mistresses	Drama	Recurring	Broadcast	39
Modern Family	Comedy	Regular	Broadcast	144
Mom	Comedy	Regular	Broadcast	46
Brooklyn Nine-Nine	Comedy	Regular	Broadcast	50
Unbreakable Kimmy Schmidt	Comedy	Regular	Broadcast	26
The Simpsons	Comedy	Recurring	Broadcast	582
Two and a Half Men	Comedy	Recurring	Broadcast	262
Masters of Sex	Series	Regular	Cable	36
Da Vinci's Demons	Series	Regular	Cable	17
Faking It	Series	Regular	Cable	19
The Fosters	Series	Regular	Cable	48
House of Lies	Series	Regular	Cable	58
Pretty Little Liars	Series	Regular	Cable	128
Nurse Jackie	Series	Regular	Cable	80
Ray Donovan	Series	Regular	Cable	36
Shameless	Series	Regular	Cable	60
True Blood	Series	Regular	Cable	80
White Collar	Series	Regular	Cable	81
American Horror Story	Series	Recurring	Cable	63
Game of Thrones	Series	Recurring	Cable	46
South Park	Series	Recurring	Cable	260
The Walking Dead	Series	Recurring	Cable	71
House of Cards	Drama	Regular	Netflix	39
Orange Is the New Black	Comedy	Regular	Netflix	39
Sex and the City	Comedy	Recurring	Cable	94
Six Feet Under	Series	Regular	Cable	63
Buffy the Vampire Slayer	Drama	Regular	Broadcast	145

### Presumed Media Influence

The same five items from the ATLG scale were used to measure presumed media influence. They were asked, “to what extent do you think gay or lesbian stories in TV shows have changed your perspective in the following statements?” and “ . . . have changed the perspective . . . among YOUR CLOSE FRIENDS/PEOPLE OF THE SAME AGE IN AMERICA?” It took the form of a 7-point bipolar scale: -3 meant watching LGBT-inclusive TV makes themselves or peers “strongly” disagree more with the item, +3 means “strongly” agree more, and 0 means no influence. Therefore, the absolute values captured the magnitude of the change, while the plus and minus signs indicated the directionality. Similarly, presumed media influence on self (Cronbach’s  $\alpha = .78$ ,  $M_{within} = .42$ ,  $SD = 1.06$ ), on close friends (Cronbach’s  $\alpha = .79$ ,  $M_{within} = .59$ ,  $SD = 1.08$ ) and people of the same age (Cronbach’s  $\alpha = .75$ ,  $M_{within} = .86$ ,  $SD = 1.12$ ) were also measured in the within-subjects condition ( $n = 456$ ), and respectively in each concerned condition—perceived influence on self in the self condition (Cronbach’s  $\alpha = .77$ ,  $M_{self} = .69$ ,  $SD = 1.13$ ,  $n = 143$ ), on friends in the friend condition (Cronbach’s  $\alpha = .67$ ,  $M_{friend} = .50$ ,  $SD = 1.05$ ,  $n = 140$ ), and on the people of the same age in peer condition (Cronbach’s  $\alpha = .88$ ,  $M_{peer} = 1.05$ ,  $SD = 1.31$ ,  $n = 139$ ).

For each of six continuous variables, exploratory factor analysis (EFA) with maximum likelihood (ML) estimation method was used to revalidate the construct hierarchy. The K-1 rule (i.e., Eigenvalue  $> 1$ ) and scree plot were used as factor extraction methods. Every scale of interest was shown in a stable construct hierarchy that measured a single factor.<sup>5</sup>

### Interpersonal Contacts

Participants’ connections with gay and lesbian individuals both in real life and in social media were taken into consideration ( $M = 3.74$ ,  $SD = 1.09$ ). They were directed by “How do you characterize your closest personal connections with gay and lesbian individuals?” and asked to pick one out of five following choices: (a) “I don’t know any gays or lesbians in my life or on social media (e.g., Facebook)”; (b) “I know some gays and lesbians on social media, but I don’t know them in real life”; (c) “I do know some gays and lesbians in real life, but they are not my friends”; (d) “I have some gay and lesbian friends”; (e) “Some of gays and lesbians I know are my best friends (or family members).”

## Results

### Analytical Framework

As a cross-sectional and theory-testing survey, the current study is unable to establish actual causality or temporal order. Therefore, the hypotheses concerning correlations between variables were analyzed by partial Pearson’s correlations while demographics and general media use were controlled. **RQ1** that concerned the self–other differential

perceptions of (a) media influence, and (b) attitudes among proximal peers and distal peers was tested by repeated-measure ANOVA. A series of *t* tests between within-subjects and between-subjects conditions were conducted to address **RQ2**. The hypothetical model was tested using path analysis (PA) with ML estimate. Model modifications were conducted according to alternative theoretical frameworks (e.g., uses and gratifications, the looking-glass effects) and modification indices. Due to the space limitation, only details of the original IPI and the final RP models are presented.

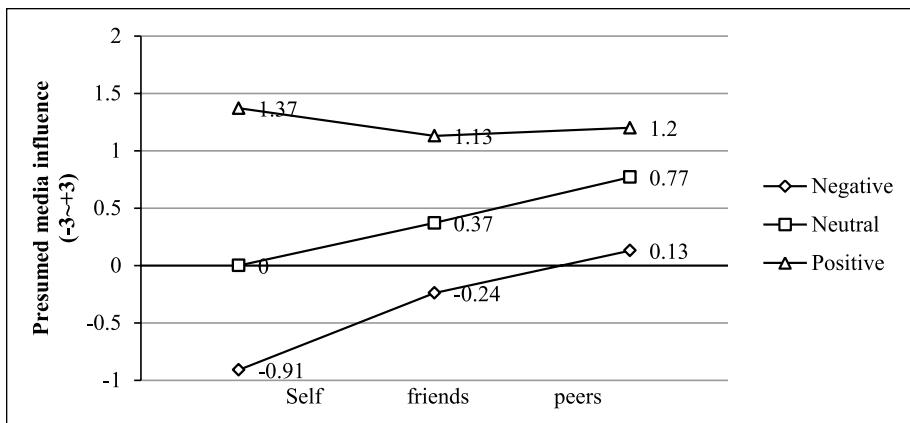
### **Testing Hypotheses**

**H1, H2a, and H2b** examined direct media effects, that is, the second-order cultivation effects on self as well as perceived reality. For the within-subjects condition, **H1**, which predicted a positive relationship between media consumption and ATLG was supported ( $r = .16, p < .01, n = 428$ ). **H2a**, which predicted that consumption of LGBT-inclusive TV is positively correlated to PATLG among close friends, was also supported ( $r = .17, p < .01, n = 428$ ). However, **H2b**, which predicted a similar positive correlation between consumption and PATLG among the people of the same age, was not supported ( $r = .07, p > .05, n = 428$ ). Results in the between-subjects condition for these two hypotheses showed consistency with the within-subjects condition ( $r_{self} = .27, p < .001, n = 137; r_{friend} = .27, p < .01, n = 134$ ). **H2b** was also not supported in the peer condition ( $r = .18, p > .05, n = .139$ ).

**H3 to H5** tested the PMI sequences. **H3** tested the first part of the sequence, which hypothesized that more consumption of LGBT-inclusive TV predicted higher estimations of similar TV content consumption among (a) proximal peers/close friends, as well as (b) distal peers/people of the same age. **H3a** and **H3b** both were supported in the within-subjects condition ( $r_{3a} = .305, r_{3b} = .21, p < .001, n = 428$ ). However, there is a lack of consistency for the between-subjects condition(s). **H3a** was supported ( $n = 137, r_{friend} = .30, p < .001$ ), whereas **H3b** was not ( $p > .05, n = 139$ ).

**H4** predicted positive associations between perceived consumption and presumed media influence, and **H5** as consequence predicted similar associations between presumed media influence and PATLG among the proximal and the distal peers. These two hypotheses are supported in the within-subjects condition ( $r_{4a} = .28, r_{4b} = .45, r_{5a} = .28, r_{5b} = .42, \text{ all } p < .001, n = 428$ ) as well as between-subjects condition(s) ( $r_{4a-friend} = .27, p < .01, n = 134; r_{4b-peer} = .42, p < .001, n = 139; r_{5a-friend} = .20, p < .05, n = 134; r_{5b-peer} = .585, p < .001, n = 139$ ).

**H6** postulated that interpersonal contacts with LGBT individuals were positively correlated with (a) one's own attitudes, and (b) perceived attitudes among close friends, and (c) perceived attitudes among people of the same age. There was no significant inter-condition difference ( $p > .05$ ). Results in the within-subjects condition showed that closer interpersonal contacts with LGBT individuals predicted more positive own attitudes ( $r_{6a} = .34, p < .001$ ) as well as more positive perceived attitudes among both close friends ( $r_{6b} = .30, p < .001$ ) and people of the same age ( $r_{6c} = .21, p < .001$ ). These positive correlations are also supported in the between-subjects



**Figure 2.** Intergroup differences of presumed media influence in the within-subjects condition ( $n = 434$ ).

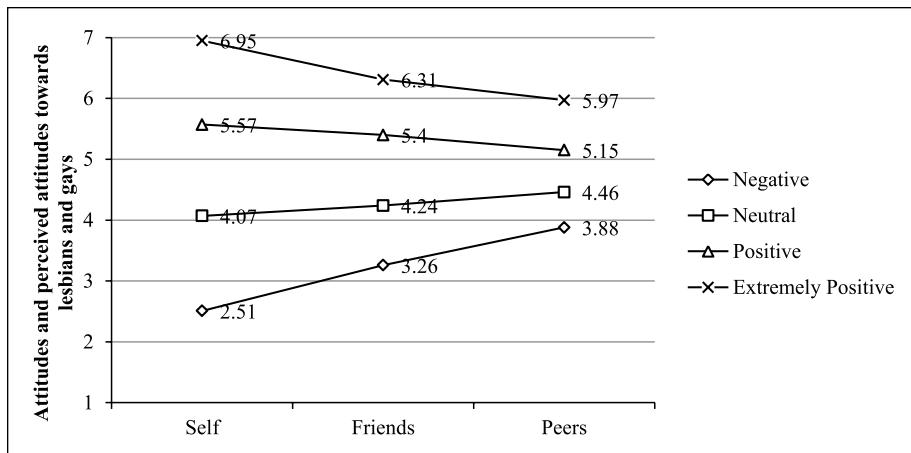
conditions ( $r_{6a-self} = .32, p < .001, n = 137; r_{6b-friend} = .34, p < .001, n = 134; r_{6c-peer} = .32, p < .001, n = 139$ ).

### Exploring Research Questions

**RQ1a** examined how people with different levels of presumed media influence on self might perceive the influence of watching LGBT-inclusive TV on proximal and distal peers differently. Per the differentiated ratings of presumed media influence on self, participants are categorized into three groups: negative influence on self ( $M = -.91, SD = .67, n = 51$ ), neutral influence on self ( $M = .00, SD = .01, n = 213$ ), and positive influence on self ( $M = 1.37, SD = .95, n = 168$ ). Analysis with correction showed significant main effects from social distance, Huynh-feldt,  $F(1.94, 23.62) = 42.78, p < .001$ , partial  $\eta^2 = .09$ , and moderation effects by categorized presumed media influence on self,  $F(2, 188.35) = 131.94$ , partial  $\eta^2 = .38, p < .001$ , as well as significant interaction effects, Huynh-feldt,  $F(3.87, 14.12) = 25.58, p < .001$ , partial  $\eta^2 = .11$ .

As seen in Figure 2, the absolute values of the presumed media influence are minimal. People who experienced positive media effects on themselves reported first-person comparisons (i.e., FPP), whereas people reported neutral and negative media influence on themselves reported third-person comparisons (i.e., TPP). The magnitude (i.e., the discrepancy between self and others) is much larger in the negative group than (MD = -1.04) than in the positive group (MD = .17).

**RQ1b** was an inquiry into differential perceptions of ATLG between self, proximal, and distal peers. However, insofar as one's own ATLG in this sample leaned toward being rather accepting, participants were categorized into four instead of three groups: people with negative attitudes ( $M = 2.51, SD = .74, n = 65$ ), with neutral attitudes ( $M = 4.07, SD = .22, n = 57$ ), with positive attitudes ( $M = 5.57, SD = .56, n = 130$ ),



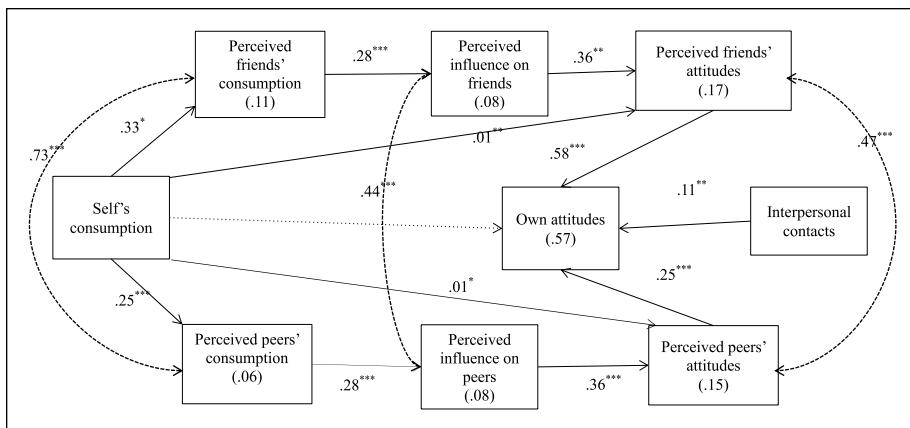
**Figure 3.** Intergroup differences of perceived attitudes in the within-subjects condition ( $n = 434$ ).

and with extremely positive attitudes ( $M = 6.95$ ,  $SD = .11$ ,  $n = 182$ ). As seen in Figure 3, results showed no main effects from social distance ( $p > .05$ ), but significant moderation effects from one's own ATLG,  $F(3, 569.59) = 500.19$ , partial  $\eta^2 = .78$ ,  $p < .001$ , and significant interaction effects between social distance and group categorization after adjustment, Mauchly's  $\epsilon > .75$ , Sphericity  $p < .05$ , Huynh-feldt,  $F(5.65, 26.50) = 39.90$ ,  $p < .001$ , partial  $\eta^2 = .22$ .

In both negative and neutral groups, the level of attitude positivity showed an increase with social distance (i.e.,  $M_{\text{peer}} > M_{\text{friend}} > M_{\text{self}}$ ); in the positive and extremely positive group, the level of the positivity decreases along with the social distance increased (i.e.,  $M_{\text{peer}} < M_{\text{friend}} < M_{\text{self}}$ ) (see in Figure 3.) Mean differences between own attitudes and perceived attitudes of people of the same age are greater among people with extreme attitudes in both ends (i.e., negative and extremely positive attitudes) than people with moderate attitudes (i.e., neutral and positive attitudes).

**RQ2** investigated whether the differentiation was merely motivated by the instrumentation or the actual presentation of participants' cognition of self-other differential perceptions. Most of the **H1** to **H6** were supported in both conditions, except for **H3b** that hypothesized the effects on perceived consumption among distal peers. **H3b** was only supported in the within-subjects condition, where the item was juxtaposed next to the one regarding perceived consumption among proximal peers.

The actual inter-condition mean differences with regard to both attitudes and presumed media influence were minimal numerically. Although the results of a series of independent  $t$  test were significant ( $p < .05$ ), the statistical differences might be inflated only by the sample size discrepancy. The comparison between presumed media influence on self, friend, and peers followed a trend that positivity of the presumed influence increased along with the increase of social distance (i.e.,  $M_{\text{peer}} >$



**Figure 4.** The influence of presumed influence (IPI) model.

Note. All path coefficients are standardized.  $R^2$  are included in parentheses. Dotted line with a single arrow means nonsignificant ( $p > .05$ ), with two arrows means covariate.  $\chi^2/df = 147.53/20, p < .001$ ; root mean square error approximation = .12; comparative fit index = .91, standardized root mean square residual = .12, Tucker–Lewis index = .84.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (two-tailed).

$M_{\text{friend}} > M_{\text{self}}$ ) in the within-subjects condition. Meanwhile, this trend was not strictly followed in the between-subjects condition. Specifically, participants in the within-subjects condition ( $n = 434$ ) rated slightly stronger presumed media influence on close friends ( $M = .59, SD = 1.08$ ) than on self ( $M = .42, SD = 1.06$ ), whereas participants rated slightly weaker effects on close friends by comparing the friend ( $M = .50, SD = 1.05, n = 140$ ) and the self ( $M = .69, SD = 1.13, n = 143$ ) conditions. As for ATLG and PATLG, both within- and between-subjects condition showed an inverse trend that decrease of positivity of attitudes along with the increase of the social distance (i.e.,  $M_{\text{peer}} < M_{\text{friend}} < M_{\text{self}}$ ). In a nutshell, the differences between within- and between-subjects conditions existed but were very small.

### Model Testing

As a result of testing the original IPI model, the estimated parameters as well as goodness-of-fit indices,  $\chi^2/df = 147.53/20, p < .001$ ; root mean square error approximation (RMSEA) = .12; comparative fit index (CFI) = .91, standardized root mean square residual (SRMR) = .12, Tucker–Lewis index (TLI) = .84., showed a poor fit. See the estimated path coefficients in Figure 4. Consumption of LGBT-inclusive TV had no significant direct effect on people's ATLG ( $p > .1$ ), and very minimal effects ( $\beta < .1$ ) on perceptions of friends' and peers' attitudes as well as consumption.

Led by alternative theoretical frameworks, the original IPI model was modified into one where one's own ATLG was conceptualized as the "causes," which means people choose these shows based on existing ATLG (i.e., selective exposure or use and

gratification), and one's own attitudes also predicted PMI as well as the perceived attitudes among friends and peers (i.e., projections). All hypotheses (all  $p < .05$ ) are supported in this model. Nevertheless, the model fit indices despite of the improvement still did not match the rules of thumb ( $\chi^2/df = 96.77/21, p < .001$ ; RMSEA = .09; CFI = .95; SRMR = .11, TLI = .91). The same as the IPI model, the projection model also incorporated the PMI sequences in the model. However, the hypothetical effects of LGBT-inclusive TV consumption on perceived consumption among friends and peers were rather minimal. Therefore, the revision was made as following: Two variables concerning perceived consumption were eliminated, and according to the literature (e.g., Wei et al., 2007), adding PMI on self as a moderator in the revised projection model. The overall model fit further improved ( $\chi^2/df = 43.35/15, p < .001$ ; RMSEA = .07, CFI = .98; SRMR = .07, TLI = .96).

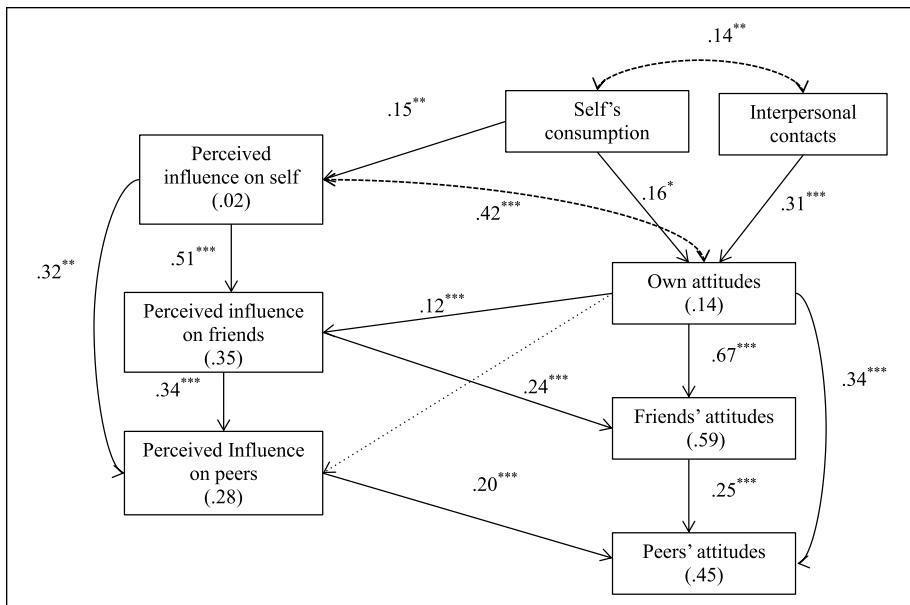
The final model was further specified based on the revised projection model and named the "*Rippled Perceptions* (RP)" model. Conceptually, the model incorporated the direct inferences from perceptions regarding friends to people of the same age rather than covariates. Instead of conceptualizing the relationships between perceptions pertaining to proximal and distal peers as covariates, this model proposed that perceptions about proximal peers are mediators in the process of forming perceptions of distal peers. For details of modeling and path coefficients, see Figure 5. More importantly, the goodness-of-fit indices showed an excellent fit of the model in a very high standard ( $\chi^2/df = 11.37/12, p > .05$ ; RMSEA = .00; CFI = 1.00; SRMR = .02, TLI = 1.01).

## Discussion

The results of this research have several theoretical implications for understandings of mediated self-other differential perceptions and practical implications for media campaigns that are related to LGBT equality rights movement. First, results of **H1** supported the conclusion that watching contemporary gay and lesbian storylines on TV has direct positive effects on changing people's ATLG (Ward et al., 2013). Furthermore, it validated Nisbet and Myers' (2012) finding that the amount of consumption of LGBT-inclusive TV is one of the reliable and direct predictors of positive ATLG. It also contributes to the content homogeneity assumption in cultivation hypothesis: Effects require not only sufficient consumption (i.e., time) but also the certain level of homogeneity in content (Morgan & Shanahan, 2010).

In addition, the results of **H2a** support the notion that the direct effects of heavy TV consumption can spill over to people's judgments of public opinions (Shanahan & Scheufele, 2012), but only when referents are similar to ourselves (i.e., close friends). The negative results of **H2b** also speak for the importance of social distance in making these judgments of public opinion. (The attenuation along social distance was further detailed in results of **RQ1**.)

These results should boost the confidence of media campaigns that rely on the collective effectiveness of narrative persuasions (Moyer-Gusé & Nabi, 2010) in LGBT-equal rights movement. Nevertheless, what is also supported by the effect size



**Figure 5.** The rippled perception model.

Note. All path coefficients are unstandardized.  $R^2$  are included in parentheses. Dotted line with a single arrow means nonsignificant ( $p > .05$ ), with two arrows means covariate.  $\chi^2/df = 11.37/12, p > .05$ ; root mean square error approximation = .00; comparative fit index = 1.00; standardized root mean square residual = .02, Tucker-Lewis index = 1.01.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  (two-tailed).

discrepancy between the results of **H1** and **H6** is that one should not regard entertainment narratives as more effective and therefore they can replace interpersonal connections (Herek & Capitanio, 1996).

The second major contribution from testing **H3** to **H5** and the RP model is that it delineated the process of inferring media effects on and attitudes among friends and peers in this context, in which media influenced on oneself and one's own attitudes are the "origin(s)" or the baseline(s). This is different from the original IPI model, which emphasized the media as the origin of peer perceptions. The reason is apparent: The original model was proposed in and almost exclusively applied to media campaigns that aim to prevent risky social behaviors, for example, sexual permissiveness, smoking, alcohol abuse, and so forth. (e.g., Chia & Gunther, 2006; Paek & Gunther, 2007), whereas this study is not. The novel application of the current study, however, does not invalidate the model but rather emphasize the dynamic and context-dependent nature of the relationships between perceptions of media, others, and self. More specifically, it emphasized the fact that optimism bias function differently in contexts of different social desirability (Gunther & Mundy, 1993). Namely, people tend to attribute socially undesirable notions and behaviors to external factors such as

peer pressure or media influence, whereas desirable ones attributed to one's own merits.

The results for **RQ1** provided closer observations to this, which also explained the observed FPP from people with extremely positive ATLG. Moreover, people project their own experience of being influenced by media on close friends and people of the same age. Moderated by social distance, respondents who might have experienced “powerful media” (i.e., “LGBT stories on TV made my attitudes more positive”) appeared with first-person perceptions (FPP), whereas respondents who think media has no or negative influence on self showed TPP. While this speaks to the still polemic nature of the LGBT representations on TV (Liebler et al., 2009), it testifies to the fruits of decades-long media-centered campaigns: not just media change people’s attitudes directly (e.g., Schiappa et al., 2006) but also media messages *can* and *have changed* people’s attitudes.

What the results of **RQ1** also showed is the presumption of the prototypical peers who are at the further end of the social distance. People with extremely positive ATLG think people of the same age were also influenced by LGBT-inclusive TV and hold positive ATLG, but to a lesser degree; people with negative attitudes think peers were barely influenced by LGBT-inclusive TV and hold rather indifferent or slightly negative attitudes, which are comparatively more positive than themselves; people who hold a rather neutral stance on the topic think peers are more similar to themselves. Namely, no matter which side of spectrum participants fall on, they imagine their typical peers to be more neutral to the issue. This is consistent with what Gunther, Miller, and Liebhart (2009) referred as “relative hostile media perceptions.”

Results of **RQ2** insured that the concepts of interest in this study were not methodological artifacts, and this is consistent with the line of research within the TPE literature (David et al., 2004; Shen et al., 2015). However, despite the fact that this further validates the robustness of TPEs (Sun et al., 2008), it also indicates stronger psychological reactance which creates difficulty for further change. Along with the relatively hostile media perceptions demonstrated in **RQ1**, this means that in spite of the visible progress over the years, further attitude change might have come to a bottleneck. While the majority of people in this sample hold rather positive attitudes toward homosexuality and LGBT-inclusive TV, the other more pervasive notion that is rather robust and implied in the results is “there are always some people in this country who cannot and will not accept it.”

### *Limitations and Future Research*

First, the current cross-sectional research alone cannot demonstrate actual causal relationship. Second, measurements used in this research provided only one angle to explore limited dimensions of targeted concepts. Measuring audiences’ consumption of the LGBT-inclusive TV with self-reported estimation is subject to memory bias and the use of Likert-type scale lacks precision. Both ATLG and PATLG were measured by items that were modified from the ATLG scale (Herek, 1984, 1998). This adaptation, although allowed the examination of variables of interest in a comparative fashion

with limited change in the statements, might have prompted habitual answers and potentially weakened the content validity. Moreover, this study was designed to examine the effects of collective media content on attitudes and perceived attitudes toward the sexual minority community as a whole. Therefore, the nuances and distinctiveness between attitudes toward gays, lesbians, bisexuals, and transgender people and between their different media portrayals are neglected and need further study.

Based on these limitations, proposed here are some research ideas for the future: collecting national representative samples or targeting people who have strong aversive ATLG; measuring own ATLG with other methods such as implicit association test (IAT); developing unique measurements for perceived influence on changing attitudes and PATLG; or using longitudinal/growth modeling to test the measurement invariance.

## Conclusion

Traditional LGBT-related campaigns such as the “It Gets Better” project are typically targeted directly to LGBT individuals. Certain media and LGBT activism groups (e.g., PFLAG, GLAAD) have also acknowledged that “[b]roadening acceptance of LGBT Americans will require the help of allies—everyday non-LGBT Americans who feel strongly that their LGBT friends and family must be fully accepted members of society” (GLAAD, 2015a, p. 2).

Responding to this call, this research provided a theoretical framework for understanding how TV entertainment narratives possibly facilitate non-LGBT Americans’ attitudes formation and their perceived reality. First, consumption of LGBT-inclusive TV can predict people’s positive attitudes as well as their PATLG among close friends. Second, people project their own ATLG and experiences of being influenced by LGBT-inclusive TV on their peers. Third, the projection process is mediated by the social distance of the referents and extremity of own attitudes or media experience.

Nevertheless, to take a critical stance at last, as much as media can facilitate the attitude change, the evaluation of the media’s role in the media–self–other trilateral relationships should be proceeded with caution. While the RP model shows superior fit in this context, it by no means suggests that the interactions and perceived interactions between media, self, and other are a stable and linear process. In fact, it is often dynamic, and examinations in different contexts are constantly needed. Including this research and many previous studies demonstrated that interpersonal contacts with LGBT individuals were a much stronger predictor of positive attitudes toward gays and lesbians. In other words, while media might be able to cultivate a different public opinion climate, the power of changing individuals’ attitudes toward gays, lesbians, bisexual, or transgender ultimately resides in “the ordinary queer lives.” Therefore, relying solely on mediated communications in attitudes change is technocratic and unrealistic, and evidence showed that it may have come to a standstill for further changes. Maintaining proper communication channels, with the facilitation of communication and technologies, between communities of minorities and majorities should always be the future pursuit.

## Acknowledgments

The author extends special gratitude to Prof. Carol Liebler for her guidance and support, and Prof. James Shanahan for his help in writing and publication. The author also thanks Prof. Makana Chock and Prof. Frank Biocca for their constructive critiques. Finally, the author thanks three anonymous reviewers and the editor for their valuable suggestions.

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) declared receipt of the following financial support for the research, authorship, and/or publication of this article: This project received financial support from the Media Studies program, S. I. Newhouse School of Public Communications, Syracuse University.

## Notes

1. The possible misperception is only implied because the poll's measurement focused more on the support of equal rights rather than attitudes.
2. For clarification, this is to make sure that the scale is measuring the non-LGBT participants' attitudes toward homosexuality. Conceptually, LGBT participants' attitudes are closer to self-attitudes, that is, attitudes about one's self, which should not be confounded.
3. The conceptual definition of LGBT-inclusive TV provides four main operational criteria for show sampling: (a) popularity, for which the top 30% highest ratings were chosen; (b) genre being comedy and drama, for which reality TV shows were excluded; (c) LGBT being recurring and regular characters, which are indexed by the Network Responsibility Index by Gays and Lesbians Alliance Against Defamation (2015b); (d) majority of characters being heterosexual, per which *Looking* was excluded from this category.
4. In normal situation, 20-item for one scale is a reasonable length. However, this study reuses the same items for measuring perceived attitudes of friends, people of same age, and perceived media influence on self, friends, and people of the same age, with minor difference only in the directory statement. It means participants in within-subject condition will need to see the same items 6 times. Therefore, shortening is a necessary compromise. Nevertheless, it indeed might have weakened the content validity and prompted habitual survey taking, which is addressed in the limitation section.
5. As factor analysis showed good convergence validity, the divergent validity varied. Specifically, factors loadings of two statements concerning adoption rights of child adoptions, "Homosexual couples should be allowed to adopt children the same as heterosexual couples" and no discrimination in work settings, "A person's homosexuality should not be a cause for job discrimination in any situation" were lower than other three statements in measuring perceived influence on self, friends, and peers. The results are somewhat expected as these two items are still the foci of the ongoing anti-discrimination campaigns. (The full loading table is available upon request.)

## References

Brewer, M. B. (2007). The social psychology of intergroup relations: Social categorization, ingroup bias, and outgroup prejudice. In A. W. Kruglanski, & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (pp. 695-715). New York, NY: Guilford Press.

Calzo, J. P., & Ward, L. M. (2009a). Contributions of parents, peers, and media to attitudes toward homosexuality: Investigating sex and ethnic differences. *Journal of Homosexuality*, 56, 1101-1116. doi:10.1080/00918360903279338

Calzo, J. P., & Ward, L. M. (2009b). Media exposure and viewers' attitudes toward homosexuality: Evidence for mainstreaming or resonance? *Journal of Broadcasting & Electronic Media*, 53, 280-299. doi:10.1080/08838150902908049

Chia, S. C., & Gunther, A. C. (2006). How media contribute to misperceptions of social norms about sex. *Mass Communication and Society*, 9, 301-320. doi:10.1207/s15327825mcs0903\_3

Chock, T. M. (2011). Is it seeing or believing? Exposure, perceived realism, and emerging adults' perceptions of their own and others' attitudes about relationships. *Media Psychology*, 14, 355-386. doi:10.1080/15213269.2011.620537

Cillizza, C. (2014, May, 5). Oppose gay marriage? You probably think everyone else does too. *The Washington Post*. Retrieved from <http://www.washingtonpost.com/blogs/the-fix/wp/2014/03/05/oppose-gay-marriage-you-probably-think-everyone-does-too/>

Crandall, C. S., & Eshleman, A. (2003). A justification-suppression model of the expression and experience of prejudice. *Psychological Bulletin*, 129, 414-446. doi:10.1037/0033-2909.129.3.414

David, R., Liu, K., & Myser, M. (2004). Methodological artifact or persistent bias? Testing the robustness of the third-person and reverse third-person effects for alcohol messages. *Communication Research*, 31, 206-233.

Davison, W. P. (1983). The third-person effect in communication. *Public Opinion Quarterly*, 47, 1-15.

Diefenbach, D. L., & West, M. D. (2007). Television and attitudes toward mental health issues: Cultivation analysis and the third-person effect. *Journal of Community Psychology*, 35, 181-195.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117-140. doi:10.1177/001872675400700202

Fields, J. M., & Schuman, H. (1976). Public beliefs about the beliefs of the public. *Public Opinion Quarterly*, 40, 427-448.

Gays and Lesbians Alliance Against Defamation. (2015a). Accelerate acceptance (Executive summary). *Harris Poll*. Retrieved from <https://www.glaad.org/publications/accelerating-acceptance-2015>

Gays and Lesbians Alliance Against Defamation. (2015b). *Where we are on TV: GLAAD's 19th annual diversity study previews the 2014-2015 primetime television season*. Washington, DC: Author.

Golan, G. J., & Day, A. G. (2008). The first-person effect and its behavioral consequences: A new trend in the twenty-five year history of third-person effect research. *Mass Communication and Society*, 11, 539-556. doi:10.1080/15205430802368621

Gunther, A. C. (1998). The persuasive press inference: Effects of mass media on perceived public opinion. *Communication Research*, 25, 486-504. doi:10.1177/009365098025005002

Gunther, A. C., Miller, N., & Liebhart, J. L. (2009). Assimilation and contrast in a test of the hostile media effect. *Communication Research*, 36, 747-764. doi:10.1177/0093650209346804

Gunther, A. C., & Mundy, P. (1993). *Biased optimism and the third-person effect*. Los Angeles, CA: SAGE. doi:10.1177/107769909307000107

Gunther, A. C., & Storey, D. (2003). The influence of presumed influence. *Journal of Communication*, 53, 199-215. doi:10.1093/joc/53.2.199

Hall, J., & LaFrance, B. (2012). "That's gay": Sexual prejudice, gender identity, norms, and homophobic communication. *Communication Quarterly*, 60, 35-58. doi:10.1080/01463373.2012.641833

Hawkins, R. P., & Pingree, S. (1982). Television's influence on constructions of social reality. In D. Pearl, L. Bouthilet, & J. Lazar (Eds.), *Television and behavior: Ten years of scientific progress and implications for the eighties* (Vol. 2, pp. 224-247). Washington, DC: Government Printing Office.

Herek, G. M. (1984). Beyond "homophobia": A social psychological perspective on attitudes toward lesbians and gay men. *Journal of Homosexuality*, 10, 1-21.

Herek, G. M., & Capitanio, J. P. (1996). "Some of my best friends" intergroup contact, concealable stigma, and heterosexuals' attitudes toward gay men and lesbians. *Personality and Social Psychology Bulletin*, 22, 412-424. doi:10.1177/0146167296224007

Herek, G. M. (1998). The attitudes toward lesbians and gay men (ATLG) scale. In C.M. Davis, W.H. Yarber, R. Bauserman, G. Schreer, & S.L. Davis (Eds.), *Sexuality-related measures: A compendium*. Thousand Oaks, CA: Sage Publications.

Hetzel, C. J. (2011). Exploring the relationship between public opinion and personal attitudes and behavior toward lesbians and gay men: Social conformity revisited. *Journal of Homosexuality*, 58, 1421-1441. doi:10.1080/00918369.2011.614910

Hilton-Morrow, W., & Battles, K. (2015). *Sexual identities and the media: An introduction*. New York, NY: Routledge.

Huge, M. E., & Glynn, C. J. (2015). Perceiving Penn State: The formative role of interpersonal discussion in third-person perceptions in the wake of a sexual abuse scandal. *Communication Research*, 42(7), 922-938. doi: 10.1177/0093650214534970

Lee, T., & Hicks, G. R. (2011). An analysis of factors affecting attitudes toward same-sex marriage: Do the media matter? *Journal of Homosexuality*, 58, 1391-1408. doi:10.1080/00918369.2011.614906

Liebler, C. M., Schwartz, J., & Harper, T. (2009). Queer tales of morality: The press, same-sex marriage, and hegemonic framing. *Journal of Communication*, 59, 653-675. doi:10.1111/j.1460-2466.2009.01451.x

McLeod, D. M., Eveland, W. P., & Nathanson, A. I. (1997). Support for censorship of violent and misogynic rap lyrics: An analysis of the third-person effect. *Communication Research*, 24, 153-174.

Morgan, M., & Shanahan, J. (2010). The state of cultivation. *Journal of Broadcasting & Electronic Media*, 54, 337-355. doi:10.1080/08838151003735018

Moyer-Gusé, E., & Nabi, R. L. (2010). Explaining the effects of narrative in an entertainment television program: Overcoming resistance to persuasion. *Human Communication Research*, 36, 26-52. doi:10.1111/j.1468-2958.2009.01367.x

Nisbet, E. C., & Myers, T. A. (2012). Cultivating tolerance of homosexuals. In M. Morgan, J. Shanahan, & N. Signorielli (Eds.), *Living with television now: Advances in cultivation theory & research* (pp. 61-80). New York, NY: Peter Lang.

Ortiz, M., & Harwood, J. (2007). A social cognitive theory approach to the effects of mediated inter-group contact on intergroup attitudes. *Journal of Broadcasting & Electronic Media*, 51, 615-631. doi:10.1080/08838150701626487

Otten, S., & Epstude, K. (2006). Overlapping mental representations of self, ingroup, and out-group: Unraveling self-stereotyping and self-anchoring. *Personality and Social Psychology Bulletin*, 32, 957-969. doi:10.1177/0146167206287254

Paek, H., & Gunther, A. C. (2007). How peer proximity moderates indirect media influence on adolescent smoking. *Communication Research*, 34, 407-432. doi:10.1177/0093650207302785

Riggle, E. D., Ellis, A. L., & Crawford, A. M. (1996). The impact of “media contact” on attitudes toward gay men. *Journal of Homosexuality*, 31(3), 55-69. doi:10.1300/J082v31n03\_04

Schiappa, E., Gregg, P. B., & Hewes, D. E. (2006). Can one TV show make a difference? A Will & Grace and the parasocial contact hypothesis. *Journal of Homosexuality*, 51(4), 15-37. doi:10.1300/J082v51n04\_02

Shanahan, J., & Scheufele, D. (2012). Cultivation and spiral of silence. In M. Morgan, J. Shanahan, & N. Signorielli (Eds.), *Living with television now: Advances in cultivation theory & research* (pp. 347-365). New York, NY: Peter Lang.

Shen, L., Palmer, J., Mercer Kollar, L. M., & Comer, S. (2015). A social comparison explanation for the third-person perception. *Communication Research*, 42, 260-280. doi:10.1177/0093650212467644

Sun, Y., Pan, Z., & Shen, L. (2008). Understanding the third-person perception: Evidence from a meta- analysis. *Journal of Communication*, 58, 280-300. doi:10.1111/j.1460-2466.2008.00385.x

Tajfel, H., & Turner, J. C. (1986). The social identity theory of inter-group behavior. In S. Worchel, & L. W. Austin (Eds.), *Psychology of intergroup relations* (pp. 7-24). Chicago, IL: Nelson-Hall.

Tversky, A., & Kahneman, D. (1971). Belief in law of small numbers. *Psychological Bulletin*, 76, 105-110.

Ward, L. M., Reed, L., Trinh, S. L., & Foust, M. (2013). Sexuality and entertainment media. In D. L. Tolman, & L. M. Diamond (Eds.), *APA handbook of sexuality and psychology: Vol. 2. Contextual approaches* (pp. 373-423). Philadelphia, PE: Taylor & Francis.

Wei, R., Lo, V. H., & Lu, H. Y. (2007). Reconsidering the relationship between the third-person perception and optimistic bias. *Communication Research*, 34, 665-684. doi:10.1177/0093650207307903

## Author Biography

**Harry Yaojun Yan** (MA, S. I. Newhouse School of Public Communications, Syracuse University) currently is a dual-degree PhD student in Media Arts & Sciences at the Media School, and Complex Networks & Systems at the School of Informatics, Computing, and Engineering, Indiana University–Bloomington. His research interests include applying complex systems theory, network analysis, computational methods in communication and public opinion research, with special attention to topics in media effects on social cognitions regarding minorities, inequalities, and public opinion formation process.