

Testing the Role of Inspirational and Crime News Use in Self-Report Empathic Concern and Helping

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The present study integrates consumption of two types of news, inspirational and crime news, into the empathy-helping framework. Data from an online survey of Japanese adults show that inspirational news use has a positive relationship with self-report helping at a later point in time. Data also indicate that inspirational news use does not have a significant link with empathic concern and personal distress reported by respondents. Rather, self-report empathic concern has a positive cross-lagged relationship with both perceived inspirational news use and crime news use. Theoretical and practical implications of the results are discussed.

Keywords: crime news, inspirational news, helping, empathic concern, personal distress

Why do people choose to help others in need when doing so comes with minor or occasionally considerable inconvenience? For example, people help a stranger carry heavy luggage, let another person go ahead in a lineup, and offer a seat on a bus to another passenger. Variations in helping and, more broadly, prosocial behavior have been explained in relation to empathy-based models and theories (Batson, 1991; Eisenberg & Miller, 1987; Eisenberg et al., 1989; Hoffman, 2000). A rich body of evidence shows that empathy-based responding is a key psychological antecedent to other-oriented helpful acts (Batson, Ahmad, Lishner, & Tsang, 2002).

Scholars have investigated other sources of prosocial behavior. Existing literature highlights the role of media, such as television shows, movies, and games, in cultivating or weakening empathy-related responding and prosocial behavior. Evidence shows that use of prosocial media that portray prosocial acts is positively related to empathic concern for others and subsequently prosocial behavior (Coyne et al., 2018; Prot et al., 2014). There is also evidence that the use of violent media, such as violent video games, tends to have negative effects on empathic concern and prosocial behavior (Prot et al., 2014).

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Date submitted: 2022-04-23

*All authors contributed equally to this work. The work was supported by the Hoso Bunka Foundation, Japan.

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To add more insights into the role of media in prosocial behavior, we channel our attention to two types of news content: inspirational and crime news. An emerging body of research has reported social and emotional benefits of inspirational media (e.g., Dale, Raney, Janicke, Sanders, & Oliver, 2017; Ji et al., 2019; Krämer et al., 2017; Oliver et al., 2018; Raney et al., 2018), while evidence suggests that crime news may reduce people's willingness to help others (e.g., Chiricos, Padgett, & Gertz, 2000; Saegert & Winkel, 2004). Drawing from multiple theoretical insights, our study specifies inspirational news use as a positive predictor and crime news use as a negative predictor of empathic concern and helping. Further, we investigate the role of gender in moderating these relationships. Toward this end, we analyze two-wave panel data collected in Japan where news consumption is characterized by a strong presence of newspapers and television and high trust in news organizations (Japan Press Research Institute, 2021). Findings add to the primarily U.S.-centric literature on inspirational media and provide insights into the capacity of news media to build a positive community.

Literature Review

Inspirational News and Crime News

Evidence indicates that news reports place a disproportionate emphasis on crime and violence, such as murder, robbery, gun shootings, rape, and assault (Pew Project for Excellence in Journalism, 2004; Pew Research Center, 2015; Schildkraut, 2017). News media's emphasis on crime may be attributed to its serious and imminent threats to people's lives relative to more mundane events and the cost-effective nature of crime reporting (Johnston, 2011).

Based on the prevalence of crime and violence in the news, research has examined consequences of crime news consumption. Most notably, studies rooted in cultivation theory have revealed that frequent use of crime news cultivates erroneous perceptions of the world as evidenced by intensified fear of crime and mistrust (Grabe & Drew, 2007; Gross & Aday, 2003; Nellis & Savage, 2012; Romer, Jamieson, & Aday, 2003).

However, the prominence of crime and violence in news reports does not necessarily mean that news media do not cover positive events. They occasionally spotlight emotionally uplifting experiences, affectionate bonds, and acts of kindness. Examples might include stories about a woman who purchased a plane ticket when she witnessed a distressed father unable to purchase it for his recently turned two-year-old daughter (*Love What Matters*, 2007), and a group of women, unknown to each other, having gathered to help a pregnant mother who had a hard time with her toddler at an airport boarding area (Good News Network, 2018). Although not as commonly reported as other types of news, such events do appear in the news and, when they do, tend to be widely shared and generate reactions from other people (Berger & Milkman, 2012).

This type of news can elicit eudaimonic, self-transcendent experiences. Unlike enjoyment-oriented hedonic experiences such as joy, pleasure, and laughter, self-transcendent experiences are characterized by meaningfulness—experiences that are enriching, moving, and thought-provoking that help people develop an "appreciation for the potential, values, and needs of others, for the natural world and powers beyond ourselves, and for moral virtue" (Oliver et al., 2018, p. 384). These experiences are not necessarily positive in nature and

enjoyable. They are more cognitively taxing than hedonic experiences, involving reflection of purpose and meaning in life beyond personal concerns (Dale et al., 2017; Krämer et al., 2017; Oliver et al., 2018).

Inspirational media can be referred to as content that generates self-transcendent experiences, such as gratitude, hope, and awe (Dale et al., 2017, 2019). Specific elicitors of such experiences present in inspirational media include human kindness, beautiful nature, amazing skills and talent, and perseverance (Dale et al., 2017, 2019; Krämer et al., 2017). Popular movies such as *Schindler's List* (Spielberg, Molen, & Lustig, 1993) and *A Beautiful Mind* (Grazer & Howard, 2001) may be considered examples of this kind of media content as they help expand the boundary of oneself. Elevation is a key response to inspirational media. When people are exposed to this kind of media, they feel inspired to think about human virtues and solidarity, emulate prosocial acts portrayed, and offer help to those in need (Krämer et al., 2017; Oliver, Hartmann, & Woolley, 2012).

Our study examines news content through the lens of inspirational, self-transcendent experiences. News not only provides factual information about events but also communicates cultural values and norms. For example, a teenager with autism recruited by a college basketball team represents the virtue of perseverance (Chuck, 2018). A man shoveling snow for elderly and disabled in the community reminds us of the value of caring (Crowther, 2019). By interacting with inspirational news, audiences may symbolically learn moral virtues embedded in such stories.

Helping and Prosocial Behavior

In general, prosocial behavior refers to voluntary behavior that results in benefits for others (Eisenberg & Miller, 1987). It is a superordinate category of behavior. Eisenberg (1982) differentiated between prosocial and altruistic behavior. Altruistic behavior is a type of prosocial behavior in which one intentionally acts to purely benefit another person without the expectation of receiving internal or external rewards, while the motive is not specified for prosocial behavior (Eisenberg, 1982). Helping, another type of prosocial behavior, refers to aid and assistance one gives to another person even at cost to themselves (McGuire, 1994).

Einolf (2008) pointed to multidimensionality of helping. Although such acts as charitable giving and blood donations are helpful, they tend to be institutionalized and require a period of reflection and planning. Similarly, those who engage in these acts may not observe the outcomes of the acts, as people who receive the help are oftentimes not physically present. Other acts, such as letting someone get ahead in line, giving a direction to a stranger, and helping a stranger carry a heavy item, are more spontaneous, and recipients of such acts are immediately present. Einolf (2008) also noted that whom a person offers to help can affect helping decisions. Whereas people feel morally obligated to help family and friends who are in need, they may not necessarily offer help to strangers. Our study focuses on a less institutional and more spontaneous type of helping—helping strangers.

Scholars have developed extensive programs of research on prosocial behavior (Batson, 1991; Eisenberg & Miller, 1987; Eisenberg et al., 1989). They focus on empathy-related responding as a key psychological mechanism of prosocial behavior. Empathy refers to emotional responses to the vicarious experience of what another person is feeling or is expected to feel in a given situation (Eisenberg, 1986).

Importantly, research has recognized a connection between empathy and self-transcendent experiences (e.g., Fredrickson, 2001; Haidt, 2003). Self-transcendent media, by generating a sense of interconnectedness with others (Janicke & Oliver, 2017; Oliver et al., 2018), can facilitate individuals' understanding of others' feelings (Bartsch, Oliver, Nitsch, & Scherr, 2018).

Empathy often leads to empathic concern. Batson (1991) defined empathic concern as "an other-oriented emotional response elicited by and congruent with the perceived welfare of a person in need" (p. 6), such as sympathy, compassion, and softheartedness. Eisenberg, Eggum, and Di Guinta (2010) used the term *sympathy* to refer to a similar feeling. Specifically, sympathy "involves an understanding of another's emotion and includes an emotional response, but it consists of feeling of sorrow or concern for the distressed or needy other" (Eisenberg et al., 2010, p. 111). Thus, empathic concern, or sympathy, is not the same as empathy. The former involves feeling for a person who is distressed. It is more than feeling the same emotion the distressed person is feeling or expected to feel (Batson, 1991; Eisenberg & Miller, 1987).

Empathy can also lead to personal distress. In contrast to empathic concern, personal distress is defined as a self-oriented aversive emotional response to an understanding of another person's plight, such as discomfort and anxiety (Eisenberg et al., 2010). For example, when one observes a parent who has a hard time comforting a crying toddler, the observer may internally feel worried, disturbed, or upset, not for the parent or toddler. Batson (1991) noted that personal distress is related to the egoistic motivation of making oneself feel better, not a person in need.

A key proposition derived from this line of research is that empathic concern leads to increased helping behavior. Empathic concern makes people feel for a person in need and motivates them to engage in helpful acts to relieve the person of distress (Batson, 1991; Eisenberg et al., 2010). Helpful acts derived from empathic concern are altruistic in nature, as the main motive of people who help is to help the suffering other (e.g., Einolf, 2008; Eisenberg et al., 2010).

Yet, helping is not exclusively derived from altruistic motives. Another proposition states that personal distress motivates helping (Batson, 1991; Eisenberg et al., 2010). People decide to help others in need so that they can feel relieved of the distress. Helpful acts derived from personal distress are egoistic in nature because the main motive of people who help is to make themselves feel better by helping a person in need. Although the suffering other still feels better because of helpful acts, it is only a by-product of self-oriented helping behavior.

Goals of the Study

Our study investigates the role of inspirational and crime news use in the empathy-helping framework. Multiple insights can guide theoretical predictions. As reviewed above, research on inspirational media suggests that as use of inspirational news increases, audiences experience self-transcendent emotions (e.g., gratitude, hope, awe), and as a result they develop other-focused orientation and willingness to help (e.g., Krämer et al., 2017; Oliver et al., 2012). Similarly, the broaden-and-build theory notes that although positive emotions temporarily broaden people's thought and action repertoires, they also help build durable personal resources over time (Fredrickson, 1998). Those who experience positive emotions develop, over time, various skills in

physical, psychological, intellectual, and social domains, such as positive reappraisal, receipt of social support, and improved relationships with others (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008).

A general learning model synthesizing insights from social learning, cultivation, and script theory, among others, theorizes short- and long-term processes by which environmental factors, such as media messages, affect cognitive, attitudinal, and emotional learning (Gentile, Groves, & Gentile, 2014). It suggests that repeated interaction with coherent patterns of media content may lead to behavioral modeling and learning of behavioral scripts. The idea may apply to inspirational news. For example, by watching a news story that spotlights an act of kindness, audiences may learn how to do it, the positive outcome of such an act, and then actually perform it in the future when a need arises. Drawing from these insights, we propose that people who heavily consume inspirational news are more likely to help others in need and develop a feeling of concern for others in need instead of responding aversively to their plights. Based on these insights, we formulate the following hypotheses.

H1: Inspirational news use will be positively associated with helping.

H2: Inspirational news use will be positively associated with empathic concern.

H3: Inspirational news use will be negatively associated with personal distress.

Cultivation theory and desensitization effects can help explain a potential linkage of crime news use and helping and empathy-related responding. A rich body of work, as noted above, has shown that exposure to media violence leads to erroneous perceptions of the world, such as fear of crime, mistrust, and overestimation of crime victimization (Grabe & Drew, 2007; Gross & Aday, 2003; Nellis & Savage, 2012; Romer et al., 2003). Japanese news media tend to overemphasize crime incidents in a way that does not reflect the reality (Hamai, 2004; Makino, 2006). For example, Ohba (2013) found that Japanese news media repeatedly reported one crime incident and included similar incidents as part of reporting, which contributed to the impression that it was a major event, and that crime was on the rise. Makino's (2013) content analysis suggested that, compared with U.S. newspapers, how Japanese newspapers reported crime would lead to fear of crime by focusing on the occurrence of criminal incidents and arrests, not details on investigations and trials. Fukazawa (2016) showed that local media spent a large amount of time reporting incidents including crimes, accidents, fires, and disasters.

Moreover, research indicates that repeated exposure to media violence induces desensitization or a reduced emotional reaction to violent events (Bartholow, Bushman, & Sestir, 2006; Bushman & Anderson, 2009). Applying these ideas, we expect crime news use to affect helping, empathic concern, and personal distress. People who heavily consume crime news might not be willing to help strangers for fear of getting into trouble. As crime news use increases, these people also might aversively react to another person's plight instead of experiencing a feeling of concern for the person.

H4: Crime news use will be negatively associated with helping.

H5: Crime news use will be negatively associated with empathic concern.

H6: Crime news use will be positively associated with personal distress.

Gender as a Moderating Factor

The present study also examines the role of gender in the hypothesized relationships. Research suggests systematic differences between men and women in their willingness to help others (Eagly & Crowley, 1986; Hope & Jackson, 1988). An explanation for such differences stems from Eagly and Crowley's (1986) social role theory. It posits that social roles expected of different genders affect what types of helping men and women offer and when they choose to help.

A proposition of the theory states that although men provide helping that is heroic and chivalrous, women provide care and affective support in close relationships. George, Carroll, Kersnick, and Calderon (1998) asked participants to describe situations in which they helped a friend and showed that women, for example, provided more empathic help, provided more help with a relational problem, and spent more time helping friends than men. Further, Eagly (2009) noted that because of their physical strength, men tend to be more forthcoming than women in situations where quick intervention is needed (e.g., carrying heavy luggage for a stranger). It is not entirely clear how the interplay among inspirational and crime news, helping, empathic concern, and personal distress is moderated by gender. Therefore, we propose the following research question.

RQ1: How will gender moderate the associations of inspirational and crime news use with helping, empathic concern, and personal distress?

Method

The data for this study came from an online panel of Japanese citizens recruited by Survey Sampling International (SSI, now Dynata). Two-wave panel surveys were administered in summer 2018. The initial survey was fielded in early July 2018 ($N = 1,099$). The second survey was conducted in mid- to late August, approximately four weeks after the first survey. A total of 549 participants completed most of the first and second surveys, with a 50% retention rate. A quota sampling technique was employed to make the distribution of the sample similar to the Japanese population in terms of age and gender.

The sample from the first wave of data collection was close to the age and gender characteristics of the Japanese adult population. The median age was 47.0, compared with 48.6 of the population in 2020 (Statistics Bureau of Japan, n.d.). The sample included 48.9% male and 51.1% female participants relative to 48.6% of men and 51.4% of women at the population level (Ministry of Internal Affairs and Communications, 2012). Additionally, the sample included 33.0% high school graduates (population = 40.4%) and 14.3% junior college/college of technology graduates (population = 16.4%). In the sample, 43.7% respondents had a bachelor's degree or higher (population = 17.3%; Ministry of Internal Affairs and Communications, 2012). The average household income of the sample was 4 to less than 5 million yen (population = 5.6 million yen; Ministry of Health, Labour and Welfare, 2018).

Measures

Helping

The measure of helping was derived from the self-report altruism scale (Rushton, Chrisjohn, & Fekken, 1981) and research on helping in Japan (Oda, Yamauchi, Naganawa, Hiraishi, & Matumoto, 2011; Oda et al.,

2013). Respondents were asked, on a 5-point scale (1 = *never*; 5 = *very often*), how often they engaged in 13 acts in the past 12 months (e.g., carried a stranger's belongings, allowed someone to go ahead of me in a lineup, offered my seat on a bus or train to a stranger who was standing, helped a stranger who fell to get up). Responses were averaged (T1: $M = 1.88$, $SD = .76$, $\alpha = .93$; T2: $M = 1.87$, $SD = .78$, $\alpha = .94$).

Empathic Concern

The empathic concern subscale of the Interpersonal Reactivity Index was used to measure empathic concern (Davis, 1980). This subscale consists of seven items. Respondents were asked to indicate, on a 5-point scale (1 = *does not describe me well*; 5 = *describes me very well*), how well each statement described them (e.g., I often have tender, concerned feelings for people less fortunate than me). Responses to the seven items were averaged (T1: $M = 3.29$, $SD = .56$, $\alpha = .75$; T2: $M = 3.22$, $SD = .55$, $\alpha = .69$).

Personal Distress

The personal distress subscale of the Interpersonal Reactivity Index was used to measure personal distress. This subscale consists of seven items. Respondents were asked to indicate, on a 5-point scale (1 = *does not describe me well*; 5 = *describes me very well*), how well each statement described them (e.g., I sometimes feel helpless when I am in the middle of a very emotional situation). Responses to the seven items were averaged (T1: $M = 3.10$, $SD = .60$, $\alpha = .79$; T2: $M = 3.04$, $SD = .60$, $\alpha = .76$).

Inspirational News Use

Following a measurement scheme of media use recommended by Eveland, Hutchens, and Shen (2009), we used four items tapping exposure and attention to measure self-report inspirational news use. Respondents were asked, on a 5-point scale (1 = *never*; 5 = *very often*), when they read, watched, or listened to news, how often they encountered positive topics such as kindness or heart-warming events (a) in the local community and (b) in the nation. Respondents were also asked, on a 5-point scale (1 = *none*; 5 = *a great deal*), when they read, watched, or listened to news, how much attention they paid to positive topics such as kindness or heart-warming events (a) in the local community and (b) in the nation. Responses to these four items were averaged (T1: $M = 2.79$, $SD = .82$, $\alpha = .90$; T2: $M = 2.76$, $SD = .86$, $\alpha = .91$).

Crime News Use

Similar to the measure of inspirational news use, four items were used to measure self-report crime news use. Respondents were asked, on a 5-point scale (1 = *never*; 5 = *very often*), when they read, watched, or listened to news, how often they encountered crimes—murder, robbery, assault, extortion, arson—(a) in the local community and (b) in the nation. Respondents were also asked, on a 5-point scale (1 = *none*; 5 = *a great deal*), when they read, watched, or listened to news, how much attention they paid to crimes (a) in the local community and (b) in the nation. Responses to these four items were averaged (T1: $M = 2.91$, $SD = .83$, $\alpha = .87$; T2: $M = 2.90$, $SD = .90$, $\alpha = .90$).

Statistical Controls

Based on prior research (e.g., Prot et al., 2014), several variables were included as statistical controls. Age was measured on a ratio scale ($M = 48.35$, $SD = 16.23$). Sex was coded with female respondents as the high value (female = 51.1%). Education was measured on a 6-point scale by asking respondents about the highest level of school they had completed, ranging from junior high school to postgraduate or professional degree (*median = 4, junior college/college of technology graduates*). Income was measured on a 14-point scale from less than 1 million yen to 20 million yen or more (*median = 5, 4 to less than 5 million yen*). Employment was measured with those who were employed coded as 1 and those who were not as 0 (employed = 59.4%). Additionally, research has shown that people who have the propensity to ascribe responsibility for others to the self tend to act on behalf of others and thus engage in prosocial behavior (e.g., Eisenberg et al., 1989). To account for this personality factor, we used the social responsibility subscale of the Prosocial Personality Battery to measure ascription of responsibility. Respondents were asked to indicate, on a 5-point Likert scale, the extent to which they agreed or disagreed with each of the 15 statements (e.g., "If a good friend of mine wanted to injure an enemy of theirs, it would be my duty to try to stop them"). Responses were averaged (T1: $M = 3.49$, $SD = .44$, $\alpha = .71$; T2: $M = 3.47$, $SD = .44$, $\alpha = .70$).

Analytic Strategy

To test the proposed hypotheses, we used cross-lagged panel analysis with structural equation modeling techniques. This analytic strategy takes advantage of multiwave panel data and allows comparing a hypothesized causal model against alternative models in a step-by-step fashion (Cole & Maxwell, 2003; Hakanen, Peeters, & Perhoniemi, 2011). First, the stability model estimates the effect of each focal variable at Time 1 on itself at a later time point. This model focuses on how stable each variable is across time and serves as a baseline. Second, the normal causal model adds to the stability model a cross-lagged path from a presumed causal variable to an outcome of interest. Third, the reverse causal model adds a cross-lagged path to the stability model from the outcome of interest to the presumed cause. The model evaluates the possibility that the outcome influences the cause instead of the hypothesized causal direction. Finally, the reciprocal model retains the cross-lagged paths added in the normal causal and reverse causal models to examine the possibility of mutual influences between the presumed cause and outcome. The latter three models were compared against the baseline stability model using chi-square difference tests. To examine the moderating role of gender, we conducted a multigroup analysis. All analyses were performed using R package, lavaan (Rosseel, 2012).

Results

To assess the relationships of self-report inspirational and crime news use with helping, we estimated four models. As reported in Table 1 below, the stability model fit the data well: $\chi^2(24) = 79.023$, $p < .001$, CFI = .973, RMSEA = .066; SRMR = .055. Although the chi-square value is significant, it is sensitive to a large sample size. CFI higher than .95 and SRMR smaller than .08 indicate a good model fit (Hu & Bentler, 1999). Also, the RMSEA value below .08 suggests a fair fit (MacCallum, Browne, & Sugawara, 1996).

Table 1. Fit Statistics for the Cross-Lagged Relationships Between Inspirational and Crime News Use and Helping.

Model		χ^2	df	CFI	SRMR	RMSEA	Model Comparison	$\Delta\chi^2$	Δdf
Model 1	Stability model	79.02***	24	.973	.055	.066			
Model 2	Causality model	72.66***	22	.975	.052	.066	vs. Model 1	6.36*	2
Model 3	Reverse causal model	74.63***	22	.974	.053	.067	vs. Model 1	4.39	2
Model 4	Reciprocal model	68.66***	20	.976	.050	.068	vs. Model 1	10.36*	4
							vs. Model 2	4.00	2
							vs. Model 3	5.97	2

Notes. * $p < .05$, ** $p < .01$, *** $p < .001$.

The normal causal model fits the data better than the stability model. The addition of cross-lagged paths from inspirational and crime news use to helping improved the model fit relative to the stability model ($\Delta\chi^2 = 6.36$, $\Delta df = 2$, $p < .05$). The reverse causal model did not fit the data better than the stability model ($\Delta\chi^2 = 4.39$, $\Delta df = 2$, $p = .11$), whereas the reciprocal model fit the data better than the stability model ($\Delta\chi^2 = 10.36$, $\Delta df = 4$, $p < .05$). The model fit of the reciprocal model was not superior compared with the normal causal model ($\Delta\chi^2 = 4.00$, $\Delta df = 2$, $p = .14$). Thus, the normal causal model was retained as the best-fitting model.

We predicted that inspirational news use would be positively associated with helping (H1) and that crime news use would be negatively associated with helping (H4). The best-fitting model in Figure 1 (shown below) indicates that inspirational news use at Time 1 predicted increases in helping at Time 2 ($\beta = .15$, $p < .05$), even after controlling for the autoregressive effect of helping ($\beta = .57$, $p < .001$). Using Cohen's f^2 (Selya, Rose, Dierker, Hedker, & Mermelstein, 2012), the effect size of this relationship was .01. Additionally, although inspirational news use at Time 1 predicted increases in itself at Time 2 ($\beta = .51$, $p < .001$), crime news use at Time 1 predicted increases in itself at Time 2 ($\beta = .54$, $p < .001$). Crime news use at Time 1 was only marginally related to helping at Time 2 ($\beta = -.215.09$, $p = .099$). The data thus provided support for H1, but not for H4.

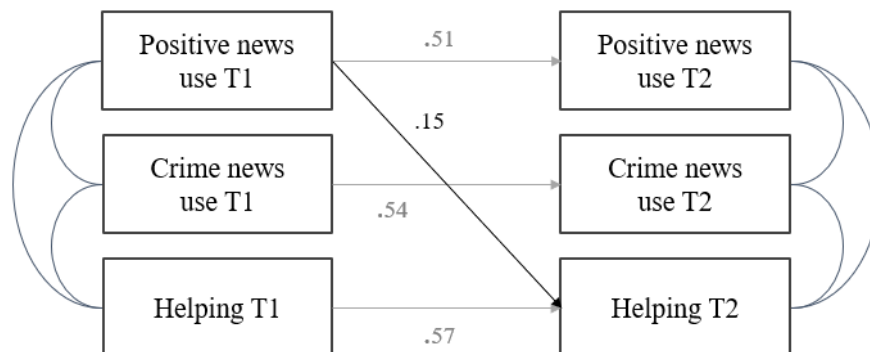


Figure 1. Cross-lagged relationships between inspirational and crime news use and helping. $N = 531$. Entries are standardized coefficients significant at $p < .05$. T1 focal variables regressed on covariates included age, gender, education, income, employment, and ascription of responsibility. Covariates and residual covariances not included in the figure for clarify.

Next, we investigated the relationships of self-report inspirational and crime news use with empathic concern and personal distress. As presented in Table 2, the stability model fit the data well: $\chi^2(36) = 125.381$, $p < .001$, CFI = .968, RMSEA = .068; SRMR = .060. The normal causal model did not fit the data better than the stability model ($\Delta\chi^2 = 8.92$, $\Delta df = 4$, $p = .06$). The reverse causal model fit the data substantially better than the stability model ($\Delta\chi^2 = 32.05$, $\Delta df = 4$, $p < .001$). The reciprocal model improved the model fit relative to the stability model ($\Delta\chi^2 = 39.04$, $\Delta df = 8$, $p < .001$) and the normal causal model ($\Delta\chi^2 = 30.12$, $\Delta df = 4$, $p < .001$) but did not fit the data better than the reverse causal model ($\Delta\chi^2 = 6.99$, $\Delta df = 4$, $p = .14$). Hence, the reverse causal model was retained as the best-fitting model.

Table 2. Fit Statistics for the Cross-Lagged Relationships Between Inspirational and Crime News Use, and Empathic Concern and Personal Distress.

Model		χ^2	df	CFI	SRMR	RMSEA	Model Comparison	$\Delta\chi^2$	Δdf
Model 1	Stability model	125.38***	36	.968	.060	.068			
Model 2	Causality model	116.46***	32	.970	.056	.071	vs. Model 1	8.92	4
Model 3	Reverse causal model	93.33***	32	.978	.039	.060	vs. Model 1	32.05***	4
Model 4	Reciprocal model	86.34***	28	.979	.036	.063	vs. Model 1	39.04***	8
							vs. Model 2	30.12***	4
							vs. Model 3	6.99	4

Notes. * $p < .05$, ** $p < .01$, *** $p < .001$.

We hypothesized that inspirational news use would be associated positively with empathic concern (H2) and negatively with personal distress (H3). We also stated that crime news use would be associated negatively with empathic concern (H5) and positively with personal distress (H6). The best-fitting model in Figure 2 indicates that empathic concern at Time 1 had positive cross-lagged relationships with both inspirational news use ($\beta = .21, p < .001$ and Cohen's $f^2 = .09$) and crime news use at Time 2 ($\beta = .16, p < .001$ and Cohen's $f^2 = .05$). The data also showed that inspirational news use and crime news use at Time 1 predicted increases in themselves at Time 2 and negative news use at Time 2 ($\beta = .43, p < .001$ and $\beta = .49, p < .001$, respectively). Further, empathic concern and personal distress at Time 1 substantially predicted increases in themselves at Time 2 ($\beta = .74, p < .001$ and $\beta = .70, p < .001$, respectively). Thus, H2, H3, H5, and H6 were not supported.

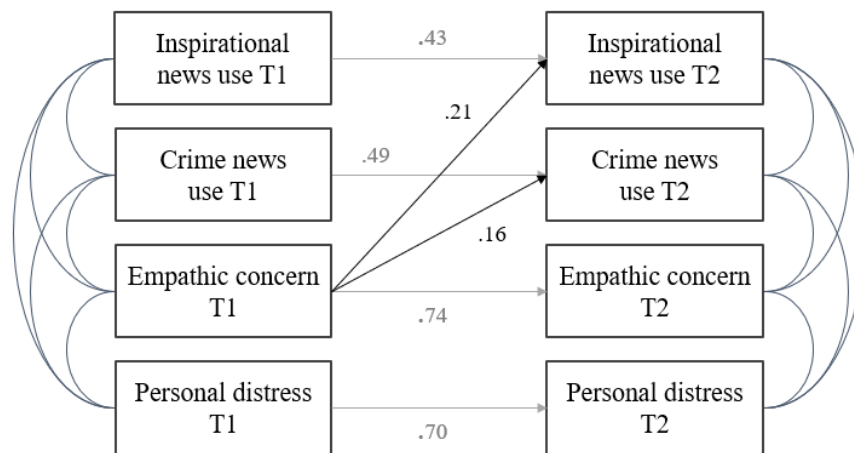


Figure 2. Cross-lagged relationships between inspirational and crime news use, and empathic concern and personal distress. $N = 531$. Entries are standardized coefficients significant at $p < .05$. T1 focal variables regressed on covariates included age, gender, education, income, employment, and ascription of responsibility. Covariates and residual covariances not included in the figure for clarify.

Finally, we conducted a multigroup analysis to assess whether the cross-lagged associations were moderated by gender (RQ1). Based on the best-fitting model identified above, we first estimated the normal causal model for helping across men and women with no constraints imposed on the model parameters: $\chi^2(38) = 87.738, p < .001, CFI = .976, RMSEA = .070; SRMR = .056$. Next, we constrained the regression paths to be equal across men and women. This model was compared against the configural model. A chi-square difference test showed a nonsignificant difference in fit ($\Delta\chi^2 = 27.72, \Delta df = 20, p = .12$), indicating that the regression paths were invariant across men and women.

Similarly, we examined whether the cross-lagged relationships of inspirational and crime news use with empathic concern and personal distress were moderated by gender. Based on the best-fitting model identified above, we first estimated the reverse causal model across men and women with no constraints imposed on the model parameters: $\chi^2(56) = 111.70, p < .001, CFI = .980, RMSEA = .061; SRMR = .043$. We next fixed the regression parameters to be equal across men and women. A chi-square difference test

showed that differences in fit between the two models were not statistically significant ($\Delta\chi^2 = 23.95$, $\Delta df = 28$, $p = .68$). The results thus indicate that the regression paths were not moderated by gender.

In addition to the above main analyses, we examined a linkage of empathic concern and personal distress with helping. This analysis showed that the normal causal model was the best-fitting model: $\chi^2(22) = 49.33$, $p < .001$, CFI = .979, RMSEA = .048, SRMR = .023. Consistent with previous research, empathic concern at Time 1 had a positive cross-lagged relationship with helping at Time 2 ($\beta = .09$, $p < .05$). In contrast, personal distress was not significantly related to helping.

Summary and Discussion

The results presented above offer a few insights. First, inspirational news use had a positive cross-lagged association with self-report helping behavior. Respondents who said they used inspirational news were more likely to say they would help strangers in need at a later point in time. This finding adds unique time-lagged evidence to the largely U.S.-centric literature on inspirational media and their prosocial utility (e.g., Dale et al., 2017; Krämer et al., 2017; Oliver et al., 2012; Raney et al., 2018). Although research reported the link between prosocial media and helping behavior (Prot et al., 2014), its focus was on entertainment media. Our study has shown that this role of media can be extended to news contexts. It is also important to note that the observed cross-lagged association was invariant across men and women. Thus, the role of inspirational news in fostering helping equally affects male and female audiences.

Second, our data showed that empathic concern had cross-lagged associations with inspirational and crime news use. Based on multiple theoretical accounts (e.g., Bushman & Anderson, 2009; Fredrickson, 1998), we expected inspirational and crime news use to affect emotion-based responding. Our data suggest that empathic concern is an antecedent to the two types of news use. It might be that as people with high degrees of empathic concern show care for a person in need (e.g., Batson, 1991), they are drawn to news that allows them to experience such feelings, such as stories about selfless acts for someone in need and suffering of crime victims. This process might entail eudaimonic motivations (e.g., Dale et al., 2017), such as consuming crime news to think of how to help those who physically and psychologically struggle because of victimization. The observed cross-lagged relationships, much like those with helping, were invariant across men and women. These results therefore collectively suggest that inspirational news potentially serves as a mediator in the empathic concern-helping relationship instead of generating prosocial psychological and behavioral responses.

Finally, self-report crime news use was not related to helping, empathic concern, and personal distress. These null results are theoretically important. Although research reported negative influences of crime news on audiences' perceptions of the world such as heightened fear (e.g., Gross & Aday, 2003; Nellis & Savage, 2012), such influences may not be extended to helping and empathy-related responding. It is possible that inspirational news use reduces a potential negative influence of crime news on these outcomes, much like positive emotions neutralizing the influences of negative emotions on people's attitudes, cognition, and behavior (Fredrickson & Levenson, 1998). Future research should design a study specifically to address this possibility. From a practical standpoint, the implication may not be too negative. News media are

sometimes criticized for their inordinate focus on crime and violence, yet consumption of crime news at least did not make people less helpful and empathic.

The current findings offer practitioners an idea to consider. Traditional news media have segments dedicated to inspirational news stories such as Uplifting Stories on BBC News. There are also websites exclusively reporting uplifting stories (e.g., Good News Network, Happy News). Our study suggests the utility of these efforts. As suggested by the cross-lagged relationship between empathic concern and inspirational news use, a group of audiences may seek this type of news. These news segments and outlets may play unique roles in building a kind, caring, and positive community of people. Although more evidence is clearly needed, one potential idea might be to institute a policy that requires news organizations to dedicate a certain amount of time or space to positive events to correct an imbalanced focus on negative events in society.

The above statements must be qualified with key limitations in mind. First, the self-report measures of the focal variables raise questions about the accuracy of data. It is possible that respondents did not accurately recall their past helping behaviors and news use. The issue of selective retention may also have occurred with news use, and respondents may have been able to recall only memorable news stories such as a high-profile crime. Second, the measurement of helping may have been influenced by social desirability bias, such that respondents answered the relevant items in a way that made themselves look positive. Third, the measure of inspirational news use was rather broad. Future work should use specific elicitors as indicators of this type of news use (Dale et al., 2017). Fourth, the sample from the online panel limits is not considered representative, and thus the present findings cannot be projected to the Japanese adult population.

Fifth, whereas the results are suggestive in terms of an indirect relationship among empathic concern, inspirational news use, and helping, our two-wave panel data cannot offer a definitive answer. To demonstrate time-lagged relationships of these variables more conclusively, future studies should use longitudinal data collected for a more extended period of time. Finally, as our survey-based correlational data are limited in terms of establishing causality, future work should conduct experimental studies to address this limitation. For example, a study might use a posttest only control group design where one group of subjects are exposed to an inspirational news story, another group of subjects are exposed to a crime news story, and a control group as a benchmark are exposed to no story. Such a design would help triangulate the results reported here and address the role of inspirational news in helping in greater detail.

These limitations notwithstanding, our study adds to the literature on inspirational, prosocial media. While consumption of inspirational news has a cross-lagged relationship with helping, the fact that it is shaped by their personal attributes, specifically empathic concern, providing insights into an antecedent and outcome of inspirational news use. Inspirational events that occur in everyday life tend to be overshadowed by news media's inordinate focus on negative events such as crime and violence. However, news media do report news stories that communicate human virtues and moral beauties. Consuming such stories seems to elevate audiences' desires to emulate what they learn from the news and help enrich the lives of people around them.

References

- Bartholow, B. D., Bushman, B. J., & Sestir, M. A. (2006). Chronic violent video game exposure and desensitization to violence: Behavioral and event-related brain potential data. *Journal of Experimental Social Psychology, 42*(4), 532–539. doi:10.1016/j.jesp.2005.08.006
- Bartsch, A., Oliver, M. B., Nitsch, C., & Scherr, S. (2018). Inspired by the Paralympics: Effects of empathy on audience interest in para-sports and on the destigmatization of persons with disabilities. *Communication Research, 45*(4), 525–553. doi:10.1177/0093650215626984
- Batson, C. D. (1991). *The altruism question: Toward a social-psychological answer*. Hillsdale, NJ: Lawrence Erlbaum.
- Batson, C. D., Ahmad, N., Lishner, D. A., & Tsang, J.-A. (2002). Empathy and altruism. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 485–498). New York, NY: Oxford University Press.
- Berger, J., & Milkman, K. L. (2012). What makes online content viral? *Journal of Marketing Research, 49*(2), 192–205. doi:10.1509/jmr.10.0353
- Bushman, B. J., & Anderson, C. A. (2009). Comfortably numb: Desensitizing effects of violent media on helping others. *Psychological Science, 20*(3), 273–277. doi:10.1111/j.1467-9280.2009.02287.x
- Chiricos, T. G., Padgett, K., & Gertz, M. (2000). Fear, TV news, and the reality of crime. *Criminology, 38*(3), 755–786. doi:10.1111/j.1745-9125.2000.tb00905.x
- Chuck, E. (2018, November 29). Kalin Bennett, Arkansas teen with autism, recruited to play basketball at Kent State. *NBC News*. Retrieved from <https://www.nbcnews.com/news/us-news/kalin-bennett-arkansas-teen-autism-recruited-play-basketball-kent-state-n941631>
- Crowther, K. (2019, January 24). Neighbors pitch in to shovel for elderly, disabled in Bay View. *WTMJ-TV News*. Retrieved from https://www.tmj4.com/news/local-news/neighbors-pitch-in-to-shovel-for-elderly-disabled-in-bay-view?_ga=2.177051301.1494900629.1550005400-96545301.1550005400
- Cole, D. A., & Maxwell, S. E. (2003). Testing mediation models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology, 112*(4), 558–577. doi:10.1037/0021-843X.112.4.558
- Coyne, S. M., Padila-Walker, L. M., Holmgren, H. G., Davis, E. J., Collier, K. M., Memmott-Elison, M. K., & Hawkins, A. J. (2018). A meta-analysis of prosocial media on prosocial behavior, aggression, and empathic concern: A multidimensional approach. *Developmental Psychology, 54*(2), 331–347. doi:10.1037/dev0000412

- Dale, K. R., Raney, A. A., Janicke, S. H., Sanders, M. S., & Oliver, M. B. (2017). YouTube for good: A content analysis and examination of elicitors of self-transcendent media. *Journal of Communication, 67*(6), 897–919. doi:10.1111/jcom.12333
- Dale, K. R., Raney, A. A., Ji, Q., Janicke-Bowles, S. H., Baldwin, J., Rowlett, J. T., . . . Oliver, M. B. (2019). Self-transcendent emotions and social media: Exploring the content and consumers of inspirational Facebook posts. *New Media & Society, 22*(3), 507–527. doi:10.1177/1461444819865720
- Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology, 10*, 85–103.
- Eagly, A. H. (2009). The his and hers of prosocial behavior: An examination of the social psychology of gender. *American Psychologist, 64*(8), 644–658. doi:10.1037/0003-066X.64.8.644
- Eagly, A. H., & Crowley, M. (1986). Gender and helping behavior: A meta-analytic review of the social psychological literature. *Psychological Bulletin, 100*(3), 283–308. doi:10.1037/0033-2909.100.3.283
- Einolf, C. J. (2008). Empathic concern and prosocial behaviors: A test of experimental results using survey data. *Social Science Research, 37*(4), 1267–1279. doi:10.1016/j.ssresearch.2007.06.003
- Eisenberg, N. (1982). Introduction. In N. Eisenberg (Ed.), *The development of prosocial behavior* (pp. 1–21). New York, NY: Academic Press.
- Eisenberg, N. (1986). *Altruistic emotion, cognition and behavior*. Hillsdale, NJ: Erlbaum.
- Eisenberg, N., Eggum, N. D., & Di Guinta, L. (2010). Empathy-related responding: Associations with prosocial behavior, aggression, and intergroup relations. *Social Issues and Policy Review, 4*(1), 143–180. doi:10.1111/j.1751-2409.2010.01020.x
- Eisenberg, N., Fabes, R. A., Miller, E. A., Fultz, J., Mathy, R. M., Shell, R., & Reno, R. (1989). Relation of sympathy and personal distress to prosocial behavior: A multimethod study. *Journal of Personality and Social Psychology, 57*(1), 55–66. doi:10.1037//0022-3514.57.1.55
- Eisenberg, N., & Miller, P. (1987). The relation of empathy to prosocial and related behaviors. *Psychological Bulletin, 101*(1), 91–119. doi:10.1037/0033-2909.101.1.91
- Eveland, W. P., Jr., Hutchens, M. J., & Shen, F. (2009). Exposure, attention, or “use” of news? Assessing aspects of the reliability and validity of a central concept in political communication research. *Communication Methods and Measures, 3*(4), 223–244. doi:10.1080/19312450903378925

- Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology, 2*(3), 300–319. doi:10.1037/1089-2680.2.3.300
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218–226. doi:10.1037//0003-066x.56.3.218
- Fredrickson, B. L., Cohn, M. A., Coffey, K. A., Pek, J., & Finkel, S. M. (2008). Open hearts build lives: Positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal of Personality and Social Psychology, 95*(5), 1045–1062. doi:10.1037/a0013262
- Fredrickson, B. L., & Levenson, R. W. (1998). Positive emotions speed recovery from the cardiovascular sequelae of negative emotions. *Cognition and Emotion, 12*(2), 191–220. doi:10.1080/026999398379718
- Fukazawa, H. (2016). Naiyō bunseki kara miru rōkaru nyūsu no genjō [The current state of local news in Japan examined through content analysis.] *Komazawa Journal of Sociology, 48*, 123–149.
- Gentile, D. A., Groves, C. L., & Gentile, J. R. (2014). The general learning model: Unveiling the teaching potential of video games. In F. C. Blumberg (Ed.), *Learning by playing: Video gaming in education* (pp. 121–142). New York, NY: Oxford University Press.
- George, D., Carroll, P., Kersnick, R., & Calderon, K. (1998). Gender-related patterns of helping among friends. *Psychology of Women Quarterly, 22*(4), 685–704. doi:10.1111/j.1471-6402.1998.tb00185.x
- Good News Network. (2018, February 15). *Women encircle a crying mom whose toddler was having a meltdown at the airport*. Retrieved from <https://www.goodnewsnetwork.org/women-encircle-crying-mom-whose-toddler-meltdown-airport/>
- Grabe, M. E., & Drew, D. G. (2007). Crime cultivation: Comparisons across media genres and channels. *Journal of Broadcasting & Electronic Media, 51*(1), 147–171. doi:10.1080/08838150701308143
- Grazer, B. (Producer), & Howard, R. (Producer & Director). (2001). *A beautiful mind* [Motion picture]. Universal City, CA: Universal Pictures.
- Gross, K., & Aday, S. (2003). The scary world in your living room and neighborhood: Using local broadcast news, neighborhood crime rates, and personal experience to test agenda setting and cultivation. *Journal of Communication, 53*(3), 411–426. doi:10.1111/j.1460-2466.2003.tb02599.x
- Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 852–870). Oxford, UK: Oxford University Press.

- Hakanen, J. J., Peeters, M. C. W., & Perhoniemi, R. (2011). Enrichment processes and gain spirals at work and at home: A 3-year cross-lagged panel study. *Journal of Occupational and Organizational Psychology, 84*(1), 8–30. doi:10.1111/j.2044-8325.2010.02014.x
- Hamai, K. (2004). Nihon no chian akka shinwa wa ikani tsukura reta ka [How 'the myth of collapsing safe society' has been created in Japan]. *Japanese Journal of Sociological Criminology, 29*, 10–26. doi:10.20621/jjscrim.29.0_10
- Hoffman, M. L. (2000). *Empathy and moral development: Implications for caring and justice*. New York, NY: Cambridge University Press.
- Hope, S. L., & Jackson, H. F. (1988). Helping: The effects of sex differences and locus of causality. *British Journal of Social Psychology, 27*(3), 209–219. doi:10.1111/j.2044-8309.1988.tb00821.x
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1–55. doi:10.1080/10705519909540118
- Janicke, S. H., & Oliver, M. B. (2017). The relationship between elevation, connectedness, and compassionate love in meaningful films. *Psychology of Popular Media Culture, 6*(3), 274–289. doi:10.1037/ppm0000105
- Japan Press Research Institute. (2021). *14th national media poll 2021*. Retrieved from <https://www.chosakai.gr.jp/project/notification/>
- Ji, Q., Raney, A. A., Janicke-Bowles, S. H., Dale, K. R., Oliver, M. B., Reed, A., . . . Raney, A. A., II. (2018). Spreading the good news: Analyzing socially shared inspirational news content. *Journalism & Mass Communication Quarterly, 96*(3), 872–893. doi:10.1177/1077699018813096
- Johnston, D. C. (2011, January 10). It's scary out there in reporting land. *Nieman Reports*. Retrieved from <https://niemanreports.org/articles/its-scary-out-there-in-reporting-land/>
- Krämer, N., Eimler, S. C., Neubaum, G., Winter, S., Rösner, L., & Oliver, M. B. (2017). Broadcasting one world: How watching online videos can elicit elevation and reduce stereotypes. *New Media & Society, 19*(9), 1349–1368. doi:10.1177/1461444816639963
- Love what matters*. (2007, March 8). Facebook.
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1*(2), 130–149. doi:10.1037//1082-989X.1.2.130

- Makino, T. (2006). The symptom of 'uneasiness' in newspaper reporting on juvenile crime: Seen from reports in Asahi Shimbun. *Journal of Educational Sociology*, 78, 129–146. doi:10.11151/eds1951.78.129
- Makino, T. (2013). Han-zai hōdō no kokusai hikaku bunseki no kokoromi: Nichibeiei san kakoku no shinbun hōdō wo sozai ni shite [International comparison of the crime news: Analysis of the newspaper report of Japan, the United States, and United Kingdom]. *Sociological Papers*, 22, 95–108.
- McGuire, A. M. (1994). Helping behaviors in the natural environment: Dimensions and correlates of helping. *Personality and Social Psychology Bulletin*, 20(1), 45–56. doi:10.1177/0146167294201004
- Ministry of Health, Labour and Welfare. (2018). *Annual health, labour and welfare report 2017*. Retrieved from <https://www.mhlw.go.jp/english/wp/wp-hw11/dl/summary.pdf>
- Ministry of Internal Affairs and Communications. (2012). *Population 15 years of age and over, by school attendance and type of last school completed (6 groups), age (five-year groups)*. Portal Site of Official Statistics of Japan. Retrieved from <https://www.e-stat.go.jp/dbview?sid=0003052134>
- Nellis, A. M., & Savage, J. (2012). Does watching the news affect fear of terrorism? The importance of media exposure on terrorism fear. *Crime & Delinquency*, 58(5), 748–768. doi:10.1177/0011128712452961
- Oda, R., Dai, M., Niwa, Y., Ihobe, H., Kiyonari, T., Takeda, M., & Hiraishi, K. (2013). Self-Report Altruism Scale distinguished by the recipient (SRAS-DR): Validity and reliability. *Japanese Journal of Psychology*, 84(1), 28–36. doi:10.4992/jjpsy.84.28
- Oda, R., Yamauchi, S., Naganawa, T., Hiraishi, K., & Matumoto, A. (2011). Examination of utility of the prosocial behavior scale for evolutionary study of altruism. *Journal of Tourism Sciences*, 3, 23–33. doi:10.2147/NAN.S87718
- Ohba, E. (2013). Hanzai nyūsu ni okeru hanzai no nami: Naze hanzai no genshō wa hitobito no wadai ni nara nai no ka [Crime waves in Japanese news media: Why is declining crime not newsworthy?]. *Japanese Association of Sociological Criminology*, 38, 97–108. doi:10.20621/jjscrim.38.0_97
- Oliver, M. B., Hartmann, T., & Woolley, J. K. (2012). Elevation in response to entertainment portrayals of moral virtue. *Human Communication Research*, 38(3), 360–378. doi:1468-2958.2012.01427.x
- Oliver, M. B., Raney, A. A., Slater, M. D., Appel, M., Hartmann, T., Bartsch, A., . . . Das, E. (2018). Self-transcendent media experiences: Taking meaningful media to a higher level. *Journal of Communication*, 68(2), 380–389. doi:10.1093/joc/jqx020

- Pew Project for Excellence in Journalism. (2004). *The state of the news media 2004: An annual report on American journalism*. Retrieved from <https://assets.pewresearch.org/wp-content/uploads/sites/13/2016/06/30143308/state-of-the-news-media-report-2016-final.pdf>
- Pew Research Center. (2015, March 5). *Local news in a digital age*. Retrieved from <https://www.pewresearch.org/journalism/2015/03/05/local-news-in-a-digital-age/>
- Prot, S., Gentile, D. A., Anderson, C. A., Suzuki, K., Swing, E., Lim, K. M., . . . Lam B. C. (2014). Long-term relations among prosocial-media use, empathy, and prosocial behavior. *Psychological Science, 25*(2), 358–368. doi:10.1177/0956797613503854
- Raney, A. A., Janicke, S. H., Oliver, M. B., Dale, K. R., Jones, R. P., & Cox, D. (2018). Profiling the audience for self-transcendent media: A national survey. *Mass Communication and Society, 21*(3), 296–319. doi:10.1080/15205436.2017.1413195
- Romer, D., Jamieson, K. H., & Aday, S. (2003). Television news and the cultivation of fear of crime. *Journal of Communication, 53*(1), 88–104. doi:10.1111/j.1460-2466.2003.tb03007.x
- Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*(2), 1–36. doi:10.18637/jss.v048.i02
- Rushton, J. P., Chrisjohn, R. D., & Fekken, G. C. (1981). The altruistic personality and the self-report altruism scale. *Personality and Individual Differences, 2*(4), 292–302. doi:10.1016/0191-8869(81)90084-2
- Saegert, S., & Winkel, G. (2004). Crime, social capital, and community participation. *American Journal of Community Psychology, 34*(3–4), 219–233. doi:10.1007/s10464-004-7416-2
- Schildkraut, J. (2017). Crime news in newspapers. In M. Brown (Ed.), *Oxford encyclopedia of crime, media, and popular culture* (pp. 285–298). New York, NY: Oxford University Press.
- Selya, A. S., Rose, J. S., Dierker, L. C., Hedker, D., & Mermelstein, R. J. (2012). A practical guide to calculating Cohen's f^2 , a measure of local effect size, from PROC MIXED. *Frontiers in Psychology, 3*, 1–6. doi:10.3389/fpsyg.2012.00111
- Spielberg, S. (Producer & Director), Molen, G. R. (Producer), & Lustig, B. (Producer). (1993). *Schindler's list* [Motion picture]. Universal City, CA: Universal Pictures.
- Statistics Bureau of Japan. (n.d.). *2020 summary of the results and statistical tables: Basic complete tabulation on population and households*. Retrieved from <https://www.stat.go.jp/english/data/kokusei/2020/summary.html>