Neutralizing the Third-Person Bias through Self-Monitoring:

Media Diaries, Media Use and Retrospective Recall
In this study, we extend research on third-person effects from the perceived media effects to the perceptions of media use. The focus of Study 1 was to examine perceived differences in media use for self and others for a variety of media. The third-person effects were found for all media except television, which contradicts prior research. To address this anomaly, Study 2 compared television use with newspaper use and introduced two different manipulations (motivational demand and self-monitoring). Those who monitored their media activity for one week showed no third-person biases for television, compared to a control group which showed findings consistent with past research. This suggests a cognitive, rather than a motivational origin of the effect. The same was not true for newspaper use, however. We also addressed a number of applied issues, such as the added benefits of maintaining a diary and expected degree of participant compliance in maintaining a media diary.
Measures of media use are widely employed by communication researchers and industry professionals. From *People Meters* used by Neilsen Media Research to track television use, to media diaries used by Arbitron Radio Ratings (Beville, 1987), to items employed by communication researchers (e.g., Bissell & Zhou, 2004; Kim & Han, 2005; Pardun, L'Engle, & Brown, 2005; Tsfati & Cohen, 2003), various techniques are used to assess media use. Among them, perhaps the most common technique is retrospective recall, which is to simply ask respondents about their experiences. At the same time, the use of electronic diaries is also becoming popular with the increasing reach of technologies such as the Internet, personal computers and handheld computers (Greenberg et al., 2005). Retrospective recall and media diaries have contributed to the assessment of media use, a key variable in media effects research. However, few studies (e.g., Peiser & Peter, 2000; Price & Zaller, 1993) have addressed inherent biases in media use reports, particularly the psychological processes that explain such biases.

When addressing biases in media use, it is important to consider domain-specific biases, such as the third-person bias, which is strongly associated with negative media effect. Although reports of media use examined in this paper are distinctly different from perceived effects of media reported in the third-person literature, it is reasonable to ask whether the third-person media effect bias spills over to perceptions of media use.

The third-person media effect is the perception that others are more vulnerable to negative media effects than self (Gunther, 1991; Paul, Salwen, & Dupagne, 2000; Peiser & Peter, 2000; Perloff, 2002). A related phenomenon is the first-person effect, which is the perception that a pro-social message, such as a public service announcement, would have greater influence on self than others (David, Liu, & Myseret al., 2004; Gunther & Thorson, 1992). The third-person media effect has been shown to be quite robust. Even when respondents were specifically instructed about the third-person phenomenon and cautioned to avoid the bias, the effect could
not be neutralized (David et al., 2004). In light of the robustness of the effect and the findings by Peiser and Peter (2000) that reported television use by others was greater than television use by self, it is reasonable to ask if the third-person media effect extends to differences in perceived use of media between self and others for other media, such as newspapers, magazines and the Internet. Also, it is important to understand both the cognitive and motivational foundations of biases in reports of media use. To address these issues, in this paper we examine the third-person bias in media use reports with the aid of a web-based media diary, which also served both as a self-monitoring tool and a bogus pipeline (Riess, Kalle, & Tedeschi, 1981a; Riess, Rosenfeld, Melburg, & Tedeschi, 1981b).

We address three objectives in this paper. First, we examine whether the third-person media use bias that was found for television (Peiser & Peter, 2000) extends to other media, such as newspapers, magazines and Internet. Second, with the media diary as a secondary measure and a bogus pipeline we examine whether self-monitoring of media use behaviors can attenuate the third-person media use bias, which would add to the evidence in support of a cognitive root to the third-person bias (David et al., 2004; Paek, Pan, Sun, Abisaid, & Houden, 2005). Finally, we present some empirical findings that researchers may find useful when designing media use instruments.

Media Exposure, Media Effects and Third-Person Effect

The study of the relationship between media exposure and effects is a classic tradition in mass communication research. In general, retrospective recall or media diaries are used to tap media use and the findings from these studies rest heavily on the reliability and validity of the measurement of media use (Slater, 2004). Previous studies, however, suggest that there is potential for bias in self-reports of media use. For example, Price and Zaller (1993) found that 35 percent of the respondents in a National Election Study responded that they listened to National
Public Radio (NPR), which was in stark contrast to Arbitron Radio Diary data from that region which showed that only 6% of the study population listened to NPR at least once a week during the study period. The exaggerated use of NPR, which may be perceived as a pro-social activity, may be a type of demand constraint or self-serving bias that is akin to first-person bias that is documented in the literature (David et al., 2004; Gunther & Thorson, 1992).

Another type of media use bias, which has been demonstrated by Peiser and Peter (2000), is the third-person effect in reported television use. When asked about hours of television viewing by self and others, reported use of television use by self was significantly lower than perceived use of television by others. Further, in keeping with the person effects literature, it was found that a third-person effect was observed for undesirable television viewing behaviors, such as watching television out of habit, whereas a first-person effect was observed for desirable television viewing, such as planned viewing or watching television for information (Peiser & Peter, 2000).

The prevalence of such biases in reported media use is not surprising. Media are an integral part of our lives and people hold strong beliefs about the effect of media on society. Further, the bias that others are more vulnerable to negative media messages can be explained in part by the perception that the vulnerable others are more likely to be exposed to such negative media content (Eveland, Nathanson, Detenber, & Mcleod, 1999; McLeod, Detenber, & Eveland, 2001). Therefore, in this study we decided to focus on media use to test whether the third-person media effect manifests itself as a third-person media use effect as well.

At least one study has shown that others are seen as more active consumers of television programs with potential negative effects, while the self is seen as a more strategic consumer of media that are associated with positive effects (Peiser & Peter, 2000). However, our goal was to examine if perceptions of time spent watching television on the whole are equally vulnerable to
self-other differences. To examine third-person effects in media use, we began with a basic hypothesis drawn from work of Peiser and Peter (2000) and a related research question.

H1: Projected use of television by others will be greater than reported use of television by self (a third-person effect).

To our knowledge, assessment of media use by others has not been reported in the literature. However, researchers have demonstrated some interesting differences between newspaper use and television use on learning and civic participation (Eveland & Scheufele, 2000; McLeod & McDonald, 1985; Rothenbuhler, Mullen, Delaurell, & Ryu, 1996; Stamm, Emig, & Hesse, 1997). At the same time, newspaper receives a good evaluation as “service journalism” meaning that the information the newspaper delivers is more relevant to the readers than that from other media (American Society of Newspaper Editors, 1999).

By drawing from these differences, it would be plausible to predict that newspaper uses is a more desirable activity than television viewing, which in turn could lead to different person-effect predictions for television use and newspaper use. For example, if newspaper use is seen as highly desirable activity, there may be some motivation to claim a first-person effect for newspaper use. By applying the same logic, a first-person effect could be expected for magazines. On the other hand, the print-superiority effect that we have argued may have no currency and there may be no person-effects for print. Given the paucity of prior work in this area, person effects tied to all the other media was posed as a research question.

RQ1: Do third-person or first-person differences in perceived media use exist for videos/DVDs, newspapers, magazines, and the Internet?
Theoretical Explanations for Third Person Effects

With the growing body of research on third-person effects, the theoretical explanations have become more sophisticated. Although a consensus theoretical explanation has not emerged, a number of interesting theoretical propositions have been tested. A thorough review of all the explanations is beyond the scope of this paper. However, we provide a brief review of some of the common threads that are germane to this paper.

The perceived effect of media on self and others is a complex phenomenon. At one level it is a media or media-related effect, which in itself is quite complex. At the same time it can be studied as a social judgment phenomenon, which is further complicated by the self-other contrast or social comparison. Media-effects research, social judgments and social comparisons each has its own theory base, making an all encompassing explanation of the third-person effect elusive.

Being sensitive to these challenges, researchers have evaluated the third-person effect from different theoretical perspectives. One explanation rests on the argument that humans are intuitive social psychologists with lay theories about the world and the media, including a simplistic model of a small, but pervasive, negative media effect primarily on others (David et al., 2004). This argument has been echoed by others, who have used different labels to make this point, including naïve theories about the media (McLeod et al., 2001), generalized negative attitudes toward the media (Brosius & Engel, 1996), and the influence of perceived influence (Gunther & Storey, 2003). Another explanation for the third-person media effect is that it is simply an instance of an overarching optimistic bias (Brosius & Engel, 1996), although recent findings show that third-person effect may have different psychological roots (Salwen & Dupagne, 2003).

A third approach focuses on the interaction between social-distance between self and others and the likelihood of exposure to the message by self and distant others, and the relevance
of the message to the target audience (McLeod, Eveland, & Nathanson, 1997; Tsfati & Cohen, 2004). In other words, if the perceived effects of gangster rap are at issue, youth, particularly those who are most likely to be exposed to gangster rap, such as teens in New York or Los Angeles, are perceived to be the groups who are most likely to be influenced.

While some have argued in favor of a motivational root for the third-person biases (e.g., Dunning, 2004, Kunda, 1990), others have explained the pattern mainly as cognitive errors (Nisbett & Ross, 1980). In the context of third-person effects, the motivational explanation draws upon self-enhancement to explain the downward comparison of others in relation to self (e.g., Brown, 1986; David & Johnson, 1998; David, et al., 2004; Duck, Terry, & Hogg, 1999). A cognitive explanation, on the other hand, focuses on the fact that we know more about ourselves than others and this additional knowledge allows us to recruit relevant situational evidence to claim immunity from the harmful effects of the media; on the other hand, due to insufficient knowledge about others we are unable to grant them similar situational immunity. In general, the cognitive explanation does not draw upon motivations to explain the perceived gap between self and others, but characterizes the difference as a cognitive fallacy (Paek et al., 2005).

Another cognitive approach to person effect is the differential application of heuristic and systematic processing for self and others (Neuwirth, Frederick, & Mayo, 2002). While systematic processing involves deeper and more effortful processing, heuristic evaluation is driven by optimal strategies and shallower processing. A different focus of the cognitive explanation is the accountability of the respondent when making social judgments. Tetlock (1985), for example, has shown that the biases in social judgment can be offset if respondents are held accountable for their judgments. By holding respondents more accountable, David and colleagues (David et al., 2004) tried to offset the third-person bias by employing two manipulations: first, before the study, participants were provided an explanation of the third-
person effect and encouraged to avoid such biased thinking; second, accountability was addressed by instructing participants that they will be asked to provide an explanation of their ratings of self and others at the end of the experiment. Even with these two manipulations, the third-person effect was not neutralized.

In light of the failure of these attempts to offset the third-person bias, our goal in this study was examine if the act of maintaining a diary, an act of self-monitoring, could close the self-other gap in media use. Our contention is that the very act of maintaining an online diary could heighten one’s awareness of media use through self-monitoring. Further, from our reminder emails, participants could have believed that their entries were being monitored, although we did not monitor the entries. In a sense, the diary-maintenance task can have worked as a bogus pipeline, which is a procedure that respondents believe can detect inaccurate answers, regardless of the merit of the bogus measure (Murray, O’Connell, Schmid, & Perry, 1987). In this study, the web diary was more a secondary pipeline rather than a bogus pipeline because the diary data did indeed provide a verifiable account of media use behaviors that could be compared with retrospective recall of media use. In short, we predicted that the maintenance of the media diary will heighten awareness of one’s media use, which could neutralize the self-other difference.

H2: The gap between perceived media use by self and others will be smaller in the electronic diary condition (bogus pipeline condition) in comparison to the no-diary condition.

Thus far, we have emphasized the possibility that self-monitoring of media use might provide participants with insights into their media use, which could have corrective effect on their perceptions of media use by self and others. A realistic possibility that we have not addressed is demand constraints that are induced when maintaining a diary. Some participants may not be willing to disclose true media use to save face. Or, in accordance with the good-
subject effect, participants may decide to help the experimenter by offering media use data that support the experimenter’s research questions. The Hawthorne effect, or placebo effect, is a classic finding in the literature, which suggests that the very act of closely monitoring one’s behavior can lead to differences in related behaviors.

To test the demand constraint effects of self-monitoring with a diary, in one of the diary conditions, the salience of newspaper use was heightened and the stimulus implied that increased newspaper use led to more positive outcomes in life. In the same stimulus, it was suggested that television use might have adverse effects on one’s body weight. With this manipulation, our goal was to induce a motivation to exaggerate newspaper use and perhaps downplay television use.

RQ2: Does heightened salience to the effects of newspaper and television use introduce a demand constraint that changes third-person media use perceptions?
Some Applied Issues Related to Media Diaries

Administering a media diary and seeking compliance from the participants can be a costly and time-consuming task. While the virtues of maintaining a diary are many, what specifically does a researcher gain for all the efforts? Although this is a purely applied question, is it one worth asking to advance rigorous measurement of media use, which could benefit media effects research. The differences between media use assessments from a diary and media use assessments from retrospective recall were addressed by assigning some participants to a diary condition and others to a no-diary condition. Participants in the diary condition provided a retrospective recall of media both before and after the diary task. Students assigned to the no-diary condition also provided similar assessments twice, with the difference being that they did not have to maintain a diary in the interim period.

RQ3: What are the differences between retrospective recall of media use and diary reports of media use?

The validity and reliability of diary data rests heavily on participant compliance. The diary does add to the quality of the measure if a participant does not use the diary periodically as recommended by the researcher. If researchers were to employ electronic media diaries, timestamps provide a good assessment of compliance. The next research question focuses on three aspects of diary maintenance behaviors: projection of diary compliance, actual compliance calculated from timestamps, perceptions of compliance of self and other study members.

RQ4: Are there differences between projections of diary compliance, actual compliance from timestamps, and perceptions of compliance by self and others?

Study 1
The purpose of Study 1 was to examine if there is any evidence of third-person effects in media use reports. Retrospective recall of media use by self was compared to perceived use of media by others during the same period. Both reports were then compared to reports logged in through a web-based media diary.

**Design and Participants**

Participants were recruited from an introductory course in communication at a large, Midwestern university. A total of 99 undergraduate students (38.4% male and 61.6% female) participated in the study for extra credit. Average age of the participants was 21.

A simple, one factor within-subject design (Perceived Media Use: retrospective recall of media use by self, perceived use of media by others in the study) was used in the first study.

**Procedure**

When participants arrived at a computer lab, they were provided a link to a web-based media diary, with separate sections for different genres of television, movies, DVDs, magazines, newspapers, and Internet. Each of sections had a range of media options that were available to students. For example using *TV Guide* and other sources, most of the shows available to the students were programmed into the diary. By the same token, the local newspapers and magazines that students were most likely were also programmed. In addition, students had the option of adding entries under a media category if the item was not already available. Along with the media entry, students were requested to enter the number of minutes they used a particular media item. See Appendix A for screenshot of the media diary.

After training students on how to access and maintain the media diary, they were told to log in and maintain the diary at least once a day in the following week and to return to lab at the same date and time of the following week. During the week following the first session, all participants were sent three e-mails to remind them to complete their online media diary.
When participants returned a week after the first session, they were given a retrospective recall test of their media use during the previous week. First, they were given the media diary, with one notable difference. Using the diary, they were asked to make an assessment of their media use for the whole week. Then they were asked to provide a summary assessment of the total amount of time they spent on different media: television, movies/DVDs/videos, newspapers, magazines, and Internet. Next, using same media categories, participants were asked to estimate media use of the other students in the study. In addition, they were asked to estimate the number of days that they complied with the daily diary task and the average number of entries they made when they logged in. Similarly, they were asked to estimate the number of days other participants in the study complied and the number of media entries reported by other participants.

Results

Self-reports of media use and projections of media by others in the study were converted from hours-and-minutes, to minutes. A summary of means by different media categories is shown in Table 1. When the differences between self and others means were compared using paired sample t-tests, others were perceived to be heavier users of videos/DVDs, magazines, newspapers and Internet more than self (RQ1). The only exception was the targeted difference in television use between self and others, expressed in H1, which was not significant. Self-reported use of television ($M = 805.42, SD = 598.82$) was not different from the perceived use of television by others in the study ($M = 775.60, SD = 446.03$).

Discussion

The results of this study do not support H1, in which we had predicted a third-person bias for television use, with others perceived to use television more than self. This was a surprise because Peiser and Peter (2000) were able to elicit this effect. One explanation could be the
differences between the populations between the two studies -- they sampled data from a general population in Germany, whereas a student population from United States contributed to the data in this study. The differences in population notwithstanding, the prediction in H1 is well grounded in the third-person effects paradigm and the absence of a difference between self and others for television seemed to run counter to what one would normally expect. Particularly in light of the finding that there were significant third-person differences for other media such as newspapers, magazines and the Internet, the absence of a difference for television use was all the more puzzling.

This led us to speculate that perhaps the implicit self-monitoring that comes with maintaining a media diary was to blame. In other words, self-monitoring led students to the realization that they consume more television than they think they do, which could have led to some adjustments when estimating media effect. By the same token, self-monitoring could have resulted in the insight that they rarely read newspapers and magazines, resulting in the perception that others use the print media more often. The third-person effect for Internet and videos is difficult to explain. Internet use is very complex because it can be used for work, entertainment and often for multitasking. Moreover, much of the content from television, videos and print can be obtained through the Internet. At this point, we decided to simply the scope of our research and focused only on newspapers and television.

To test the self-monitoring explanation, in Study 2 we began by adding a no-diary condition. The key prediction was that the third-person effect for television would emerge in the no-diary condition because in the absence of self-monitoring, participants may slip into a heuristic mode of assessment, which is characteristic of third-person estimation. Unlike newspapers, which are used sparingly by students, television use is more pervasive -- at least in our target population. Hence, we predicted that self-monitoring would have a greater effect on
assessments of television use rather than newspaper use because careful self-monitoring might provide additional insights into television use behaviors, but will not add much to newspaper use because the baseline usage is very low. In addition to self-monitoring, we also examined whether there is a motivational component to reported media use by adding a media salience manipulation.

Study 2

In this study we added two conditions to Study 1 and made some modifications to the design to examine the motivational and cognitive roots of the differences in perceived use of media between self and others. First, a control condition was added and students in this condition were not required to maintain a diary. Second, to improve compliance and accountability in the diary maintenance task, during the training session students were asked to make projections of how often they would log in to update the diary. Third, to examine whether demand constraints, such as the good-subject effect, or social desirability biases affect assessments of media use, a media salience manipulation was added. With this manipulation, our goal was to examine whether reports of use of television and newspaper were different in the salience-induced condition than in the other two conditions.

Design and Participants

Participants were recruited from an introductory course in communication at a large, Midwestern university. A total of 93 undergraduate students (20.7% male and 79.3% female) participated in the study in return for extra course credit. A 3 (Diary Condition: Control, Diary, Diary + Media Salience Manipulation) x 2 (Evaluation Target: Self, Other Study Participants) x 2 (Media: Newspaper, Television) mixed design was used. Diary Condition was a between-subjects factor; Evaluation Target and Media were within-subjects factors.
**Stimuli**

A media salience questionnaire was designed to tip the students that the researchers were interested in testing differences between newspaper and television use. Students were asked to rate their agreement on a 10-point scale to items, such as “I watch too much television,” “College students who read newspapers on a regular basis get higher paying jobs when they graduate,” and “People who watch a lot of television are likely to be overweight.” The goal of this manipulation was to induce a demand constraint that motivates students to exaggerate newspaper use and downplay television use.

**Procedure**

Students were recruited in groups that ranged from 10 to 20 participants. Upon arrival, participants were assigned to one of the three experimental conditions and provided a computer. After informed consent, students completed the web-based 7-day media diary used in the first study. After completing the 7-day media diary, participants in the no-daily-diary condition were thanked for their participation, reminded to return the following week and permitted to leave.

The remaining participants were instructed that they were to maintain the online media diary everyday for the next week. To get an assessment of compliance, they were asked to project how many days they believed they would log in to the diary. Next, participants were asked to complete either the media manipulation questionnaire or a distracter quiz of similar length. Then they were thanked for their participation and asked to return at the same time the following week. During the week following the first session, participants in the daily-diary condition were sent three e-mails to remind them to complete their online media diary.

During the follow-up session, all participants returned to the lab to complete a retrospective recall of their media use since their previous visit. At this point they were also asked to estimate the amount of media use by other participants in the study. In a similar vein,
participants in the diary condition were to provide an estimate of the number of times they logged in during the previous week and to provide an estimate of the number of logins by others during the same period.

Results

We began with a 3-factor analysis of variance model: Media Category (TV vs. Newspaper) X Evaluation Target (Self vs. Other Participants) X (Diary: No-Diary, Diary, Diary-plus-Media-Manipulation) mixed design, with Diary as the between-subjects factor and the other two as within-subject factors. The main effect for Media, $F(1, 71) = 269.7, p < .001, \eta^2 = .79$ and the main effect for Evaluation Target, $F(1, 72) = 6.35, p < .05, \eta^2 = .08$, were significant. The main effect for Diary was not significant. Among the interactions, a two-way interaction between Diary X Evaluation Target was tending toward significance, $F(2, 71) = 2.84, p = .065, \eta^2 = .07$.

To understand this interaction, we examined if the means in the diary-plus-media-manipulation condition were different from the data in the diary-only condition using t-tests. No significant differences were apparent between these two groups. The absence of differences suggests that heightened salience of the differences between newspapers and television did not have a significant effect, which we had expected to find in RQ2. At this point, we pooled the data from the diary-only condition and the diary-plus-media-manipulation condition into a common diary group and set out to examine differences between the diary group and the control (no-diary) group.

With the pooled data, a 2 (Media: TV, Newspaper) x 2 (Evaluation Target: Self, Others) x 2 (Diary: Diary, No-Diary) mixed-factor analysis of variance was examined, with Diary as the between-subjects condition and the other two as within-subjects conditions. As in the previous analysis, the main effects for Media, $F(1, 72) = 238.1, p < .001, \eta^2 = .77$, and Evaluation Target,
$F (1, 72) = 10.5, p < .01, \eta^2 = .13$, were significant. The main effect for Diary was not significant. However, two key interactions were significant this time: Target x Diary, $F (1, 72) = 5.72, p < .05, \eta^2 = .07$, and the Media x Target x Diary, $F (1, 72) = 3.75, p = .057, \eta^2 = .05$, which was tending toward significance.

The summary means are presented in Table 2. A number of observations can be made about these summary findings. First, newspaper readership is very low in our study population of university students (< 30 minutes a week). It appears that the perception among these students is that other students read approximately 60 minutes of television per week. Both in the no-diary $t(31) = 7.34, p < .001$, and diary $t(49) = 4.80, p < .001$ conditions, others are seen as heavier consumers of newspapers than self and the difference between self and other was consistent across no-diary and diary conditions.

The self-other differences in television, however, were different between the diary and no-diary conditions. In the diary condition, the data replicated the null finding from Study 1. Estimated use of television by self ($M = 535.7, SD = 368.1$) was not different from estimates of perceived television use by other ($M = 547.3, SD = 270.1$) participants in the study. See Table 2. However, in the no-diary group, with $t(31) = 7.34, p < .001$, and diary $t(49) = 4.80, p < .001$ conditions, others are seen as heavier consumers of newspapers than self and the difference between self and other was consistent across no-diary and diary conditions.

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The three-way interaction that was tending toward significance can be characterized as follows: While others are seen as heavier users of newspapers in both the no-diary and diary conditions, others are seen as heavier users of television only in the no-diary condition, but not in the diary condition. Essentially the interaction and the related t-tests lend support to H2, in which we had predicted that in the absence of self-monitoring (no-diary condition) respondents are likely to see others as heavier consumers of television and that this gap is likely to be neutralized in the diary-condition that imposes implicit self-monitoring.
The focus of RQ3 was to examine the gain or advantage of a media diary over retrospective recall. To address this research question, we examined pre- and post-assessments of 7-day television and newspaper use and compared these assessments with the data entered via the daily web diary. Given the low use of newspapers, we focused on television use, which was analyzed as a 2 (Recall: Pre, Post Diary) x 2 (Diary, No-diary) mixed design with Diary as a between-subject factor. The two-way interaction was not significant, which suggests that the pre-post shift in retrospective recall of television use was not significantly different between the diary and no-diary conditions. The data are summarized in Table 3. In our study, the no-diary group estimated 651 minutes of 7-day television at baseline and 396 minutes of television use in the 7 days following the baseline assessment. Students in the diary group estimated 789.4 minutes of 7-day television use at baseline, which shrunk to 536.3 minutes of television use in the subsequent 7-day period. In both conditions, minutes of estimated television use fell significantly, which were compared with paired t-tests ($p < .001$) perhaps because the study was conducted at the end of the quarter and the pressures of tests and deadlines took away from television time. In addition, for those in the diary condition, minutes of television use derived from the web logs ($M = 440.1$, $SD = 293.7$) was significantly lower than their estimates of television use during the same time period ($M = 536.3$, $SD = 368.1$, $t(49) = 3.68$, $p < .01$). These results suggest that web log reports were underreported perhaps due to the lack of compliance.

To examine compliance, in the last phase of the analysis, the estimates of logins by self and others were compared against the actual number of logins determined through timestamps. Summary statistics for logins are presented in Table 4. Login data from Study 1 and Study 2 were remarkably similar. In general, it was apparent that participants overestimate their logins compared to their actual logins. For example, in Study 2, participants recalled 5.43 ($SD = 1.43$) logins, although the analysis of web logins showed only 4.9 ($SD = 1.73$) logins. Surprisingly in
both studies, estimates of logins by others matched the actual logins derived from the weblogs, whereas recalled logins by self tended to exaggerate compliance.

Discussion

Study 2 was motivated by the absence of a significant third-person bias in media use for television in Study 1. We had speculated that the absence of this bias could be explained in part by a process of self-monitoring that was implicitly invoked through the diary maintenance task. By adding a no-diary control condition, we found that the third-person bias in reported media could be elicited, which replicates the findings of Pieser and Peter (2000). However, the perceived difference is self-other television use observed in the no-diary condition was not evident for newspaper use. With the additional no-diary, control condition, we were able to address a number of applied issues, such as the added benefits of maintaining a diary and degree of compliance in maintaining a media diary. These issues are taken up in the general discussion. Finally, one of the targeted manipulations in this study was the media manipulation, intended to tip the participant that we were interested in teasing out differences between television and newspaper use. This manipulation was expected to trigger demand constraints, leading to biases in reporting of media use. Perhaps due to the weakness of the manipulation or because the lack of desirability norms tied to newspapers and television, as we had envisioned, the media manipulation did not work. A test of competing motivational and cognitive explanations in the area of third-person media use bias is a topic for future study.

Discussion and Conclusion

An extensive body of literature on third-person media effects is a robust phenomenon. In this study, we extend research on third-person media effects bias to research on third-person media use. The focus of Study 1 was to examine perceived differences in media use for self and others for a variety of media. A third-person bias in media use, that the perception that others use
media more than self was observed for a number of media categories, including newspapers, magazines, videos/DVDs, and the Internet. Notably, the third-person bias in media use was absent for television. The presence of a third-person bias for both newspapers, typically seen as an informational medium, and videos/DVDs, typically an entertainment medium, suggested that the third-person biases in media use may not be rooted in the self-serving, motivational bias. If a self-serving bias was the basis, it seems likely that the self would be perceived as a more active user of newspapers in comparison to others, which was not evident from the data.

Instead, we predicted that the third-person bias in perceptions of media use is grounded on cognitive factors. The finding that prompted this line of thinking was the lack of difference in perceived television use between self and others. The absence of a difference was a surprise because an earlier study by Pieser and Peter (2000) found a significant effect. We attributed this difference to the diary task that was integral to our design, which was not included in the Pieser and Peter (2000) study. It seemed that act of keeping a diary forced the respondents to monitor their media use and the self-realization from this monitoring perhaps steered the respondents away from the third-person bias. Self-monitoring, however, did not neutralize the third-person effect for newspapers and magazines because the prevalence of these activities is very low to begin with, resulting in fairly accurate assessments even in the absence of self-monitoring. By the same token, thinking back to the previous week, one can recollect movies, videos and DVDs, without too much effort, thereby offsetting the advantages of self-monitoring in this media category. Television and Internet, however, are inextricably interwoven into various activities of daily life that we don’t stop and take stock of how much we use these media. Therefore, self-monitoring would be most helpful in offsetting any biases we may have about the amount of time we spend watching television or using the Internet. This line of reasoning seemed to explain the
data for television, but not for the Internet. Given the complexity of the Internet, we decided not to pursue Internet use in this study.

For Study 2, we decided to focus only on newspapers and television and to examine the cognitive root to the third-person bias in television use. We predicted that in the no-diary, control condition, a third-person bias in television use will become apparent, but this bias will be less evident in the diary condition because self-monitoring of television use will play a corrective role in moderating estimates of television use. Our findings support this prediction. In the diary condition, the third-person bias in television use was not significant, although the bias was clearly evident in the no-diary condition. On the other hand, for newspapers, we did not expect much of a difference between the diary and no-diary conditions and no differences were found.

Various components of our design could have contributed to the neutralizing of the third-person bias in television use in the diary condition. Self-monitoring is the underlying mechanism that we have emphasized so far. It is also possible that the respondents were held to a higher standard of accountability in the diary condition because of a tacit pressure from the bogus pipeline. In the future, it would be fruitful to examine which of these mechanisms contributed to the neutralizing of the third-person bias for television.

The findings from this study extend the tradition of research on third-person effects to a related, but distinctly different domain, namely media use. The connection between the two is not surprising in light of the significant relationship between media exposure and third-person media effect that has been documented by previous research (e.g., Eveland et al., 1999; McLeod et al., 1997). This study does point to new avenues in third-person research, namely the study of media as a dependent variable, rather than the study of perceived media effect as the key outcome variable.
Media researchers may find at least two applied findings that could be of value. One, we examined the added advantages and disadvantages of a media diary. In general, it is safe to conclude that there was no evidence of a placebo or Hawthorne effect in the media diary condition. Further, from the data there was no clear evidence that the media diary added to the accuracy of television use data, at least at the aggregate level of minutes per week. This finding should be interpreted with caution given the vast array of findings that support that diaries minimize a number of memory biases.

As media diaries become increasingly popular, it is important to understand the degree of compliance offered by the respondents. During a 7-day window, on average, respondents filled out the diary between 4 to 5 times, which we were able to detect from the timestamp data. However, respondents tended to exaggerate number of logins, which could be a manifestation of a good-subject bias. Interestingly, perceived number of logins of others in the study was much closer to the login data than estimates of logins by self. Future studies on the psychology of diary maintenance behaviors could add to media literature.
References


Table 1

*Retrospective Report of Media Use by Self and Perceived Media Use by Others in the Study*

<table>
<thead>
<tr>
<th></th>
<th>Media Use by Self</th>
<th>Media Use by Others</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td>805.42</td>
<td>775.60</td>
<td>.581</td>
</tr>
<tr>
<td></td>
<td>(598.82)</td>
<td>(446.03)</td>
<td></td>
</tr>
<tr>
<td>DVD/Movie</td>
<td>180.63</td>
<td>280.70</td>
<td>5.25***</td>
</tr>
<tr>
<td></td>
<td>(185.01)</td>
<td>(190.91)</td>
<td></td>
</tr>
<tr>
<td>Magazine</td>
<td>30.32</td>
<td>101.12</td>
<td>8.00***</td>
</tr>
<tr>
<td></td>
<td>(46.88)</td>
<td>(82.61)</td>
<td></td>
</tr>
<tr>
<td>Newspaper</td>
<td>34.86</td>
<td>94.15</td>
<td>5.85***</td>
</tr>
<tr>
<td></td>
<td>(56.73)</td>
<td>(83.36)</td>
<td></td>
</tr>
<tr>
<td>Internet</td>
<td>470.46</td>
<td>609.39</td>
<td>2.57*</td>
</tr>
<tr>
<td></td>
<td>(615.37)</td>
<td>(466.49)</td>
<td></td>
</tr>
</tbody>
</table>

Note. *p < .05; **p < .01; ***p < .001; Numbers in the parentheses are standard deviation.
Table 2

*Retrospective Report of Media Use by Self and Perceived Media Use by Others in the Control and Diary Conditions*

<table>
<thead>
<tr>
<th></th>
<th>Control n = 32</th>
<th></th>
<th>Diary n = 50</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self</td>
<td>Others</td>
<td>Self</td>
<td>Others</td>
</tr>
<tr>
<td>Newspaper</td>
<td>15.2 (15.9)</td>
<td>65.6 (39.8)</td>
<td>24.9 (32.1)</td>
<td>53.9 (39.5)</td>
</tr>
<tr>
<td>Television</td>
<td>396.3 (342.11)</td>
<td>616.1 (339.3)</td>
<td>535.7 (368.1)</td>
<td>547.3 (270.1)</td>
</tr>
</tbody>
</table>
Table 3

Comparison of Pre-Diary Assessments, Diary Web Logs, and Post-Diary Assessments of Television Use in the Diary and No-Diary Conditions

<table>
<thead>
<tr>
<th></th>
<th>Pre-Diary 7-Day Recall</th>
<th>Daily Diary 7-Day Average from Web Log</th>
<th>Post-Diary 7-Day Recall</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No-Diary</strong></td>
<td>651.0&lt;sub&gt;a&lt;/sub&gt;</td>
<td>N/A</td>
<td>396.0&lt;sub&gt;b&lt;/sub&gt;</td>
</tr>
<tr>
<td></td>
<td>(565.2)</td>
<td></td>
<td>(329.3)</td>
</tr>
<tr>
<td><strong>Diary</strong></td>
<td>789.4&lt;sub&gt;a&lt;/sub&gt;</td>
<td>440.1&lt;sub&gt;c&lt;/sub&gt;</td>
<td>536.3&lt;sub&gt;b&lt;/sub&gt;</td>
</tr>
<tr>
<td></td>
<td>(558.3)</td>
<td>(293.7)</td>
<td>(368.1)</td>
</tr>
</tbody>
</table>

Note: Subscripts a, b and c represents significant mean differences at p < .001 level.
Table 4

Comparison of Diary Log-in perceptions and Behaviors

<table>
<thead>
<tr>
<th></th>
<th>Pre-Diary Login Projection</th>
<th>Daily Diary Login from Timestamps</th>
<th>Post-Diary Recall of Logins (Self)</th>
<th>Post-Diary Perceptions of Others’ Logins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study 1</td>
<td>N/A</td>
<td>4.88&lt;sub&gt;b&lt;/sub&gt; (1.63)</td>
<td>5.52&lt;sub&gt;a&lt;/sub&gt; (1.69)</td>
<td>4.87&lt;sub&gt;b&lt;/sub&gt; (1.48)</td>
</tr>
<tr>
<td>Study 2&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.23&lt;sub&gt;a&lt;/sub&gt; (1.37)</td>
<td>4.90&lt;sub&gt;c&lt;/sub&gt; (1.73)</td>
<td>5.43&lt;sub&gt;b&lt;/sub&gt; (1.43)</td>
<td>4.60&lt;sub&gt;c&lt;/sub&gt; (1.06)</td>
</tr>
</tbody>
</table>

<sup>a</sup> Includes only Diary Conditions from Study 2

[Appendix A]
Welcome to Media Use Study.

Please log on to this diary at least once a day to record your physical activities. If you remember activities from previous days, be sure to select the correct date on the calendar before logging them. We are interested in both the time you performed the activity, as well as the time you logged the activity.

Please choose a day from the calendar to make entries in your media diary.

Important. To avoid the loss of data, please follow these instructions. Once you select a radio button from the left, please click the Next button at the bottom of the page. If you select another radio button without selecting the last button, all the data is lost.

For example, if you would like enter data on Comedy, check all the shows, then click Next, then enter minutes and Submit. If you click on another radio button, say Newspapers, before you complete the above steps, then all your data is lost.