REDACTED

District Court, Arapahoe County, Colorado Arapahoe County Courthouse 7325 S. Potomac St., Centennial, CO 80112	Filed JUL 18 2014 CLERK OF THE COMBINED COURT ARAPAHOE COUNTY, COLORADO
THE PEOPLE OF THE STATE OF COLORADO, Plaintiff v. **JAMES HOLMES,** Defendant	σ COURT USE ONLY σ
DOUGLAS K. WILSON, Colorado State Public Defender Daniel King (No. 26129) Tamara A. Brady (No. 20728) Chief Trial Deputy State Public Defenders 1300 Broadway, Suite 400 Denver, Colorado 80203 Phone (303) 764-1400 Fax (303) 764-1478 E-mail: state.pubdef@coloradodefenders.us	Case No. **12CR1522** Division 202

REPLY IN SUPPORT OF DEFENDANT'S MOTION FOR COURT ORDER PROHIBITING THE NEW SANITY EXAMINER FROM VIDEOTAPING MR. HOLMES'S SECOND SANITY EXAMINATION
[D-221]

Mr. Holmes, through counsel, files the following in reply to [redacted] July 16, 2014 letter to the Court regarding [redacted] desire to videotape [redacted] examination of Mr. Holmes:

1. The defense appreciates the additional information [redacted] provided regarding the reasons [redacted] desires to videotape the examination, as well as the procedures [redacted] would implement to accomplish the videotaping if this Court permits it. Nevertheless, the defense continues to object.

2. First, [redacted] acknowledges that [redacted] desire to videotape the examination is based on [redacted] own opinion and independent medical judgment. [redacted] further posits that "[d]ecades of experience by hundreds or thousands of clinicians, with both video- and audio recording of interviews, in forensic, clinical, and clinical training settings, indicates that evaluees and patients usually ignore the recording process, particularly if it is unobtrusive." Letter, p. 2.

3. However, [redacted] letter does not address the empirical research indicating that videotaping an examination does in fact have an impact on examinees.

4. Significantly, a 2005 study published in the Journal of Forensic Neuropsychology that examined the effects of a video camera on neuropsychological assessments, attached as Exhibit A, found that "the presence of a video camera impacts task performance." Constantinou, Ashendorf, McCaffrey, *Effects of a Third Party Observer During Neuropsychological*

Assessment: When the Observer is a Video Camera, Journal of Forensic Neuropsychology, Vol. 4(2), 39 (2005). Specifically, "[t]he presence of a video camera as the third party observer resulted in adverse performance on memory testing." *Id.* at 46. These effects were also studied and found to exist with respect to audio recording in 2002. *Id.* The authors of the study conclude that "the presence of a videocamera may have a greater impact on memory testing than an audiorecorder." *Id.* The authors further opine that the results of these studies "**provide empirical evidence that neither audio recording nor video recording are any more acceptable than the physical presence of a third party observer**." *Id.* at 46-47 (emphasis added). The study also references several other previous studies that also found videotaping to have an impact on the results of neuropsychological testing. *Id.* at 40-41.[1]

5. In light of this empirical evidence, the defense continues to object to a procedure whereby [redacted] sanity examination of Mr. Holmes is videotaped. Most concerning to the defense is the fact that videotaping has been empirically shown to impact the *memory* of an examinee. Obviously, Mr. Holmes's ability to recall events, experiences, and his state of mind around the time of July 20, 2012 may be of importance to [redacted] sanity examination. Given the purpose, subject, and importance of the examination at issue, the defense asserts that the Court should not allow a procedure that is likely to negatively impair Mr. Holmes's memory.

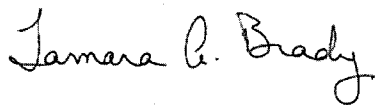
6. The defense will make any additional legal argument it deems necessary at the July 22, 2014 hearing on this issue.

---

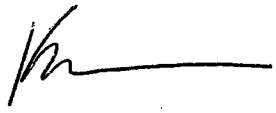
[1] Although these studies involved neuropsychological testing, they are equally relevant to a sanity examination. It is not surprising that the studies involved testing, rather than clinical interviews with subjects, given that in order to quantify an effect or impact on an examination, researchers need an objective basis by which to measure the results of their study. There is nothing to suggest that the impact videotaping has on an examinee's memory would not also exist in the context of a clinical interview. [redacted] Notably, CMHIP stated in its previous letter to the Court that it opposes videotaping of any psychological testing. *See* June 10, 2013 CMHIP Letter to the Court Regarding Motion D-92, p. 3.

Mr. Holmes files this reply, and makes all other motions and objections in this case, whether or not specifically noted at the time of making the motion or objection, on the following grounds and authorities: the Due Process Clause, the Right to a Fair Trial by an Impartial Jury, the Rights to Counsel, Equal Protection, Confrontation, and Compulsory Process, the Rights to Remain Silent and to Appeal, and the Right to be Free from Cruel and Unusual Punishment, pursuant to the Federal and Colorado Constitutions generally, and specifically, the First, Fourth, Fifth, Sixth, Eighth, Ninth, Tenth, and Fourteenth Amendments to the United States Constitutions, and Article II, sections 3, 6, 7, 10, 11, 16, 18, 20, 23, 25 and 28 of the Colorado Constitution.

Daniel King (No. 26129)
Chief Trial Deputy State Public Defender



Tamara A. Brady (No. 20728)
Chief Trial Deputy State Public Defender



Kristen M. Nelson (No. 44247)
Deputy State Public Defender

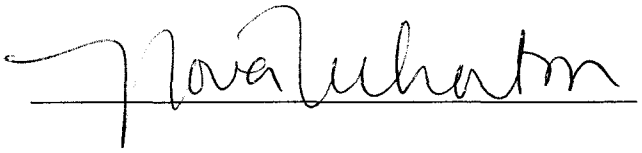
Dated: July 18, 2014

I hereby certify that on July 18, 2014, I

____ mailed, via the United States Mail,
____ faxed, or
X hand-delivered

a true and correct copy of the above and foregoing document to:

George Brauchler
Jacob Edson
Rich Orman
Karen Pearson
Lisa Teesch-Maguire
Office of the District Attorney
6450 S. Revere Parkway
Centennial, Colorado 80111
Fax: 720-874-8501



Reply to D-221

Exh. A

Effects of a Third Party Observer During Neuropsychological Assessment: When the Observer Is a Video Camera

Marios Constantinou
Lee Ashendorf

University at Albany, State University of New York

Robert J. McCaffrey

University at Albany, State University of New York
Albany Psychological Associates, P.C.

ABSTRACT. Several studies have reported that the presence of a third party observer during neuropsychological assessment negatively affects the test performance of the examinee. A previous study (Constantinou, Ashendorf, & McCaffrey, 2002) demonstrated that the presence of an audio recorder as the third party observer during neuropsychological assessment also has a negative effect on the performance. The present study was designed to investigate whether or not a video recorder as the third party observer affects neuropsychological test performance. Results showed that the presence of a video recorder had a negative impact on memory test scores. This study confirms findings from the social facilitation literature that the presence of a video camera impacts task per-

Marios Constantinou and Lee Ashendorf are affiliated with the University at Albany, State University of New York.

Robert J. McCaffrey is affiliated with University at Albany, State University of New York, and Albany Psychological Associates, P.C.

Address correspondence to: Robert J. McCaffrey, PhD, University at Albany, State University of New York, Department of Psychology, Social Sciences, 1400 Washington Avenue, Albany, NY 12222 (E-mail: rm188@albany.edu).

Journal of Forensic Neuropsychology, Vol. 4(2) 2005
Available online at http://www.haworthpress.com/web/JFN

Digital Object Identifier: 10.1300/J151v04n02_04

formance, and also replicates our earlier work with an audio recorder as third party observer.

KEYWORDS. Third party observer, video recorder, audio recorder, neuropsychological evaluation, standardized test administration

The physical presence of an observer in the testing room during neuropsychological assessments is an issue that should concern contemporary neuropsychologists. Neuropsychological evaluations that are conducted for legal purposes are often conducted in the presence of a third party. However, past literature revealed that an audience tends to have a negative or positive effect on the performance of motor and cognitive tasks (Guerin, 1986). Such audience effects have been attributed to the social psychology phenomenon of *social facilitation*, defined as "the tendency of an individual to exhibit enhanced performance on simple tasks and inhibited performance on complex tasks in the presence of passive or evaluative observers" (Constantinou, Ashendorf, & McCaffrey, 2002).

In an effort to provide an alternative to the physical presence of a third party observer in the examination room during the actual neuropsychological testing, McSweeny et al. (1998) proposed that the examination be recorded either by audio or video recordings. This compromise raises ethical concerns that are discussed by Duff and Fisher in this issue. In addition to any ethical concerns, there is some evidence in the social psychology literature that social facilitation effects occur when the individual believes that his/her performance is being videotaped for observation. The presence of a videocamera has been found to significantly improve performance on a visual vigilance task (Putz, 1975) and immediate paired associates recall (Geen, 1973) but impair performance on delayed paired associates recall (Geen, 1973). Landers, Bauer, and Feltz (1978) found the presence of a videocamera to have a detrimental impact on visuomotor task performance. Two other studies (Cohen, 1979; Henchy & Glass, 1968) have shown that individuals performing a task in the presence of a videocamera more frequently provided domi-

nant responses during the task than did those individuals performing alone.

In addition to the social facilitation literature, Constantinou, Ashendorf, and McCaffrey (2002) examined the effect of an audio recorder on examinees' performances during neuropsychological testing. While the test performance of all participants was audiotaped, they found that the participants who were aware that the testing was audiotaped performed significantly worse on memory testing than those who were not aware of the audiotaping. The present study sought to investigate whether or not McSweeney et al.'s other suggestion, that the neuropsychological examination be video recorded, would be a more viable method of addressing the effects of a third party observer.

METHOD

Participants

Sixty-five students were recruited from undergraduate psychology courses, after obtaining approval from the human subjects institutional review board. Participants were randomly assigned to one of two groups, either the visual recording group (VR) where testing took place in the presence of a video-recording device, or the no visual recording group (NVR) where testing occurred in the absence of this device.

Participants were administered the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996) and the State Trait Anxiety Inventory (STAI; Spielberger, 1983) to screen for clinically significant anxiety or depressive symptomatology. Only one person was excluded from the statistical analyses due to a BDI-II score in the severe range. This reduced the total number of participants to 64 with the VR group having 31 members (14 men and 17 women) and the NVR group having 33 members (18 men and 15 women). Medical background information was also obtained by self-report from each participant. Five individuals reported a medical/surgical history (e.g., traumatic brain injury, brain cancer, brain surgery, or Lyme disease) or mental health problems (e.g., depression, mania, or anxiety). These participants were not excluded from the study.

The 64 participants' chronological ages ranged from 17 to 31 (M = 19.63, SD = 2.55); educational level ranged from 1 to 4 years of college (M = 1.64 years, SD = .90). The two groups did not differ statistically on

any of the demographic variables, level of depression, level of state/trait anxiety, or the proportion of those with a significant medical, surgical, or psychological history.

Material

Each participant was administered the following tests in the order presented:

1. *List Learning* (from the MAS; Williams, 1991) involves the oral presentation of 12 common words belonging to one of four categories. Each list presentation is followed by a trial during which the participant attempts to recall as many list words as possible. The word list is presented a maximum of six times, or until all 12 words are successfully recalled on a trial. The total List Acquisition score is the total number of words that were recalled successfully across all the learning trials. The total number of errors, such as related words, unrelated words, or repetitions, over all the administered acquisition trials were counted. In addition, for the purposes of this study, the *number of learning trials* (minimum = 1; maximum = 6) to reach a recall of all 12 words from the list was noted as a measure of learning speed/rate. Because the task has six possible learning trials, the maximum number of learning trials (6) was entered for the participants who had not recalled all 12 words on any trial.
2. *Prose Memory* (from the MAS; Williams, 1991). In this subtest, the participant is orally presented a short story and asked to recall as much of the story as possible after the presentation. In addition, the participants are asked to answer nine "yes-no" questions about the story. The total Prose Memory score consists of the number of correct answers to each of the questions.
3. *List Recall* (from the MAS; Williams, 1991). This is the recall of the 12-item word list immediately following presentation of the short story. A cued recall trial is also administered where the participant is asked to recall word list items belonging to specific categories. The participant receives a List Recall Score and a Cued Recall Score. In addition, the number of errors on both the List Recall and Cued Recall are counted.
4. *Finger Tapping*. The Finger Tapping test from the Halstead-Reitan Neuropsychological Battery for Adults (HRNB-A) was administered and scored following the protocol outlined by Reitan and Wolfson (1993). Since there were no statistical dif-

ferences between the performances with the left and right hands for any subject, the average performance for each hand was combined into a single composite score.

5. *Grooved Pegboard* (see Lezak, 1995). The total time to place all the pegs into the pegboard is the measure of performance on this motor test. The average performance for each hand was combined into a single composite score since there were no statistical differences between performances with the left and right hand for any subject.
6. *Grip Strength.* This motor test from the HRNB-A was administered and scored following the protocol outlined in Reitan and Wolfson (1993). As was the case for the other motor measures, there were no statistical differences between the right and left hands, and therefore, the average score for each hand was combined into a composite score.
7. *Verbal Span* (MAS, Williams, 1991). This test consists of digit span backward and forward. The longest series recalled on each section are added together for a composite Verbal Span score.
8. *Delayed List Recall* (MAS, Williams, 1991). Delayed List Recall administration is identical to that of the List Recall subtest, and follows it by an interval of about 20 minutes. A Delayed List Recall score and a Delayed Cued Recall score are obtained from this subtest. The total number of errors is noted in both Delayed List Recall and Delayed Cued Recall.
9. *Delayed Prose Memory* (MAS, Williams, 1991). This subtest of the MAS is administered about 20 minutes after the presentation of the Prose Memory short story. It is scored in the same manner as Prose Memory.
10. *Forced Recognition* (MAS, Williams, 1991). In this last subtest of the battery, each of the 12 words from List Learning is matched with a distractor word for a total of 12 word pairs. The participant is asked to recognize and circle the familiar word in each of the 12 pairs.

Procedure

Each testing session required approximately one hour. During the administration of the test measures to the VR group, who were informed that their performance was being recorded, the experimenter placed the video camera (measuring 30 cm × 15 cm × 5 cm) on a tripod approximately 1.0 meter away from and in the plain view of the participant.

All of the participants were administered the measures, outlined above, which produced a total of 18 scores: (1) List Acquisition, List Acquisition Errors, Number of Learning Trials; (2) Prose Memory; (3) List Recall, List Recall Errors, Cued Recall, Cued Recall Errors; (4) Finger Tapping; (5) Grooved Pegboard; (6) Grip Strength; (7) Verbal Span; (8) Delayed List Recall, Delayed List Recall Errors, Delayed Cued Recall, Delayed Cued Recall Errors; (9) Delayed Prose Memory; and (10) Forced Recognition. These 18 scores constituted the dependent variables, except for the Forced Recognition score which was not entered in the statistical analysis because all 64 participants received perfect scores of 12 on this subtest.

RESULTS

The data were analyzed with a series of independent *t*-tests while controlling for Type 1 error using Holm's Sequential Bonferroni Method (Jaccard & Turrisi, 2003). Table 1 presents the *t*-value and obtained *p*-value of each of the pair-wise comparisons.

An examination of Table 1 reveals that the NVR and VR groups were significantly different on 8 out of the 18 dependent variables, namely List Acquisition, List Acquisition Errors, Number of Learning Trials, Prose Memory, Cued Recall, Delayed List Recall, Delayed Cued Recall, and Delayed Prose Memory.

There were no significant differences between the NVR and VR group on any of the composite motor measures (i.e., Finger Tapping, Grooved Pegboard, and Strength of Grip tests) or Verbal Span.

In order to evaluate the relative impact of the presence of the video recorder on the eight dependent variables found to significantly discriminate between the NVR and VR groups, the obtained effect-size (i.e., eta squared; η^2) for each of the pair-wise comparisons was calculated. Typically, $\eta^2 s$ with values of 0.01, 0.06, and 0.14 are considered small, medium, and large effect-sizes, respectively (Green, Salkind, & Akey, 2000). Eta squared for each comparison was calculated with the use of the following statistical formula:

$$\eta^2 = t^2/t^2 + (N1 + N2 - 2)$$

The observed power for each of the significant pair-wise comparisons was also computed. The effect-sizes ranged from .13 to .38, and observed power ranged from .84 to .99 (see Table 2).

TABLE 1. Means and standard deviations of the two groups on the 18 dependent variables.

Dependent Variable	NVR	VR	$t(62)$	p-value
List Acquisition	64.55 (5.12)	56.97 (7.20)	4.87	< .001*
List Acquisition Errors	0.94 (1.67)	3.32 (2.61)	−4.37	< .001*
Number of Learning Trials	3.67 (1.45)	5.52 (0.89)	−6.10	< .001*
Prose Memory	6.69 (1.90)	5.35 (1.64)	3.02	.004*
List Recall	11.00 (1.22)	10.41 (1.36)	1.80	.08
List Recall Errors	0.15 (0.36)	.39 (0.72)	−1.68	.10
Cued Recall	11.21 (1.02)	9.81 (1.54)	4.33	< .001*
Cued Recall Errors	0.21 (0.55)	.48 (0.63)	−1.86	.07
Verbal Span	13.06 (1.95)	12.19 (2.16)	1.68	.10
Finger Tapping	103.02 (16.59)	102.14 (12.19)	0 .24	.81
Grooved Pegboard	148.50 (23.61)	144.46 (22.37)	0 .70	.49
Grip Strength	72.99 (21.72)	75.64 (27.47)	−0.43	.67
Delayed List Recall	11.30 (0.92)	10.25 (1.61)	3.21	.002*
Delayed List Recall Errors	0.09 (0.29)	.29 (0.69)	−1.52	.134
Delayed Cued Recall	11.36 (0.96)	9.87 (1.67)	4.41	< .001*
Delayed Cued Recall Errors	0.09 (0.29)	.39 (0.62)	−2.49	.016
Delayed Prose Memory	6.64 (1.99)	5.29 (1.57)	2.98	.004*
Forced Recognition	12.00 (0.00)	12.00 (0.00)	—	—

* NVR mean performance is statistically significantly better than VR mean performance at the α = npc-1 level (npc = number of pair-wise comparisons).
Note. No pair-wise comparisons were computed for Forced Recognition because the two groups had identical Forced Recognition means and standard deviations.

TABLE 2. Effect-size statistic and observed power for the eight dependent variables that were significantly affected by the experimental manipulation.

Dependent Variable	Effect-Size (η^2)	Observed Power
List Acquisition	.28	.99
List Acquisition Errors	.24	.99
Number of Learning Trials	.38	.99
Prose Memory	.13	.84
Cued Recall	.23	.98
Delayed List Recall	.14	.89
Delayed Cued Recall	.24	.99
Delayed Prose Memory	.13	.84

DISCUSSION

The current investigation aimed to investigate the effects of indirect observation, using a video camera, on the neuropsychological test performance of young adults. In addition, the present study was designed to be a follow-up research study to the original study by Constantinou et al. (2002), which found that the presence of an audio recorder impaired the performance of young adults on measures of immediate, short-term, and delayed recall.

The presence of a video camera as the third party observer resulted in adverse performance on memory testing. The performance of the observed group was detrimentally affected on measures of immediate recall and delayed recall (see Table 1). Specifically, List Acquisition, Cued Recall, Delayed List Recall, and Delayed Cued Recall performances on the Memory Assessment Scales were found to be negatively impacted by the presence of a video camera as third party observer. In addition, the VR group required a greater number of trials to learn a list of words than did the NVR group and committed more errors than the NVR group when attempting to recall the same list of words. The presence of a video camera as third party observer did not influence any of the motor measures (i.e., Finger Tapping, Grip Strength, and Grooved Pegboard).

The findings from this study are similar to the study examining an audio recorder as third party observer (Constantinou et al., 2002). The effect sizes associated with video recorder as third party observer were larger on List Acquisition and Delayed List Recall than had been reported with an audio recorder as third party observer (see Table 3). This suggests that the presence of a videocamera may have a greater impact on memory testing than an audiorecorder. The results of the Constantinou et al.

TABLE 3. Effect sizes and observed power for the dependent variables that were significantly affected by the presence of an audio-recorder.*

Dependent Variable	Effect-Size (η^2)	Observed Power
List Acquisition	.20	.86
Cued Recall	.25	.93
Delayed List Recall	.19	.84
Delayed Cued Recall	.24	.92

*adapted from Constantinou et al. (2002, p. 410)

studies provide empirical evidence that neither audio recording nor video recording are any more acceptable than the physical presence of a third party observer.

REFERENCES

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory, Second Edition*. San Antonio, TX: The Psychological Corporation.

Cohen, J. L. (1979). Social facilitation: Increased evaluation apprehension through permanency record. *Motivation and Emotion, 3*, 19-33.

Constantinou, M., Ashendorf, L., & McCaffrey, R. J. (2002). When the third party observer of a neuropsychological evaluation is an audio-recorder. *The Clinical Neuropsychologist, 16*, 407-412.

Duff, K., & Fisher, J. M. (2005). Ethical dilemmas with third party observers. *Journal of Forensic Neuropsychology*, 2(4), 65-82.

Geen, R. G. (1973). Effects of being observed on short and long-term recall. *Journal of Experimental Psychology, 100*, 395-398.

Green, S. B., Salkind, N. J., & Akey, T. M. (2000). *Using SPSS for Windows, Analyzing and Understanding Data*. Upper Saddle River, NJ: Prentice Hall.

Guerin, B. (1986). Mere presence effects in humans: A review. *Journal of Experimental Social Psychology, 22*, 38-77.

Henchy, T., & Glass, D. C. (1968). Evaluation apprehension and the social facilitation of dominant and subordinate responses. *Journal of Personality and Social Psychology, 10*, 446-454.

Jaccard, J., & Turrisi, R. (2003). *Interaction effects in multiple regression* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Landers, D. M., Bauer, R. S., & Feltz, D. L. (1978). Social facilitation during the initial stage of motor learning: A re-examination of Marten's audience study. *Journal of Motor Behavior, 10*, 325-337.

Lezak, M. D. (1995). *Neuropsychological Assessment* (3rd ed.). New York: Oxford University Press, Inc.

McSweeny, A. J., Becker, B. C., Naugle, R. I., Snow, W. G., Binder, L. M., & Thompson, L. L. (1998). Ethical issues related to the presence of third party observers in clinical neuropsychological evaluations. *The Clinical Neuropsychologist, 12*, 552-559.

Putz, V. R. (1975). The effects of different modes of supervision on vigilance behavior. *British Journal of Psychology, 66*, 157-160.

Reitan, R. M., & Wolfson, D. (1993). *The Halstead-Reitan Neuropsychological Test Battery: Theory and Clinical Interpretation* (2nd ed.). S. Tucson, AZ: Neuropsychology Press.

Spielberger, C. D. (1983). *State-Trait Anxiety Inventory (Form Y; "Self Evaluation Questionnaire")*. Palo Alto, CA: Consulting Psychologists Press, Inc.

Williams, M. J. (1991). *MAS, Memory Assessment Scales*. Odessa, FL: Psychological Assessment Resources, Inc.