



## Document de travail/Working Paper

---

**N° : 4**

**Titre/Title :** Literature review summary

**Date :** 23 octobre 2012

**Auteur(s)/Author(s) :** Jacquelyn Burkell and Lisa di Valentino

**Courriel/Email :** [jburkell@uwo.ca](mailto:jburkell@uwo.ca); [ldivalen@uwo.ca](mailto:ldivalen@uwo.ca)

**Résumé/Abstract (300-500 mots/words) :**

Review of the use of videoconferencing in U.S. - state and federal courts for pre/post-trial (appearances, arraignments, sentencing, etc.) - in Canada in the criminal court context.

*Ce document est assujéti à des droits d'auteur et ne peut être utilisé qu'à des fins personnelles et non lucratives. Vous ne pouvez prendre aucune donnée de ce site Internet pour la reformater, reproduire ou réafficher à des fins lucratives. Vous ne pouvez reformater, reproduire ou réafficher un ou des donnée(s) de ce site Internet à des fins non lucratives que si (i) vous réaffichez le titre, l'auteur et/ou un résumé pour un document personnel inclus dans la série, avec un hyperlien pointant vers ce document, et (ii), vous exercez n'importe quels droits supplémentaires conférés directement par la loi ou par l'auteur ou par un autre détenteur de droits d'auteur valables. Ces exceptions, pour l'utilisation à des fins non lucratives, s'appliquent seulement aux documents spécifiques. Elles ne transmettent pas de droits de reproduire ou de se servir autrement de tout ou partie substantielle de la base de données du Laboratoire de Cyberjustice.*

This document is subject to copyright and is made available solely for personal, non-commercial use. You may not take any material from this website and reformat, repost, or redisplay it for commercial purpose. You may not reformat, repost, or redisplay any material from this website for non-commercial purposes provided however that (i) you may redisplay the title, author and/or abstract for an individual document included in the series, together with a link to that document's location, and (ii) you may exercise any additional rights granted directly by law or by the author or other valid copyright holder. These exceptions for noncommercial use apply only to specific documents. They do not convey any rights to reproduce or otherwise make use of all or a significant part of the Cyberjustice Laboratory data base.

## Literature review summary

### **Videoconferencing in court**

Videoconferencing is used commonly in U.S. state and federal courts for pre/post-trial (appearances, arraignments, sentencing, etc.) and trial proceedings (Bowen Poulin 2004; Olson 2008; Roth 2000). Some states have procedural rules allowing and regulating the use of videoconferencing (Ashdown & Menzel 2003; Bowen Poulin 2004; Lederer 1998). In the Second Circuit (appeals court), counsel can appear remotely (Lederer 1998) [note that in appeals courts there is no testimony or evidence presented, only legal arguments].

In the U.S. federal courts, Rule 43 of the Federal Rules of Civil Procedure allow for remote testimony (Ashdown & Menzel 2003; Bowen Poulin 2004; Lederer 2009; Roth 2000):

(a) In Open Court. At trial, the witnesses' testimony must be taken in open court unless a federal statute, the Federal Rules of Evidence, these rules, or other rules adopted by the Supreme Court provide otherwise. For good cause in compelling circumstances and with appropriate safeguards, the court may permit testimony in open court by contemporaneous transmission from a different location. (Federal Rules of Civil Procedure, Rule 43, Legal Information Institute <[http://www.law.cornell.edu/rules/frcp/rule\\_43](http://www.law.cornell.edu/rules/frcp/rule_43)>)

Prisoner civil rights cases are often tried this way, with the prisoner plaintiff appearing by videoconference (Ashdown & Menzel 2003). The Federal Rules of Criminal Procedure (FRCrimP), on the other hand, only permit remote testimony for non-trial proceedings such as initial appearances (Rule 5, "(f) Video Teleconferencing. Video teleconferencing may be used to conduct an appearance under this rule if the defendant consents.") and arraignments (Rule 10, "(c) Video Teleconferencing. Video teleconferencing may be used to arraign a defendant if the defendant consents.") with defendant's consent. Rule 43 requires that the defendant be "present" at all proceedings (with exceptions per Rules 5 and 10, or if the charge is a misdemeanour), which is interpreted to mean physical presence (Ashdown & Menzel 2003).

Rule 15 of the FRCrimP permits the taking of a deposition before trial, in exceptional circumstances, in the presence of the defendant. The witness may be cross-examined by defence counsel during the deposition. If the witness is unavailable for trial, the deposition may be used in court in lieu of live testimony.

#### Rule 15. Depositions

##### (a) When Taken.

(1) In General. A party may move that a prospective witness be deposed in order to preserve testimony for trial. The court may grant the motion because of exceptional circumstances and in the interest of justice. If the court orders the deposition to be taken, it may also require the deponent to produce at the deposition any designated material that is not privileged, including any book, paper, document, record, recording, or data.

...

(e) Manner of Taking. Unless these rules or a court order provides otherwise, a deposition must be taken and filed in the same manner as a deposition in a civil action, except that:

(1) A defendant may not be deposed without that defendant's consent.

(2) The scope and manner of the deposition examination and cross-examination must be the same as would be allowed during trial.

(3) The government must provide to the defendant or the defendant's attorney, for use at the deposition, any statement of the deponent in the government's possession to which the defendant would be entitled at trial.

An attempt in 2001 to amend Rule 26 of FRCrimP to allow remote testimony in criminal trials was unsuccessful. It would have allowed the court to authorize video testimony in exceptional circumstances, with appropriate safeguards, if the witness was unavailable within the meaning given in the Federal Rules of Evidence. The text of the proposed amendment was as follows:

## Rule 26. Taking Testimony

...

### (b) Transmitting Testimony from a Different Location.

In the interest of justice, the court may authorize contemporaneous, two-way video presentation in open court of testimony from a witness who is at a different location if:

- (1) the requesting party establishes exceptional circumstances for such transmission;
- (2) appropriate safeguards for the transmission are used; and
- (3) the witness is unavailable within the meaning of Federal Rule of Evidence 804(a)(4)-(5).

In a ruling on the proposed amendment, the Supreme Court expressed concern that the defendant's constitutional rights could be infringed by video testimony (Supreme Court of the United States 2002; see also Friedman 2002; Lederer 2009; Treadway Johnson & Wiggins 2006). Justice Antonin Scalia, who wrote the statement for the Court, asserted that "Virtual confrontation might be sufficient to protect virtual constitutional rights; I doubt whether it is sufficient to protect real ones." (*Statement of Scalia, J, Supreme Court of the United States, Amendments to Rule 26(b) of the Federal Rules of Criminal Procedure*, April 29, 2002, p 3) (Justice Stephen Breyer submitted a dissent, arguing that constitutional problems, if any, would arise in limited cases (*ibid*, p 5).)

Justice Scalia's concern is a reference to the Sixth Amendment of the U.S. Constitution—specifically, the Bill of Rights—which grants a criminal defendant the right to confront the witnesses against him ("Confrontation Clause"):

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; *to be confronted with the witnesses against him*; to have compulsory process for obtaining witnesses in his favor, and to have the Assistance of Counsel for his defence. (U.S. Constitution, Amendment VI, Legal Information Institute <[http://www.law.cornell.edu/constitution/sixth\\_amendment](http://www.law.cornell.edu/constitution/sixth_amendment)>) [italics added]

There is much commentary on the effect of videoconference testimony on the right codified in the Confrontation Clause, whether it is a witness testifying remotely (Friedman 2002; Lederer 2009; Olson 2008; Tokson 2007), or the defendant appearing remotely (Treadway Johnson & Wiggins). Note that the Confrontation Clause is only invoked where the prosecution wants to bring in remote witnesses, not for the defence's witnesses, since they are not "against him" (Lederer 2009).

In Canada, there is no specifically-enumerated "right to confrontation" as found in the Sixth Amendment of the United States Constitution; rather, it is considered to be an element of the right to a fair trial.

The right to a fair trial is based on s 7 of the *Charter of Rights and Freedoms*:

7. Everyone has the right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice.

It also flows from s 11(d), in regards to criminal trials:

11. Any person charged with an offence has the right

...

(d) to be presumed innocent until proven guilty according to law in a fair and public hearing by an independent and impartial tribunal

In *R v Lyttle* the Supreme Court of Canada reiterated that "the right of an accused to cross-examine prosecution witnesses without significant and unwarranted constraint is an essential component of the right to make a full answer and defence."

(2004 SCC 5, [2004] 1 SCR 193 at para 41) Having to confront a witness virtually rather than physically could be seen as a “significant and unwarranted constraint” to this right.

The Nova Scotia Court of Appeal said in *R v R (ME)* that “the right to face one's accusers is not in this day and age to be taken in the literal sense.” ([1989] NSJ No 248 (NSCA)) The case concerned an order under *Criminal Code* s 486(2.1) (now s 486.2(2)) permitting a court to make an order that a witness may testify outside of the courtroom, with the testimony accessible within the courtroom by closed circuit television. The lower court decision was appealed on the basis that the defendant's right to a fair trial was infringed because he was deprived of the opportunity to confront his accuser. The Crown submitted that the use of such technology is necessary to ensure a full and candid account from a fearful complainant.

In *R v Levogiannis*, the defendant argued that his right to a fair trial was compromised by the court's order allowing a child witness to testify behind a screen ([1993] 4 SCR 475). The order was made pursuant to the *Criminal Code* provision s 486(2.1) (now s 486.2(2)). Behind the screen, the witness was not able to see the accused, but the accused and his lawyer could see the witness. The Supreme Court said that the principles of fundamental justice enshrined in s 7 reflect not only the rights of the accused, but also the interests of society (*Levogiannis*, para 19). Rules of evidence are not cast in stone, nor are the enacted in a vacuum; the importance of “confrontation” as part of the process of truth-seeking is a vision that reflects our particular culture (*Levogiannis*, paras 22, 21).

In *R v Chapple*, the Crown applied to the court to have a witness testify by videoconference due to the expense of transporting him from Ontario to British Columbia. The Canadian *Criminal Code* provides for the use of technology to allow witnesses to testify in the “virtual presence” of the defendant and the court, if it would be appropriate in the circumstances, taking into account the location of the witness, the costs that would be incurred in transporting the witness to court, and the nature of the testimony (s 714.1). The defence, in turn, applied to have the video testimony excluded on the grounds that the accused's right to make full answer and defence were denied by the low quality of the video, which hindered cross-examination. The British Columbia Supreme Court said that a mere “balance of convenience” test is not an appropriate method to make decision on whether to rebut the presumption that the witness should be physically present (2005 BCSC 383, BCJ No 585 at paras 52, 55). Instead, the analysis must start with the nature of the evidence to be presented; the more central the evidence, the more reluctant the court should be to deprive the accused (and the judge) of the witness' physical presence (*Chapple*, para 52).

Section 650 of the *Criminal Code* requires that the accused must be present at all stages of trial.

#### **[STATISTICS ABOUT USE OF VIDEOCONFERENCING IN CANADIAN COURTROOMS (CRIMINAL OR CIVIL) ARE DIFFICULT TO COME BY]**

In Canada, videoconferencing is commonly used in the criminal court context in proceedings such as arraignment or sentencing hearing (Locke 2009, p 42).

A study of the use of testimonial aids for child witnesses (during preliminary and trial proceedings in cases of crimes against the person) was undertaken between 2006 and 2008 in Edmonton, Alberta, and Toronto, Ontario (Melissa Northcott, “Facilitating Testimony for Child Victims and Witnesses” (2009) in *Victims of Crime Research Digest*, No 2, pp 17-23, online: Department of Justice <[http://www.justice.gc.ca/eng/pi/rs/rep-rap/rd-rr/rd09\\_2-rr09\\_2/p3.html](http://www.justice.gc.ca/eng/pi/rs/rep-rap/rd-rr/rd09_2-rr09_2/p3.html)>). It was found that, in Toronto, 24% of the child witnesses testified outside the courtroom via closed-circuit television. In Edmonton, the percentage was 25%.

Keep in mind that all of the cases discussed so far have been criminal cases, where rules of evidence are somewhat different from civil or non-penal cases. The individual's loss of freedom that might ensue from a court's decision in a criminal matter goes to the heart of the s 7 Charter guarantee to life, liberty, and security of the person. Furthermore, the s

11(d) right to presumed innocent until proven guilty applies only to those charged with a criminal offence. In civil or other non-penal cases there is no presumption of innocence nor is there a threatened loss of liberty on the same scale.

Matters relating to the operation of civil trials are regulated by the provinces. Ontario's *Rules of Civil Procedure* addresses telephone and videoconferencing in Rule 1.08 (*Rules of Civil Procedure*, RRO 1990, Reg 194). Oral evidence may be given by video conference with the consent of all parties (Rule 1.08(2)). If one of the parties does not consent, the court may, on motion or on its own initiative, make an order directing the use of videoconferencing (Rule 1.08(3)). The court shall consider: the general principle of evidence being presented orally in open court; the importance of the evidence; the effect of the technology on the court's ability to make findings, including those regarding credibility; the importance in the circumstances of being able to observe demeanour; the reason for the party's, witness', or lawyer's inability to attend; the balance of convenience as between the party moving for the videoconference and the party opposing, and; any other relevant matter (Rule 1.08(5)).

#### Witnesses testifying remotely:

Within the American system, the right to confrontation generally entails that witness testimony should be under oath, subject to cross examination, in the presence of the accused, and ideally in the presence of the fact finder (jury) (Friedman 2002). However, in exceptional circumstances where the witness is not available to testify, the rules allow that pre-trial depositions can be read in during the trial. During a deposition, the witness is cross examined (usually, but not always in the presence of the defendant (Olson 2008)), but not in the presence of the fact finder (Friedman 2002; Olson 2008). Furthermore, a pre-trial deposition does not usually require an oath (Friedman 2002). A hearsay exception such as the former testimony exception allows cross examined testimony from a prior proceeding to be read in (Olson 2008). Historically, the U.S. Supreme Court has interpreted "confrontation" in a functional way, with the opportunity for cross examination being the main element (Tokson 2007).

Cases that are relevant to the issue include:

- *Maryland v Craig* 497 U.S. 836 (1990). The child witness was permitted to testify by closed-circuit television (the defendant and the rest of the court could see the witness but she could not see them). The Supreme Court developed the Craig test for denying defendant right to confrontation (i.e. a test to justify an exception to face-to-face confrontation of the witness): (1) necessary to further an important public policy, and (b) testimony has certain indicia of reliability (Olson 2008; Tokson 2007). Some indicia are: (a) testimony under oath; (b) ability to cross-examine; (c) jury can observe demeanour of witness; (d) accuser testifies in presence of accused (Gertner 2004; Tokson 2007).
- *United States v Gigante* (1999): Second Circuit held that remote witness testimony in exceptional circumstances does not violate the Confrontation Clause (Olson 2008; Tokson 2007). It is more reliable than a Rule 15 deposition because the fact finder can observe the cross examination.
- *United States v Yates* (2006): Eleventh Circuit held that remote witness testimony does violate the Confrontation Clause. As per the Craig test, it is not necessary if Rule 15 depositions are available where the defendant faced the witness in person (Olson 2008; Tokson 2007). The court said that confrontation through a video monitor is not the same as physical confrontation (Tokson 2007).
- *Crawford v Washington* (2004): the U.S. Supreme Court put forth a test for assessing potential Confrontation Clause violations (with respect to reading in out-of-court testimonial statements) - can only be allowed in if:
  - witness is unavailable (i.e. can't or won't testify and court cannot compel), and
  - defendant has had a prior opportunity to cross examine witness
- *Harrell v State* (1998): Florida Supreme Court upheld a robbery conviction that involved videoconference testimony. This type of testimony must be justified, on a case-specific finding, based on important state interests, public policy, or necessity of the case, and must satisfy requirements of oath, cross examination, and observing witness demeanour (Lederer 1998).

- The U.S. Supreme Court has yet to rule on the specific issue of constitutionality of remote testimony (Olson 2008; Roth 2000).

Concerns about allowing witnesses to testify remotely include:

### **Impairment of right to confront witnesses physically**

- Friedman 2002
  - distance of the witness might diminish the sense of confrontation
- Gertner 2004
  - must determine what we mean by “confrontation”
  - *Coy v Iowa* (1998) Supreme Court concluded that physical confrontation between defendant and witness was essential to fact-finding process
  - *Maryland v Craig* (1990) Supreme Court allowed child witness to testify via one-way closed-circuit television - no absolute right of face-to-face meeting, but preference for it
  - is “virtual” presence enough?
  - *United States v Gigante* (1999) appeals court affirmed admission of ill witness's testimony via two-way circuit television because defendant couldn't be brought to witness for a pre-trial videotaped deposition (per Rule 15 of Federal Rules of Evidence) – but cautioned against using it as commonplace substitute for in-court testimony because there may be "intangible elements" that are lost
- Lederer 2009
  - don't know whether physical separation from the courtroom would lead remote witnesses to lie because they are not face-to-face with the defendant
- Olson 2008
  - *Crawford* did not require physical confrontation
- Sossin & Yetnikoff 2007
  - might be prejudicial if witness is not cross examined in person (see *R v Fleury*, [2004] SJ No. 242 at para. 17 (SKPC))
- Tokson 2007
  - in *Coy v Iowa* (1998) the U.S. Supreme Court said that a witness would likely have a more difficult time lying if he has to be in the defendant's presence, but exceptions might exist where an important public policy is involved (e.g. in *Craig* where the child witness might not otherwise have testified)
  - author cautions not to overemphasize the importance of physical confrontation to the detriment of other values such as a right of thorough cross-examination

### **Impairment of ability to cross examine**

- Friedman 2002
  - this is one of the most important considerations
  - author suggests that the defendant and counsel could be brought to the witness at the other location – but accused might argue that this violates his right to be present at the trial
  - defendant should be given a choice to be with the witness and have the testimony taken as a taped deposition (that would later be shown to the jury with the defendant in the courtroom) or to remain in the courtroom while the witness testifies remotely
  - this would only occur in exceptional circumstances
- Treadway Johnson & Wiggins 2006
  - cross examining witnesses on preliminary issues may be compromised

### **The meaning of “unavailability”**

- Friedman 2002
  - this is one of the most important considerations
  - author argues that it should not be defined by reference to the current Federal Rules of Evidence, because that relates to hearsay, not when the witness is actually available to testify but not in the courtroom
  - a rule for remote testimony needs its own standard of “unavailability” which should be a high standard

### **Impairment of ability of fact finder to assess credibility by observing demeanour of witness**

- Friedman 2002
  - author suggests that this is not a major constitutional concern
- Gertner 2004
  - although much literature disparages the ability to detect lying, these experiments were not conducted in the context of legal cross-examination before a jury, so their persuasiveness is up for debate
  - the video screen allows for the fact-finder to see the face (which is most easily controlled by a deceptive witness) but not so much the body language (which is less easy to control); the voice has been found to be the least easy to control (i.e. the "leakiest")
- Olson 2008
  - not perfect but better than reading in deposition testimony, where the fact finder has no ability to observe demeanour
- Roth 2000
  - social science evidence suggests that most people are unable to determine deception merely from demeanour – in fact it could impede the truth-seeking process
  - voice is the “leakiest” channel, while face is the easiest to control
  - witnesses are already coached by counsel to dress and act a certain way they may not normally
  - each side should have an equal opportunity to use videoconferencing so as to present its witnesses in a certain way
- Sossin & Yetnikoff 2007
  - where issue of credibility or physical evidence, videoconferencing may be unjust (see *Lena v Kamloops*, [2000] BCJ No. 2262 at para. 26 (BCSC))
  - impact on assessment of credibility (see *R v Chapple*, [2005] BCJ No. 585 at para. 52 (BCSC))
- Tokson 2007
  - in video testimony the fact finder can assess demeanour, unlike in pre-trial depositions

### **Undermining solemnity and “intangible elements” of court proceedings**

- Friedman 2002
  - author suggests that this is not a major constitutional concern
- Gertner 2004
  - must study impact that videoconferencing has on the “gravitas” of the courtroom
  - the trial hearing is a moment “experienced simultaneously by all parties”
- Lederer 1998
  - does lack of traditional courtroom environment, thought to convey the “seriousness” of testimony, make witnesses more likely to lie?
- Sossin & Yetnikoff 2007
  - there is a certain solemnity and formality to court proceedings that may be lost when one of the participants is elsewhere
- Tokson 2007

- "intangible functional benefit" of witness being in the same room as defendant (as court observed in *Coy v Iowa* (1998)) – but author points out that in a pre-trial deposition the judge and jury are not present, whereas in video testimony during trial they are visible to the witness, and that might have an intangible functional benefit in itself

### **Other concerns and studies about the jury's perception of witnesses**

- Lederer 1998
  - experiments in Courtroom 21 (Center for Legal and Court Technology) have indicated that jurors perceive remote witnesses in the same way as they do in-court witnesses
- Lederer 2009
  - CLCT conducted experiment that found that remote testimony of medical experts in civil personal injury trials led to the same verdict as if expert was physically in courtroom
  - same applies to character witnesses in criminal cases
- Treadway Johnson & Wiggins 2006
  - mock jurors rated children who testified via closed-circuit television as less believable than those who testified in person;
  - children testifying in person were rated as more accurate, intelligent, attractive, and honest, and defendant was more likely to be convicted by mock jurors;
  - witnesses who gazed slightly downward were perceived as less credible
  - being able to see gestures can aid the viewer's comprehension and increase the viewer's ratings of the person's likeability

### Defendant appearing remotely:

Some concerns about defendants appearing remotely for non-trial proceedings such as arraignments and sentencing include:

### **Undermining solemnity of court proceedings**

- Ashdown & Menzel 2003
  - being in the courtroom has certain psychological effects
  - it's difficult for the court to determine whether the defendant understands the gravity of the situation
  - Florida attempted to use videoconferencing for detention hearings in the juvenile court system but found that it lacked the dignity, decorum, and respect that is expected
- Bowen Poulin 2004
- Treadway Johnson & Wiggins 2006
  - not appearing in court might diminish defendant's sense of seriousness and lead to the perception that the defendant is cavalier
  - defendant may fail to appreciate the role of the judge as neutral authority

### **Adequate representation by counsel**

- Ashdown & Menzel 2003
  - if counsel stays in the courtroom, the defendant may feel alienated from the judicial process
  - if counsel stays with the defendant, there is a possible appearance of impartiality due to the judge and prosecutor being in the courtroom together
  - in Florida, the juvenile defendants were unable to have meaningful contact with parents or guardians during detention hearings



- Bowen Poulin 2004
- Sossin & Yetnikoff 2007
  - ineffective representation of defendant if defendant is on video - if lawyer is with defendant, can't interact with judge; if lawyer is in courtroom, can't interact with client - counsel must decide where to be if client is testifying by videoconference; either choice might affect right to adequate representation
- Treadway Johnson & Wiggins 2006
  - difficult to determine when defendant is confused or wants to ask a question of his counsel; hard for defendant to communicate with counsel remotely via subtle cues
  - if counsel is not with defendant she cannot build a relationship from the first meeting
  - if counsel is with defendant and not at hearing, difficult to contact witnesses
  - cannot meet informally with the prosecutor to talk about agreements for release or plea bargain

### **The public's image of the integrity of the judicial process and of the ability of the defendant to get a fair hearing**

- Ashdown & Menzel 2003
  - appearance of impartiality might be difficult to maintain if only the prosecutor is in the same room as the judge
  - authors suggest that prosecutor should also appear by video
- Bowen Poulin 2004
- Sossin & Yetnikoff 2007
  - having defendants appear remotely may challenge perceptions of fairness (see *R v Gates* (1995), 45 F. 3d 387 at 845)

### **The defendant may feel alienated from the judicial system**

- Ashdown & Menzel 2003
  - juveniles in Florida often didn't understand what was going on when the proceedings were done by video
- Bowen Poulin 2004
- Sossin & Yetnikoff 2007
  - the "human element" of the interaction is lost (see *R v Fecteau* (1989), 71 CR (3d) 67 at para. 27 (ONSC))
- Treadway Johnson & Wiggins 2006
  - dehumanizing effect of appearing by video link from the prison

Judges and counsel can also appear by videoconference, though this is more likely in an administrative proceeding rather than criminal (Sossin & Yetnikoff 2007)

General concerns about videoconferencing (whether it is a witness or the defendant who is appearing remotely) include:

### **Quality and behaviour issues**

- Ashdown & Menzel 2003
  - authors suggest that the rules standardize the type of video equipment to be used
  - also that the technicians be certified and there are backup plans in case of equipment failure
- Bowen Poulin 2004
- Friedman 2002
  - there should be standards for the video transmission – must be two-way, clear, and any coaching must be revealed by the transmission
- Gertner 2004

- the quality of the transmission will have an effect on the ability of the fact finder to assess the witness/defendant's demeanour
- Lederer 1998
  - audio delays make the usual back-and-forth of interaction difficult, and it's not possible to interrupt a speaker
  - extremely rapid movement of the speaker might not show properly
- Roth 2000
  - cameras can exaggerate physical characteristics
  - viewers can only see what the camera is focusing on
  - camera angle can make witness look squat or lengthened
  - can also create effect of looking "up" or "down" at viewers
  - full face shots can suggest less expertise (since experts are usually shown in profile in an interview)
  - the presence of the camera can affect witness/defendant's behaviour
- Sossin & Yetnikoff 2007
  - some technology may be of bad quality, or the lighting or angles may be off
  - eye contact with viewer is impossible (so far)
  - the camera and set up can skew physical appearance
  - emotions can be inaccurately transmitted because voice frequency is misrepresented
  - can't easily exchange physical evidence
  - videoconferencing can also affect the person testifying, their presentation and personal traits
- Treadway Johnson & Wiggins
  - non-verbal cues such as expressions, gaze, posture, gestures, which go to credibility, might not be accurately transmitted through video
  - camera angle that focuses on defendant can make it more likely that observers will believe a confession was voluntary (i.e. impression of guilt)
  - defendant or witness might be nervous because of camera
  - video transmission might not accurately reproduce affect
  - auditory information in higher frequencies may not be faithfully transmitted by the technology, so information about emotional state of speaker is lost

Ashdown & Menzel (2003) suggest that videoconferencing can be used without the defendant's consent only for non-trial proceedings, and only if there are exceptional circumstances such as safety concerns. Sossin & Yetnikoff (2007) argue that if videoconferencing in an administrative context is only used to save money or for convenience, this should be grounds to invalidate the decision on the basis of unreasonable exercise of discretion. Tokson (2007) cautions that video testimony is not meant to replace in-person testimony by available witnesses and is only to be used in exceptional circumstances. Bowen Poulin (2004) cautions that \*\*\*\*

Arguments in favour of using videoconferencing include:

- Ashdown & Menzel 2003
  - the public will be able to view proceedings where the defendant is appearing from prison
- Friedman 2002
  - efficiency and timing
- Lederer 1998
  - can provide access to justice for those with mobility issues (see *Turcinovic v Floch* NJ Superior Court 1997)
- Lederer 2009

- the Compulsory Process Clause of the Sixth Amendment states that “the accused shall enjoy the right to have compulsory access for obtaining witnesses in his favour”
- author suggests that if the defense has a legitimate need for a certain witness and that witness can only testify remotely (or it would be much less expensive than bringing the witness to the court), this clause should be argued in favour of allowing remote testimony
- a prosecutor could argue that remote testimony satisfies the Confrontation Clause per se, or alternatively that on the specific facts of the case it meets the Craig test (public policy and reliability) – superior to deposition testimony
- Olson 2008
  - live testimony by videoconference is superior to deposition evidence because the latter allows fact finder to assess witness’s credibility
  - it more fully protects right to cross examination than one-way closed circuit testimony as in *Craig*
  - Crawford test does not require physical confrontation
- Sossin & Yetnikoff 2007
  - close-up views of the witness can enhance ability to assess demeanour
  - safeguards witness reliability
  - can have access to otherwise unavailable witnesses
  - cost/time savings
  - allows trials to be open to the public with less security cost
  - reduces inconvenience to judges and lawyers
- Tokson 2007
  - there is a functional advantage of video testimony over pre-trial deposition because the fact finder can assess the witness's demeanour
  - with foreign witnesses, a pre-trial deposition in the foreign country may not have the same reliability standards as in the U.S., so with video testimony during trial there is more involvement by the judge
  - contemporaneous testimony is also preferred over pre-trial deposition because then able to rebut other witnesses if necessary

Commentators have also noted the unique status of live videoconferencing. The person appearing thusly is not physically “present” but neither is she “absent” (Ashdown & Menzel 2003). It has been suggested that “presence” be considered a gradient rather than a binary concept, and that video-presence is somewhere in the middle (Ashdown & Menzel 2003), or “quasi in-court” (Olson 2008).

More empirical research is needed into the effects of courtroom technology, including videoconferencing, before rules are promulgated (Bowen Poulin 2004; Feigenson & Dunn 2003; Friedman 2002; Gertner 2004; Treadway Johnson & Wiggins 2006). Research should be done into the effect of videoconferencing on jurors’ evaluation of testimony (Gertner 2004; Lederer 1998; Treadway Johnson & Wiggins 2006), how to improve the technology (Gertner 2004), and how to develop rules for its use (Gertner 2004). Researchers should also study how it is currently being used in courts (Treadway Johnson & Wiggins 2006). Fields relevant to the studies are psychology, communications, human factors, and education (Treadway Johnson & Wiggins 2006).

[Ashdown & Menzel 2003]

Gerald G Ashdown & Michael A Menzel, "The Convenience of the Guillotine?: Video Proceedings in Federal Prosecutions" (2003) 80 Den. U L Rev 63.

- article focuses on defendants (as opposed to witnesses) appearing by videoconferencing for pre-trial hearings
- prisoner civil rights cases are often tried using video technology
- but for criminal issues it is more controversial because liberty is at stake
- concerns raised include: **assessing credibility of the witness**, **undermining solemnity of court proceedings**, and **forcing counsel to decide** between being in court with the judge or being with the defendant elsewhere
- difficult for court to determine whether defendant adequately understands the **gravity of the situation**
- actually being in the courtroom has certain psychological effects
- **public's image of integrity of the judicial process** may be tarnished if there is a suspicion that defendant is not getting a fair hearing
- video presence must be considered as a class unto itself (not just "physically present" or "absent", but on a gradient of presence)
- authors look at the "presence" requirement in the U.S. Federal Rules of Criminal Procedure Rule 43
- drafters were probably thinking of physical presence
- Federal Rules of *Civil* Procedure expressly permits videoconferencing, whereas in the Rules of *Criminal* Procedure it's not mentioned
- it's allowed in some states' procedures, e.g. California and Missouri
- as for state criminal procedure, it's incorporated with varying levels of success
- did not work for Florida's juvenile system because youth should be able to have meaningful contact with parents or guardians during detention hearings
- the juveniles often didn't understand what was going on when the proceedings are done by video
- lacked the dignity, decorum, and respect that is expected
- one judge in Missouri pointed out the advantage that that some proceedings by video from the penitentiary will **allow the public to see them**
- in Missouri, provision was passed that permitted state courts to force defendants to proceed with videoconference in proceedings such as initial appearances, arraignments. any criminal out-of-trial proceedings that don't involve cross examination of witnesses, sentencing; and other appearances with defendant's consent
- attempt to add it into Federal Rule 26 came about but was rejected by Supreme Court
- did add Rule 5 and Rule 10 which permit federal courts to conduct initial appearances and arraignments by videoconference with defendant's consent
- authors are concerned that the amendments fail to standardize the spatial location of the judge, prosecutor, and defence counsel – **appearance of impartiality** might be difficult to maintain if only prosecutor is in the same room as the judge
- on the other hand, if defence counsel is also with the prosecutor and not with the defendant, defendant might experience feelings of **alienation from the judicial system**
- should also standardize type of video equipment to be used – certified technicians, and plans for backup in case of **equipment failure**
- authors suggest that prosecutor should also appear by video
- authors suggest a general rule that would permit videoconferencing for most non-trial proceedings without defendant's consent if exceptional circumstances (such as safety concerns) warrant it in the interest of justice – would be analyzed on a case-by-case basis

[Borkowski 2004]

Borkowski, Julian (2004) "Court Technology in Canada." 12(3) William & Mary Bill of Rights Journal 681. Available at <<http://scholarship.law.wm.edu/wmborj/vol12/iss3/5>>

- looking at the use of videoconferencing for U.S. criminal defendant appearances (non-trial)
- videoconferencing is already employed for certain non-trial proceedings (pp 1091-1092)
- should not experiment with this technology without studying the effects because the brunt of the consequences falls on the defendant – should be wary of unintended consequences (p 1093)
- in other stages of the criminal process (besides trial) there is yet no recognized constitutional right to be present (p 1095)
- but VC may still have a negative effect on the criminal process even at these stages
- perceived gains of using VC are enjoyed mainly by the government actors rather than the defendant, and so the prosecution/court side may be too eager to employ it (p 1098)
- Rule 5 of the Federal Rules of Criminal Procedure have already been changed to permit use of VC for arraignments if the defendant consents, and various state rules allow it where defendant is incarcerated (p 1103)
- author suggests that the criminal justice system approach the use of VC with caution, to ensure that it does not compromise the quality of justice offered to defendants (p 1104)
- it inevitably creates a barrier between the defendant and the court for various reasons
- the quality of the equipment may vary across locations (p 1105)
- other concerns arise with the use of technology:
  - o camera shots can alter a viewer's perception of the defendant (p 1108)
    - who will decide whether the camera captures the head only, full body, something in between, or a combination of shots?
    - and what angle will be used (full on or profile, etc.)?
    - currently it may be the judge, or even prison personnel, who are generally untrained in these matters (p 1109)
  - o nonverbal cues are lost in VC (p 1110)
    - viewer might overlook some of what is captured on the screen
  - o eye contact cannot be replicated by most VC systems (p 1111)
- the location of the defence counsel can present problems (pp 1111-1112; discussed in more detail further on in the article)
- the technology must have a way to exchange and view documents and exhibits (p 1112)
- observers also come into the court with certain expectations about how someone should appear or behave on television/video (p 1112)
- when we see people on TV they are usually done up to appear more telegenic, but defendants are presented without any of these accoutrements (p 1113)
- might be judged more negatively as a result
- negative impacts of VC will fall disproportionately on the defendant, who is already disadvantaged by being incarcerated in the first place
- how does the use of VC affect the observer's (especially the judge's) perception of the defendant? (p 1114)
- or the defendant's demeanour?
- and how does it affect the defendant's (and others') perception of the justice system?
- studies generally conclude that a defendant is not harmed by the presentation of video testimony of a witness against him, but this is partially because the testimony of witnesses appearing by video are sometimes accorded less weight than that of witnesses appearing live (Goodman et al 1998; Ross et al 1994) (p 1115)
- if this is the case, then a defendant appearing by video could be perceived as less credible
- judges must also make discretionary judgments in terms of sentencing or bail risk, involving subjective assessments of sincerity, responsibility, and character (pp 1115-1116)

- will be influenced by defendant's attractiveness, facial expression, nonverbal conduct (p 1116)
- and there is a concern that the use of VC might shade these judgments
- there is much evidence that video makes the person portrayed less relatable to the viewer (Ruttner, Stephenson & Dewey 1981) (p 1118)
- in other settings, subjects rated those encountered by video lower than those encountered F2F, or formed less positive impressions of colleagues (Storck & Sproull) (p 1119)
- children who testify by CCTV are seen by jurors as less attractive, less intelligent, more likely to be making up a story or basing testimony on fantasy (Goodman et al 1998)
- since video is in 2D it may bring undue attention to unappealing features or exaggerate expressions (p 1120)
- especially if the shot is close-up (p 1121)
- close-up shots also hide a lot of body language
- angle of shot may also influence perception of the defendant (p 1122)
- and the defendant will constantly be staring at one place (the monitor), which can also create a negative impression (p 1123)
- defendant may express an inappropriate demeanour because he is appearing from a place that does not replicate the "ceremonial and formal atmosphere of the courtroom" (p 1124)
- the atmosphere of the courtroom may be an inducement to tell the truth (Doret 1974) (p 1125)
- defendant may be nervous about being filmed and because of this engage in behaviour that could be mistaken as deceptive (pp 1125, 1137)
- if the defence attorney is not in the same room with the defendant, she might not be able to encourage an appropriate demeanour (p 1126)
- there are other effects on the defendant counsel relationship such that it's not clear that counsel can satisfactorily represent her client (p 1128)
- there is a difficulty, if the attorney is in court while the defendant is elsewhere, of engaging in privileged communication during the proceeding (p 1129)
- if the attorney is at the remote location with the client, counsel's participation in the court proceedings will be compromised, and would not easily be able to speak with the prosecution to obtain a favourable plea bargain (p 1131)
- as well, counsel's position in relation to the judge will be inferior to the prosecutor's (pp 1131-1132)
- where witnesses are called for non-trial proceedings (such as probable cause hearings or sentencing hearings), defence counsel should be in the physical presence of the witness to observe them during testimony (direct or cross) (pp 1150, 1155)
- author suggests that the criminal justice system should proceed cautiously with further use of VC, preferably reducing it (p 1156)
- proposes three-faceted approach to VC use:
  - o need to investigate how the use of VC influences the court's subjective view of the defendant, the attorney-client relationship, and the defendant's view of the process
    - studies from other disciplines can shed light on such influences, but it's still difficult to determine the precise impact of VC on the criminal justice process (pp 1156-1157)
    - so far [as of 2004] research has not addressed the question of whether VC affords enough social presence to preserve the quality of justice (pp 1157-1158)
    - the courtroom interaction is differentiated from the conditions of experiments from other disciplines because of its "extreme disparity of power" (p 1158)
    - in other disciplines, studies have focused on collaborative uses of the media, or the potential for effective dissemination of information
    - **while the criminal proceeding is interactive, it is not collaborative in the same sense, and is characterized by a certain formality and power differential**

- **research must consider how VC would operate within this structure and whether it would distort the interaction or transmission of information**
- **must also consider the subjective experience of participants to determine if there is a negative perception of its use** (pp 1158-1159)
- the system should attempt to diminish or contain the negative impact of VC (p 1161)
  - personnel (especially judges) should receive training in its practical use and education about its effects
  - those who operate the equipment should be trained in camera angles and shots so that the defendant is presented fairly (p 1162)
  - existing rules [such as in FRCrimP] provide for VC with the defendant's consent, but this consent must be examined to ensure it is truly voluntary (p 1163)
  - and/or the prosecution should be made to show real need for VC (p 1164)
- positive use of VC for counsel-client communications
  - the court should offer the technology to defence counsel so that they can maintain channels of communication with the defendant (both during hearings and outside of them) (p 1164)

#### [Feigenson & Dunn 2003]

Neal Feigenson & Meghan A Dunn, "New Visual Technologies in Court: Directions for Research" (2003) 27:1 Law and Human Behavior.

- focus more on research design rather than particular technologies
- mainly presentation of evidence other than testimony (e.g. computer animations)
- 199 Judicial Conference endorsed use of courtroom technologies
- but empirical research into it is scant
- requires examination of the effects of courtroom technology, especially grounded in theories of perception and social judgment
- must take account of idea of trial both as search for truth and as "rhetorical contest" (persuasion)
- authors propose framework that examines relationships among three dimensions:
  - the specific visual technologies
  - features of the audience
  - the advocate's theory of the case
- an important factor to consider is the audience's perception of the fairness of the differential use of these technologies (e.g. the prosecutor uses it but the defence does not)
- also the participant's expectations and the prototypes they bring with them, which influence the legal judgments (i.e. their ideas of "how things like this go")

#### [Friedman 2002]

Richard D Friedman, "Remote Testimony" (2002) 35 U Mich J L Reform 695.

- about witness testimony by video
- written soon after amendments to FRCrimP
- makes suggestions about amendments Rule 26, which did not pass through
- within the American system, the right to confrontation includes that testimony should be under oath, subject to cross examination, in the presence of the accused, and ideally in the presence of the fact-finder (jury)
- law allows pre-trial depositions, which is in the presence of the defendant but not the fact-finder, to be presented at trial in lieu of the witness's live appearance – also doesn't require an oath
- but even this is only in exceptional circumstances
- Rule 26 of FRCrimP states that witness testimony shall be taken orally in open court, unless otherwise provided in statute, the Rules themselves, or other rules adopted by the Supreme Court

- depositions are sometimes recorded and presented in court, but **remote testimony has the advantages of efficiency and timing**
- the amendment to Rule 26 was to allow the court to authorize video testimony in exceptional circumstances, with appropriate safeguards, if the witness is unavailable within in the meaning of FREvidence 804(a)
- author believes that Supreme Court was correct in rejecting it on constitutional grounds
- **impairment of the fact-finder’s ability to observe demeanour is “not a major constitutional concern”**
- **neither is the loss of “solemnity” of being in the courtroom**
- most important considerations are the **right of the defendant and counsel to be physically present when the witness testifies**, and the **meaning of “unavailability”**
- distance of witness might **diminish sense of confrontation**, and might **impair ability to cross examine**
- author suggests that accused and counsel could be brought to the witness in the remote location, if they want to be in the same room
- accused might argue that if it’s being transmitted back to the courtroom, then it violates his right to be present at trial
- but if it’s taped and presented later it’s more like a deposition anyway
- point is that defendant should be given the choice to be with the witness and have the testimony taken as a taped deposition, or remain in the courtroom while the witness testifies remotely
- but the norm should still be that the witness in a criminal case is physically present in the courtroom, at least for prosecution witnesses – exception to this is only if the witness is truly unavailable to come to court
- availability should not be determined by reference to FREvidence because that relates to hearsay and doesn’t transfer to situations where the witness *can* testify, just not in the courtroom
- a rule for remote testimony needs its own standard of unavailability
- should be a high standard, not for things like, e.g., witness is too nervous to testify in court (because they are supposed to be nervous)
- transmission should also be subject to standards: **must be two-way, clear, and any coaching must be revealed by the transmission**
- all of the above is for prosecution witnesses; for defence witnesses it doesn’t need to be so rigorous
- author concludes by suggesting a possible re-draft of the Rule 26 amendment, and calling for further study of the potential impact of videoconferencing before cutting back the right to confront witnesses “face-to-face”

#### [Gertner 2004]

Nancy Gertner, “Videoconferencing: Learning Through Screens” (2004) 12 Wm & Mary Bill of Rts J 769.

- United States District Court judge
- presided over *United States v Nippon Paper Indus Co* (1998)
- all of the new technology, including videoconferencing, has potential for abuse
- although videoconferencing can be an enormously useful tool for the courtroom, we must proceed with caution
- have to first study the impact of it on jurors where the jury doesn’t have opportunity to see face-to-face confrontation
- “is something lost in the medium [of confrontation]?”
- e.g. what impact does it have on the “**gravitas**” of the courtroom
- what is the meaning of “confrontation” these days?
- *Coy v Iowa* (1998) Supreme Court concluded that physical confrontation between defendant and witness was essential to fact-finding process
- *Maryland v Craig* (1990) Supreme Court allowed child witness to testify via one-way closed-circuit television – no absolute right of face-to-face meeting, but preference for it
- **Craig test** for confrontation is reliability of evidence, via (1) testimony under oath; (2) ability to cross-examine; (3) jury can observe demeanour of witness; (4) accuser testifies in presence of accused
- regarding (4), the question is whether virtual presence is enough, but must be interpreted within the context of the case and the adversarial process



- *United States v Gigante* (1999) appeals court affirmed admission of ill witness's testimony via two-way circuit television because defendant couldn't be brought to witness for a pre-trial videotaped deposition (per Rule 15 of Federal Rules of Evidence)
- but cautioned against using CCTV as commonplace substitute for in-court testimony because there may be "**intangible elements**" that are lost
- Supreme Court rejected a proposed amendment to the Federal Rules of Criminal Procedure that would allow for remote testimony in certain circumstances, because it might not be sufficient to protect constitutional rights
- author states that there is a difference between face-to-face communication and videoconferencing, e.g. "gravitas" of the courtroom
- it is a moment "**experienced simultaneously by all parties**"
- although much literature disparages the **ability to detect lying**, these experiments were not conducted in the context of legal cross-examination before a jury, so their persuasiveness is up for debate
- the video screen allows for the fact-finder to see the **face** (which is most easily controlled by a deceptive witness) but not so much the **body language** (which is less easy to control); the **voice** has been found to be the least easy to control (i.e. the "leakiest")
- **quality of the transmission** will have an effect on all of these aspects
- author calls for more studies of the effect of videoconferencing on jurors' evaluation of testimony, to improve the technology, and to develop rules for its use
- in *Nippon*, the jurors later said that they had a problem fully understanding the foreign witness and interpreter through a video screen

#### [Lederer 1998]

Fredric I Lederer, "The Road to the Virtual Courtroom: A Consideration of Today's—and Tomorrow's—High-Technology Courtrooms" (1998) 50 SC L Rev 799.

- video depositions are already common in courts
- as of 1998 at least 29 states authorized videoconferencing for various proceedings
- some problems with remote testimony:
  - o audio delays prohibit make the usual back-and-forth difficult
  - o extremely rapid movement might not show properly
- but experiments in the laboratory court have indicated that jurors perceive remote witnesses just as in-court witnesses
- but still need to determine whether remote witnesses are more or less likely to lie
- because of lack of traditional courtroom environment that is thought to convey the "seriousness" of testimony
- Federal Rules of Civil Procedure expressly provides for its use (Rule 43(a))
- Florida Supreme Court in *Harrell v State* upheld a robbery conviction that involved videoconference testimony
  - o must be justified, on a case-specific finding, based on important state interests, public policy, or necessity of the case, and
  - o must satisfy requirements of oath, cross examination, and observing witness demeanour
- federal courts have used it in civil cases involving prisoners
- in Second Circuit, counsel can appear remotely [note that there is no testimony or evidence presented in appeals cases, only legal arguments]
- it can also provide access to justice for those with mobility issues (*Turcinovic v Floch* NJ Superior Court 1997)

#### [Lederer 2009]

Fredric Lederer, "The Legality and Practicality of Remote Witness Testimony," *The Practical Litigator* (September 2009) 19.

- basic introduction to the topic
- author is director of Center for Legal and Court Technology (CLCT)

- discusses the technology itself and how CLCT is set up
- increasingly IP-based video is used because it is less expensive than ISDN-based
- personal computer based videoconferencing does not give a good enough picture
- from the CLCT's experience, remote appearances appear to be treated by observers as if those persons were actually in the courtroom
- conducted experiment that found that remote testimony of medical experts in civil personal injury trials led to the same verdict as if expert was physically in courtroom
- same applies to character witnesses in criminal cases
- **don't know if physical separation from the courtroom would lead remote witnesses to lie** – would it make a difference if the witness were also presented with a high-resolution image of the defendant while testifying?
- videoconferencing technology is also used to permit judges and counsel to appear remotely
- laboratory (mock) trials show that this can be successful
- for civil cases, remote testimony is authorized by Rule 43(a) of the Federal Rules of Civil Procedure
- for criminal cases, although the Confrontation Clause is invoked where the prosecution wants to bring in remote witnesses, it is not invoked for remote defense witnesses
- but there may be a constraint from a statute, or by the court's rules – if not, it's left up to the court's discretion
- also in criminal cases, the Compulsory Process Clause applies – “the accused shall enjoy the right to have compulsory access for obtaining witnesses in his favor”
- author suggests that if the defense has a legitimate need for a certain witness and that witness can only testify remotely (or it would be much less expensive than bringing the witness to the court), this clause should be argued in favour of allowing remote testimony
- as for prosecution witnesses, the author acknowledges the concerns that remote testimony is an inadequate substitute for the witness physically being in court, and discusses the rejected Rule 26(b)
- a prosecutor could argue that remote testimony satisfies the Confrontation Clause per se, or alternatively that on the specific facts of the case it meets the Craig test (public policy and reliability)
- if not, the testimony could only come in via a deposition or an exception to hearsay – remote testimony in court, which allows for an oath, cross examination, and demeanour evidence, is likely superior to this situation

#### [Locke 2009]

Jeff Locke, “Staging the Virtual Courtroom: An Argument for Standardizing Camera Angles in Canadian Criminal Courts” (2009) 1 *Masks: The Online Journal of Law and Theatre* 36-57.

- there is an implicit “visual language” to the televised medium that influences the way viewers interpret what they see and hear (p 36)
- part of this is due to camera angles (p 37)
- there is a “technological blind spot” regarding video technology that is suffered by some legal practitioners (p 38)
- the assumption that film transparently represents reality
- this technology must be viewed through a critical lens so that any danger it poses can be limited (p 39)
- VC has been widely accepted in the legal community as a substitute for physical presence, or at least seen as a foregone conclusion (pp 39-40)
- there have not been many studies examining the effects of VC in the criminal courtroom specifically, but perceptual and psychological research in other disciplines could be taken as analogies (p 40)
- “Over the last decade, the use of videoconferencing technology has rapidly expanded in the criminal court context... [V]ideoconferencing is now commonly used as a medium through which guilty pleas are entered and sentences are handed down.” (p 42)
- financial benefits all but guarantee its continued and growing use (pp 42-43)
- so it is important to consider how parties might be adversely affected (p 43)

- shooting upward causes a subject to appear more powerful than the viewer (higher ratings of subject dominance), while shooting downward makes the subject look weaker than the viewer (lower ratings of subject dominance) (p 44)
- in criminal courts, the camera setup is generally of the “shooting downward” variety
- higher ratings of dominance are also associated with power, attractiveness, and social status; lower ratings of dominance associated with lower levels of these (pp 44-45)
- as to credibility, it seems to depend on the subject’s baseline level of dominance (p 45)
- i.e. shooting an already dominant subject from a high camera angle (shooting downward) increases perceived credibility because it “brings the subject down to the audience’s level” – equalizes power relationships
- but defendants are generally seen as having a lower level of dominance in the first place, so shooting them from a high angle may reduce it further, thus decreasing credibility
- further research is necessary into these potential effects
- the subject’s head tilt may also make a difference (p 46)
- downward head tilt seen as submissive or remorseful
- but has also been connected to lower ratings of credibility (Helmsley & Doob 1978)
- full face shot suggests less expertise than a profile shot (p 47)
- need to create some form of standardization (p 48)
- to reduce randomness and chance that might affect trial fairness or the perception of trial fairness (p 49)
- VC equipment is already controlled by the justice system and not the defendants
- the prison officials decide the camera angle for defendants who are appearing from their place of incarceration
- camera angle is a tool that helps to define the “landscape of the virtual courtroom” (p 50)
- but it’s also a finite variable that can be manipulated in a simple and cost effective manner
- other authors have suggested that the lawyers be able to control camera angles just like they coach clients and witnesses (p 51)
- but this assumes a level playing field in the first place; some lawyers may have more experience with this sort of thing than others
- cannot presume that a trial conducted by VC is the same as a trial conducted in the courtroom, even if it attempts to replicate the physical courtroom experience (p 52)
- the imposition of a medium “alters the courtroom dynamic”
- author suggests that any use of VC should employ a simple head-on shot, to try to neutralize any alterations of perception (p 53)

#### [Olson 2008]

Christine L Olson, “Accusations from Abroad: Testimony of Unavailable Witnesses via Live Two-Way Videoconferencing Does Not Violate the Confrontation Clause of the Sixth Amendment” (2008) 41 UC Davis L Rev 1671.

- author examines several U.S. court cases and concludes that videoconference testimony does not violate Sixth Amendment
- live testimony allows factfinder to assess witness’s credibility
- case law indicates that confronting witnesses “in person” is an ideal, but in some situations it hasn’t been required
- e.g. Rule 15 depositions are read in during the trial, and factfinder has no opportunity to assess demeanour and thus credibility of the witness
- ideally the defendant was present during the deposition, but even depositions have been conducted without the defendant present
- and hearsay exceptions such as the former testimony exception (where cross examination occurred during a former proceeding)
- also, some state courts have allowed witnesses to testify via videoconferencing
- the Circuit Courts (appeals courts) have conflicted with each other on its constitutionality

- in *Gigante* the Second Circuit held that it does not violate the Confrontation Clause
- more reliable than Rule 15 deposition because factfinder can observe the cross examination
- defendant can still confront the witness
- in *Yates* the Eleventh Circuit held that it does violate the clause
- did not apply Crawford test because it only deals with statements made prior to trial
- applied the Craig test and found that it was not necessary because Rule 15 deposition was available, and is superior because defendant can attend and face witness in person
- the U.S. Supreme Court has not yet ruled on the issue of the constitutionality of live two-way videoconference testimony
- in *Crawford v Washington* (2004) the Supreme Court put forth a test for assessing potential Confrontation Clause violations (with respect to reading in out-of-court testimonial statements) – can only be allowed in if:
  - witness must be unavailable (i.e. can't or won't testify and court cannot compel), and
  - defendant must have had a prior opportunity to cross examine witness
- cross examination factor is critical
- also *Maryland v Craig* test for denying in-person confrontation (i.e. using one-way closed-circuit television):
  - necessary to further an important public policy, and
  - testimony has certain indicia of reliability
- author argues that videoconference testimony is superior to reading in prior testimony or statements because it allows for contemporaneous cross examination, whereby factfinder can assess witness's credibility by observing demeanor
- doesn't fall neatly within Craig or Crawford tests
- neither "in court" nor "out of court" (as per Crawford), more "quasi in-court"
- more complete than one-way CC testimony as was the case in Craig; more fully protects right to cross examination
- argument against would be that defendant is not physically face-to-face with witness, but this is not a requirement in Crawford
- another argument against would bring up "intangible factor" of being physically in a courtroom with the defendant – this is the heart of the controversy surrounding videoconferencing
- even if Crawford test applies, it would pass both prongs:
  - witness would be unavailable to travel to courtroom
  - defendant would have opportunity to cross examine during the actual trial, which is superior to reading in prior testimony
- would also satisfy Craig test:
  - necessary to further public policy of providing truthful testimony (being that defendant might not even be present during Rule 15 deposition, or a foreign country might not allow for American-style cross examination)
  - indicia of reliability would be cross examination during trial, before the factfinder, under oath

**[Roth 2000]**

**Michael D Roth, "Laissez-Faire Videoconferencing: Remote Witness Testimony and Adversarial Truth" (2000) 48 UCLA Law Review 185.**

- includes a review of technical studies of potential problems with videoconferencing in the courtroom
- as well as a survey of demeanor studies from the social sciences
- use of videoconferencing seems to be acceptable for investigative and pre-trial elements of a criminal case
- and in civil trials per Rule 43 of the Federal Rules of Civil Procedure
- author suggests a "laissez-faire" approach to videoconferencing – as a "partisan tool in the truth-seeking process" within an adversarial system
- goes through some current (as of 2000) uses of videoconferencing in federal and state courts

- U.S. Supreme Court has not made a direct, definitive statement on the general permissibility of remote witness testimony during criminal trials
- some special provisions for child witnesses
- mentions media scholars who say that the medium has an influence on the perception of the subject
- **cameras can exaggerate physical characteristics** such as weight, complexion, beard
- thought is that perception of demeanour can be affected and thus perception of credibility
- author argues that the legal system's focus on demeanour evidence leads to concerns with videoconferencing
- these concerns include:
  - o more difficult to assess credibility of remote witness
  - o having the witness on the screen only allows the jurors to **see what the camera is focusing on** (e.g. only head and shoulders are visible)
  - o **camera angle** can make witness look squat or lengthened
  - o can also create effect of **witness looking "up" or "down" at jury**
  - o **full face shots can suggest less expertise** (since experts are usually interviewed in profile)
  - o **presence of camera** can affect witness's behaviour
- some suggest that the use of videoconferencing (including technical aspects) should be regulated as part of court procedure
- author argues that it should not be and it will not have an overall detrimental effect on jurors' ability to assess credibility
- social science evidence suggests that most people are unable to determine deception merely from demeanour – in fact it could impede the truth-seeking process
- of face, body, and voice, the voice is the "leakiest" channel
- furthermore, the adversarial system is not necessarily about "truth finding"
- fact finding in a trial is more of a "battle of witness credibility"
- counsel's role is to persuade the fact finder to believe a certain interpretation of the evidence
- to that end they focus on bolstering credibility of their witness, including by coaching them to dress and act a certain way that they may not normally – this is not considered perjury in a court of law
- witness coaching in itself is an impediment to truth finding – it prevents the jury from seeing the witness's true demeanour
- in cross examination, similarly, the opposing counsel will prey on the witness's weaknesses
- so truth plays a subordinate role in the adversarial system – the system is more about protecting the accused from a powerful government
- a laissez-faire approach means that each side has an "equal opportunity" to present its partisan view of the "truth"
- so each side should be able to use videoconferencing to convince the jury (e.g. by manipulating camera angles or shoot in profile)
- and the opposing counsel could use it during cross examination to present an unfavourable view of the witness
- this would cause no further impediments to truth finding as the adversarial system does already
- in the alternative, we should take a good look at the merits and disadvantages of the adversarial system itself

**[Sossin & Yetnikoff 2007]**

**Lorne Sossin & Zimra Yetnikoff, "I Can See Clearly Now: Videoconference Hearings and the Legal Limit on How Tribunals Allocate Resources" (2007) 25 Windsor Yearbook of Access to Justice 247.**

- Canadian view
- focus on administrative law, especially landlord-tenant (ORHT) (quasi-judicial)
- cost savings in using videoconferencing for outside major urban centres
- tribunal funding impacts fairness in certain situations
- technology in court has brought ambivalent reaction in legal community

- duty of fairness comes from both the common law and the Charter
- Criminal Code s. 715.1 – use of closed-circuit or videotape; s. 486(2.1) - testifying from behind a screen
- videoconferencing could enhance opportunity for fair hearing in some situations, but could jeopardize in others (249)
- ORHT tribunal will consider several factors in deciding whether to have an electronic hearing: number of parties; suitability of technology for subject matter; nature of evidence, credibility; questions of law; convenience of parties; cost, efficiency, timeliness (Rule 20 ORHT rules)
- does video hearing against wishes of a party violate the standards of procedural fairness? (251)
- various reasons why videoconferencing might not be appropriate: when assessing credibility; discomfort of the parties; where presenting physical evidence (256)
- case law on videoconferencing reflects judicial ambivalence (257)
- for administrative law, it's a balancing exercise
- advantages
  - o close-up views enhance ability to assess demeanour (see R v Heynen, [2000] Y. No. 6 at para. 315 (YKTC)) (257-58)
  - o can enhance expressions of witnesses under cross examination (see R v Gibson, [2003] BCJ No. 812 at para. 5 (BCSC)) (258)
  - o safeguards witness reliability (see R v Dix, [1998] AJ No. 486 at para. 24 (ABQB))
  - o also JS v Canada, [2003] SJ No. 44 (SKQB)
  - o having access to otherwise unavailable witnesses
  - o cost savings
  - o allows trials to be open to public with less security cost
  - o time savings (transporting prisoners, etc.) (259)
  - o reduce inconvenience to judges and lawyers
  - o can even enhance ability to assess credibility
- disadvantages
  - o bad quality of technology (see R v Raj, [2002] BCJ No. 678 at para. 5-6 (BCSC))
  - o s. 650 of Criminal Code (accused must be present at all stages of trial) (see R v Gates, [2002] BCJ No. 416 at para. 16-17 (BCCA))
  - o also de Upegui v Canada (Immigration), [2007] FCJ No. 369
  - o bad angles or lighting, bad shots (260)
  - o eye contact impossible
  - o skews physical appearance
  - o emotions can be inaccurately transmitted (voice frequency is misrepresented)
  - o can't easily exchange physical evidence (260-61)
  - o where issue of credibility or physical evidence, videoconferencing may be unjust (see Lena v Kamloops, [2000] BCJ No. 2262 at para. 26 (BCSC))
  - o might be prejudicial if witness is not cross examined in person (see R v Fleury, [2004] SJ No. 242 at para. 17 (SKPC))
  - o impact on assessment of credibility (see R v Chapple, [2005] BCJ No. 585 at para. 52 (BCSC))
  - o ineffective representation of defendant if defendant is on video – if lawyer is with defendant, can't interact with judge; if lawyer is in courtroom, can't interact with client – counsel must decide where to be if client is testifying by videoconference; either choice might affect right to adequate representation
  - o challenge perceptions of fairness (see R v Gates (1995), 45 F. 3d 387 at 845)
  - o human element is important (see R v Fecteau (1989), 71 CR (3d) 67 at para. 27 (ONSC)) (261-62)
  - o solemnity of court proceedings (262) – certain formality
- but where do cost savings and access to justice fit in? (at least in administrative law context)

- depending on the case and (lower) level of procedural fairness warranted, videoconferencing could suffice for oral hearing
- burden lies on aggrieved individual to demonstrate infringement of procedural fairness
- \*\* conflict between public/professional and academic views on whether videoconferencing is an effective substitute for in-person testimony \*\*
- R v Chapple: videoconferencing only supplement, not substitute; consider nature of evidence (e.g. issue of credibility) (264)
- only if advantages overcome traditional rule (see Pack-All Mfg v Triad Plastics, [2001] OJ No. 5882 at para. 11 (ONSC))
- see also Rusu v INS (2002), 296 F. (3d) 316 at 322-23
- videoconferencing can also affect the person testifying, their presentation and personal traits (265)
- "To summarize, videoconferencing will more often than not diminish the fairness of a proceeding."
- but not always, particularly in administrative hearings
- if videoconferencing is used only in order to save money, this should be grounds to invalidate the decision on the basis of unreasonable exercise of discretion (266)
- oral hearing necessary where serious issue of credibility (see Singh v Canada, [1985] SCJ No. 11 at para. 59)
- "Cost and geography require compromises but the question which merits attention is whether a particular compromise in a particular circumstance is justified." (270)
- "A successful legal challenge to a tribunal's decision to employ videoconferencing is unlikely in general, though possible where particular circumstances suggest an unjust result tied to the absence of an in-person hearing." (271)

#### [Tokson 2007]

Matthew J Tokson, "Virtual Confrontation: Is Videoconference Testimony by an Unavailable Witness Constitutional?" (2007) 74 The University of Chicago Law Review 1581.

- argues that Craig test should be applied leniently in use of videoconferencing to cross-examine witnesses during trial
- constitutional right to confrontation (6th Amendment)
- in *Maryland v Craig* (1990) Supreme Court said that rights under the Confrontation Clause are not violated where "denial of [in-person] confrontation is necessary to further an **important public policy** and where the **reliability** of the testimony is otherwise assured" [see Gertner article]
- *United States v Gigante* (1999) 2nd circuit appeals court did not apply Craig test and found that the video testimony preserved all of the constitutionally required elements of in-court testimony, and is constitutionally permissible in "exceptional circumstances"
- *United States v Yates* (2006) 11th circuit appeals court did apply the test and found that video testimony did not further any important public policy – administrative convenience is not such a policy – and the prosecution could have used Rule 15 to depose the witness face-to-face pre-trial
- this appeals court said that **confrontation through a video monitor is constitutionally not the same as physical confrontation**
- historically the Supreme Court has interpreted "confrontation" in a functional way, with the **opportunity for the defendant to cross-examine being the main element** – but this cross-examination could occur before the trial (as by a deposition) or during it (as by witness testimony)
- not clear whether "face-to-face" requires physical presence or whether it's not necessary to the confrontation right
- if witness is available for physical, in-court testimony, it's likely to be required
- *Coy v Iowa* (1998) Supreme Court said that a **witness would likely have a more difficult time lying if he has to be in the defendant's presence**, but exceptions might exist where an important public policy is involved
- in *Craig* the exception was that the child witness would suffer such emotional distress that she would otherwise not be able to testify at all



- author argues that constitutional standards should not be so high in cases where video testimony by unavailable witnesses is concerned
- there is a functional advantage of video testimony over pre-trial deposition because the **factfinder can assess the witness's demeanour**
- and with foreign witnesses, a pre-trial deposition in the foreign country may not have the same reliability standards as in the U.S., so with video testimony during trial the judge can be more involved
- author also mentions “**intangible functional benefit**” of witness being in the same room as defendant (as court observed in *Coy*) – but points out that in a pre-trial deposition the judge and jury are not present, whereas in video testimony during trial they are visible to the witness, and that might have an intangible functional benefit in itself
- don't want to overemphasize the importance of physical confrontation to the detriment of other values such as a right of thorough cross-examination
- contemporaneous testimony is also preferred over pre-trial deposition because then able to rebut other witnesses if necessary
- not meant to replace in-person testimony by available witnesses, should still only be an exception

[Treadway Johnson & Wiggins 2006]

Molly Treadway Johnson & Elizabeth C Wiggins, “Videoconferencing in Criminal Proceedings: Legal and Empirical Issues and Directions for Research” (2006) 28:2 Law & Policy 211.

- mostly about criminal defendants appearing remotely in pre-trial proceedings
- cost and time savings in use of videoconferencing is greater in cases involving incarcerated defendants rather than in civil proceedings
- discussion of history of videoconferencing in federal courts
- September 2001 Judicial Conference of the United States made recommendations to amend Federal Rules of Criminal Procedure to include videoconferencing for initial appearances, at arraignments, and for remote testimony at trial
- the first two were accepted by the Supreme Court but the third was rejected because of concerns about Confrontation Clause
- some concerns about defendant appearing by video link in appearances and arraignments include:
  - o due process (procedural fairness):
    - not appearing in court might diminish defendant's sense of seriousness and lead to the perception that the defendant is **cavalier**;
    - defendant may fail to appreciate the **role of the judge as neutral authority**;
    - **dehumanizing** effect of appearing by video link from the prison;
    - **non-verbal cues** such as expressions, gaze, posture, gestures, which go to credibility, might not be accurately transmitted through video
    - difficult to determine when defendant is **confused** or wants to ask a question of his counsel
    - **camera angle** that focuses on defendant can make it more likely that observers will believe a confession was voluntary (i.e. impression of guilt);
    - defendant might be **nervous** because of camera;
    - video transmission might not accurately reproduce defendant's **affect**;
    - auditory information in higher frequencies may not be faithfully transmitted by the technology, so **information about emotional state** of speaker is lost
  - o effective assistance of counsel:
    - if counsel is not with defendant she cannot **build a relationship** from the first meeting;
    - hard to defendant **to communicate with her remotely via subtle cues**;
    - if counsel is with defendant and not at hearing, **difficult to contact witnesses**;
    - **cannot meet informally with the prosecutor** to talk about agreements for release or plea bargain;
  - o right to confront witnesses on preliminary issues:



- cross-examining on these issues may be compromised
- some issues regarding remote witness testimony at trial:
  - Supreme Court places importance on confrontation, so testifying remotely should only be in limited circumstances
- author points out that benefits of videoconferencing (e.g. efficiency and lowered cost) primary accrue to the government, not the defendant
- very little research addresses the above concerns
- should research descriptive questions about the use of videoconferencing in criminal proceedings (i.e. how it's currently done)
- also the behavioural effects on participants and how this behaviour is perceived by observers (i.e. is there a disadvantage upon the defendant because of the way he or remote witnesses might behave due to appearing on video rather than live)
- should take both an experimental approach and field study approach
- including research from psychology, communications, human factors, and education
- some examples from the literature are:
  - mock jurors rated children who testified via closed-circuit television as less believable than those who testified in person;
  - children testifying in person were rated as more accurate, intelligent, attractive, and honest, and defendant was more likely to be convicted by mock jurors;
  - witnesses who gazed slightly downward were perceived as less credible
  - being able to see gestures can aid the viewer's comprehension and increase the viewer's ratings of the person's likeability

## Videoconferencing: Problems and issues

Some issues that have been brought up in regards to videoconferencing are:

### 1) Technical/quality issues

- time lag (latency) – noticeable difference between the time of an expected response and the actual response [Poncini & Turner 2006], [Hierhager 1996]
- sound and video not being synchronized (more than 80-100 ms difference) [Hierhager 1996], [Slovák 1997]
- poor video resolution [Hierhager 1996]
  - difficult to make out facial features (unable to see facial expressions will lead confusions – inability to disambiguate spoken words)
  - difficult to make out expressions – consequences for interpersonal interactions and person perception [Poncini & Turner 2006]
- quality in audio does not compensate for low quality video (is vice versa true?)
- slow frame rate (16.7 to 25 fps is ideal?) [Slovák 1997]

### 2) Interaction issues

- lack of eye contact – the people at each end are looking at the screen which is below the camera, so they appear to be looking down and not directly at their interlocutors [Poncini & Turner 2006], [Slovák 1997]
- appearance consciousness – people can become self-conscious or uncomfortable when they know they are on camera and body language can seem unnatural
- recommendation: better to show whole body and some of the surroundings rather than just the face (unclear why?) [Slovák 1997]
- Interesting: deixis –
  - should be supported if it is needed for the communication [Slovák 1997]

### 3) Presentation issues

- witnesses seen in long-shot (with interviewer) are perceived more positively than those seen in close-up shots (at least child witnesses are) [Landström 2008]
- in close up, witnesses are perceived as having to think harder [Landström 2008]
- camera angle should be neutral (eye-level) to avoid a biasing effect on the observers [Landström 2008]

### 4) General use of videoconferencing vs live appearance

- witnesses appearing live to the jury are rated more positively than those on two-way CCTV or videotape (either child or adult witnesses) [Landström, Granhag & Hartwig 2005], [Landström 2008]
- Miller & Fontes (1979) found that the plaintiff and his witnesses (but not the defendant and his witnesses) were seen as more sociable, competent, and credible, when presented live versus by video [Landström 2008]
- but Taylor & Joudo (2005) found that presentation mode (live, CCTV, video) had no significant impact on mock jurors' perception of the parties in a sexual assault case (found not guilty) [Landström 2008]
- children who testify out of court (by video link) are perceived in more negative terms than those in court (Goodman et al 1998, 2006; Orcutt et al 2001; Tobey et al 1995) [Landström 2008]
- because live testimonies are more immediate and have more emotional impact (Goodman et al 1998)
- mock juries more like to find sex-abuse defendant guilty if child testifies live than if testifies by pre-recorded video (Ross et al 1994) -- but it has not been shown that CCTV trials ("live video") bias the jurors against the defendant (p 16)
- see also section "Deception and mediated communication"

[Hierhager 1996]

Web videoconferencing making waves

Anton Hierhager, Worldwide Visual Communication, Segment Manager, Semiconductor Group, Texas Instruments, Germany. *Electronic Engineering Times* (Nov 18, 1996): 124.

“Perceptive quality

In videoconferencing, quality is often judged by perception, rather than by measurement. Quality depends on a variety of factors, including picture resolution, frame refresh rate and artifacts. The last are the spurious details that simply look wrong in the picture, such as the "blockiness" in MPEG images. In addition, the audio must sound appropriate to the listener's ear, and the audio and video must be synchronized. Finally, in an interactive system such as videoconferencing, there must be low latency between sending and receiving the signal.”

[Landström 2008]

Sara Landström, “CCTV, Live and Videotapes: How Presentation Mode Affects the Evaluation of Witnesses” (2008) Doctoral dissertation, University of Gothenburg, Sweden.

- examines how different presentation modes affect observers’ perception, veracity assessment, and memory in legal procedures (i.e. live, two-way CCTV, and pre-taped video)
- adult observers (mock jury) rated live witnesses’ appearances in more positive terms than for video witnesses [not clear whether this is taped or “live video”]
- similarly, assessed as being more honest
- no significant difference in catching deception, and not better than chance
- “live” observers more often incorrectly thought they had remembered the statements
- another study used child witnesses
- live observers rated the children’s statements as being more convincing than did the video observers
- significantly better than chance in detecting deception (both)
- again, live observers believed they had a better memory for the statements, and they did show significantly better memory performance
- in a third study, child witnesses were observed either live, via two-way CCTV, or by pre-recorded video
- live > CCTV > pre-recorded with respect to observers’ perception of the children in positive terms
- deception detection was a bit better than chance but mediocre
- a fourth study looked at camera perspectives (adult observers, child witnesses)
- four cameras videotaped the child’s testimony (one close up, one medium with child only, one medium with child and interviewer, and one long with child and interviewer)
- children seen in long shot were seen in more positive terms
- children in close up were seen as having to think harder
- detection of lying was at chance
- so presentation mode makes a difference to perception
- a study of cases in the Swedish district court found that when plaintiffs appear live in court, the court assessed their testimonies as more reliable than when they appeared on videotape (p 9)
- Miller & Fontes (1979) found that the plaintiff and his witnesses (but not the defendant and his witnesses) were seen as more sociable, competent, and credible, when presented live versus by video (p 11)
- but Taylor & Joudo (2005) found that presentation mode (live, CCTV, video) had no significant impact on mock jurors’ perception of the parties in a sexual assault case
- children who testify out of court (by video link) are perceived in more negative terms than those in court (Goodman et al 1998, 2006; Orcutt et al 2001; Tobey et al 1995)

- perceived as less believable, less honest, less accurate, less attractive, less confident (Goodman et al 1998; Orcutt et al 2001, Tobey et al 1995)
- more sympathy is afforded to in-court children than video link children (Goodman et al 2006) because live testimonies are more immediate and have more emotional impact (Goodman et al 1998)
- mock juries more like to find sex-abuse defendant guilty if child testifies live than if testifies by pre-recorded video (Ross et al 1994) -- but it has not been shown that CCTV trials (“live video”) bias the jurors against the defendant (p 16)
- in terms of detection deception, Davies (1999) speculates that video technology can improve this ability, since the observer seems to concentrate more on what the witness said rather than non-verbal behaviour
- but jurors’ ability to assess child witnesses’ veracity does not seem to be moderated by the presentation format (p 15)
- p 17 – camera angle should be natural (eye-level) to avoid a biasing effect on the observers
- p 21 – meta study shows that detection deception (discriminating between truthful and deceptive statements) in adults is about 50%-60% success, with more success in identifying truthful statements (61%) than deceptive ones (47%) of other adults (Bond & DePaulo 2006)
- p 22 – so-called professionals are not much better
- p 23 – mismatch between how a liar behaves and how a liar is expected to behave; there are very few behaviours that will reliably indicate that someone is lying or telling the truth
- p 35 – four studies done by author showed that the presentation mode affected observers in terms of perception of witnesses’ statements and appearance, and memory of the statements, but not the ability to correctly detect deception
- p 36 – “[It] is important to acknowledge that witnesses can be perceived in more negative terms due to the fact that they have appeared out of court (vs. in court).”

CF Bond Jr & BM DePaulo, “Accuracy of Deception Judgments” (2006) 10 Personality and Social Psychology Review 214-234.

G Davies, “The Impact of Television on the Presentation and Reception of Children’s Testimony” (1999) 22 Journal of Law and Psychiatry 241-256.

GS Goodman et al, “Face-to-Face Confrontation: Effects of Closed-Circuit Technology on Children’s Eyewitness Testimony and Jurors’ Decisions” (1998) 22 Law and Human Behavior 165-302.

GS Goodman et al, “Hearsay versus Children’s Testimony: Effects of Truthful and Deceptive Statements on Jurors’ Decisions” (2006) 30 Law and Human Behavior 363-401.

GM Miller & NE Fontes, *Videotape on Trial: A View from the Jury Box* (Beverly Hills, CA: Sage Publications, 1979).

HK Orcutt et al, “Detecting Deception in Children’s Testimony: Factfinders’ Abilities to Reach the Truth in Open Court and Closed-Circuit Trials” (2001) 25 Law and Human Behavior 339-372.

MR Ross et al, “The Impact of Protective Shields and Videotape Testimony on Conviction Rates in Simulated Trial of Sexual Abuse” (1994) 18 Law and Human Behavior 553-566.

N Taylor & J Joudo, *The Impact of Pre-Recorded Video and Closed Circuit Television Testimony by Adult Sexual Assault Complainants on Jury Decision-Making*. Research and Public Policy Series No 68, Australian Institute of Criminology.

AE Tobey et al, "Balancing the Rights of Children and Defendants: Effects of Closed-Circuit Television on Children's Accuracy and Jurors' Perception" in MS Zaragoza et al (eds), *Memory and Testimony in the Child Witness* (Thousand Oaks, CA: Sage, 1995) 214-239.

[Landström, Granhag & Hartwig 2005]

Sara Landström, Pär Anders Granhag & Maria Hartwig, "Witnesses Appearing Live Versus on Video: Effect on Observers' Perception, Veracity Assessments and Memory" (2005) 19 *Applied Cognitive Psychology* 913.

<http://pjackson.asp.radford.edu/4LandstrometalEyewitness2005.pdf>

Study of whether mock jurors perceive and evaluate the veracity of live and video-based statements differently. (p 913) According to a review of the literature, liars have a tendency to speak with a higher-pitched voice, take longer pauses, and make fewer movements of their limbs. (p 914). Those who watch a suspect on video are as accurate in detecting lies as those who interrogate the suspect themselves. (p 915) The present study hypothesizes, among other things, that a truth bias (the presumption that the witnesses was telling the truth) would be present in both sets of observers (live and video), but more pronounced in live observers. (p 917) It found that "(i) actual veracity affected the observers' perception of the witnesses' statement, whereas presentation mode [live or video] affected the observers' perception of the witnesses' appearance; (ii) both live and video observers were poor in terms of assessing veracity; (iii) live observers rated the witnesses as being more honest than did video observers". (p 927) The live observers rated the witnesses more positively. This result is in line with previous studies that found that child witnesses appearing live in court are rated as less likely to provide false statements than those who testify via CCTV or videotaped statements. (p 928) The authors conclude that they "believe it is reasonable to argue that presentation mode is an important factor in the process of assessing witnesses' testimonies... Future research faces an important challenge in investigating the many different psychological effects that may result from the use of new courtroom technology." (p 930)

[Poncini & Turner 2006]

Videoconferencing (p 961)

Encyclopedia of Management

Ed. Marilyn M. Helms. 5th ed. Detroit: Gale, 2006. p960-963.

Gina Poncini and Monica C. Turner

“VIDEOCONFERENCING IN USE

LIMITS.

Like any scheduled meeting, a videoconference, particularly one involving room-based systems and groups, requires organization and planning around the schedules of participants and technicians. Despite improvements in technology, barriers to increased use continue to be choppy images and poor audio, depending on the system used and its ability to maintain connection speed, which in turn depends on the kind of connection. Accommodations must be made if there is a possibility of delayed connections or if the resolution does not allow certain character sizes on visual aids to be distinguished. In some cases it may be necessary to overcome a lack of user acceptance.

Some new users report being uncomfortable with the unfamiliar technology and having trouble with nonverbal cues such as making eye contact; in these cases preparation or training may help. If customers or potential customers are involved, incentives or facilitators on the premises may be helpful until the customers get accustomed to this technology.

EFFECT ON HUMAN COMMUNICATION.

Remote technology has been shown to affect human communication mainly due to the lack of cues normally present in face-to-face live interaction. For example, eye contact differs, and if the resolution is poor, it is not possible to look into

people's eyes to gauge the degree of interest or attention. The feedback normally expected may be missing or delayed if there is a slight time lag. Turn-taking may also differ, even if the delay amounts to only a fraction of a second.

Preparation or training should be considered in terms of intended use (for example, a one-time meeting of groups of possible trading partners as opposed to regular team meetings) and the technical characteristics of the system (for example, whether or not audio can be simultaneously transmitted and received without any interference). New users and virtual teams need to be aware of factors that may lead to hesitancy or initial uneasiness, which in turn effect communication. Some experts recommend that people meet face-to-face before working remotely as a team in order to overcome possible effects of these factors. For example, if people know each other already, they can treat inadvertent interruptions lightly. On the other hand, videoconferencing can be used for introductory meetings; participants need only be aware of possible limits.

Some techniques enhance the use of video. Looking into the camera as much as possible will help maintain eye contact. If the camera is located close to the image on a screen, looking at the individual produces a similar effect. Notes can be inserted on the monitor with some software; otherwise a good position for note cards is next to the camera. Trainers recommend practicing, including speaking with an inanimate object to get used to speaking to a camera.”

[Slovák 2007]

Petr Slovák, “Effect of Videoconferencing Environments on Perception of Communication” CESNET Technical Report No. 24/2007 (7 December 2007) [literature review] <http://www.cesnet.tw/doc/techzpravy/2007/videoconferencing-perception/videoconferencing-perception.pdf>

Video Mediated Communication (VMC) “has yet to achieve the standards of face-to-face communication in overall effectivity and subjective impression of the participants.” (p 1) Media richness is an important variable – more channels over which information flows, e.g. voice modulation, speed of speech, body language, facial expression, context of communication. There are four basic principles to achieve effective communication: (1) need to make eye contact; (2) to facilitate taking turns in talking; (3) to monitor audience attention and understanding; (4) deixis. (p 2) Framerate has a significant influence on the outcome of an exchange (both effectiveness and subjective impression), in terms of picking out words from background noise. (p 5) Lack of synchronization between audio and video impaired effectiveness (more than 80-100 ms difference). (p 6) Gaze awareness is also impacted by VMC. (p 7) It is also important for a VMC setup to support deixis. In conclusion, it is more important to focus on framerate than resolution of a video (ideally between 16.7 and 25 fps). There is a subjective preference for video over audio-only communication where the aim is to reach a compromise or be creative. Where there are more participants involved in the communication, the advantages of VMC over audio-only become more significant. (p 9) The camera should be set up to show the whole body as well as some of the surroundings. (p 10)

[Wikipedia 2012]

Wikipedia contributors. Videoconferencing. Wikipedia, The Free Encyclopedia. February 14, 2012, 09:44 UTC. Available at: <http://en.wikipedia.org/w/index.php?title=Videoconferencing&oldid=476806775>. Accessed February 22, 2012.

“Technical and other issues

Computer security experts have shown that poorly configured or inadequately supervised videoconferencing system can permit an easy 'virtual' entry by computer hackers and criminals into company premises and corporate boardrooms, via their own videoconferencing systems.

Some observers argue that three outstanding issues have prevented videoconferencing from becoming a standard form of communication, despite the ubiquity of videoconferencing-capable systems. These issues are:

**Eye contact:** Eye contact plays a large role in conversational turn-taking, perceived attention and intent, and other aspects of group communication. While traditional telephone conversations give no eye contact cues, many videoconferencing systems are arguably worse in that they provide an incorrect impression that the remote interlocutor is avoiding eye contact. Some telepresence systems have cameras located in the screens that reduce the amount of parallax observed by the users. This issue is also being addressed through research that generates a synthetic image with eye contact using stereo reconstruction.

Telcordia Technologies, formerly Bell Communications Research, owns a patent for eye-to-eye videoconferencing using rear projection screens with the video camera behind it, evolved from a 1960s U.S. military system that provided videoconferencing services between the White House and various other government and military facilities. This technique eliminates the need for special cameras or image processing.

**Appearance consciousness:** A second psychological problem with videoconferencing is being on camera, with the video stream possibly even being recorded. The burden of presenting an acceptable on-screen appearance is not present in audio-only communication. Early studies by Alphonse Chapanis [citation needed] found that the addition of video actually impaired communication, possibly because of the consciousness of being on camera.

**Signal latency:** The information transport of digital signals in many steps need time. In a telecommunicated conversation, an increased latency larger than about 150–300 ms becomes noticeable and is soon observed as unnatural and distracting. Therefore, next to a stable large bandwidth, a small total round-trip time is another major technical requirement for the communication channel for interactive videoconferencing.

The issue of eye-contact may be solved with advancing technology, and presumably the issue of appearance consciousness will fade as people become accustomed to videoconferencing.”

## Deception and mediated communication

Note that there is not much literature specifically studying likelihood/willingness to lie in face-to-face interactions versus video-mediated interactions. This is confirmed by Fredric Lederer (1998, p 21; 2009, p 820). There is literature describing liar motivation in computer-mediated communications but the focus is on text chat and e-mail interactions (Carlson et al 2004; Hancock, Woodworth & Goorha 2010). The lack of attention to the influence of video interaction on deception is likely due to the fact that the medium has only been in common use relatively recently (Xu, Cenfetelli & Aquino 2012). However, in 2012 a study was performed which suggested that people are more likely to lie in a video-mediated interaction than they are in face-to-face interactions, when there is an opportunity for personal gain (Xu, Cenfetelli & Aquino 2012). The study looked at deception motivation through the lens of both Interpersonal Deception Theory (IDT) (Buller & Burgoon 1996) and social presence theory.

IDT is a theory that attempts to account for the influence of social interaction on deception (by senders of messages) and detection of deception (by receivers) (Buller & Burgoon 1996, p 203). It takes as its “benchmark” the face-to-face, non-mediated, synchronous interaction, although it acknowledges that interactions often take place in mediated and/or asynchronous situations (Buller & Burgoon 1996, p 205). The F2F interactions are considered to be spatially and temporally immediate, engendering a sense of closeness and personalization between the participants. Conversely, mediated interactions engender a sense of distance and dissociation (Buller & Burgoon 1996, p 212). Immediacy engenders a sense of relational engagement between the participants (Buller & Burgoon 1996, p 213).

Social presence theory proposes that when cues or channels are limited, individuals pay less attention to other social participants.

A study by Hauber et al (2005) suggests that the closer a mediated interaction is to the “gold standard” of face-to-face communication, the higher the social presence. De Greef & IJsselsteijn (2001) found that the availability of video communication has a large positive effect on social presence versus an audio-only channel (in an informal setting such as sharing family photos). This effect has been attributed to access to non-verbal cues such as facial expression and eye contact (Carlson et al 2004, p 11). A two-dimensional encounter (e.g. standard videoconferencing) will afford less social presence than a three-dimensional virtual environment, which itself affords less social presence than face-to-face interaction. Even within the type of medium there are differences in levels of social presence; videoconferencing media that allow for direct eye contact provide a higher degree of social presence than traditional videoconferencing media (Bondareva & Bouwhuis 2004). (However, one study did not find a significant difference in social presence between audio and video conditions using collaborative virtual environments and Web interaction [Sallnäs 2005].)

Social distance can be also affected by actual perceived distance as opposed to the medium of communication. One study showed that people are more likely to deceive (i.e. respond in a way that bolsters their own image) if they believe that the other person is physically farther away. This result held whether the communication took place via videoconference or instant messaging (Bradner & Mark 2002).

Despite the relative dearth of studies in this narrow area, some court decisions have claimed that witnesses are less likely to lie when they are in the physical presence of the accused, due to some “intangible” quality or something “deep in human nature” (Tokson 2007, p 1601; *Coy v Iowa* 1998, p 1019).

### [Bradner & Mark 2002]

Erin Bradner & Gloria Mark, “Why Distance Matters: Effects on Cooperation, Persuasion and Deception” (2002) CSCW '02 Proceedings ACM, November 16-20, New Orleans, Louisiana 226-235

- other research into physical proximity and collaboration found that people located closer in a building are more likely to collaborate (p 226)
- also that the critical distance is 30 metres – anything farther and collaboration is not as successful



- authors' goal is to understand how interaction is influenced by perceived distance of the other collaborator
- in a different study it was found that people inflated their survey responses as distance increased between the respondent and the computer administering the survey (p 227)
- authors look to social impact theory (Latané 1981) which proposes that the degree of social intimacy is lessened as physical distance increases
- social impact is the sum of social ties, physical proximity, and temporal immediacy
- also look to social identity theory (Tajfel 1978) which suggests that people who work or live near us are more a part of "our group"
- authors conducted an experiment where the subjects interacted with a confederate that was either said to be in the same city, or in another city 3,000 miles away (in fact she was in the same building) (p 228)
- they communicated either via instant messaging or videoconference
- in the video condition, the confederate was shown on a 19-inch screen with the image dimensions approximately equivalent to the true dimensions if she were physically sitting there, and was shown to be looking directly at the subject (although she could not in fact see them, but the subject thought that she could)
- one of the tasks was to complete the Paulhus Deception Scales (PDS) – the confederate would relay the questions (orally in the video condition and by text in the IM condition) and the subject would give answers (by the same method) (p 229)
- scale measures self-deceptive enhancement and impression management
- the other two tasks were desert survival and prisoners' dilemma
- **the results for the PDS task showed that people who believed that the confederate was far away gave more deceptive (i.e. more extreme) responses than those who thought she was in the same city (p 230)**
- **type of media (video or IM) did not have an effect**
- the effects can be attributed to social perceptions (p 232)
- people are more apt to present themselves in the best light, even if they have to lie, when interacting with someone they believe is physically distant
- re: social impact theory: "If people intuitively know they are disadvantaged by distance – i.e. ill-equipped to influence a remote person to form a favorable image of them – they may stretch the truth to compensate." (p 233)
- re: social identity theory: we are less likely to trust, cooperate with, and attribute expertise to those who are farther from us

#### [Bondareva & Bouwhuis 2004]

Yevgenia Bondareva & Don Bouwhuis, "Determinants of Social Presence in Videoconferencing" (2004) Proceedings of the Workshop on Environments for Personalized Information Access, Working Conference on Advanced Visual Interfaces, AVI 2004, Gallipoli, Italy 1-9.

- traditional videoconferencing systems (VCS) are incapable of providing the full view of human vision, and cannot replicate the resolution of the human sight-line at the same time (p 1)
- usually the users are not shown life sized – presenting the users life sized increases social presence for the interlocutor (p 2)
- in F2F meetings there is a perception of intentions via non-verbal language
- eye contact is likely to be of considerable importance for social presence because it regulates the flow of conversation and communicates emotions
- in traditional VCS the interlocutors are looking at the screen and not the camera, so there is no eye contact
- authors present a "wish list" of aspects that would create a sense of immersion in a mediated interaction (pp 2-3):
  - direct eye contact
  - wide visual field
  - life sized

- upper body is shown
- high quality image
- audio with high signal-to-noise ratio
- directional sound field
- minimization of lag
- availability of shared working space
- social presence measures can be divided into two categories (p 4):
  - subjective measures – to evaluate the user’s affective judgments with respect to the system. An example is the IPO Social Presence Questionnaire (IPO-SPQ), which combines the Semantic Differential bipolar scale with a seven-point Likert-type scale measuring users’ attitudes about the system.
  - objective measures – focus on behavioural or physiological responses such as facial expressions, head and body movements, gestures, eye contact, vocal cues, laughing and joking, and turn-taking behaviour. This can be measured by videotaping the interaction and coding the responses (p 5)
- the experiment used pairs of participants; each pair was assigned to either the traditional VCS condition, or the direct eye contact VCS condition (which had all of the elements of the “wish list” except the image quality was not perfect)
- the participants engaged in two tasks: a block-building exercise (object-oriented) and a logical puzzle exercise where one participant gave yes-no responses to guide the other to an answer (social communication) (p 6)
- the results of the subjective IPO-SPQ test showed that the subjects in the direct eye contact VCS condition evaluated it more positively than those in the traditional VCS condition
- the results of the objective analysis showed that in the block-building exercise, participants in the direct eye contact condition used more of the abovementioned social responses except vocal cues (p 7)
- in the logic puzzle task there was also a significant difference except for frequency of eye contact
- so the participants in the direct eye contact condition used non-verbal communication and some verbal cues significantly more often than those participants in the traditional VCS condition
- furthermore, most of the participants in the direct eye contact condition said that they did not feel like they were in different rooms, while most of the traditional VCS participants were uncomfortable with the lack of eye contact (p 8)

[Buller & Burgoon 1996]

David B Buller & Judee K Burgoon, “Interpersonal Deception Theory” (1996) 6 Communication Theory 203-242.

- proposal of a theory that accounts for the influence of social interaction on detection and its deception (p 203)
- prior research in the literature has used non-interactive designs (i.e. the messages are recorded for later viewing)
- brings in effects of interpersonal relationships, joint patterns of action, and dynamic performances (p 204)
- “Interpersonal communication, at its simplest, can be defined as the dynamic exchange of messages between two (or more) people.” (p 205)
- prototype being dyadic face-to-face exchange
- **as communicative transactions include more participants or are mediated, they are less interpersonal and interactive**
- “Deception is defined as a message knowingly transmitted by a sender to foster a false belief or conclusion by the receiver.”
- theory comes with certain assumptions or critical attributes (p 206)
- one is that interpersonal communication entails active participation by both sender and receiver
- another is that it is a dynamic activity
- it is also multifunctional, multidimensional, and multimodal
- comprises both strategic and non-strategic (i.e. “leaky”) behaviours (p 207)

- behaviours during interactions influence participants' subsequent cognitions and behaviours
- communicators and their messages are judged on credibility
- those with greater social skills are better able to handle the numerous cognitive demands of interaction (p 208)
- participants enter the interaction with certain normative expectations or biases, for example veridicality (truth bias)
- a deceptive message includes three components: (a) the central deceptive message (usually verbal); (b) ancillary messages (verbal or non-verbal) that serve to bolster the plausibility of the central message; (c) inadvertent behaviours (mostly non-verbal) divulging deception (i.e. leakage or deception cues) (p 209)
- IDT assumes that deception and deception detection add further cognitive demands beyond those ordinarily associated with interpersonal interaction, so interpersonal deception should require more cognitive resources than truthful interactions (p 210)
- (1) IDT locates interpersonal deception within a context and relationship between the sender and receiver (p 211; page includes a diagram)
  - in F2F deception, there is much more social information available such as visual, auditory, verbal, and environmental cues (p 212)
  - social context cues hypothesis proposes that these absence of these cues (in e-mail exchanges) leads to uninhibited communication and greater self-absorption
  - social presence theory proposes that when cues are limited, individuals pay less attention to other social participants
  - **another influence is immediacy, in which F2F interaction is the exemplar, being spatially and temporally immediate – this creates a sense of psychological and physical closeness, timeliness, and personalization, as opposed to distance, disassociation, objectification**
  - **the more channels/cues available, and the more physically proximate the participants are, the greater the spatial immediacy (p 213)**
  - from immediacy flows a sense of relational engagement between the participants
  - F2F participants evaluate each other more leniently than do observers, or participants in mediated interactions
  - authors hypothesize that the truth-bias will decrease as interactivity decreases (e.g. F2F to electronically mediated communication) (p 214)
  - likewise the deceiver's behaviour will be altered depending on the immediacy of the interaction
- (2) within the context and relationship are pre-interaction and interaction elements that influence the dynamic of the behaviour and the outcome of the interaction (p 210)
  - expectations, goals, intentions, motivations, knowledge of senders and receivers (p 215)
  - implied contract that senders and receivers will be honest with one another (p 216) [although this may or may not be the case in a courtroom setting]
  - communication competence and skill of each party
  - deceivers are more likely than truth-tellers to try to manage their information, image, and behaviour, but there will be inadvertent leakage (pp 216-217)
  - on the receiver's side, those who participated in interactions had a greater truth bias than receivers who only observed the interaction (pp 221-222) [also relevant to courtroom interactions and jury assumptions]
  - socially skilled deceivers can portray a truthful demeanour and control leakage, and thus be seen as more believable (p 224)
  - **when observers were "primed" (i.e. made suspicious ahead of time), they relied more on vocal cues and channel discrepancies than facial demeanour in determining truthfulness (see Zuckerman et al 1984) (p 226)**
  - **likewise, forewarning people that they would be determining truthfulness reduced their truth bias (p 227)**

- (3) this entire process then affects post-interaction cognitions (perceived deception success and deception detection) (p 210)

#### [Carlson et al 2004]

#### John R Carlson et al, “Deception in Computer-Mediated Communication” (2004) 13 Group Decision and Negotiation 5-28.

- article intends to examine potential motivators for deceiver or receiver and the influence of media choice, and come up with a model of deceptive communication and detection (p 6)
- [focus is on text communication rather than video conferencing]
- people are typically poor detectors of deception (p 7)
- in situations where suspicions may be aroused (such as the courtroom), people will examine communications more intently
- cues that people will focus on are:
  - language style (this is most important in text communications) (p 8)
  - message content (p 9)
  - nonverbal cues (communicators depend more heavily on this than verbal cues when attempting to detect deception)
  - contextual cues (these may be correlated with the type of medium used) (p 10)
  - meta-cues (e.g. if non-verbal cues are “out of sync” with verbal cues)
- the medium used may highlight or restrict certain cues
- some theories have been developed to explain cross-media differences, such as social presence theory (Short, Williams & Christie 1976) and media richness theory (Daft & Lengel 1986) (p 11)
- social presence theory encompasses the social immediacy of a communication, or the “being togetherness” and the engagement with others present (whether physically or virtually)
- **social presence depends on nonverbal cues, and the (apparent) distance and “realness” of the participants from/to each other**
- media placed in order of social presence would be: letter, telephone, multispeaker audio, television [and videoconference], face-to-face
- tasks also have a social presence, and if the medium is not matched up properly with the task, this would affect the consequences
- [I would imagine that witness testimony would also lie on a continuum of social presence, from lower (scientific expert testimony) to higher (accuser testimony in a criminal trial)]
- media richness theory posits that media richness is based on four criteria: feedback, multiple cues, language variety, and personal focus – the more cues that are present, the richer the medium
- electronic media that employs audio and visual channels, such as videoconferencing, would be richer than telephone but poorer than face-to-face (p 12) [though the article doesn’t go into why it’s poorer than face-to-face]
- the authors suggest a set of characteristics that are germane to deception research: (p 13)
  - synchronicity (simultaneous transmission)
  - symbol variety (language variety, including things like text formatting)
  - cue multiplicity (the number of simultaneous information channels supported, e.g. audio and video)
  - tailorability (customization of the medium to match the needs of each recipient)
  - reprocessability (ability to store message contents to access later)
  - rehearsability

- the author’s model suggests that the deception outcome is a product of the nature of the communication as well as the medium through which it’s conducted, and the outcome feeds back to the receiver and deceiver – all within a given context (p 14)
- influences on the likelihood of success of deception are: (p 15)
  - role strain – if the individual is involved in multiple roles, he may use deceit to relieve the stress of role conflict – there is a higher likelihood of lying where there is a lower level of professional commitment
  - outcome value and relevance – consequences of a successful deception
  - level of motivation – whether high levels of motivation result in successful deception is in dispute (p 16) – the authors predict that the impact of motivation on deception success should be similar in F2F and computer-mediated communication (CMC)
  - intrinsic ability – likely to be impacted by user experience with the medium
  - task characteristics (p 17)
  - task load
  - task goals (both overt and covert)
  - relational goals
  - interactional goals – this is influenced in turn by the medium – in a study, receivers were better able to discriminate between truthful and deceptive messages in audio- and videoconferencing conditions than in text-only conditions (Burgoon et al 2003) (p 18)
  - experience and familiarity with the message, medium, or context
  - cognitions and affect – whether the deceiver feels unease or thrill from the activity of deception (p 19)
  - the communication medium
    - will affect both deceiver’s capability to perpetrate a deception and the receiver’s capability to perceive cues to uncover it
    - richer media may afford deceivers the ability to take advantage of higher levels of social presence and thus the potential for trust and credulity, but on the other hand will provide more cues for the receiver to evaluate (p 20) [I don’t know if this conflicts with the Burgoon study above]
    - **deceptive potential is aided by higher levels of symbol variety, tailorability, and rehearsability, and lower levels of cue multiplicity and reprocessability**

JK Burgoon et al, “Trust and Deception in Mediated Communication” (January 2003) Proceedings of the annual meeting for the Hawaii International Conference on Computers and System Science, Kona, HI.

RL Daft & RH Lengel, “Organizational Information Requirements: Media Richness and Structural Design” (1986) 32:5 Management Science 554-571.

J Short, E Williams & B Christie, *The Social Psychology of Telecommunication* (London: John Wiley and Sons, 1976).

**[Coy v Iowa 1998]**

**Coy v Iowa, 487 US 1012 (1998)**

- concerned use of screen in child sex assault case
- defendant could see witness (dimly) but witness could not see him
- decision written by Justice Scalia
- “There is something deep in human nature that regards face-to-face confrontation between accused and accuser as ‘essential to a fair trial in a criminal prosecution.’” (p 1017)
- “much truth” to this perception because it’s more difficult to lie about someone to his face, or the lies will be less convincing (p 1019)
- F2F presence may “confound and undo the false accuser” (p 1020)

- Justices O'Connor and White concurred with the final decision but disagreed with some of Justice Scalia's reasoning
- the defendant's right to physically face witnesses is not absolute (p 1024)
- it is a strong preference, but there could be competing interests such as protecting child witnesses from trauma (p 1025)
- Justice Blackmun and Chief Justice Rehnquist dissented
- whatever is "deep in human nature" does not enter the common law's view of the confrontation right (pp 1028-9)
- the right primarily represents a means to cross examination (p 1029)
- demeanour evidence is a secondary benefit
- issue comes up when the prosecution seeks to introduce an out-of-court statement and there is a question of reliability (p 1033)

#### [de Greef & IJsselsteijn 2001]

Paul de Greef & Wijnand A IJsselsteijn, "Social Presence in a Home Tele-Application" (2001) 4:2 CyberPsychology & Behavior 307-315.

- looked at social presence in tele-application in an informal setting (sharing family photos) (video vs audio-only) (p 307)
- since no specific task needs to be accomplished in such a setting, there was no focus on efficiency, etc.
- evaluated users' affective judgments (p 308)
- social presence ("being together") is distinct from sense of physical presence ("being there") (pp 308-309)
- Fish et al (1992, p 38) stated that "media richness and social presence perspectives suggest that video conferencing should be well suited for informal communication" (p 309)
- study used IPO Social Presence Questionnaire (IPO-SPQ) which combines semantic differential approach (affective qualities of the medium) with questions about subjective attitude towards the experience (pp 310-311)
- within-subjects study of audio-only vs audio+video (p 311)
- **both the semantic differential part of the IPO-SPQ and the subjective attitude questions showed a significant and substantial effect where audio+video was rated as having a higher level social presence than audio-only**

#### [Hancock, Woodworth & Goorha 2010]

Jeffrey T Hancock, Michael T Woodworth & Saurabh Goorha, "See No Evil: The Effect of Communication Medium and Motivation on Deception Detection" (2010) 19 Group Decision and Negotiation 327-343.

- study of detection deception in CMC (text-based) environment versus F2F interaction, with high or low deception motivation levels
- meta analysis of deception cues suggests that there is a small set of relatively reliable verbal and non-verbal cues (p 328)
- research has suggested that highly motivated deceivers will be detected more accurately than low or non-motivated deceivers because of leaky non-verbal cues (p 329)
- on the other hand, moderate levels of motivation may facilitate verbal and non-verbal aspects of deception
- so the elimination of non-verbal cues in CMC (text-based) might attenuate the negative effects of high motivation (i.e. leaky non-verbal cues) (p 330)
- furthermore, some studies suggest that high levels of motivation improve performance in a purely written (verbal) context
- so a CMC interaction should result in a motivational enhancement effect, whereby highly motivated deceivers will be more likely to succeed in deceiving (p 332)

- in this experiment, the variables are high or low motivation to lie, and F2F or CMC interaction
- motivation was manipulated by (a) telling senders they had to make sure to be able to convince their partners, because it is a very important skill to be able to deceive others in daily interactions, and that this ability is a good predictor of their future in social settings and job settings (high motivation) or (b) just telling them to lie (low motivation) (pp 334-335)
- these manipulations were based on BM DePaul, K Lanier & T Davis, “Detecting the Deceit of the Motivated Liar” (1983) 45 Journal of Personality and Social Psychology 1096-1103; JA Forrest & RS Feldman, “Detecting Deception and Judge’s Involvement: Lower Task Involvement Leads to Better Lie Detection” (2000) 26 Personality and Social Psychology Bulletin 118-125; MG Frank & P Ekman, “The Ability to Detect Deceit Generalizes Across Different Types of High Stakes Lies” (1997) 72 Journal of Personality and Social Psychology 1429-1439
- the CMC interaction takes place as a text chat in a shared window
- the results showed that on average, detection deception in the CMC condition was no less accurate than in the F2F condition (p 338)
- however, when motivation was taken into consideration, there was a reliable interaction between motivation and medium
- **the highly-motivated CMC senders were the most successful in their ability to deceive their partner**
- authors posit that this is **due to the lack of non-verbal and vocal cues, and enhanced control over the production of their messages relative to F2F senders**
- authors note the limitation in the study that “high stakes” deception (e.g. potential for punishment) was not a factor in the motivation, and this type of motivation needs to be studied as well (p 339)

#### [Hauber et al 2005]

Jörg Hauber et al, “Social Presence in Two- and Three-Dimensional Videoconferencing” (2005) London, England: Presence 2005: The 8th Annual International Workshop on Presence, 21-23 September 189-198.

- communicating through videoconferencing tools is an artificial experience due to lack of eye contact or shared social and physical context, and limited possibilities for information communication (p 189)
- some 3D apparatus have been created with the goal of decreasing the artificial character of the interaction
- study investigates if 3D interfaces can contribute to a more natural sense of “being together” in the sense of social presence
- unmediated F2F encounters are seen as the “gold standard” in social presence theory (p 190)
- the extent to which mediated interfaces can support social presence depends on the communication channels and additional cues available
- two measurement instruments are used:
  - Semantic Differential measure – developed by Short et al, it consists in seven bipolar pairs such as “personal—impersonal” and “cold—warm” that describe the medium.
  - Networked Minds measure – based on perceived access to another intelligence, or sense of another, via cognitive stimulations (inferences) of the other’s cognitive, emotional, and behavioural dispositions. It understands social presence as a state of the person’s mind rather than a property of the medium (pp 190-191).
- participants were put in groups of three and worked at a collaborative task (Desert Survival Game) under each of three conditions: F2F, 2D videoconference, and 3D virtual environment (p 191)
- the 3D environment also allowed participants to convey spatial relationships with each other
- afterwards the participants filled out a Social Presence Questionnaire which consisted of a combination of questions representing Semantic Differential measure and Networked Minds measure (p 192)



- the results showed that the Networked Mind scores for the F2F condition were significantly higher than the 3D condition in all six factor scales (mutual awareness, attention allocation, empathy, mutual understanding, behavioural interdependence, and mutual assistance) (p 194)
- F2F scores were also significantly higher than 2D on the scales of mutual awareness, mutual understanding, attention allocation, and empathy
- no significant differences between 2D and 3D
- **the results for the Semantic Differential questions showed that the scores for F2F were significantly higher than 3D and 2D, and scores for 3D were significantly higher than 2D**
- [Short, Williams & Christie (1976): main method for measuring social presence is Osgood's semantic differential technique – subjects are asked to rate the communication media on a series of 7-point, bipolar scales such as impersonal—personal, unsociable—sociable, insensitive—sensitive, cold—warm – a high degree of social presence is associated with the “right side” of the scales (p 66) – cites (Champness 1973) where F2F was rated the most sociable medium, followed by video, then audio (p 67)]
- the authors surmise that the Networked Minds measure is not sensitive enough to account for differences between the two mediated interfaces (p 196)
- otherwise **the increase in social presence by Semantic Differential measurement indicates that the more the system is similar to F2F, the higher the social presence**

#### [Sallnäs 2005]

Eva-Lotta Sallnäs, “Effects of Communication Mode on Social Presence, Virtual Presence, and Performance in Collaborative Virtual Environments” (2005) 14:4 Presence 434-449.

- study comparing presence and social presence in collaborative virtual environment (3D with avatars) and text-based, audio, or video interaction, and Web audio or video interaction
- previous research has not found uniform results regarding benefits in using videoconferencing over audio-only (p 435)
- *presence* is defined as “the subjective experience of being in one place or environment, even when one is physically situated in another” (Witmer & Singer)
- influencing the degree of perceived presence are involvement (significance attached to stimuli, activities, or events) and immersion (perceiving oneself to be included in an environment) (these also influence each other)
- *social presence* is defined as “the salience of the other in a mediated communication and the consequent salience of their interpersonal interactions” (Short, Williams & Christie) (p 436)
- the extent to which a medium is perceived as sociable, personal, intimate
- study looks at the extent to which the medium affects subjective performance of presence, social presence, and performance
- pairs of subjects were tasked with looking at information and deciding on a car within the virtual environment, while communicating with each other by text, audio, or video (the video screen was separate from the CVE screen) (p 437)
- results were measured via questionnaire (p 438)
- **results did not show a significant difference for perceived presence or social presence between CVE audio and CVE video conditions, although they were each significantly higher than CVE text condition (pp 439-440)**
- in the Web condition, pairs performed the same task using a web page rather than a CVE, and communicated with each other via audio or video (p 441)
- **the results showed that in this environment, presence was perceived to be increased in the Web + video condition over audio, but there was no significant difference in the level of perceived social presence (pp 442-443)**



- **these results do not support the notion that non-verbal cues improve people's perception of social presence (p 445)**

[Steptoe et al 2010]

William Steptoe et al, "Lie Tracking: Social presence, Truth and Deception in Avatar-Mediated Telecommunication" (2010) Proceedings of the 28th International Conference on Human Factors in Computing Systems 1039-1048.

- studying whether user behaviour and psychological response during truth telling or deception is similar avatar-mediated communication (AMC) and video-mediated communication (VMC) (p 1039)
- especially eye tracking of oculesic behaviour (gaze, pupil size, blinking)
- part of the non-verbal behaviour that contribute to social presence (p 1040)
- the avatars replicate the user's gaze, pupil dilation, and blinking (p 1042)
- the video conferencing system showed the participants life-sized from the mid-torso up (p 1043)
- both conditions allowed for eye contact
- psychological arousal was measured immediately after using a Profile of Mood States questionnaire (p 1044)
- results showed that **between AMC and VMC, oculesic behaviour was not significantly different (p 1045)**
- **but the questionnaire revealed that there was significantly higher psychological arousal in the VMC condition (both positive and negative moods)**
- **there was a significant difference in oculesic behaviour from the truth-telling to the deception condition (increased gaze, increased pupil dilation during deception); this held for both AMC and VMC conditions**
- "We can hypothesize from E1 that the degree of social presence experienced in AMC is less acute than that fostered by VMC, but that users' behavior in AMC is no less socially 'real' than that demonstrated in VMC." (p 1047)
- note that the participants were told when to tell the truth and when to lie

[Xu, Cenfetelli & Aquino 2012]

David Jingjun Xu, Ronald T Cenfetelli & Karl Aquino, "The Influence of Media Cue Multiplicity on Deceivers and Those Who are Deceived" (2012) 106 J Bus Ethics 337-352.

- studied influence of media cue multiplicity on likelihood of deception
- hypothesised that lean media (with lower cue multiplicity) would increase likelihood of deceit in the context of a two-party sales transaction (p 338)
- draws on the Interpersonal Deception Theory (IDT) (Buller & Burgoon 1996)
- and social presence theory, according to which cue multiplicity promotes perceptions of presence and realness of other participants
- videoconferencing would have the strongest cue multiplicity of all the CMCs
- "Based on the postulate of social presence theory that having fewer social cues reduces one's experience of social presence, we hypothesize that a medium with low cue multiplicity creates the perception of greater psychological distance between individuals communicating with one another through that medium." (p 339)
- **this reduced experience of social presence would then lead to less self-control and self-monitoring, which makes it easier to violate personal standards of honesty, and therefore an increased likelihood of deception for personal gain when the opportunity arises**
- broker-buyer dyads where broker had the opportunity to engage in deception to improve their own performance (p 341)
- interaction took place either via face-to-face communication, video-mediated (V2V), audio-mediated, or text-mediated
- the F2F medium had significantly more perceived cues than V2V (p 343)

- **deception was influenced significantly by the brokers' perceived cue multiplicity, so brokers were more likely to lie when they were interacting with buyers by video link versus face to face (p 345)**
- **authors speculate that the difference in F2F and V2V results are due to difficulty in making eye contact, difficulty in attracting attention of the other party, and the psychological feeling of being distanced from the other party**
- other subtle hints might also be lost over video such as facial tics and scent
- authors acknowledge potential limitations of the study in that the results may be limited to situations where each party has a conflicting goal, and/or when personal gain is the intended result (p 349)

[Zuckerman et al 1984]

M Zukerman et al, "Segmentation of Behavior: Effects of Actual Deception and Expected Deception" (1984) 46 Journal of Personality and Social Psychology 1172-1182.

- verbal and nonverbal communications can be broken into segmented units
- number of segments in the message and the breakpoints between them can be a clue to deception
- segmentation is also related to control and arousal on the part of the sender
- deception may decrease the number of segments in controllable channels such as the face, but increase the number of segments in more leaky channels such as the body (due to increased arousal)
- receivers tend to judge messages as deceptive in the presence of cues pointing to deception
- so perceived deception may be correlated with the number of segments (i.e. positively with body segments and negatively with facial segments)
- also looked at how expectation of deception affected receivers' level of segmentation
- do they scrutinize more and thus identify more segments?
- videotapes were made of senders telling the truth or lying, with two visual conditions (face only, body only), and three audio conditions (no audio, filtered speech, unfiltered speech)
- half told the truth or lied about liking another person, the other half told the truth or lied about dominating another person
- subjects participated in the segmentation task (counting segments of behaviour); one group was told to expect deception, while the other group was not told – all subjects viewed each message
- also rated senders' feelings on two 9 point scales (one for liking, one for dominance)
- another group of subjects were to judge truth or deception, using the same videotapes and the same conditions
- relative to truthful messages, deception was associated with smaller numbers of segments the face and and larger number in the body – no difference depending on audio condition
- "informed" subjects generated a smaller number of segments in filtered and unfiltered audio conditions – so expected reduction in segmentation for those who anticipated deception only occurred where there was audio
- **correlation between segmentation and deception detection was insignificant, but the direction was towards being higher correlation for body than for face (which is consistent with increase in number of segments in body but not face)**
- deception was not accurately perceived above chance

## Person perception, self-perception, and video

One view – fewer cues = less social presence = negative person perception – the F2F interaction is the standard by which mediated interactions are judged.

e.g. social presence theory, media richness theory

- depends on task (straightforward/ambiguous, informatic/affective, emotional),

Another view –hyperpersonal theory – mediated interactions have unique qualities that can positively affect tasks by contrast with F2F interactions (Walther; Culnan & Markus 1987)

Most of the studies are in the context of company organizations, where participants work towards a common goal. Therefore, their generalization to courtroom activity depends on the similarity to the adversarial trial setting. While the ultimate goal of a trial can be said to be “justice” or “truth finding”, each participant may in fact have different, even opposite objectives. The factfinder’s (whether jury or judge) objective is to determine, as far as is possible, what in fact occurred and whether and to what degree the defendant is criminally liable. The role of the witness is to recount the facts that will be used in this determination. The role of the judge is to moderate the proceedings and to determine the law that applies. The defendant’s goal, of course, is to be acquitted, and defence counsel’s goal is to ensure a fair trial for his client (and get him acquitted). The prosecutor’s goal (overall) is to see the defendant convicted. Within these overarching goals there are sub-goals: in a direct examination the witness and counsel are on the “same side” and so must co-operate in recounting facts to the jury, whereas in a cross-examination the counsel’s goal is to inject doubt in the mind(s) of the factfinder as to the veracity or reliability of the witness’s descriptions. Furthermore, each of the legal actors must be cognizant of the need to avoid harming the public’s view of the judicial system. -- *need more info on organizational structure of the courtroom*

[Burgoon et al 2002]

Judee K Burgoon et al , “Testing the Interactivity Principle: Effects of Mediation, Propinquity, and Verbal and Nonverbal Modalities in Interpersonal Interaction” (2002) 52:3 Journal of Communication 657-677.

- designers and scholars of new media have treated F2F interaction as the “benchmark”, assuming that it is superior for all situations (p 658)
- in media richness theory, mediated communication was thought to eliminate social presence, impair working relations, and undermine task performance compared to F2F interaction
- in channel reliance theory, however, there was recognition that certain cues might be ignored or even distracting (p 659)
- empirical evidence has not borne out the presumption that F2F is always the superior mode of communication
- an alternative view is that communicators can compensate for cue shortfalls if given adequate time and motivation
- principle of interactivity asserts that “human communication processes and outcomes vary systematically with the degree of interactivity that is afforded or experienced”
- interactivity refers to interdependent message exchange, but can also be understood in two senses: the demonstrable properties of the media that allows participants to engage in interdependent interaction (e.g. contingency, participation, and synchronicity); and the qualities that lead to an interaction being experienced as interactive (e.g. degree of involvement, interaction ease and coordination, and mutuality) (p 660)
- the extent to which interactivity helps or hinders depends on factors such as the nature and goal of the interaction, and the participants (e.g. how adaptable are they to a given communication format) (pp 660-661)

- structural affordances such as mediation, proximity, and modality and context richness may exert direct effects on outcomes, or they may influence the interaction process which then leads to a given outcome (p 661)
- mediation is the interposition into the interaction of a medium by which messages are transmitted – generally will be leaner than F2F in terms of nonverbal information
- proximity (aka propinquity) refers to geographic closeness or distance
- both affect nonverbal immediacy, which is a set of nonverbal behaviours such as physical proximity, eye contact, touch, body orientation, etc., that create psychological closeness and social presence (pp 661-662)
- for straightforward tasks, this social information may elevate users' cognitive load and negatively impact the ability to perform or complete the task (p 662)
- authors hypothesize that mediated interaction differs from nonmediated interaction in communication process qualities and outcomes
- literature suggests that physical proximity promotes psychological closeness, creates a sense of mutuality, connection, common ground, and shared understandings, heightens truth bias, and promotes higher levels of credibility, trust, and influence
- on the other hand, as interactants become physically and psychologically removed from one another, concerns about self-presentation, maintaining a trusting and amicable relationship, and assuring a comfortable interaction, would fall away
- so it would be more difficult to establish credibility and influence partners when not “physically” present (pp 662-663)
- authors hypothesize that proximal interactions result in more favourable interaction processes and outcomes than distal interactions (p 663)
- mediated formats also restrict modalities of communication – e.g. videoconferencing loses proxemic, haptic, and environmental cues
- leaner modalities are thought to create psychological distance, and what they say becomes more task-oriented and depersonalized (less spontaneous)
- but some evidence suggests that communicators can compensate for the missing cues (p 664)
- in the current state of technology (2002), videoconferencing can be jerky, and if the person using it can see themselves on the screen they might become distracted and self-conscious, which will then reduce mutuality and involvement
- because of this, authors hypothesize that F2F and audio-based media result in more favourable interaction processes and outcomes than text-based and video-based media
- in the study, subjects were paired with a confederate who followed a memorized script
- worked on Desert Survival Problem where they had to come to an agreement about the relative importance of items available to them (cooperative task)
- five experimental conditions: F2F, proximal text (partners were sitting near each other but communicating via online chat), distributed text (separate rooms), distributed audioconferencing (text chat with audio enabled), and distributed videoconferencing (text chat with audio and video enabled) (p 665-666)
- subjects completed post-interaction questionnaires (p 666)
- dependant variables were the following:
  - interactivity measures – perceived involvement, mutuality, interaction ease, and expectedness and desirability of the confederate's interaction behaviour (p 666)
  - social judgment measures – task attraction, credibility, dominance, utility
  - task outcome measures – decision quality and influence (p 667)
- F2F was perceived as more receptive (dimension of mutuality), expected, easy, and friendly (dimension of credibility), but did worse on the task outcome measures than the combined computer-mediated conditions (p 668)

- text yielded higher competence ratings (dimension of credibility)
- in the proximal conditions (F2F and proximal text), connectedness (dimension of mutuality) and involvement were higher than in the distributed conditions
- so were the social judgments of sociability, utility, and task attractiveness
- within text-only condition, the proximal text condition created more connectedness and involvement, and more favourable social judgments (p 670)
- trust was higher in audio condition than distributed text and video
- proximal text condition produced higher sociability ratings than the distributed conditions
- video condition produced lower sociability ratings than distributed text and audio, but exceeded F2F in both task outcome measures
- proximal text and audio were most advantageous for promoting positive social judgments, and video was the least
- the study confirmed that F2F interaction is perceived as easier than mediated, and thus may impel subjects to rate more positively, but doesn't translate into better or worse decisions (p 671)
- findings imply that actual or perceived distance can weaken people's task engagement and their sense of connection, and the credibility they ascribe to task mates [note that the experiment involved a cooperative task]
- also demonstrated that the goal of the interaction must be taken into account
- authors acknowledge that the results should not be generalized to all communication contexts since the task here was so straightforward and short-term (p 672)
- tasks involving ambiguity, judgment, or relational work, may require proximity and access to the full complement of audiovisual nonverbal cues

#### [Champness 1973]

Brian G Champness, "Attitudes toward Person-Person Communications Media" (1973) 15:5 Human Factors 437-447.

- looks at attitude of participants towards the mode of interaction (pp 437-438)
- supposes that differing attitudes might lead to differences in the manner and probability of their use (p 438)
- for example, if CCTV is seen as more public than other forms of media or F2F, the conversation may be less free-flowing and more guarded
- subjects were paired up and given a consensus task (choice dilemma)
- would engage in discussion by F2F (they were aware they were being recorded), CCTV (21 inch monitor with camera on top), and audio-only (each pair used each of the modes of interaction in different orders, so three discussions each)
- after each discussion the subject would fill out questionnaire based on Osgoode's Semantic Differential (with factors such as boring—interesting, good—bad, public—private, strong—weak, etc.) about their opinion towards the mode of interaction
- there were no effects of media on the outcome of the task itself (p 440)
- the medium of communication had a significant effect on 20 out of 24 semantic differential scale, and most of these were differences between audio and the other two conditions
- F2F was rated significantly different from CCTV on the following scales (4 out of 24) ( $p < 0.01$  for each):
  - F2F was rated as more meaningful (vs meaningless)
  - F2F was rated as more private (vs public)
  - F2F was rated as more true (vs false)
  - F2F was rated as more sociable (vs unsociable) (p 441)
- also, video was seen as the most public of all three (p 445)
- author surmises that the camera may have been seen as intrusive, or that attitudes towards television broadcasting may have influenced opinions (p 446)

- suggestions for further research include looking into possible effects of picture size, high-quality sound, and general appearance of equipment (p 447)

#### [Chilcoat & DeWine 1985]

Yvonne Chilcoat & Sue DeWine, "Teleconferencing and Interpersonal Communication Perception" (1985) 13:1 Journal of Applied Communication Research 14-32.

- studied audience perceptions under four conditions: F2F, audio-video on large monitor (5 ft x 7 ft), audio-video on small monitor (19 in), and audio-only
- each type of medium has a different amount of social presence due to its strengths and weaknesses, and the environment in which it is used (p 15)
- three key factors that reflect receiver perception are *interpersonal attraction*, *homophily* (perceived similarity between speaker and listener attributes), and *source credibility*, so these should also vary based on the medium used
- Korzenny (1978) proposed the theory of "electronic propinquity": the perception of psychological closeness between individuals or groups afforded by an electronic medium (p 16)
- non-verbal cues such as eye contact and posture will influence this quality
- video has been found superior to audio-only for forming first impressions (Williams 1972; 1978)
- but does not afford same sense of personal contact as F2F (pp 16-17)
- authors hypothesized that perceptions of the speaker's interpersonal attractiveness will be highest F2F, then audio-video, then audio-only (p 17)
- greater sense of distance could cause the listener to be more critical of the speaker
- Williams (1975) found that F2F interactions were more positively rated than video interactions, then audio-only
- authors hypothesize that perceptions of interpersonal homophily will be greatest when interacting F2F, then audio-video, then audio-only (pp 17-18)
- research indicates that vocal and visual factors affect judgments of credibility (p 18)
- authors hypothesize that perception of credibility will be greatest when interacting F2F, then audio-video, then audio-only (p 19)
- also wondered whether there is a significant difference in interpersonal attraction, homophily, and credibility perception depending on the size of the screen (p 20)
- study had subjects watching or listening to a lecturer give an informational speech about economics, then were able to ask him questions afterward (all the participants were viewing/listening at the same time) (p 23)
- subjects filled out questionnaires measuring the three factors mentioned above
- social attractiveness, physical attractiveness, and attitude homophily were found to be higher for audio-only than for small-screen audio-video (p 25)
- they were also higher for audio-only than for F2F (p 27)
- authors note that the speaker had some physical condition issues – he sweated a lot, causing his glasses to slide, and seemed to be uncomfortable being confined to one spot as he lectured
- by contrast, he spoke very well
- the small-screen audio-video group had some problems with the speaker (i.e. the equipment) and they gave the lowest mean scores
- the large-screen group, the F2F group, and the small-screen group did not differ significantly from each on any of the variables (p 28)
- credibility was not affected by the medium
- authors also point out that the task in this study was information dissemination rather than problem-solving or decision-making

- future researchers should address the relationship between type of task and the most appropriate medium for each task (p 29)

#### [Culnan & Markus 1987]

Mary J Culnan & M Lynne Markus, "Information Technologies" in M Jablin et al, eds, *Handbook of Organizational Communication: An Interdisciplinary Perspective* (Newbury Park, CA: Sage, 1987) 420-444

- two perspectives on electronic media (p 423)
  - most the early research has taken place in controlled laboratory settings with the assumption that: (1) mediated communication filters out communicative cues, (2) different media filter or transmit different cues, and (3) the use of mediation technology in communication will result in predictable changes in intrapersonal and interpersonal variables ("cues filtered out")
  - relatively rare and new is the research that starts with the assumption that the media have capabilities and functions not found in F2F communication ("new capabilities")
- in the "cues filtered out" tradition, the focus is on what is lost, such as eye contact, interruptions and pauses in conversation, physical presence of speaker (p 426)
- in mediated communication, participants find ways to compensate
- F2F communication can also distract from the task and from vocal cues that might indicate lying (per Short 1976) (p 429)
- mediated communication can also filter out information about the social context of the communication such as the setting and hierarchy
- findings of the "cues filtered out" experimental literature are most likely be generalizable only to field settings where participants with equal status and similar tasks are working together (p 430)
- by contrast, in the "new capabilities" tradition, electronic media are thought to have features that may confer advantages over F2F (p 434)
- a theoretical perspective that assumes that these media are deficient compared to F2F is inadequate
- results of field studies of electronic media use do not necessarily support the "cues filtered out" framework
- too much focus on the individual or interpersonal impact of the technologies rather than organizational impact
- need to consider (and try to link to) existing theories about organizational variables and communication structure (pp 435-436)
- and media choice, which will be influenced by the purpose of the communication and the participants' perceptions of the task and environment (p 437)

#### [Doherty-Sneddon et al 1997]

Gwyneth Doherty-Sneddon et al, "Face-to-Face and Video-Mediated Communication: A Comparison of Dialogue Structure and Task Performance" (1997) 3 J Experimental Psychol: Applied 105-125

- studies how visual information affects communication outcome in F2F, copresent, and video-mediated interactions (p 105)
- past studies suggest that it depends on the type of task (p 106)
- for problem-solving tasks there does not appear to be much of an effect, but for social tasks, access to visual information appears to show some benefit
- this study uses a system that reproduces F2F interaction as closely as possible (p 107)
- two substudies that were then compared – the task in both studies is a map task where one subject has a map with a route traced out, and the other has a similar but slightly different map, and the first subject tells the second how to reproduce the route (p 110)



- study 1 compared F2F with audio-only copresent (i.e. subjects were in the same room but view of each other was obscured by a panel)
- used paper and pencil for the task
- study 2 compared VMC (with eye contact or without) with remote audio-only (p 115)
- used computers instead of pencil and paper
- in study 2, task performance was not affected by communication medium or eye contact, and neither was the time it took to complete the task (p 117)
- **[article does not indicate whether task success (i.e. replicating the route) was different as between F2F and AV, but it seems that it wasn't]**
- **VMC performance was less efficient than F2F in that subjects used significantly more speech for the same level of task success – listeners had more trouble understanding** (pp 119, 122)
- authors posit three reasons:
  - listeners in VMC interactions seem to be less confident about mutual understanding (p 120)
    - perhaps visual signals presented by VMC are less effective than in F2F
    - e.g. iconic gestures seem to be ignored by the audience in VMC (Heath & Luff 1991)
    - or metaperception is being distorted in non-F2F interactions (Sellen 1995)
    - perhaps the VMC subjects overcompensated because of the loss of subtle visual cues (p 121)
  - participants were not as familiar with using VMC (p 121)
  - knowing that they were communicating remotely caused participants to alter their behaviour (p 122)
    - increased formality of VMC led them to interact in a more formal manner (fewer interruptions)

#### [Goodman et al 1998]

Gail S Goodman et al, "Face-to-Face Confrontation: Effects of Closed Circuit Technology on Children's Eyewitness Testimony" (1998) 22 Law and Human Behavior 165-203.

- study to examine the effects of CCTV on children's testimony and juror's perceptions (p 166)
- up to that point (1998) there were no studies investigating juror's abilities to distinguish accurate from inaccurate child testimony involving the use of CCTV (p 170)
- a UK study found that children who testified via CCTV were rated as more resistant to leading questions, more consistent, more confident, and less unhappy than those who testified in open court (Davies & Noon 1991) (but only the happiness result could be replicated [Murray 1995])
- in neither of the above studies was there found any significant difference in conviction rate
- in present study, there are two guilt conditions (guilty or not guilty) and two mock trial conditions (open court and CCTV) (p 171)
- children had interacted with a male confederate "babysitter" who told them to put stickers on their exposed (guilty) or clothed (not guilty) arms, legs, and stomach
- children were between five and nine years old (p 173)
- juries were made up of community members recruited from voter registration lists or newspaper classifieds
- after the mock trial, but before deliberations, each juror completed questionnaires related to, among other things, defendant's guilt and juror's certainty of guilt, and child witnesses' believability, honesty, accuracy, suggestibility, likelihood of making up testimony, degree of influence by leading questions, attractiveness, intelligence, consistency, and confidence (p 176)
- a second questionnaire about guilt and certainty of guilt was completed after deliberations
- trials were staged in a real courthouse (p 177)
- in CCTV condition, a large TV screen was present in the courtroom (p 180)
- each attorney would be in the other room with the child (one at a time) when questioning her



- **predeliberation, there was no significant effect of trial condition (open court or CCTV) on jurors' impressions of the defendant's guilt** (p 190)
- **neither was there an effect on jurors' perception of the fairness of the trial towards the defendant** (although women more than men tended to view CCTV trials as less fair to the defendant, less fair overall, and more fair to the child) (p 191)
- **there was also no effect on jurors' discernment of children's actual accuracy** (which is to say, the jurors were fairly bad at it in both conditions) (pp 192-193)
- however, children who testified via CCTV tended to be more accurate in answering direct questions than children testifying in open court (p 194)
- **children in the open court condition were generally viewed as more accurate and more believable** (p 195)
- but there was also an opposite, indirect, effect in that children who testified via CCTV were more accurate when answering direct questions, which led them to be viewed as more accurate and believable
- **predeliberation, there was no significant effect of trial condition (open court or CCTV) on jurors' impressions of the defendant's guilt** (p 197)
- the use of CCTV decreased suggestibility in younger children
- CCTV generally promoted more accurate testimony in children
- and less pretrial anxiety (pp 197-198)
- **children testifying via CCTV were viewed as less attractive, less intelligent, more likely to be making up a story, and less likely to be basing their testimony on fact versus fantasy** (p 199)
- authors caution that there are limits to generalizability: (p 200)
  - "crime" was relatively tame, so children were not nearly as stressed as they would be in, e.g., a sexual abuse trial
  - also might affect juror's judgment of guilt
  - jurors knew the trial was not real
  - only one witness testified
- but in conjunction with other studies it can be said that CCTV, while it may be beneficial to the child witness, may limit the impact of the child's testimony on jurors' predeliberation decisions

[Nowak, Watt & Walther 2005]

Kristine L Nowak, James Watt & Joseph B Walther, "The Influence of Synchrony and Sensory Modality on the Person Perception Process in Computer-Mediated Groups" (2005) 10:3 Journal of Computer-Mediated Communication (np).

- studied effects of synchrony and number of cues (and combined effect) on person perception in mediated interaction
- theories such as social presence, media richness, and social context cues hypothesis have assumed that the technology itself is the main determinant of the outcome of the interaction, and that lean media are not well-suited for social interactions
- subsequent research has produced results inconsistent with this hypothesis
- people will adapt their communication behaviours to whatever medium they are using, and hence few differences are found in performance outcomes between F2F and mediated groups [note that this seems to be related to collaborative tasks]
- in some cases lean media interactions are more satisfactory, engaging, or "hyperpersonal" (Walther 1996) than rich media interactions [hyperpersonal model is an interpersonal communication theory that suggests computer mediated communication (CMC) can become hyperpersonal because it "exceeds [face-to-face] interaction," affording message senders a host of communicative advantages over traditional face-to-face (FtF) interaction – Wikipedia]

- asynchronous media allow the communicator to revise the message before it is sent, and go back to previously-sent or received messages
- the interaction between synchrony and media richness has not yet been investigated (only each separately)
- this study had subjects in groups of three or four, collaborating on researching and writing for an oral presentation
- the group members met once a week for five weeks
- five conditions:
  - F2F (used as reference only and not analysed in the same depth as the others)
  - synchronous video
  - asynchronous video
  - synchronous text chat
  - asynchronous text discussion forum
- the dependent variables were the following:
  - uncertainty reduction – e.g. how comfortable subjects felt about being able to predict other group members' values, attitudes, feelings, and emotions
  - social attraction – extent to which subjects felt their partners were pleasant, and would they interact with them again in the future
  - self-reported involvement
  - perceived partner involvement
  - credibility
  - conversational effectiveness
- those using asynchronous low cue media (i.e. discussion forum) felt more certain than those using asynchronous high cue media (i.e. asynchronous video)
- there was a non-significant increase in certainty in high-cue media (combined video conditions) over low-cue media (combined text conditions)
- low-cue media provided higher social attraction than high-cue media
- synchronous media provided higher social attraction than asynchronous media
- those using synchronous media reported higher self-involvement than those using asynchronous media
- those using low-cue media reported higher perceived partner involvement than those using high-cue media
- those using low-cue media rated their partners as more credible than those using high-cue media
- those using synchronous low-cue media (i.e. text chat) rated conversational effectiveness higher than than subjects in the other conditions
- these results are more consistent with the hyperpersonal model than with the social presence, media richness, and social context cues hypotheses
- in the F2F reference condition, the results of the ANOVA analyses were the same as reported above (i.e. when included with the high-cue synchronous condition, there was no difference in the results)
- so the “gold standard” did not affect the perception process
- authors note that the results may be specific to the type of task (group collaboration)
- results suggest that there is not a monolithic relationship between the media and the outcome, but that there is an intervention of communication/social processes within the chain

[Short, Williams & Christie 1976]

John Short, Ederyn Williams & Bruce Christie, *The Social Psychology of Telecommunications* (London: John Wiley & Sons, 1976).

- an opinion-change experiment looked at the perceptions of the other person (p 107)
- people in audio condition were generally rated more favourably than those in closed-circuit television and face-to-face conditions – more trustworthy, pleasant, and reasonable, as well as more sincere, sociable, and trusting

- [the values also decreased from CCTV to F2F – those in the video were seen as more trustworthy, more persuasive, less unemotional, less unfriendly, and less tenacious than those encountered F2F (thought it doesn't mention the significance value of these values)] (p 108)
- there was a significant main effect of medium on the trust factor
- “These results suggest that in tasks involving a high degree of confrontation or interpersonal tension, conversations over audio links (and the persons encountered over audio links) might be preferred to those encountered over the more intimate media (video or face-to-face).”
- medium can affect the likelihood of reaching an agreement in a problem-solving interaction (p 109)
- one theory is that because audio interactions have less social presence, the focus is more on the task and less on the person
- person perception is defined as “the processes by which man [sic] comes to know and to think about other persons, their characteristics, qualities and inner states.” (Taiguri 1969) (p 113)
- it is possible that actors will change their behaviour to match the perceived social presence of the media in use (e.g. formal behaviour for a situation perceived to be formal) (p 114)
- then the other person perceives their interlocutor to be formal and impersonal
- alternatively, perhaps the medium does not sufficiently transmit non-verbal cues of friendliness and warmth, and the other person perceives her to be formal and impersonal
- authors surmise that both process probably occur
- metaperspective is likely to be especially sensitive to type of media used – i.e. how the person thinks that she is being perceived
- authors felt that there was enough “soft” evidence (from interviews) that interpersonal processes are affected by media that it would be worth engaging in systematic measurement (p 118)
- studies from the 1950s to 1970s suggest that the addition of visual information does not allow for significant improvement in the accuracy of person perception (as opposed to purely audio) (p 119)
- one study in 1966 compared written, audio-only, and audio-video media, and did not find any significant effect on person perception in terms of favourability – but this was a non-interactive situation and did not include a face-to-face condition (pp 119-120)
- a 1971 study involved the Prisoner's Dilemma with a confederate, and the subject could have been under the impression that it was interactive (although it actually wasn't, even in the face-to-face condition the confederate was to only give certain responses)
- the message (response from the confederate) was either friendly or unfriendly
- the confederate “participated” either by written response, telephone, CCTV, or face-to-face
- the subjects rated their impressions of the confederate
- on one factor, there was a medium-content interaction; when the message was friendly, the confederate was rated as most pleasant/friendly in F2F condition, followed by CCTV, then telephone, then written (p 121)
- when the message was unfriendly, the confederate was rated as least pleasant/friendly in in F2F condition, followed by CCTV, then telephone, then written
- more rich media may have acted as intensifiers of whatever emotion was being transmitted
- another 1971 study between picturephone and audio-only failed to find an effect of communications medium (p 122)
- but this may have been due to the absence of a F2F condition and a narrow range of media
- a 1970 experiment provided evidence that people may have an unwarranted confidence in judgments that are made face-to-face (Reid 1970) (p 123)
- a confederate was interviewed for a travel scholarship by a subject either F2F or via telephone
- then the subjects rated the confederate (e.g. whether the confederate was serious, mature, responsible, etc.) and also their own confidence in the accuracy of their judgments

- there was no significant difference in the ratings of the confederate, but as to the subjects' own confidence, the F2F condition led to higher confidence than telephone condition
- a similar experiment was done using F2F, CCTV, and audio only (p 125)
- then the interview rated the interviewee as to qualities such as kindness, rationality, confidence, and trustworthiness, and for each quality also rated her own confidence
- the interviewees also rated their opinions of their own personalities using the same scale
- interviewers' confidence in judgments was slightly lower over the audio systems, but the mean was not significantly different from that of video or F2F (p 125)
- accuracy of judgments was similar over all three media (i.e. hardly accurate at all)
- but the interviewees met over the video system were seen as more predictable than those over the other two conditions
- F2F were seen as less broad-minded and less rational than the other two, and audio interviewees were seen as less dominant
- a 1975 study found that subjects generally rated conversation partners more positively in F2F conditions than CCTV, then telephone (e.g. friendly, sociable, intelligent, successful, not domineering or unreasonable, etc.) (p 126)
- when the task was general conversation (free discussion), the ratings were highest for F2F, then CCTV, then telephone
- when the task was to come to a mutual decision about prioritizing "problems of modern life", the ratings were highest for CCTV (the other two did not differ significantly from each other) – this is difficult to explain because there are no non-verbal cues unique to CCTV (p 127)
- the authors look to to their Social Presence hypothesis (p 129)
- social presence of the medium is one variable that contributes to intimacy, along with proximity, eye-contact, smiling, and topic of conversation
- Intimacy Equilibrium Model: when intimacy deviates from the optimum, parties will change their behaviour to get back to the optimum – if they can't do that, then the situation is found to be unpleasant
- in the above experiment, the priorities task was presumably more intimate than the conversation task, and so telephone was not intimate enough, while F2F was too intimate, and thus relatively unpleasant
- whereas the general conversation task itself is less intimate, the medium with the highest social presence (F2F) will make it easier to maintain equilibrium, and thus be rated more pleasantly
- but another experiment (audio-only vs video) did not show the same task effect – the authors speculate that's because it did not include a F2F condition and so the range of media was too narrow to see an effect (p 132)
- a 1973 study of metaperception and medium, video came out more favourably than audio-only (i.e. in the audio condition the subjects were more likely to feel like they weren't being understood, listened to, etc.) (pp 133-134)

#### [Valacich et al 1994]

Joseph S Valacich et al, "Extensions to Media Richness Theory: A Test of the Task-Media Fit Hypothesis" (1994) 4 Proceedings of the Hawaii International Conference on System Sciences 11-20.

- one of the most widely cited theories is Daft & Lengel's (1986) media richness theory (p 11)
- it proposes that task effectiveness is improved when the needs of the task are matched with the medium's ability to convey information
- media richness is based on four criteria: feedback, multiple cues, language variety, and personal focus
- F2F is richest medium, followed by video, telephone, etc. (pp 11-12)
- but Daft & Lengel focused mostly on perception and not the objective measurements of task performance (p 12)
- in media richness theory, leaner media are preferred for uncertainty reduction tasks because it's only necessary to find/create and evaluate information

- richer media are preferred for tasks involving ambiguity or conflicting interpretations
- but overall there is not convincing empirical support for this theory from studies of media choice by users or perception of media fit
- neither is there much support from studies of media use on actual task performance
- McGrath (1984) categorizes tasks in the following way (in increasing degrees of interdependence among members):
  - generating ideas or plans
  - choosing a correct or preferred answer (aka intellective)
  - negotiating conflicting views or interests
  - executing
- the optimal media richness requirement for each task type and situation are like to be different (p 13)
- the use of media richer than what is required will cause distraction and the exchange of non-essential communication, thus impairing effectiveness
- authors study four media conditions: F2F, videophone (3 in screen), speakerphone, and CMC (text chat)
- two types of task (p 14):
  - intellective tasks (problem solving to reach a demonstrably correct answer) – one of the pair of subjects has a map, the other has the yellow pages, and they must find the address of the closest physician in a given location – low in equivocality (only one correct answer) and high in uncertainty (each subject only has part of the information)
  - cognitive conflict negotiations (resolution of conflicts of viewpoints) – the subjects have to come to an agreement about the allocation of government funds to various controversial bills – high in equivocality and low in uncertainty
- subjects then completed post-session perceptual questionnaires which measured (pp 16-17):
  - social presence of communication environment
  - media richness of communication environment
  - perceived composure of partner
  - equality of communication during the interaction
  - trust in partner
  - perceived similarity of partner
  - process satisfaction
  - solution satisfaction
  - task focus
- there were also measures of objective performance:
  - final consensus (cognitive conflict task only)
  - decision quality (intellective task only)
  - decision time
- subjects performing the cognitive conflict task found all media to have higher social presence and media richness than when performing the intellective task (p 16)
- F2F communication had greatest social presence and media richness for both tasks, and CMC ended up last in media richness and social presence for the conflict task
- in the intellective task CMC was second-to-last in social presence, the last being video
- in the cognitive conflict task, subjects had more positive perceptions of their partner than in the intellective task, but there was no statistically significant difference in the cognitive conflict task among media conditions
- in the intellective task, however, F2F led to highest partner ratings, and video the lowest (p 17)
- objectively, for the cognitive conflict task, subjects in the video condition took the most time and CMC took the least (p 18)

- for the intellectual task, speakerphone subjects took the most time and CMC the least
- consensus differences were not statistically significant among media, but followed the pattern of speakerphone being highest followed by F2F, then CMC/video
- for the intellectual task, speakerphone subjects had the highest performance in decision quality, then speakerphone, then F2F, then CMC
- the results offer only partial support for theories of media richness and task type
- authors acknowledge the limitation of having a 3 inch video screen with periodic delay, and that subject may have been more experienced in communicating F2F or by telephone than the other methods

#### [Walther 1996]

Joseph B Walther, "Computer-Mediated Communication: Impersonal, Interpersonal, and Hyperpersonal Interaction" (1996) 23:1 Communication Research 3-43.

- offers a reconceptualization of the interpersonal effects of computer-mediated communication (CMC) (p 4) [focus is on text communication]
- CMC may become "hyperpersonal", i.e. exceed F2F interpersonal communication, due to media attributes, social phenomena, and socio-psychological processes (p 5)
- less interpersonal or socio-emotional communication may be beneficial and thus more effective in some instances because it filters out affective components and social influences in communication, leaving a focus on the content (p 6)
- social presence theory predicts that the fewer channels available within the medium, the less attention paid by the user to the presence of other social participants, and the interaction becomes more impersonal (p 7)
- media richness theory predicts that rich media (more cues and immediacy) are better suited to highly equivocal or interpersonally demanding tasks, while lean media are better suited to unequivocal, straightforward tasks (p 8)
- but further research has cast doubt on the fixedness of these theories
- the question is why CMC appeared impersonal in some research and not in others – some have hypothesized that users adapt their communication behaviour to the restrictions (p 9)
- author put forth a theory (social information processing model) that interpersonal development in CMC is normal but temporally delayed because less social information is conveyed per message than in F2F interactions (p 10)
- so experimental groups aren't afforded enough time for interpersonal development, and thus appear to be more task oriented when using CMC (p 11)
- in some instances, given enough time, CMC can surpass F2F interaction in terms of level of affection and emotion – not just in "social" interactions, but also business and decision-making settings (p 17)
- with less information, the receiver could idealize the sender
- likewise, the sender could optimize her self-presentation because she has more time to plan and opportunity to self-censor due to reduced communication cues and asynchronous communication (p 19)
- Chilcoat and DeWine's (1985) study revealed that audio-conferencing partners gave higher ratings to their partners (in attitude similarity, social attractiveness, and even physical attractiveness) than those using video or F2F (p 21)
- furthermore, without the need to devote attention to things like one's physical appearance, there are more cognitive resources available for constructing the message itself (p 22)
- both task-oriented and socially-oriented exchanges can take place without one constraining the other (p 24)
- "To summarize, a new perspective is offered here—a fully integrated view of CMC taking into account the sender, receiver, channel, and feedback as each contributes to hyperpersonal interaction in CMC, interaction that is more desirable than we can often manage FtF. At the level of the sender, CMC partners may select and express communication behaviors that are more stereotypically desirable in achieving their social goals and transmit messages free of the 'noise' that otherwise comes with unintended appearance or behavior features. At the other

end, CMC receivers take in these stylized messages, construct idealized images of their partners and relationships, and, through reciprocation, confirm them. These processes may be further enhanced when the minimal-cue interaction is also asynchronous; freed from communicating in real time, users are released from the pressure to meet and the stress of including both task and social issues in limited time intervals typically allowed by FtF interaction.” (pp 28-29)

#### [Williams 1975]

Ederyn Williams, “Coalition Formation Over Telecommunications Media” (1975) 5:4 *European Journal of Social Psychology* 503-507.

- four-person groups communicated F2F, via CCTV (black and white 23 inch monitors), or audio-only link (p 504)
- in the F2F condition, two sat at one side of the table and the other two sat at the other side
- in the telecommunications condition, two people were at each end of the link
- the task was to brainstorm and produce a number of ideas to solve transportation problems
- each idea had to be proposed by a person and seconded by another person
- after the discussion the subjects ranked each of the other members of the group on personality traits
- the number of ideas generated did not differ significantly among the three conditions (p 505)
- the originality and quality (measured by blind raters) also did not significantly differ
- in the audio ( $p < 0.02$ ) and CCTV ( $p < 0.05$ ) conditions, but not the F2F condition, it was significantly more likely than chance that the seconder of an idea was at the same end of the link as the proposer
- in the audio condition it was significantly more likely than chance that a dissenter would be from the opposite end of the link as the proposer ( $p < 0.001$ ) (p 506)
- as to the personality ratings, between F2F and CCTV there was no difference in the mean ranking of the person at the same end of the link/table versus the person at the opposite end
- but for the audio condition the person at the same end was ranked significantly higher than the person at the other end for qualities such as intelligence, constructiveness, competence and trustworthiness, and lower on impersonality, boringness, and unreasonableness
- so in the mediated conditions there was a significant bias towards supporting the ideas of the person at the same end of the link

#### [Williams 1977]

Ederyn Williams, “Experimental Comparisons of Face-to-Face and Mediated Communications” (1977) 84:5 *Psychological Bulletin* 963-976.

- literature review (up to 1977) (p 963)
- categorized by type of task
- cooperative tasks:
  - with one exception, the studies used only problems with objective solutions, so less interpersonal understanding is required (p 965)
  - MA Davies (1971) – subjects received information either F2F, audio-video, audio only, or teletypewriter – no effect of medium on accuracy of recall, confidence in accuracy, or response strategy (p 966)
  - Williams (1975) – productivity of brainstorming groups in F2F, audio-video, or audio only – no difference in number of ideas per minute or originality or quality of ideas
- conflictful tasks:
  - here some media differences appear
  - Short (1974) – pairs engaged in negotiation for expenditure of company funds, where one argued his personal opinion and the other argued the opposite of his personal opinion – in F2F and audio-video, the

person who argued corresponding to his own opinion did relatively better in the outcome versus audio only (p 967)

- Wichman (1970) – Prisoner’s Dilemma with no communication, audio only, video only, or audio-video – significantly more cooperation in the AV condition, then audio-only, then video-only, then no communication
- LaPlante (1971) – Prisoner’s Dilemma with confederate who gave standardized answers (friendly or unfriendly) either written, audio only, audio-video, or F2F – subjects then rated confederate – when message was friendly, F2F was rated most positively, then audio-video, then audio only, then written – when the message was unfriendly, F2F was rated most negatively, then audio-video, then audio only, then written – suggests that affective content is emphasized most in richer media (pp 967-968)
- Short (1973) – subjects filled in questionnaire with personal opinions on social issues, then paired with another subject with opposing views and asked to discuss until agreeing on a decision (audio only, audio-video, or F2F) – then filled in the questionnaire again – more opinion change after audio-only conversation than F2F, with AV being like audio-only – suggested that F2F creates visual distraction which reduces concentration on the arguments (p 968)
- relationship between the participants (trust, domination, impression) will have an effect on the task outcome
- interpersonal perception:
  - Williams (1975b) – subjects each met two strangers via two different media (out of audio only, AV, or F2F), then rated conversation and partner – F2F conversations were preferred to mediated ones, and AV preferred to audio only – evaluations of the partner followed the same pattern but only AV preference over audio only was statistically significant
  - Young (1974) – interviewers met three interviewees (for the Civil Service) each, one by audio only, one by AV, and one F2F, then rated them for personality and confidence in accuracy of judgments – neither of these was affected by medium, nor was accuracy of judgment (which was low across the board)
  - Short (1973, supra) – subjects rated partners – no consistent media effects (p 969)
  - results suggest that medium can affect interpersonal impressions, where richer media lead to more favourable impressions, but it’s not a very strong effect
  - Weston & Kristen (1973) – six-person groups met via audio only, AV, or F2F – subjects in audio only condition felt that their ideas were less understood and accepted (i.e. metaperception) than those in the other two conditions
- group dynamics:
  - Strickland et al (1976) – groups of four who discussed human relations problems (F2F or audio-video) then filled in questionnaire about quality and quantity of ideas generated by other group members, and with whom they would like to work in the future – in the AV condition there was no clear differentiation of roles or emergence of a leader – suggests that internal group structure and hierarchy more likely in F2F meetings than mediated (pp 969-970)
  - telecommunications media seem able to influence group processes strongly (p 970)
- author notes that comparisons of interactions with and without transmission of eye contact frequently do not show any differences (p 971)
- considers four explanations:
  - (1) importance of nonverbal cues has been exaggerated – unreasonable explanation
  - (2) nonverbal cues have functions that are momentary and specific, and thus differences are difficult to detect at the gross level
  - (3) nonverbal communication comprises many redundancies, so if some of the channels are omitted, the interactors will shift their attention to other channels



- (4) participants in mediated communication may change their behaviour by introducing additional cues into the transmitted channels – still an open question
- “The experimental comparison of human communication via different interactive media is a young but growing research field.” (p 973)
- studies have identified many media difference, but not as many as might have been expected given the literature on nonverbal communication (p 974)

#### [Williams 1978]

Ederyn Williams, “Teleconferencing: Social and Psychological Factors” (1978) 28:3 Journal of Communication 125-131.

- research summary (up to 1978) (p 125)
- in a study involving a negotiating task, pairs of subjects interacted F2F, over CCTV, or audio-only (p 126)
- one of the pair argued according to his views, while the other argued the opposite, which for the most part did not correspond with his personal views
- the person arguing the case corresponding with his opinion was more successful than the other person whether interacting F2F or by CCTV
- when an audio-only system was used the opposite occurred
- surmised that F2F interaction encourages the intrusion of interpersonal feelings
- another study looked at coalition formation – groups of four were to come up with ideas while interacting either F2F, over CCTV, or audio-only
- results indicated that the medium did not affect the number, quality, or originality of ideas, but it did affect the patterns of support within the group
- other experiments have generally found that tasks that are low on interpersonal involvement and cooperative in nature are relatively insensitive to the use of audio or video conferencing versus F2F – includes information transmission, problem solving, and the generation of ideas (pp 126-127)
- tasks that are higher on interpersonal involvement – such as negotiation, conflicts of opinion, and getting to know someone, are sensitive to this mediation (p 127)
- users may have a feeling of remoteness and unreality towards the other participants in mediated interactions (i.e. lower social presence)
- teleconferences have been described as less friendly, less aggressive, more serious and businesslike than F2F meetings (p 128)

Cite	Task(s)	Conditions	Result (person perception)	Result (task performance)	Notes
Burgoon et al 2002	<ul style="list-style-type: none"> <li>cooperative task (Desert Survival)</li> <li>subject + confederate</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>proximal text</li> <li>distributed text</li> <li>distributed audio (with text)</li> <li>distributed audio-video (with text)</li> </ul>	<ul style="list-style-type: none"> <li>confederate in F2F condition rated as more perceptive, expected, easy, friendly than AV</li> <li>in proximal conditions, connectedness and involvement were higher than in distributed conditions</li> </ul>	<ul style="list-style-type: none"> <li>task outcome better in AV than in F2F</li> </ul>	<ul style="list-style-type: none"> <li>task was relatively straightforward</li> </ul>
Champness 1973	<ul style="list-style-type: none"> <li>consensus task (choice dilemma)</li> <li>subject dyads</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV (21 inch)</li> <li>audio</li> </ul>		<ul style="list-style-type: none"> <li>no effect of media</li> </ul>	
Chilcoat & DeWine 1985 <i>[also cited in Walther 1996]</i>	<ul style="list-style-type: none"> <li>informative (audience listened to a lecture and asked questions)</li> <li>groups of subjects</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV large screen</li> <li>AV small screen</li> <li>audio</li> </ul>	<ul style="list-style-type: none"> <li>F2F, AV (large and small screen) did not significantly differ in any of the variables (social attractiveness, physical attractiveness, attitude homophily)</li> </ul>		<ul style="list-style-type: none"> <li>lecturer was sweaty and uncomfortable but spoke well</li> </ul>
Davies 1971 <i>[cited in Williams 1977]</i>	<ul style="list-style-type: none"> <li>receiving information</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV</li> <li>audio</li> <li>teletype</li> </ul>		<ul style="list-style-type: none"> <li>no effect of medium on accuracy of recall, confidence in accuracy, or response strategy</li> </ul>	
Doherty-Sneddon et al 1997	<ul style="list-style-type: none"> <li>copying map route</li> <li>subject dyads</li> </ul>	<ul style="list-style-type: none"> <li>F2F vs copresent audio</li> <li>AV (with and without eye contact) vs remote audio</li> </ul>		<ul style="list-style-type: none"> <li>no difference in task performance between AV and remote audio</li> <li>F2F was more efficient than AV in that AV subjects used significantly more speech to obtain the same level of task success</li> </ul>	<ul style="list-style-type: none"> <li>did not directly compare F2F with AV</li> <li>from context I gather that task performance was not different as between F2F and AV other than efficiency</li> </ul>
Goodman et al 1998	<ul style="list-style-type: none"> <li>mock trial</li> <li>child witnesses</li> <li>subject jury</li> </ul>	<ul style="list-style-type: none"> <li>open court</li> <li>CCTV</li> </ul>	<ul style="list-style-type: none"> <li>no significant effect of trial condition on judgments of defendant's guilt, or of fairness of trial</li> <li>children testifying via CCTV were seen as less accurate, less believable, less intelligent, more likely to be making up a story, more likely to be basing testimony on fantasy</li> </ul>	<ul style="list-style-type: none"> <li>no effect on jurors' discernment of child's accuracy</li> </ul>	

Cite	Task(s)	Conditions	Result (person perception)	Result (task performance)	Notes
LaPlante 1971 [cited in Short, Williams & Christie 1976; Williams 1977]	<ul style="list-style-type: none"> <li>choice dilemma (Prisoner's dilemma)</li> <li>subject + confederate</li> <li>confed's response was either friendly or unfriendly</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV</li> <li>audio (telephone)</li> <li>written</li> </ul>	<ul style="list-style-type: none"> <li>when message was friendly, confed rated as most pleasant and friendly in F2F, then AV</li> <li>when message was unfriendly, confed rated as less pleasant and friendly in F2F, then AV</li> </ul>		
Nowak, Watt & Walther 2005	<ul style="list-style-type: none"> <li>collaboration on research and writing</li> <li>subjects grouped in three or four</li> </ul>	<ul style="list-style-type: none"> <li>F2F (reference)</li> <li>synch video</li> <li>asynch video</li> <li>synch text</li> <li>asynch text</li> </ul>	<ul style="list-style-type: none"> <li>low-cue media (text) provided higher social attraction than high-cue media (video)</li> <li>no difference in results when F2F added to synch video condition</li> </ul>		<ul style="list-style-type: none"> <li>authors note that results may be specific to type of task</li> </ul>
Short 1973 [cited in Short, Williams & Christie 1976; Williams 1977; Williams 1978]	<ul style="list-style-type: none"> <li>discussion of issues on which subjects have opposing opinions, to come to agreement</li> <li>subject dyads</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV</li> <li>audio</li> </ul>	<ul style="list-style-type: none"> <li>those that interacted via AV rated partners as more trustworthy, more persuasive, and less unemotional, less unfriendly, less tenacious than those interacting F2F</li> <li>not statistically significant</li> </ul>	<ul style="list-style-type: none"> <li>no difference in rates of opinion change</li> </ul>	<ul style="list-style-type: none"> <li>authors surmise that in tasks involving interpersonal confrontation, less intimate media might be preferred</li> </ul>
Short 1974 [cited in Williams 1977]	<ul style="list-style-type: none"> <li>negotiation</li> <li>subjects argued either according to own opinion or against it</li> <li>subject dyads</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV</li> </ul>		<ul style="list-style-type: none"> <li>in both F2F and AV, subject who argued according to own opinion did better in the outcome than subject who argued against own opinion</li> </ul>	
Strickland et al 1976 [cited in Williams 1977]	<ul style="list-style-type: none"> <li>discussion of human relations problems</li> <li>groups of four</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV</li> </ul>	<ul style="list-style-type: none"> <li>in AV condition there was no clear differentiation of roles or emergence of leader, but there was in F2F condition</li> </ul>		
Valacich et al 1994	<ul style="list-style-type: none"> <li>intellective task (problem solving to reach a correct answer)</li> <li>cognitive conflict negotiation (resolving conflicting views)</li> <li>subject dyads</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV (3 inch)</li> <li>audio</li> <li>text chat</li> </ul>	<ul style="list-style-type: none"> <li>for cognitive task, no statistically significant difference in partner ratings (trust, perceived similarity, perceived composure, equality of communication) among conditions</li> <li>for intellective task, F2F led to highest partner ratings, and AV the lowest</li> </ul>	<ul style="list-style-type: none"> <li>for cognitive task, subjects in AV condition took more time than in F2F condition</li> <li>for intellective task, AV subjects had better decision quality than F2F subjects</li> </ul>	

Cite	Task(s)	Conditions	Result (person perception)	Result (task performance)	Notes
Weston & Kristen 1973 <i>[cited in Williams 1977]</i>	<ul style="list-style-type: none"> <li>discussion of ideas</li> <li>six-person groups</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV</li> <li>audio</li> </ul>	<ul style="list-style-type: none"> <li>metaperception: no difference between F2F subjects and AV subjects in feeling that their ideas were understood or accepted</li> </ul>		
Williams 1975 <i>[cited in Williams 1977; Williams 1978]</i>	<ul style="list-style-type: none"> <li>brainstorm to produce ideas to solve a problem</li> <li>subjects in groups of four (two at each end)</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV (b/w 23 inch)</li> <li>audio</li> </ul>	<ul style="list-style-type: none"> <li>in AV condition, but not F2F condition, more likely than chance that seconder of an idea was from the same end as the proposer</li> <li>in both F2F and AV there was no difference in the mean ranking of person at same end vs person at opposite end</li> </ul>	<ul style="list-style-type: none"> <li>no significant difference in number, originality, or quality of ideas</li> </ul>	
Williams 1975a <i>[cited in Short, Williams &amp; Christie 1976]</i>	<ul style="list-style-type: none"> <li>general conversation</li> <li>prioritizing problems</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV</li> <li>telephone</li> </ul>	<ul style="list-style-type: none"> <li>for general conversation task, partners were rated more positively in F2F condition than AV condition</li> <li>for prioritizing task, ratings were higher for AV than F2F</li> </ul>		
Williams 1975b <i>[cited in Williams 1977]</i>	<ul style="list-style-type: none"> <li>conversation</li> <li>subject dyads</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV</li> <li>audio</li> </ul>	<ul style="list-style-type: none"> <li>no significant difference in partner rating between F2F and AV</li> <li>conversation was rated more positively in F2F condition than AV condition</li> </ul>		
Young 1974 <i>[cited in Short, Williams &amp; Christie 1976]</i> <i>[cited in Williams 1977]</i>	<ul style="list-style-type: none"> <li>vocational guidance interviews</li> <li>subject dyads</li> </ul>	<ul style="list-style-type: none"> <li>F2F</li> <li>AV</li> <li>audio</li> </ul>	<ul style="list-style-type: none"> <li>AV interviewees rated as more predictable than F2F interviewees</li> <li>F2F interviewees rated as less broad-minded and less rational than AV interviewees</li> </ul>	<ul style="list-style-type: none"> <li>no difference in accuracy of interviewers' judgments of interviewees (i.e. not very accurate)</li> <li>no difference in confidence in judgment</li> </ul>	

LEGEND

More positive perception in F2F than AV

More positive perception in AV than F2F

Uncategorizable

No difference

Task performance better in F2F than AV

Task performance better in AV than F2F

No difference