Supervision by videoconference with rural probationary psychologists

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Abstract

Videoconference networks afford access to education and supervision for health professionals in rural areas. Yet the assumed equivalence between videoconferencing and face-to-face communication remains largely untested. Evidence for the unique aspects of videoconferenced communication (Jerome and Zaylor 2000) does suggest consequences for traditional supervision methods, particularly the core components of teaching and a working alliance. This study explored the experience of videoconferenced supervision with a supervision model (Bernard 1979, 1997) together with power and involvement. Semi-structured interviews were conducted with 26 psychologists. Qualitative content analysis confirmed the roles and content areas defined by Bernard's supervision model but with some interesting addition and modification. Formal communication increased as did a power discrepancy between trainee and supervisor. Influences upon involvement were more complex; social presence was degraded yet some trainees felt freer to divulge emotional content. The findings affirm some unique features to videoconferenced supervision and validate a framework for its further exploration.

Introduction

Government agencies have widely implemented interactive videoconferencing networks to rural Australia, partly to provide rural health professionals access to supervision and education. Evaluative studies of videoconferenced training to rural areas report benefits such as reduced sense of isolation and improved sense of competency (D'Souza 2000). However, problems arise in the dubious assumption that videoconferencing is equivalent to face-to-face communication when available evidence suggests this to be incorrect (Jerome and Zaylor 2000). Further, the current lack of knowledge about videoconferenced supervision in particular leaves a dearth of guidelines for best practice. Supervisors tend to use face-to-face techniques, making *ad hoc* or intuitive adaptations as appear necessary.

Videoconferencing limits the sensory and contextual cues available to a social interaction. Geographically distanced, participants draw upon auditory, visual, and spatial cues from a cropped two-dimensional image (Jerome and Zaylor 2000; Storck and Sproull 1995). The reduction in non-verbal cues produces more formal, task-oriented communications and a degraded sense of social presence according to Rutter (1984). Well-documented transmission problems can further degrade effective communication. Poor picture quality makes non-verbal cues harder to interpret and delays in audio transmission can generate speech collisions that dampen spontaneous exchange (Gammon, Bergvik, Bergmo and Pedersen 1996; Jerome and Zaylor 2000).

The key components of clinical supervision are typically identified as teaching and a working alliance (Bernard and Goodyear 1992; Bordin 1983). Thus findings from studies of videoconferencing in education and therapy contexts may offer some parallels for videoconferenced supervision. Students feel less sense of interaction and spontaneous discussion but experience fewer distractions (Reich and Perry 1998). Observer students rate videoconferencing students as more anxious and less desirable to work with (Storck and Sproull 1995). For videoconferenced counselling, a single case study reports a reduction in the client-rated bond with the therapist (Ghosh, McLaren and Watson 1997). Therapists express anxieties about videoconferencing that include the reduced eye contact, inability to detect subtle non-verbal communication and the reduced sense of

social presence. In addition, therapists perceive that videoconferencing prompts a greater focus on cognitive as opposed to emotional issues (Omodei and McClennan 1998). Taken together, the findings suggest that videoconferencing may enhance the teaching component of supervision but compromise the working alliance to some extent.

The sole published project on videoconferenced supervision largely confirms the postulated effects on teaching and the working alliance (Gammon, Sorlie, Bergvik and Hoifodt 1998; Sorlie, Gammon, Bergvik and Sexton 1999). According to trainees and supervisors, sessions become more structured and task-oriented. Communication becomes more self-disciplined and formal due to periodic sound collisions. Trainees alone encounter marked difficulties with the reduction of non-verbal cues. They feel more frustrated and anxious, experience less spontaneity and sense of social presence than with face-to-face supervision.

The supervisory relationship aims to develop the professional functioning and competence of the trainee. That relationship is intensive, reciprocal and lengthy. It is also complex due to the competing demands between training and the emotional issues related to trainees' work. A well-regarded model that permits a detailed evaluation of supervision processes is the discrimination model of Bernard (1979, 1997). This model defines three supervisor roles and three content areas in supervision. A supervisor can act as a teacher, a counsellor, or as a consultant (a collegial interaction). The content areas address intervention skills, conceptualisation of skills within theory, and personalisation skills to integrate personal style with clinical practice. Supervisors can shift their role and focus as appropriate during a supervision session. The simplicity of this 3 x 3 matrix arrangement offers parsimony and versatility for the investigation of videoconferenced supervision.

Equally useful for investigations of supervision are the dimensions of power and involvement, used in discourse analysis to assess interactive communications (Penman, 1980). Penman's communication system defines power as the capacity to influence, due to perceived expertise. This dimension holds relevance for the teaching component of supervision. Involvement, defined as affiliation and caring, has relevance for the working alliance. Power and involvement can also be mapped onto the supervision roles identified by Bernard (1979, 1997). A study on supervision found that supervisors favour the high power behaviours of 'advice' and 'support' (Holloway, Freund, Gardner, Nelson and Walker 1989). These behaviours match the supervision roles of teacher and counsellor respectively. The supervisor as teacher assumes high power due to expertise and has neutral involvement. The supervisor as counsellor retains high power but shifts to positive involvement by offering support. Holloway, Freund, Gardner, Nelson and Walker (1989) also identified 'exchange' communications in supervision, matching Bernard's consultant role. The supervisor as consultant shifts down to equal power and neutral involvement, in a collegial exchange with a trainee.

Despite the increasing use of videoconferenced supervision, evidence about the application is lacking as are comprehensive guidelines for best practice. The aims of this study are therefore to explore the experience of videoconferenced supervision and to validate a framework for its further study. The questions are whether Bernard's Discrimination Model (1979, 1997) offers a relevant and adequate framework, and whether power and involvement map onto the supervisor roles as expected.

Method

Participants were 26 psychologists from regional Australia, namely south–west Victoria. Of these participants, four had recently attained professional registration through face-to-face supervision and 18 had recently attained professional registration through videoconferencing. The registration criteria required at least 100 hours of supervision extending across at least two years. The other four participants were supervisors from Deakin University in Victoria, highly experienced in both modalities of supervision. Videoconferencing equipment operated at 312 kbit/s per second.

The interview guide developed for this study canvassed three main areas. Topic one explored general experience of videoconferencing and face-to-face supervision through probes derived from a previous qualitative study of videoconferenced supervision (Gammon, Sorlie, Bergvik and Hoifodt 1998). Topic two investigated the relevance of Bernard's Discrimination Model (1979, 1997) by examining supervision roles and content areas of discussion. Topic three addressed the relevance of power and involvement to supervision interactions. One researcher (A.G.) interviewed small groups and individuals using a semi-structured format. Interviews averaged 60 minutes, were tape-recorded and then transcribed for analysis. No incentive was offered for participation in the study.

Results

Using qualitative content analysis, two independent raters coded the interview data into categories. Inter-rater reliability of the categorisations was computed as the kappa coefficient of agreement, which corrects for chance agreement (Cohen 1960). The data was classified by single categories and then collapsed for each thematic set to extract an overall kappa. Note that response percentages for categories within each of the following tables are expressed as proportions of the total sample.

Table 1 presents the practical problems of videoconferencing based on the 22 participants who videoconferenced. Categorisation achieved almost perfect agreement of 92% by Landis and Koch's (1977) classification, kappa (N = 132) = .92, p <.001. Nearly everyone reported visual problems such as pixilation, blue screens and slowed movements. Audio problems included time delays and loud volume. Disconnections occurred both at outset and during sessions. The privacy concerns of trainees arose from poorly soundproofed rooms. The most common flow-on consequence of technical problems was aborted sessions (73%), often rescued by reverting to

Table 1. Major problems experienced in videoconferencing

	V/C[a]		SP[b]		Total	
Problems	Fq	%	Fq	%	Fq	%
Visual	17	77	4	18	21	95
Audio	15	68	2	9	17	77
Disconnections	14	64	2	9	16	73
Privacy	6	27	0	0	6	27

Note. V/C = videoconference trainees; SP = supervisors
[a]n = 18 [b]n = 4

telephone (50%). Slowed dialogue to avoid sound collision was also relatively common (46%).

Table 2 displays participants' emotional and cognitive reactions to videoconferencing based on the 22 participants who videoconferenced. Almost perfect overall agreement of 86% was obtained for categorisation of emotions, kappa (N = 88) = .86, p <.001. The most common feeling was discomfort. Only supervisors felt helpless, due to their inability to comfort distressed trainees. Categorisation of cognitions also achieved almost perfect overall agreement of 92%, kappa (N = 66) = .92, p <.001. Most common was mention from trainees alone that the medium became easier to use over time. Some acknowledged the benefits of saved time and travel (efficiency) or the broadened choice of a supervisor (choice).

Table 2. Reactions to extended experience of videoconferencing

	V/C[a]		SP[b]		Total	
Reactions	Fq	%	Fq	%	Fq	%
Emotional						
Discomfort	17	77	3	14	20	91
Irritation	15	68	1	4	16	73
Stimulation	4	18	3	14	7	32
Helplessness	0	0	3	14	3	14
Cognitive						
Easier over time	7	32	0	0	7	32
Efficient	5	23	1	4	6	27
Enables choice	3	14	0	0	3	14

Note. V/C = videoconference trainees; SP = supervisors
[a]n = 18 [b]n = 4

The main roles identified for supervisors from an uncued question are shown in Table 3 and derive from all 26 participants. Categorisation of the uncued roles achieved perfect agreement, kappa (N = 104) = 1.00, p <.001. Nearly all participants mentioned a teacher role, using terms such as mentor or teacher. The counsellor role was flagged by descriptors such as counsellor or carer, the consultant role by expressions such as colleague to colleague or collaborative. Trainees also alluded to a new role of confidante by expressions such as friend, confidante, and 'two mates'.

Table 3. Uncued identification of supervisor roles

	V/C[a]		FF[b]		SP[c]		Total	
Role	Fq	%	Fq	%	Fq	%	Fq	%
Teacher	17	65	4	15	4	15	25	96
Counsellor	11	42	2	8	4	15	17	65
Consultant	5	19	3	11	4	15	12	46
Confidante	8	31	2	8	0	0	10	38

Note. V/C = videoconference trainees; FF = face-to-face trainees; SP = supervisors
[a]n = 18 [b]n = 4 [c]n = 4

Table 4 displays cued responses for recall of activities that typified each supervisor role. Data derives from the 22 trainees. Overall agreement for categorisation was substantial at 76%, kappa (N = 251) = .76, p <.001. All trainees described teaching activities and almost all (95%) gave examples of counselling activities and of consultant activities.

Table 4. Activities described for supervisor roles

	V/C[a]		FF[b]		Total	
Activities	Fq	%	Fq	%	Fq	%
Teacher						
Gives knowledge	17	77	4	18	21	95
Teaches specifics	12	55	2	9	14	64
Facilitates learning	5	23	2	9	7	32
Counsellor						
Helps personal issues	14	64	3	14	17	77
Helps work stressors	10	45	3	14	13	59
Gives support	7	32	1	5	8	36
Consultant						
Collaborates	9	41	4	18	13	59
Gives expert opinion	11	50	2	9	13	59
Acts as a colleague	3	14	3	14	6	27

Note. V/C = videoconference trainees; FF = face-to-face trainees
[a]n = 18 [b]n = 4

Descriptions of the content areas addressed in supervision sessions derived from all 26 participants. Overall categorisation yielded substantial agreement at 73%, kappa (N = 78) = .73, p < .001. Almost all participants identified a focus on intervention skills (96%) and most typically referred to case discussions. Also readily acknowledged was a focus on conceptualisation skills (92%), most commonly exemplified by relating a case to theory. Respondents discerned personalisation skills somewhat less (73%); all supervisors and most face-to-face trainees recognised this focus whereas half the videoconference trainees did not. The main example for personalisation skills was reflection on personal style and its implications for practice.

Table 5 displays the power balances perceived between supervisor and trainee. Data derives from 23 participants because three initial interviewees were not asked this question. Substantial agreement of 67% was obtained for categorisation of power, kappa (N = 69) = .67, p <.001. Most face-to-face trainees always felt equal in power to their supervisors, whereas those who never felt equal in power were videoconferencing trainees alone.

Table 5. Perceived power between supervisor and trainee

	V/C[a]		FF[b]		SP[c]		Total	
Power	Fq	%	Fq	%	Fq	%	Fq	%
Always equal	3	13	3	13	1	4	7	30
Grows equal	8	35	1	4	3	13	12	52
Never equal	4	17	0	0	0	0	4	17

Note. V/C = videoconference trainees; FF = face-to-face trainees; SP = supervisors
[a]n = 15 [b]n = 4 [c]n = 4

For involvement, nearly all participants acknowledged support from the supervisor (96%). A willingness to discuss emotional material was less consistent. Amongst the videoconferencing trainees, nine (50%) felt less free to discuss emotional material during videoconferencing. These trainees preferred to ignore issues or to reserve them for a face-to-face or telephone meeting. By contrast, five (28%) felt freer to discuss emotional material during videoconferencing and considered the medium a protective barrier.

Table 6. Social and emotional presence in videoconferenced supervision

	V/C[a]		SP[b]		Total	
Presence	Fq	%	Fq	%	Fq	%
Detached	17	77	3	14	20	91
Harder to read	11	50	3	14	14	64
No sharing	11	50	3	14	14	64
Relationship forged	10	45	0	0	10	45

Note. V/C = videoconference trainees; SP = supervisors
[a]n = 18 [b]n = 4

Table 6 shows features associated with social and emotional presence during videoconferencing. Data derives from the 22 participants who videoconferenced. Categorisation achieved a substantial overall agreement of 65%, kappa (N = 110) = .65, p <.001. Common references to detachment noted that the relationship felt impersonal and lacked warmth. Many also observed the reduction in social cues and mourned the lack of shared activities such as practicing tests or having a cup of coffee. Yet an appreciable number of trainees also commented that a personal relationship did develop through videoconferencing.

Discussion

Findings from this study established that technical and practical problems are encountered by most people with extensive experience in videoconferencing. Results also validated Bernard's Discrimination Model (1979, 1997) as an appropriate investigative framework for videoconferenced supervision. The supervisor roles of teacher, counsellor and consultant were confirmed, as were the content areas of intervention, conceptualisation and personalisation skills. The power and involvement dimensions from Penman's (1980) communication system were likewise confirmed to map onto the supervisor roles as was proposed. These dimensions also supplied greater insight into the videoconferencing experience.

The technical and practical problems reported by participants indicate that the reduced non-verbal cues of videoconferencing are degraded even further at times, most particularly visual information. Supervisors in this study could not always differentiate laughing from crying during sessions, consistent with an observation that a therapist was unable to identify tears or blushing (Ghosh, McLaren and Watson 1997). Participants slowed their dialogue to overcome audio problems and hence reduced their spontaneity, previously noted by Gammon et al. (1998). As a new finding, trainees worried about privacy due to poorly soundproofed rooms rather than mistrust about the public nature of the medium, reported by Gammon et al. (1998). This privacy concern probably limited some trainees in their disclosure of sensitive information thus compromising the working alliance. Despite the problems, participants persevered with supervision, for example by using the telephone to rescue a disrupted videoconference session.

The experience of videoconferencing generated negative emotions in trainees and supervisors alike, both of whom reported discomfort and irritation. This finding contrasts with other reports that only trainees had negative reactions (Gammon et al. 1998; Sorlie 1999). Nevertheless, supervisors were also more likely to report the positive emotion of stimulation than were trainees, perhaps reflective of their greater experience or confidence. A negative emotion unique to supervisors was their helplessness to comfort distressed trainees, attesting to the degradation of social presence. Contrasting with their emotions, some trainees reported positive cognitions about videoconferencing, affirming a reduction to its negative aspects over time and its benefits in overcoming isolation. These observations moderate the problems reported by trainees and cast the medium as a somewhat more pleasant experience.

Findings on the supervisor roles of teacher, counsellor and consultant confirmed their relevance. Thus the dialogue in videoconferenced supervision can be meaningfully analysed for these roles. A new role of 'confidante' was also identified in this study and will be added to the investigative framework for the next study. The role indicates a social aspect to the supervision relationship and has not been identified in other social role models of supervision. Further research will be required to establish whether this new role arises from the communication medium or from the characteristics of trainees who work in a rural mental health setting. Overall, the videoconferencing medium with its reduced non-verbal cues and problems still preserves the traditional roles assumed by supervisors in face-to-face contact. Yet the question remains of whether the medium encourages supervisors to spend more time in particular roles.

A proposed mapping of power and involvement against the supervisor roles was supported by the activities that participants gave to typify the roles. Power is defined as the ability to influence another and involvement refers to expressions of affiliation. The predominant activity of the teacher was an expert who imparted knowledge, denoting

high power and neutral involvement. The most common activity of the counsellor was helping the trainee with personal issues, denoting high power and positive involvement. The main activities of the consultant were collaborating and giving expert opinion, denoting equal power and neutral involvement. The new role of confidante, said to behave as a friend, denotes equal power and positive involvement.

Findings on the content areas of intervention, conceptualisation and personalisation skills likewise established their relevance for videoconferenced supervision. However, in defining intervention skills, participants emphasised discussion of case management techniques whereas Bernard (1997) emphasised observation of skills. This discrepancy indicates that the development of intervention skills proceeds through somewhat different methods in remote supervision. Further, videoconference trainees were less likely to describe personalisation skills, which involve reflections on personal style and professional identity. The finding may indicate that videoconferencing does exert some push toward discussion of more task-oriented areas such as technique and theory.

Evidence about power and involvement yielded further insight into the videoconference experience. Trainees who used videoconferencing felt less equal in the supervisory relationship than did face-to-face trainees, suggesting that videoconferencing may augment supervisor power, possibly through an emphasis upon teaching of a more formal and task-oriented nature. Further, half the trainees felt reluctant to divulge emotional material and most felt detached during their supervision interactions. Both features indicate that videoconferencing does reduce positive involvement. These findings concur with observations from other studies and most particularly those of Gammon et al. (1998) and Sorlie et al. (1999). Yet contrary to other studies, these participants were well experienced in videoconferencing and hence more adapted to unique features of the communication medium. This feature may explain why nearly all trainees felt supported by the supervisor and identification by some trainees of a supportive confidante role for the supervisor.

Rutter's (1984) proposal that reduced non-verbal cues will degrade social presence is borne out by findings from this study. Nevertheless, results also indicate that more cues can sometimes hinder discussion of sensitive and emotionally laden material. Some trainees preferred telephone to videoconferencing for discussion of emotional issues. Moreover, some trainees felt freer to discuss emotional material via videoconferencing than face-to-face because they felt protected by the medium. Gammon et al. (1998) found a similar distinction in trainees' willingness to disclose during videoconferencing. These authors cautioned that participants who preferred videoconferencing to express emotional content may tend to intellectualise, matching therapist perceptions that videoconferencing magnifies cognitive issues over emotional issues (Omodei and McClennan 1998).

This study has established that the effects of videoconferencing on supervision processes can be usefully construed in terms of a supervision model and the dimensions of power and involvement. The developed framework is now being applied in a longitudinal study to evaluate alternating blocks of videoconferenced supervision and face-to-face supervision. It is anticipated that the findings will extend knowledge about videoconferenced supervision and thus enable the framing of best practice guidelines.

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