Objective Measures and Subjective Reports

Examining Optometric Practice

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Abstract The paper discusses how visual research methods that draw on ethnomethodology and conversation analysis can help sociologists to reveal how optometrists' assess the clarity of their clients' distance vision. It argues that the detailed analysis of video-recorded interactions in optometric consultation rooms can help reveal the practical organization of the 'routine' work through which optometrists examine and assess their clients' sight. Save for the contribution of the paper to methodological discussions about the use of visual data for the analysis of the practical work of optometrists, the paper also demonstrates how video-based research can add to recent debates in organizational sociology, workplace studies, and practice theory as well as to discussions about service quality and quality of care in health-service settings.

Keywords: *video-based research, ethnomethodology, conversation analysis, interaction, optometry, practice, work*

Introduction

In social situations, the quality of an individual's visual experience is inaccessible to coparticipants. People regularly discriminate where others look and thereby differentiate ways of looking, such as staring and glancing (Sharrock & Coulter, 1998), but they rarely make inquiries about the quality of coparticipants' clarity of vision. Claims of such knowledge about coparticipants' clarity of vision rely on a professional body of knowledge and expertise as well as on the use of standard technologies and procedures. In the United Kingdom and in many other countries, expertise about technologies and procedures to assess people's eyesight and eye health is held by ophthalmologists and optometrists.

Over the course of its history, optometry has achieved its position and status as a profession based on the development of a body of professional knowledge and skills that optometrists acquire through formal education and training at universities (Begun, 1979; Warnock, 2005). Their professional expertise enables optometrists to conduct procedures that allow them to claim knowledge of and make judgments about clients' visual experience, such as the clarity of their vision. One such procedure involves the use of a standard chart, a set of lenses, and a standard procedure 'to determine the optical correction that best suits' the client (Elliott, 2003, p. 172; Harvey & Franklin, 2005). This test is known as 'subjective refraction'.

This paper inspects in detail a fragment of interaction video-recorded in an optometric consultation to explicate the procedures optometrists routinely deploy to assess how particular lenses influence clients' clarity of vision in the distance. The fragment under scrutiny here was recorded in an optometric consultation as part of a research project concerned with examining the practical work of optometrists when assessing clients' eyesight and health. Before we come to examine the fragment, we provide some background to the emergence of video-based research

methods that draw on the principles underpinning research in ethnomethodology and conversation analysis. The paper then delineates some of the practicalities of data collection and analysis before inspecting the fragment. The analysis focuses on the practices and procedures that the optometrist deploys to make inferences about the client's ability to see that he or she uses to correct his or her sight. The paper concludes with some reflections on the use of video-based research methods to investigate 'seeing' as an accountable practice.

Video-Based Research in Organizational Settings

There is a large body of ethnographic research of work and organizations (Hughes, 1958; Neyland, 2007; Schwartzman, 1993) that has emerged since the early 20th century and was initially focused on providing a critique of the conditions of workers and the working classes (Zickar & Carter, 2010). More recent studies have turned their interest to providing 'thick descriptions' (Geertz, 1973) of the relationships amongst social interaction, organization, and culture (Cunliffe, 2010; Zickar & Carter, 2010). Despite this long-standing tradition in ethnography of organizations, however, work practice remains an underexplored area of research. Even the burgeoning body of studies concerned with the technological innovation of the workplace primarily focuses on what workers should be able to do, rather than on how they actually use technology in their day-to-day work activities (Barley, 1996; Barley & Kunda, 2001).

Starting perhaps with the seminal paper by Barley and Kunda (2001), there has been a substantial shift to research on work practice. Coupled with a 'practice turn' (Schatzki, Knorr Cetina, & von Savigny, 2000) in the social sciences more generally, a large number of studies explore the practical work of service technicians, software developers, investment bankers, and

coroners (Barley & Kunda, 2006; Ho, 2009; Orr, 1996; Suchman, 2007; Timmermans, 2006) as well as how large events such as Burning Man and religious celebrations are organized (Chen, 2009).

It has recently been noted that ethnographies of work and organizational practice rarely make use of visual imagery, such as photographs or video recordings (Strangleman, 2004). The increasing affordability of digital cameras and video equipment, however, has led to an increase in the number of studies that use visual data to capture the organization of work and the practices of working. These studies include the work of archaeologists, auctioneers, general practitioners, surgeons, nurses, managers of technology companies, and operations staff in the control rooms of transport systems (Alby & Zucchermaglio, 2006; Heath, 1986; Heath & Luff, 2000, 2007; Hindmarsh & Pilnick, 2007; Llewellyn & Hindmarsh, 2010; Szymanski & J. Whalen, 2011).

These studies deploy an analytic and methodological attitude developed in ethnomethodology (Garfinkel, 1967) and conversation analysis (Sacks, 1992) to deal with the complexity of video data (Heath, Hindmarsh, & Luff, 2010). For the purposes of this study, we use this particular sociological attitude to explore how in a social situation one of two participants, the optometrist, conducts actions to find out how clearly the coparticipant can see an object with a range of lenses. By using this sociological attitude, we draw analytic attention to the social organization of the interactional production of the procedure through which the optometrist determines what lens is required to correct a client's vision. In the following, we briefly discuss practical and theoretical issues around data collection and analysis before turning to examine in detail a short fragment of interaction recorded in the context of an ordinary optometric consultation.

Video-Recording Optometric Consultations

Little sociological and organizational research is concerned with the work of optometrists, and few studies explore how optometrists conduct consultations with clients (Begun, 1979; Warnock, 2005). Textbooks provide us with some insights into the normative framework of optometric work, such as descriptions of tests and procedures that make up a consultation and instructions of how they should be conducted (Elliott, 2003; Harvey & Franklin, 2005). Yet, how optometrists actually go about their day-to-day work has remained largely unexplored. Standard patient research investigates *what* tests and examinations optometrists conduct (Shah, Edgar, & Evans, 2010; Shah, Edgar, Rabbetts, Blakeney, et al., 2008; Shah, Edgar, Rabbetts, Harle, & Evans, 2009), but they do not address *how* these activities are accomplished in the specific and contingent circumstances of consultations.

We began our research with informal interviews with optometrists, practice staff, and clients and conducted ethnographic field observation in optometric practices. This initial research has provided us with important information about the organization of the work of optometrists, organizational problems they face in their day-to-day work, and issues such as client satisfaction and service efficiency. Observations in the consultation room, however, are problematic because the presence of a researcher in a small, contained room filled with furniture and equipment, of no more than 36 square meters (400 square feet), noticeably influences the flow of the consultation. Moreover, because of the fleetingness of actions, ethnographic observations are unable to capture the detailed organization of work practice; the specific circumstances and the contingencies of situations in which actions are produced are lost.

In light of our initial ethnographic and interview-based research, therefore, with the optometrists' and their clients' permission, we video-recorded consultations. So far, we have

recorded 62 optometric consultations in practices in England, including commercial community practices as well as practices that primarily treat clients paid for by the British National Health Service (NHS). These practices principally are commercial businesses that rely on a steady income from eye examinations and the sale of glasses; hence, throughout our paper we refer to clients rather than patients.

The data consist of audio-visual recordings of the conduct and interaction of optometrists and clients, their talk, visual and material conduct, in ordinary consultations. The camera was mounted onto a tripod that was placed in one of the corners of the consultation room. Once switched on, the camera was left to record; the researcher left the consultation room and returned only after the client had left to change tapes and prepare the camera for the next consultation.

Data collection and analysis are conducted iteratively. Initial data collection is followed by a review, in which we examine the materials to assess the quality of the data and to develop initial research questions. We also undertake preliminary analysis of a selected number of fragments and begin to reflect upon any particular actions and activities that might inform how we gather further data. The iterative design of data collection and analysis, therefore, allows us to progressively refine the analysis with regard to the practical issues and analytic insights that emerge through detailed inspection of the data (Heath et al., 2010).

The analysis of the video recordings is accompanied by ethnographic research, including observations in other parts of optometric practices; informal interviews with optometrists, clients, and practice staff; and discussions of selected fragments of video data with optometrists. The ethnographic work together with the interviews and data workshops with optometrists provide us with invaluable insights into the events in the consultation room. In particular, the data workshops offer us the expertise and knowledge necessary to understand some of the

technicalities of optometric consultations. Furthermore, our video data are augmented by information about clients' optometric history and optometrists' education and training as well as optometric textbooks and professional guidelines.

It is sometimes argued that when confronted with a video camera, participants' 'reaction' to the device will spoil the data because their actions are performances to an audience rather than naturally occurring events (Gottdiener, 1979). Various studies have addressed the challenge of 'reactivity' to video-based research, a challenge that observers and interviewers encounter as well. These studies argue that participants lose interest in and forget that they are being recorded. They also offer practical guidelines for researchers to use when gathering video data, including turning off the red light at the front of the camera and staying away from the camera while gathering data (Hammersley, 2003; Heath et al., 2010; Laurier & Philo, 2006; Speer & Hutchby, 2003a, 2003b). Furthermore, it can be assumed that the presence of an ethnographer in the relatively intimate situation of an optometric consultation is likely to impact on the events more than a stationary camera.

Video-based field studies also raise a number of ethical issues that are widely discussed within textbooks and monographs of qualitative research (Heath et al., 2010; Knoblauch, Schnettler, Raab, & Soeffner, 2006). For the purpose of this project, we successfully applied for ethical approval at the host institution and with the National Health Service (NHS) Research Ethics Service. Having gained access to optometric practices, we contacted clients prior to their consultation and asked them for permission to video-record the event and to use fragments of consultations in teaching and publications. The clients also were given information about the purpose of the project and a consent form to sign. Throughout the project, clients were

supportive of the research and willing to participate. Both optometrists and clients also agreed

for images from the recordings to be used in academic presentations and publications.

Examining Video Data: Analytic and Methodological Considerations

Video recordings of optometric consultations produce up to one hour of highly complex data that

include the participants' talk and visible actions[1] as well as their use of tools and technologies.

Ethnomethodology (Garfinkel, 1967) and conversation analysis (Sacks, 1992) provide us with an

analytic and methodological framework to scrutinize the organization of social action by

employing three principal assumptions:

Firstly, the analysis is concerned with the 'indexical' or 'situated' character of practical

action; action obtains its sense and significance in the specific moment and circumstances in

which it is produced.

Secondly, the 'situated' character of practical action refers to the moment-by-moment

production of social actions and the continuous changing of the circumstances in which they

arise. The context and situation of social action are not stable but are ongoingly modified by the

real time, contingent contributions of the participants. It implies a dynamic notion of context that

considers social actions and activities as emergent and contingent accomplishments; to use

Heritage's (1984) characterization, action is both 'context-shaped' and 'context-renewing' (p.

242). This notion of context was first developed with regard to talk and conversation where the

emergent, ongoing, interactional accomplishment of social action is probably most manifest.

Talk and conversation allow us to see how each next turn at talk is produced with regard to the

immediately preceding action(s) and how it provides the framework for a subsequent

utterance(s).

And thirdly, in the analysis researchers concern themselves with explicating the organization through which participants produce particular actions and make sense of the actions of others; that is, the analysis is directed towards the practices and reasoning that inform the practical accomplishment of everyday, emergent, context-embedded activities.

These three assumptions lead researchers using ethnomethodology and conversation analysis as their analytic and methodological framework to examine fragments of social situations to explicate the sequential organization of action. By exploring their corpus of data, they identify a phenomenon, such as a particular utterance or gesture that occurs throughout the recordings, and inspect the interactional context in which it arises.

Hence, the analysis considers the data 'case by case' and involves the detailed scrutiny of particular actions with regard to the specific circumstances of their production. It examines the interactional environment in which each action arises in light of a prior action and how it provides the context for each next action. The specific location and character of an action and its relationship to the immediately surrounding environment of activity, the preceding and proceeding action(s), is critical, not just to how the participants produce and coordinate their actions but to the ways in which it is inspected. For example, our analysis might consider how a particular action, such as a formulation or a gesture by the optometrist, may occasion a particular action from the client that in turn encourages a next action from the optometrist. These sequential relationships between actions therefore form an important focus of analytic enquiry and provide a foundation to the ways in which participants accomplish activities, in interaction, with each other.

When investigating the situated deployment of practices through which subjective refraction, the test we focus on in this paper, is achieved, we screened our data for commonalities

and differences throughout the 62 optometric consultations in our corpus. We identified a number of actions that seemed noteworthy because they can be observed in all or most of the consultations or because they differ from textbook instructions. We produced collections of fragments that show those particular phenomena, such as the movement of the lens in front of the patient's eye or the production of noticeable pauses following a question, and compared and contrasted the fragments with each other. This procedure allows us to identify patterns of interaction and deviations that we aim to explain from the careful analysis of the data. In the following, one fragment of interaction recorded during subjective refraction will be analysed to illustrate the practice of the analysis and the observations and findings it produces.

Assessing Subjective Refraction

In ordinary social situations, participants engage in interaction without questioning the visual faculties of coparticipants; they take for granted that they are inhabiting an intersubjective world where all participants see the world in the same way. Questions of what and how clearly another can see rarely arise. This taken-for-grantedness of participants' mutual access to the (visible) world has been analysed by Schutz (1967), who describes it by using the concept of 'intersubjectivity'. Schutz argues that in social situations, participants interact with each other assuming that at least in theory all those in perceptual range have equal access to the social situation. According to Schutz, this assumption implies two 'idealizations': (1) 'the interchangeability of the standpoints' (p. 11), where participants assume that if they exchanged their geographical standpoints, the other would be able to see an object generally in the same way as they do at that moment; and (2) 'the congruency of the system of relevances', where, 'for the purposes at hand' (p. 11) individual biographical situations are suspended and common

objects and their features are interpreted in the same way. In social situations people take these two 'idealizations' for granted without questioning or challenging them.

It is a key feature of the day-to-day work of optometrists to challenge the assumption of the potential interchangeability of standpoints. They deploy a number of procedures that confront clients with objects they cannot see clearly and then ask them to respond to them. One of these procedures conducted as part of consultations is subjective refraction, during which optometrists ask clients to report on the clarity of their vision as they place different lenses in front of their eyes. Subjective refraction implies that people's clearness of vision could be improved with lenses in front of their eyes. The procedure's purpose, therefore, is to determine which lens would best correct a client's vision. Our interest in subjective refraction is with the organization of the practices through which the optometrist instantiates the assumption of the interchangeability of standpoints by establishing what exactly the client can see and how clearly.

Fragment 1 (Figure 1) begins when the client sits in the examination chair wearing a trial frame and looks to a letter chart in front. The optometrist has placed a lens[2] in the frame and manipulates its position in the frame using a tiny screw (Lines 1–3).

[Insert Figure01 here]

Figure 1. Fragment 1[3]

Before the beginning of Fragment 1, the optometrist has already tried a number of lenses when she arrives at the current lens. She feeds the lens into the trial frame and says 'is it clearer as we are? (.) or (.9) bettah if I move (.) to position two?'. As she produces the second half of her

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utterance following a noticeable pause, (.9), she changes the position of the lens in the frame by turning a screw on the side of the device. By virtue of her verbal and tactile action, the optometrist creates a pair of visual experiences for the client to compare.

She asks him to report on his visual experience when looking at the chart with the lens in two alternative positions. Starting from a given position, the optometrist says 'move' as she turns the screw, therewith changes the position of the lens inside the frame and then withdraws her hand from the trial frame while bringing to a close her utterance, 'to position two?' (see Figure 3 below). While the optometrist produces the question and changes the position of the lens, the client sits still and looks straight ahead to the chart. Only on the closing of the optometrist's question, the client after a minute pause responds, 'no bettah in on:e', implying that the first position of the lens produces a clearer vision for him than Position 2 (see Figure 2).

[Insert Figure02 here]

Figure 2. Changing the position of the lens

[Insert Figure03 here]

Figure 3. Transcript 2[4]

The client's utterance not only is an answer to the optometrist's question but also, as the optometrist displays through her subsequent action, a response to the lens in front of his right eye. As in many other fragments, the optometrist returns the lens to Position 1 and asks the client to confirm that he can see the chart in front clearer in this position than in Position 2. She thereby

asks for an assurance by the client that Position 1 creates a clearer vision for him, 'definitely bettah the:re?' (Figure 1, Line 7), encouraging the client to confirm that he can see clearer with the lens in Position 1, "oh definitely" (Figure 1, Line 8).

Subjective refraction works by trial and error and as a process of elimination during which the client is asked to compare the components of a pair of visual experiences with each other and provide a verbal report on them. The optometrist treats these reports as instantiations of the client's visual experience with either lens or lens position, but because she does not have direct access to it, she double-checks her observation by deploying Position 1 for a second time. On having received confirmation of the client's visual experience with the lens in Position 1, the optometrist brings this part of the subjective refraction test to a close. She leaves the lens in position and continues with the procedure by turning to her desk and selecting a lens that a few moments later she holds in front of the trial frame, asking the client 'a:nd bottom line (.) bettah or worse with this one here' (Figure 1, Lines 10–11). This process is conducted to assess a particular type of refractive error called 'astigmatism'. For this part of subjective refraction to be effective, it is important that the client's response is immediately produced and not the result of reflection. Therefore, when the client does not report on his vision a brief moment after the lens has been placed in front of the frame, the optometrist withdraws the lens and after a pause places it in front of the frame again.

[Insert Figure04 here]

Figure 4. Placing the lens in front of trial frame

As the optometrist produces this utterance, she accomplishes an elaborate gesture through which the lens is placed in front of the trial frame, just when she brings the utterance to a close. She holds the lens in position for a little more than four seconds before moving it out of the client's field of vision, holding it just above the trial frame. A split of a second after the optometrist moves the lens up, the client opens his mouth and produces an in-breath, without saying a word. She holds the lens above the client's eyebrow and looks at him for about a second whilst the client sits, still looking at the chart. The optometrist then places the lens again in front of the trial frame, occasioning the client to immediately produce a response. The response, however, is delayed by the production of an audible in-breath before the client eventually produces his decision, '(   ) slightly worse' (see Figure 5).

[Insert Figure05 here]

Figure 5. Moving lens back in front of trial frame

[Insert Figure06 here]

Figure 6. Transcript 3

The client's report of his visual experience with the lens in front of the frame occasions the optometrist to remove the lens, turn to her desk, and write the specifications of the lens in the client record form, and thus to bring subjective refraction of the right eye to a close.

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The analysis suggests that subjective refraction involves the interactional production of pairs of visual experience by virtue of systematically deploying pairs of lenses or lens positions in front of the client's eye that occasion her/him to report on her/his visual experience with each lens (position). Whilst for the optometrist the procedure is made up of the use of pairs of lenses, for the client it is comprised of pairs of visual experience, each experience in the pair with a different quality. The participants' experience of the procedure therefore radically differs, with the optometrist accomplishing the selection and placing of the lens in front of the eye and the client looking to and seeing the chart in front.

Drawing on Schutz's (1967) concept of 'intersubjectivity' and Heritage's (1984) call to investigate 'the architecture of intersubjectivity', we can understand how the client's verbal reporting of her/his visual experience with a particular lens in front of the eye serves as a critical resource to constitute intersubjectivity in the situation at hand. At no point during subjective refraction has the optometrist direct access to the client's visual experience; neither does the client have direct access to the optometrist's assumption about the client's ability to see. Both participants' assumptions about each other's experience and orientation to the situation rely on 'observable and reportable' actions, such as the client's verbal report of her/his visual experience and the optometrist's selection of lenses in response to the client's prior report. Subjective refraction, therefore, is a procedure comprised of sequences of actions that constitute a mutual sense of the client's ability to see clearly in the distance. The two participants' actions thereby reflexively constitute the context in which the client's visual experience momentarily arises.

Whilst in ordinary circumstances the scrutiny of a coparticipant's clarity of vision is unusual, in optometric consultations it is common practice. For a situation to arise in which a participant can unproblematically place objects in front of a coparticipant's eyes and ask her/him

to report on her/his visual experience, special arrangements need to be made. In optometric consultations, these arrangements involve the design and layout of the consultation room as well as the use of professional technologies and procedures.

The situation in the consultation room, coupled with the client sitting in the examination chair and the optometrist deploying the trial frame and placing lenses in front of her/his eyes, suspends an important part of the 'the general hypothesis of reciprocity of perspectives' (Schutz, 1967, p. 12). The assumption of a congruency of the system of relevances remains intact; the assumption of the interchangeability of standpoints, however, is suspended when the optometrist places lenses in front of the client's eye and thereupon questions whether the client sees the world in the same way as the optometrist him/herself does. This suspension of the assumption of the interchangeability of standpoints occasions the client to orient to the chart and provide a report of her/his visual experience that constitutes intersubjectivity.

Discussion: Video-Based Methods in Health-Services Research

Despite the long-standing tradition of research in the everyday, sociologists have rarely considered 'seeing' as a sociological phenomenon. There are of course Sartre's (1993) and Simmel's (1970) studies of the importance of 'the gaze' for the organization of social interaction and indeed for the 'constitution of society' (D. Weinstein & M. Weinstein, 1984). And over the past 20 years or so, a small but important body of ethnomethodological and conversation analytic studies has emerged that considers 'seeing' as a complex, visible social action embedded within and interwoven with other activities (Coulter & Parsons, 2008; Nishizaka, 2000; Sharrock & Coulter, 1998). Yet, despite this sociological interest in 'seeing' as an embodied practice, few

studies explore how in social situations participants make judgments about whether a coparticipant sees clearly what they are asked to see.

For optometrists to go about their work, it is a matter of their day-to-day routine activities that they make judgments about coparticipants' sight and their ability to see objects clearly (vom Lehn, Webb, Heath, & Gibson, 2013). Over the course of the history of the profession, standardized tools, technologies, and procedures have been developed that allow professional optometrists to foster situations in which they ask a coparticipant to look at and explicate their vision of particular objects. These procedures include the opening phase and taking of the client history, during which the client is encouraged to report possible difficulties or problems with their eyes and vision; a series of vision tests, including the Distance Vision Test and subjective refraction; and inspections of the health of the client's eyes.

The paper contributes to the growing body of video-based research concerned with the examining of work practice in (health-service) organizations. It discusses in some detail how the analysis of video-recorded fragments of interaction, coupled with an appropriate analytic and methodological framework, can help reveal the practices and procedures that participants bring to bear in their day-to-day activities. The characteristics of video-recordings, in particular the possibility to repeatedly view and examine service encounters and the use of slow-motion techniques as well as the inspection of still images, allow the researcher access to the situated, occasioned, and contingent actions that are often described and glossed as 'routine' by ethnographic descriptions given in interviews. Video recordings therefore provide the ethnographer with a technology to train the 'sociological eye' on the detailed and contingent organization of actions that in other kinds of research is often taken for granted and remains unexplored.

Video-based studies that draw on ethnomethodology and conversation analysis to investigate sight tests allow the researchers access not only to the visual experience of the participants but to the accounts of seeing that the participants produce in interaction with each other. These accounts arise when an optometrist places an object such as a lens in front of the client's eyes, encouraging her/him to produce a report of what s/he is able to see. The report in turn is treated as a document of the client's visual ability that serves the optometrist as a resource to select another lens to place in front of her/his eye. The subjective refraction test therefore is a procedure that iteratively and reflexively generates reports on clients' visual experiences and lenses to be placed in front of their eyes. The procedure does not measure objectively a client's refractive error, but it turns this error in the clarity of vision into a measure by virtue of a social process.

The paper contributes to discussions about the use of video-based research to explore optometrists' assessment of their clients' vision. It also provides sociological research concerned with the organization of interaction in service and health-service settings with novel perspectives on phenomena that lie at the heart of current debates concerned with the effective provision of services and the quality of care provision in health care and health-service domains. With this paper we propose that studies of interaction in optometric practices in particular and service encounters more generally shift the focus of research from the impact of external features such as the physical environment and characteristics of the participants to the practical organization of the service interaction, including the procedures in and through which service encounters are accomplished. We argue that service quality is not an essence that can be described with a metric but rather is a continually emerging aspect of the process of interaction between service provider and client.

Very often studies of work and work practice consider such processes as repetitive and routine. Such a concept of work practice, however, can obstruct a sensitivity to the contingent and nonroutine aspects of interaction between staff and clients. Recent sociological research concerned with 'routine' and the deployment of 'scripts' suggests that these concepts may be problematic because they are insufficiently flexible to capture the contingency of actual service encounters (J. Whalen, M. Whalen, & Henderson, 2002). This observation also is reflected in recent research in optometry that suggests that each and every occasion for working through an eye test is comprised of distinctive and new context specific features. As Shah, Edgar, Rabbetts, Blakeney, et al. (2008, p. 404) put it, 'there is no such thing as a standard sight test'. The quality of optometric consultations, the outcome of individual tests, and clients' satisfaction with the service are not predefined by textbooks or professional guidelines but rather emerge in specific circumstances. It therefore would seem that detailed analysis of the so-called 'routine eye examination' (Harvey & Franklin, 2005) can help reveal the contingent ways in which particular aspects of eye examinations are conducted and elaborate the reasons underlying these contingent events. Whilst textbooks and guidelines would consider these contingencies as interfering in the efficient delivery of the optometric service, they are a mundane aspect of optometric work. The detailed analysis of optometric consultations therefore can explicate the professional competences that optometrists bring to bear in the contingent circumstances in which they examine the eyes of clients and assess what they can see.

With the focus on the practices through which optometrists examine clients' eyesight, our research also contributes to the growing debates in sociology and organizational studies concerned with 'practice' (Miettinen, Samra-Fredericks, & Yanow, 2009; Reckwitz, 2002; Samra-Fredericks, 2005; Schatzki et al., 2000). The fine-grained, video-based examination of

practice can reveal how tools and technologies are embedded within the sequential organization of verbal, visible, and material action. How a tool, such as a lens, features in the accomplishment of a test is not determined by textbook instructions but contingently emerges through interaction between optometrist and client where it is deployed in a particular way for the practical purposes at hand.

Video-based studies of service encounters can also contribute to current debates about service efficiency by unpacking the activities involved in the interaction process between personnel and clients. For example, it has been argued that some optometrists diverge from the standard, professionally suggested procedure when assessing clients' eyesight and health (Shah, Edgar, Rabbetts, Blakeney, et al., 2008; Shah, Edgar, Rabbetts, Harle, et al., 2009). These differences in treatment that clients receive may partly be due to the fact that optometrists work in a highly competitive environment in which they increasingly need to save time on consultations in order to fulfil business demands. For that reason, optometrists are interested in using techniques and technologies that can help enhance the efficiency of their consultations without reducing the quality of care for their clients. Video-based research can offer these debates observations and findings that show how the layout of consultation rooms influences the practical organization of the eye exam; how different formulations of questions about clients' vision influence the detail, length, and direction of their answers; and how different technologies used to conduct sight tests impact the service delivery and the duration of consultations.

In this short paper, we have aimed to give a flavour of the observations and findings that video-based studies of optometric consultations can produce and what contributions they may make to academic debates on organizational interaction, practice theory, and service encounters.

It also pointed to the implications of video-based research for management and practice more generally.

Acknowledgments

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Notes

[1] We use the term *visible action* rather than *nonverbal behavior* (Argyle, 1988) because the latter implies the idea that 'bodily actions', such as 'gestures' and 'facial expressions', embody a meaning independent from the interactional context in which they are produced. 'Visible action' includes all bodily movements as the participants treat them as relevant in the situation.

[2] The placing of lenses in front of the client's eye as part of subjective refraction has been further examined in Webb, Heath, vom Lehn, and Gibson (2013).

[3] The transcript captures line by line the participants' talk, including the content and features of delivery. Underlined talk indicates an emphasizing of syllables or words, '?' stands for a

questioning intonation, ":" for an elongation of a sound, "(.)" for momentary but audible pauses and "(.9)" for a pause of nine-tenths of a second (Atkinson & Heritage, 1984; Drew & Heritage, 1992; Jefferson, 1984; Sacks, Schegloff, & Jefferson, 1974).

[4] There is no established convention for the transcription of participants' visible conduct, such as the production of gestures, the handling of objects, or the use of tools. As a result, researchers develop their own solution for the transcription of visible actions. For the examination of optometric consultations, we have drawn on recent research concerned with multimodal interaction. Their advice is to transcribe, at least, the onset and completion of the participants' visible action in relation to their talk. To provide a more suitable spatial representation of the participants' conduct, the transcript is laid out horizontally (Heath et al., 2010).