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**Abstract**

Increasing technological mediation of police-public contact is a significant trend in UK policing. Members of the public are increasingly likely to encounter policing in ways that are, one way or another, technologically mediated, and are very often ‘virtual’. Forces are increasingly using on-line tools – including chatbots – for crime reporting and other reasons, and social media to contact communities, while physical technologies such as body-worn cameras and drones are being inserted into human interactions between officers, victims, suspects and others. This may have significant, and thus far largely un-explored, implications for public trust and police legitimacy. We know that a sense of procedural justice is an important antecedent of trust and legitimacy; procedural justice, in turn, is generated and reproduced during the encounters people have with the police. But what happens when a significant number of those encounters occur online, when new technologies are inserted into encounters, or when people contacting police do not deal with a human actor at all? At the core of procedural justice theory lies the idea that people attend closely to the quality of interactions with authority figures such as police, and an unexplored assumption is that police-public contact is face-to-face, or at the very least is *between two humans*; but this is now a feature of only a sub-set of such interactions. In this chapter we consider some possible implications of the move towards technologically-mediated and, more specifically, virtual policing. Drawing on the concept of the ‘abstract police’, and existing literature and theory, we consider whether procedural justice might ‘work’ in the same way when police-public interaction is mediated by technology, and the possible implications for trust and legitimacy of policing that is increasingly delivered remotely and/or virtually. Such questions are of fundamental importance to understanding whether new forms of contact, and the police actions they herald, will be viewed as legitimate.

**Introduction: Technology shift and the abstract police**

Policing, by which we mean here the functions, activity and organisations of the public or state police, is currently undergoing a period of significant – indeed arguably profound – change. A confluence of diverse currents, including the financial strictures of the post-financial crash period and more recently the COVID-19 pandemic, shifts in crime patterns towards ‘on-line’ and virtual forms of offending, and perhaps most importantly the general societal shift towards an ‘on-life’ world where many forms of human activity take place partly or wholly on-line (Floridi, 2015), has prompted an ever-increasing emphasis on taking policing, too, on-line.

In the UK, the focus of the current chapter, the National Police Chiefs Council (NPCC) has recently stated that it believes “public expectations of how they interact with policing are changing. The public now expect us to have a significant online presence, with a similar level of functionality and ease of use to other services they access on a daily basis” (NPCC, n.d.). Substantial change is frequently seen as, and in all likelihood is, inevitable, and is already taking effect. Police in England and Wales are increasingly using email and web-based contact, and online reporting for various crime types, adopting voice recognition software for non-emergency calls, allowing members of the public to upload evidence, and offering on-line tracking of progress in investigations (HMICFRS, 2020: 8). In one force area, Avon and Somerset, members of the public can report crimes such as shoplifting online, report traffic collisions in the same manner, and upload evidence – and the force estimates that this reduced call volume (i.e. involving human call handlers) by about 85,000 calls in 2017 alone (ibid).

While the specifics of such developments will vary from place to place and over time, the ambition underlying them very often seems to be that expressed by former Metropolitan Police Commissioner Bernard Hogan-Howe’s vision of “a truly digital police force” that will “use digital to connect the criminal justice system from the very first report of a crime through to a court appearance, an end to end service” (Bowling and Iyer, 2019: 144). This vision is closely linked to a concurrent process wherein ‘big data’, predictive algorithms and related technologies become part and parcel of everyday police work (Brayne, 2017), and when reassurance functions – indeed the very visibility of police as a public symbol of order – are increasingly shifting to Twitter, Facebook, Snapchat and other on-line environments. And this is not only a ‘software’ revolution – new forms of hardware are almost continuously diffusing across police organisations (for example Body Worn Video, drones, Automatic Number Plate Recognition (ANPR), and live facial recognition systems). Many are themselves directly, or at least potentially, ‘connected’ and tapped into a growing ecosystem of data collection and storage systems; and many, explicitly or implicitly, are placed *between* police and public.

These changes will have consequences across the practice of policing, the range of outcomes police organisations seek to secure, their success in doing so, and for the relationship between police and policed. From the ways in which digital policing might help police function more efficiently and effectively – for example by vastly increasing managers’ ability to target resources accurately and in real time – to concerns about surveillance creep, a ‘truly digital force’ would be doing many things very differently to police organisations of the past, and indeed those of the present (the revolution is ongoing). Our interest in this chapter is in the effect this process will have on the nature of ‘contact’ between police and public and, in particular, the importance of such contact for trust and legitimacy in police-community relations. Whether police-public interaction is enforcement focussed (with suspects), service focussed (with victims, witness or enquirers), reassurance focused (with wider publics) or fulfilling some other function (e.g. order maintenance at a public event or demonstration), technologies of various kinds will more and more be present, provide some form of mediation, or even constitute a protagonist in their own right.

Moreover, the very terms ‘contact’ and ‘encounter’ become problematic in this new context. Someone following a police social media account has obviously, at some level, made an active choice to do so. But is their consumption of posts to that account in any way akin to a chat with a local ‘bobby’ or some more formal engagement (e.g. attending a community meeting)? From a police perspective the difference is even more stark – tweeting to the 2,000 followers of a local police account is clearly very different to talking to community members while out on patrol, not least because the latter involves interacting with them as individuals, while the former positions them as a more or less anonymous audience, and one that is primarily listening a passive sense rather than *inter*acting. Similarly, when the public is greeted by a standardised web site and asked to proceed through a series of predefined steps to report a crime, how does it compare to a 999 call (even when that follows a script of some kind) or a home visit from a police officer?

All this is important because a large body of evidence suggests that contact with officers is central to the way in which public trust and police legitimacy are established, reproduced and/or undermined (Skogan, 2006; Tyler and Fagan, 2008; Bradford et al., 2009; Tyler et al., 2014; Oliveira et al. 2020), and thus for the perceptual, experiential and behavioural architecture of police-community relations. Such ‘moments’ provide people with important information about the trustworthiness of police, the values that inform their activity, and whether they deserve to be considered legitimate. And there is much to suggest that trust, shared values and legitimacy are expressed most importantly via procedural justice – the use of fair process that expresses social bonds, and shared group membership, between individual and institution (see below). On this account, trust and legitimacy are to an important extent built and sustained via processes of interaction that demonstrate to the *policed* that the *police* are in some fundamental sense like them, and thus worthy of their support and commitment.

Yet, throughout the voluminous literature in this area, terms are routinely and uncritically used that reveal the assumed qualitative and inter*person*al nature of these ‘interactions’: terms such as “contacts”, “encounters”, “dialogue”, “exchanges”, “communication”, through which procedural justice is “demonstrated”, “conveyed”, “delivered’ and “operationalised”. Until recently, terminology such as this was relatively unproblematic. Interactions between officers and public occurred largely face to face or on the telephone, and it was inconceivable that they could happen without some form a public/police co-presence. But in the last decade or so, and particularly in the last few years, a shift towards more virtual forms of interaction has been increasingly apparent, for example in relation to on-line crime reporting; and the current agenda of many police organisations represents a significant ramping up of this process. In some instances direct, or at least completely *un*mediated, person-to-person contact will largely become a thing of the past. Instead, the introduction of body worn video (BWV), mobile data terminals (MDT) and the Single Online Home reporting portal (SOH), as well as seemingly ever growing numbers of police social media accounts, mean that police/public interaction is increasingly likely to be technologically-mediated in some way, and/or take place without the parties co-present. The term ‘channel shift’ is used to describe these efforts, a term which often implies not just mediation but automation. Indeed, it seems that many people contacting the police in the future will not interact with a human at all, but with chatbots or other automated systems that provide simulacra or approximations of human contact (Bowling and Iyer, 2019; Hartzog, 2016; McGuire 2020).

The developments outlined above seem to map almost perfectly on to the idea of the ‘abstract police’ (Terpstra et al., 2019). This concept is an ‘ideal type’, an abstraction in itself, used to illustrate in general terms the unintended consequences in several contemporary policing jurisdictions of ongoing processes of modernisation and rationalisation. Terpstra and colleagues have argued that many western European police forces are under increasing pressure to be both more efficient and more effective. System-level bureaucracy has been brought to the fore, meaning that police forces are encouraged to become ‘hyper-rational’ in their internal and external work and processes.

Terpstra et al. argue that this has developed in to an ‘irrational’ situation across two key dimensions. The first dimension – changes within police organisations that imply “relations between police officers, and those between officers and their chiefs, have become less personal, familiar and direct, and more formalised and governed by ‘systems’” (2019: 5) – is relevant to, but not our focus in, the current chapter. The effects of the processes described above on police officers themselves, and on the social and cultural structures of police organisations, should certainly not be forgotten. Key elements here are a greater distancing, horizontally between police officers and their colleagues in centralised units, and vertically between officers and senior managers; and research (Chan, 2003; Lum et al., 2017; Willis et al., 2018) points to a potential disconnect between the intended benefits of new technologies in policing and their actual use in practice. While senior managers may see utility and thus value in particular technologies, this does not mean that front-line officers will likewise see these benefits, highlighting the irrationality of internal communication and supervision systems (Manning, 2008; Willis et al., 2018). While technology can, and now does, have a significant role in policing, this influence is by no means guaranteed, pervasive or beneficial. If the technology does not align with officers’ views of what is ‘good’ policing, they will not use it (Lum et al., 2017)

Our concern here, however, is primarily with Terpstra et al’s second dimension of the abstract police: “[r]elations with citizens and communities may become less personal and direct and more dependent on abstract police information systems” (2019: 15). They point to recent developments in some jurisdictions where public-facing enquiry counters have reduced their hours or closed completely, small police stations are shut down, staff merged into larger central units, and more formalised systems of communication with the public and external partners are introduced. They postulate that these, and other related changes, have led to a reduction of local knowledge and moral ownership of beat areas.

In this chapter we attempt to provide some provisional answers to Terpstra et al.’s (2019:15) question: “what consequences [will] the increasing abstractness of the police […] have from the perspective of citizens”? We start from the premise that the ‘abstract police’ processes described above, some of which we return to below, seem almost by definition to have implications for the extent to which contact with police can ‘carry’ the idea of shared social bonds, and therefore trust and legitimacy. Throughout, we concentrate primarily on the ‘virtual’ aspects of the abstract police rather than its ‘standardising’ aspects, although the latter are also relevant to the discussion.

The rest of the chapter proceeds as follows. First, we outline some of the potential challenges that ‘virtual policing’ may pose for the account of public trust and police legitimacy provided by PJT. Here, we are concerned with challenges to both theory (how well do the underlying causal mechanisms of PJT translate to this new context?) and practice (what might be the actual outcomes in terms of trust, legitimacy and so on?). Second, we outline three potential ‘futures’, possible trajectories for the establishment and reproduction of trust and legitimacy in a world where police and policing become more and more virtual. Third, we conclude with some thoughts on how some of the challenges might be met, and indeed how they might be shifted into opportunities for policing.

Finally, at the threshold we note that our concern throughout is primarily on ‘on-line’, fully mediated, interaction, which we assume is the most clearly ‘virtual’ aspect of the so-called channel shift and attendant increase in the use of new technology by police. We do however refer to other technology, such as body worn video, not least because in an increasingly ‘wired’ world the distinction between on- and off-line is increasingly blurred, if not defunct.

**Sources of trust and legitimacy**

We assume here that trust and legitimacy are inter-related yet conceptually distinct constructs that exist in a mutually constitutive relationship. They are aspects of the relationship between police and policed that can be most directly accessed via the attitudes and behaviours of the public (we take, that is, an empirical approach, and concern ourselves with whether, as a matter of fact, the people governed by police in a particular context trust and hold them legitimate) (Jackson and Bradford, 2019). Trust can be defined as a willingness to be vulnerable to another, under conditions of risk, that is grounded in evaluations and expectations of their competence, benevolence and good intentions (i.e. perceptions of their *trustworthiness*) (Hamm et al., 2017; PytlikZillig and Kimbrough, 2016). It is these evaluations and expectations that will most concern us here, which we will label trust for the sake of brevity. Legitimacy, from the perspective of those governed by a particular arrangement, can be defined as a set of judgements they make about the moral appropriateness of power and the reciprocal duties they have towards the authority concerned – their recognition of its *right* to command and be obeyed (Jackson, 2018).

Trust and legitimacy are typically construed as having common antecedents and consequents, and to be causally linked to one another. In the context of policing the account of this relationship offered by procedural justice theory (PJT) has achieved some dominance (Tyler, 2006; Tyler and Huo, 2002). A wealth of empirical evidence collected from countries around the world has demonstrated that the fairness of the processes used by police – across dimensions of voice, neutrality, transparency, and respect – is the most important factor shaping trust and, in particularly, legitimacy (Bolger and Walters, 2019; Walters and Bolger, 2019). The experience of procedural justice during interactions with police is thought to generate trust, particularly in relation to their motives and intentions; that is, in relation to the moral basis of their current and likely future behaviour. A positive evaluation of the morals and values of police generates a sense of legitimacy, which, in turn, generates cooperation and compliance. On this account trust mediates the association between procedural justice and legitimacy, and legitimacy mediates the association between trust and cooperation. Naturally, other, possibly more complex webs of association are possible and indeed likely, a point we return to below.

Our central concern here is how police legitimacy and public trust are generated, maintained and reproduced, with an emphasis on the role of procedural justice in this process. This is not to claim that other factors are unimportant. Other aspects of fairness, particularly distributive justice (the equity of the distribution of the goods and impositions of policing), effectiveness, responsiveness, community engagement and a range of other police behaviours and outcomes will inform people’s trust and legitimacy judgements. And beyond the activity of police – however it is experienced – a whole host of cultural, social, political and economic phenomena will feed into those same judgements. Again, we return to this point below.

**Procedural justice in interactions between police and public**

Despite the relevance of other factors in the formation of trust and legitimacy in an overall sense, when it comes to moments of interaction, procedural justice is consistently found to be the dominant factor. It seems that the fairness of the processes used by police in their dealings with the public are frequently uppermost in people’s minds when they interact with police and think on or reflect about such interactions. This has a number of potential implications in the context of the ‘channel shift’ described above, which can be classified across two main dimensions.

The first dimension concerns the group dynamic aspects of PJT, a central concern of which is the ways cooperation and compliance are motivated and sustained within social groups. A central assumption of PJT is that the police represent social groups that many people find important – nation, state, community, the ‘law-abiding’. The experience of procedural fairness at the hands of important group representatives, i.e. police officers, is thought to communicate to those with whom they interact messages of inclusion and status within such groups, and that membership of the group itself is worthwhile (that it is worth belonging to because its representatives – the police – treat its members appropriately and according to a set of shared moral values). When their sense of identification with a group is activated and salient, when they feel included, people are motivated to act in ways that support the group and its authorities (Tyler and Blader, 2003). Procedural justice, that is, indicates that police officers are appropriate group authorities, who appropriately represent and even embody the group and its values, and that these values are worth sharing and defending, not least because they define what the group means to its members (Sunshine and Tyler, 2003). Procedural injustice does precisely the opposite, of course, indicating a lack of shared values and that the group does not value or care about its (putative) members.

While the group dynamic model of authority proposed by PJT has found application in a diverse range of settings, from families to schools to employment, as deployed within criminology it relies to a significant and arguably under-appreciated extent on ideas of *embodiment* and, in particular, moral agency. If police officers are to be considered, at least potentially, as “proto-typical group representatives” who share a “set of common moral values” (Sunshine and Tyler, 2003: 154) with those they police, this would seem to require, first, that they do in fact represent salient social categories. This is indeed a common theme in the theorisation of policing. Many have argued that police represent ideas of nation, state, community and belonging – or exclusion (for example Waddington, 1999; Loader and Mulcahy, 2003; Reiner 2010). Yet, second, it also requires that police are moral actors *able* to behave in ways that demonstrate they share the values of those they police (or that they do not). The expression of these values is thought to demonstrate to people that police officers are *like them* in a quite fundamental sense, whether this be by generating a situational sense of shared group membership (Tyler and Blader, 2003), motivating identification with salient superordinate social categories (Bradford et al., 2014) or motivating identification with police as a distinct category in itself (Radburn et al., 2016). In short, this interpretation of PJT would seem to require moral agency on the part of human actors, who moreover stand for an institution that is anthropomorphised in significant ways.

Movement toward ‘virtual’ or ‘abstract’ policing may therefore present challenges for PJT, or perhaps more pertinently the ability of police to promote trust and legitimacy via fair process during interactions. Technologically-mediated contact may diminish or negate the sense, among the public, that they are interacting with moral agents who are at least potentially similar to them. Indeed, it may be that people need to believe (first) that they are interacting with moral agents in order to (second) be able to assess the similarity of those agents to themselves. To the extent that technology provides a barrier to a sense of social and moral congruence, or simply removes the human actor from one side of the interaction, it may become increasingly difficult to generate a sense of shared identity and, thus, trust and legitimacy.

The second set of potential implications arising from the 'channel shift’ relates to the ways in which procedural justice might be ‘done’ in technologically-mediated interactions. It is generally accepted that ‘procedural justice’ encapsulates a range of different behaviours, or perhaps more correctly experiences (PJT is primarily concerned with police activity as it is perceived by those affected by it, rather than the objective content or ‘reality’ of the activity itself). How these different behaviours/experiences are conceptualised can have significant implications for our understanding of procedural justice perceptions play out in specific situations. On some accounts, there are four components of procedural justice: participation or voice, neutrality, dignified and respectful treatment (or perhaps just ‘politeness’), and trustworthy motives (Tyler and Blader, 2000; Mazerolle et al., 2012, Jonathan-Zamir et al., 2015). Other accounts are subtly different, emphasising the ‘quality of decision-making’ and the ‘quality of treatment’ (Tyler and Blader, 2000; Tyler and Huo, 2002). The former refers primarily to openness, consistency, neutrality and a lack of bias, while the latter relates primarily to issues of politeness, respect, dignity, voice and trustworthiness.

The second approach outlined above seems more relevant to our purposes in this chapter, for two inter-related reasons. First, empirical accounts of the four-component model described above tend to conclude that they actually collapse into one construct, which also conflates procedural justice and trust; by contrast, quality of treatment and quality of decision-making tend to be more empirically separable (Blader and Tyler, 2003, although see Reisig et al., 2007). Second, the decision/treatment model also more clearly distinguishes between aspects of procedural justice that might play out differently in face-to-face interactions between two humans, compared with interactions that are in some way mediated by technology. Developments in policing that disconnect the *treatment* from the *person* may mean that we need to ‘disconnect’ the components of procedural justice. Whilst neutrality may be particularly well suited to technological mediation, it is not clear that politeness, dignity and respect can be shown by non-human actors. It would therefore seem *prima facie* easier for technologically-mediated interaction to display appropriate decision-making (particularly across dimensions of consistency, neutrality and a lack of bias) than appropriate interaction (particularly across dimensions of respect and dignity).

This distinction will increase in salience the more technology inserts itself into and plays an active role in interactions. Indeed, some have claimed that increasing automation will solve the problem of police bias: “[i]ncreasing automation will] render obsolete the litigation, public criticism, and academic critique centering on the illicit use of police discretion” (Joh, 2007: 216; see also Lianos and Douglas, 2000). More recent work on, for example, the bias ‘baked into’ algorithms increasingly used by police largely discounts such utopian theorizing (Ferguson, 2017; Lum and Isaac, 2016; Sandhu and Fussey, 2020), but machines do at least offer a regularity and consistency unachievable by human actors; although, as we discuss below, *demonstrating* this may be hard to do.

Respect, dignity and politeness – on all accounts central to the idea of ‘quality of treatment’ – seem by contrast innately human in character, only attainable by machines to the extent they faithfully transmit or effectively simulate human behaviour. As Tudor-Owen (2019) argues, while automation may enhance perceptions of neutrality, “aspects of the [PJT] model related to trustworthiness, respect, and voice intuitively require face-to-face interaction with police” (2019:7). In a rare empirical study in this field, Wells (2008) found that questions of respect, politeness, trust and voice were key to understanding public resistance to the speed camera as a form of automated justice. Relational concerns were difficult if not impossible to convey in a context of full automation (where a human actor is only notionally present or indeed entirely absent), and this fundamentally shaped how people viewed this particular type of interaction with authority. Moreover, in this context neutrality and consistency (antecedents that were *guaranteed* by the technology) were viewed as a *lack* of respect for individual difference perceived to be relevant to the provision of justice, further undermining trust in and acceptance of the system. Wider research on, for example, the way people engage with AI decision-making processes has similarly found that a perceived lack of control over the decisions made – which in the procedural justice literature is often glossed as ‘voice’ – can be a significant inhibitory factor (Burton et al. 2018). One that can be resolved, somewhat ironically perhaps, by putting a human decision-maker ‘back in the loop’ (ibid: 224)

If technologically-mediated interaction does indeed inhibit or block indications that the police respect and value the policed this would constitute a significant issue for both theory and practice. On the one hand, respect and dignity are arguably the ‘richest’ elements of procedural justice, intrinsically linked in moral and political philosophy as well as social psychology to human flourishing, positive forms of community, and other social goods (e.g. Sennett, 2004; Watson, 2020) If the chosen method(s) of communication of a police organisation means it is unable or unwilling to demonstrate it respects those it serves, this may inhibit development of these goods. There are of course already existing models of this process in in many countries around the world, where distant and uncaring police organisations hinder human and social development.

On the other hand, as people experience, ‘read’ and react to police activity relationships between the different aspects of procedural justice are formed. Specifically, judgements about the quality of decision-making may often be based, in part, on judgements about the quality of treatment (c.f. Bradford and Creutzfeldt, 2018). This is because it can be hard for officers to display neutrality, consistency and a lack of bias in ways that people can apprehend. Many are unfamiliar with police decision-making processes, and the outcomes of those decisions will often be hidden (for example, relatively few who come forward to report a crime as a witness will ever find out if an arrest is made), making it hard to see if bias is present. The very notion of police ‘impartiality’ may be hard for some to grasp when officers ‘take the other side’ during a dispute. And some forms of technological mediation may further exacerbate the elusiveness of police decision-making when, as in the case of automated speed cameras above, decisions are automatic and simply *delivered*.

People may thus make inferences about the quality of decision-making from something they *do* have experience with – the quality of the interaction between themselves and officers. The *justice substitutability process* described by Van den Bos and colleagues (Van den Bos, 2001; Van den Bos and Lind, 2002) suggests that people use aspects of processes about which they have direct knowledge as heuristics for aspects of the process about which they do not. Technological mediation may inhibit this substitutability, most obviously because when there less or no meaningful interaction to provide heuristic information it is harder for people to deduce the quality of decision-making. To put it another way, when it further dis-embeds decision-making from human interaction, and reduces the quantity and quality of the latter, technology may diminish the potential for people to reach *any* kind of judgement about the fairness of a process because they simply do not have enough information to work with.

It is plain, as we discuss below, that all these issues remain unresolved. It is too early, and the pace of change too fast, to be in any way certain how any of this will play out, and it is possible that technologically-mediated interaction may serve to maintain and even enhance, rather than erode, elements of procedural justice. Opening up new lines of communication via social media, de-centring the police voice in peer-to-peer networks, and increasing the visibility of police communications and crucially people’s responses to them, may all, for example, enhance the potential for voice and increase transparency (Grimmelikhujsen and Meijer, 2015; van der Velde et al., 2015; Fielding, 2017). Yet the challenges sketched out above are significant. To illustrate some of the emergent possibilities, in the remainder of this chapter we spell out three possible trajectories for procedural justice theory, and the formation of public trust and police legitimacy, in a world of increasingly technologically-mediated contact, contrasting as we go with other sources of trust and legitimacy. We label these trajectories *Business as Usual*, *Greater Instrumentalism,* and *Source Diversification*;categories intended purely as heuristics, with large potential over-laps, and to be understood in context of a reality likely to be far more complex in nature.

**Possible futures in a world of technologically-mediated police contact**

*Business as usual*

Despite the concerns raised above, some current research suggests that well-established aspects of procedural justice theory actually translate well into partially- or fully-mediated interactions between the public and institutions with power and/or authority over them. Tyler and colleagues (2019), for example, have demonstrated that users of a social media site who had had content removed because it violated the ‘community standards’ of that site (e.g. included nudity, hate speech, or bullying) responded positively to a notification and appeal process they perceived to be procedurally fair. For example, respondents to a survey fielded after an initial post was removed who felt they had been procedurally fairly treated were *less* likely to re-post offending material during a 45-day follow period than those who felt they had not been fairly treated. Crucially for current purposes, all this will have been done on-line, and mostly via automated messages: “At the time of this study, the site did not provide opportunities for written justifications or explanations by the user, nor did they receive a personalized response. If they appealed, they are (sic) only told which standard they had violated” (2019: 118).

In a pair of linked studies Creutzfeldt and Bradford (Creutzfeldt and Bradford, 2016; Bradford and Creutzfeldt, 2018) found evidence of a procedural justice effect in another highly mediated context: the interactions between consumers and ombuds services dealing with their complaints against businesses. In the UK, for example, very few of these interactions are in-person, and nearly half take place via email or an on-line portal (Creutzfeldt and Bradford, 2016). Moreover, consumers involved in the complaints process clearly have a strong instrumental orientation toward it (they want their money back). Yet, even here, people were clearly able to make judgements about the fairness of the process through which the ombuds service dealt with them, and their perceptions of procedural justice were associated with their readiness to accept the decision in their case, net of its favourability to them. Such outcomes are entirely in line with key predictions of procedural justice theory, and suggest that process fairness counts even in cases where contact between individual and authority occurs largely or entirely on-line.

Further, Spain and Madhavan’s (2009) study of ‘automation etiquette’ found that politeness mattered even when people were engaging with automated systems. Their study involved participants performing a simulated luggage-screening task, interacting with an automated aid. The aid responded imperfectly, varying in ‘pedigree’ (expert or novice) and ‘etiquette’ (giving polite feedback, giving neutral feedback, or giving rude feedback). A polite system was rated as more reliable and trustworthy than a rude system, and participants complied with the instructions issued by a polite system more than they did with the instructions of a rude system or neutral system. The authors note that “[t]hese findings support theoretical work that suggests surface level features of automation can influence trust and trust related behaviors” and conclude that “[f]urther research is warranted to determine how mimicking human communication styles can further influence human interaction with automation.” (Spain and Madhavan, 2009: 339)

Why should procedural justice antecedents continue to be important even in these highly ‘abstract’ contexts where, moreover, the symbolic potential of the authority is far less than that of the police (although one could argue that social media companies are now unique and powerful actors)? One answer to this question may lie in the fundamental importance of fairness – many people, in whatever context they are operating, value being treated fairly. Justice may simply be a ‘prescriptive ought’ (Folger, 2001: 4), an end in itself rather than simply a means to another end, and people value it in this sense as well as the primarily relational sense proposed by procedural justice theory (Folger goes on to stress the strength of negative reactions when norms of fairness are transgressed).

Another answer, by contrast, might be found in the earliest iterations of procedural justice theory itself (Thibaut and Walker, 1975, Walker et al., 1979). Here, procedural justice was important because it gave those involved in justice processes (e.g. a trial) a sense that they had some measure of input into and therefore control over the procedure they were going through. Feeling one has control over, or at least is part of, a decision-making process offers reassurance that the right outcome has been or is likely to be reached, and is generally referred to in the PJT literature as the opportunity to ‘voice’. Here, then, the idea of procedural justice has a more instrumental flavour than is often the case in more contemporary literature – at the very least, it is clear that people involved in trials have an interest in the fairness of the outcome reached. Indeed, much subsequent work has demonstrated that judgements of distributive justice (fairness of outcomes) – and other outcome related measures – are often premised on judgements of procedural justice (fairness of process), not least because people have direct knowledge of the latter and use it to infer the presence of former, about which it is very hard for them to come to an independent judgement (another iteration of the justice substitutability processes referred to above; see Lind, 2001 for a review). In a situation where the decision-making process is almost entirely hidden from participants – such as when making a complaint to a social media company – people may therefore be especially attuned to process fairness because they have little other way of coming to a judgement about its overall quality of the decisions made or the fairness of outcomes reached.

However, it has been observed that “fairness judgments are enhanced by the opportunity to voice opinions even when there is no chance of influencing the decision” (Lind et al., 1990: 952, but see also Tyler, 1990 and MacCoun, 2005), and as such ‘genuine’ control over outcome is not a pre-requisite of feeling that one has had valid input. What is not known in policing contexts, and what has not been relevant until the era of channel shift, is if the value of voice relies on being *heard* (even if subsequently ignored) or whether there is value in simply expressing views even without an expectation of being listened to. In our context, the possibility of metaphorically shouting into a black hole, or falling in a forest where there is no one to hear you fall, suddenly become relevant considerations. If recipients of policing have no belief in the potential for their voice to reach the ears of the police, does it still make sense to provide opportunities for them to speak?

There are thus good reasons to suggest that even in highly mediated contexts people may still attend to process fairness, and formulate their trust and legitimacy judgements accordingly. There is also the possibility, of course, that technological mediation may serve to make the process itself *more fair*. Take, for example, the inter-related questions of accountability and communication. The insertion of technology in human interaction means that more and more decision-making can be and increasingly is recorded, often in real time and in multiple formats. Police decisions are increasingly auditable via the review of body-worn video, real-time data entry into portable devices, and so on – albeit that the extent this actually happens in practice is debatable – meaning those affected by officers’ actions may have access to a more or less formal decision-making trail, which, crucially, can be communicated to them (e.g. via email or a log-in at the ‘Single Online Home’). New systems and automation may begin to ensure that victims or complainants are updated more consistently and regularly than in the past. Needless to say, such developments raise many interesting questions, in relation for example to whether human factors remain important: an automated email may be perceived very differently to a personalised response.

The removal (or downplaying) of the human officer may have other potential benefits. The theory of representative bureaucracy, for example, suggests that people tend to respond positively to authorities when the physical ‘face’ of those authorities looks similar to them (Mosher, 1968; Saltzstein, 1979; Trochmann and Gover, 2016). For many people from minority groups, however, this is still unlikely to be case; and in a general sense, in hyper-diverse contexts such as those found in the major cities of the UK, it would be impossible for police to ‘represent’ all those they encounter in this particular way. In the case of minority communities with long histories of problematic relations with the police, people may previously have felt alienated by embodiments that were Not Like Them. It is at least conceivable that by removing human actors such tensions are diminished or circumvented, and indeed that the face shown by police to communities can be tailored in ways hitherto impossible.

*Greater instrumentalism*

While there is much to suggest that procedural justice will continue to be important as policing becomes more and more technologically mediated, other outcomes are naturally possible. A central issue here is that procedural justice is a relational concern. People tend, on average, to wish for positive relations with police officers as authorities, important group representatives, and arguably simply as fellow human beings, and fair process is an important way in which such relationships are evidenced and maintained. Diminishing the role of or even removing human actors from police-public interactions may mean that people become less concerned with establishing and maintaining a relationship with the police, reducing the salience of procedural justice (Kwong and Leung, 2002; De Cremer, 2005; Koivisto et al. 2013). While not inevitable, this shift in focus could also trigger a greater concern with instrumental outcomes (whether these involve action, e.g. returning one’s stolen goods, or inaction, e.g. not interfering in one’s activities). At the very least, if a person becomes less concerned with *maintaining* a relationship with another, this opens up the space for any one encounter to become more focussed on the specific outcomes at stake.

A related issue here is the symbolically loaded nature of policing. It is a mainstay of criminology and the sociology of police to suggest that this is an institution fundamentally representative of particular sets of values and social groups. It is precisely the symbolic nature of much police ‘work’ that lends credence to the idea, central to procedural justice theory, that police represent groups and categories salient to many people. This symbolic load is, naturally, maintained in part by the physical accoutrements of police – the uniforms, cars and other matériel, a presence at national events, and the physical locations provided by police stations.

Does a police tweet, by contrast, stand out from the others in the feed and thus carry a similar symbolic charge? Or does the relative authority of the police voice – backed by that charge – wither in the din of social media? Does reporting a crime entirely on-line come to ‘feel’ more like making an insurance claim, and thus as instrumental? In such contexts we might expect the ‘specialness’ of the police to diminish, and, perhaps, the extent to which they embody salient superordinate categories to decline. To the extent that the importance of procedural justice is due to people’s desires to maintain positive relationships with and within those categories, a decline in the symbolism of police may dampen the focus on process fairness. In the examples of technologically-mediated procedural justice in the previous section, we note that none were located in as symbolically loaded a context as policing. Contexts such as Ebay, which have never offered a humanised encounter, may be experienced differently to those which once relied on human co-presence, but no longer offer it.

As noted above, there are however other reasons why procedural justice is important to people, particularly in policing and criminal justice contexts. One important issue may be that opportunities for exit (Hirschmann, 1970) are limited. For many people engagement with the police is not optional. Certainly not if they are suspected of a crime or involved in public order situation, but even victims of crime and others may feel, and often have, little choice other than to ‘call the police’. When one cannot leave a relationship it seems likely one will attend more closely to indications that it is appropriately formulated and maintained, and that the other party is behaving properly. Technological mediation, especially when mediation is total, may diminish the stakes in some police-public interactions, particularly those initiated by a member of the public. ‘Exit’ is relatively easier on-line than in person; moreover, the investment needed to initiate and maintain a contact or relationship is less, making withdrawal subjectively less costly. These factors may, again, depress the salience of procedural justice because simply leaving a particular encounter or process is easier.

An important proviso here is that, for many people, engagement with the police will continue to be non-optional even if is fully mediated. A further possibility is therefore that while current research tends to stress the consistency of procedural justice effects (for example in generating legitimacy, Wolfe et al., 2016), increasing mediation of police-public contact will mean they become more fragmented, and more conditional on the nature and form of interaction involved. A very wide range of behaviours and experiences bring people into contact with the police, and we cannot assume that it always feels the same to be involved in such interactions; that, for example, victimhood is a single category and that all victims want to same thing from the police, nor indeed that members of the public have the same expectations in respect of *invited* interactions with the police as they do in respect of *uninvited*, or *unsolicited* ones. Such differences may be exacerbated by the space, distance, and diversification of ‘contact’ as it becomes more and more technologically mediated.

*Greater source diversification ­*

Procedural justice has never been the sole factor underpinning trust and legitimacy in policing contexts. A whole range of ideas, perceptions, feelings and emotions can affect the extent to which people feel that police are effective, well-intentioned and behave in morally appropriate ways (or not). These range from deep-seated ideological preferences (Harkin, 2015; Roché and Oberwittler, 2018), through people’s location in hierarchical structures of ordering and power (Bradford and Jackson, 2018), to socialisation within the family and school (Tyler and Trinkner, 2017; Sindall et al., 2017). To this list can be added, of course, other concerns about policing and police behaviour, most obviously about effectiveness (Tankebe, 2009) but also, for example, corruption.

A central finding of the research literature on procedural justice, trust and legitimacy, however, is that personal and vicarious contact cuts through these other factors. As Tyler and others have long argued, interactions with officers are vital moments in which people’s established ideas about police are put to the test (e.g. Tyler et al., 2014). They provide much information about the extent to which police live up to the behaviours expected of them, and, crucially from a PJT perspective, about the value police assign to the person(s) with whom they are interacting. And the way officers interact with people is, unlike many of the factors listed above, something that is under the control of the police and which is open to various forms of policy intervention.

But with the advent of technologically-mediated contact police may become, literally and figuratively, more distant. An important feature of many – although not all – of the developments we have outlined in this chapter has been the reduction of face-to-face and even telephone contact with police officers; as, for example, people are encouraged to report crime on-line. An important source of information about the fairness of the police is thus interrupted, and, relatively deprived of information through personal contact with officers, people may turn to an even greater extent to wider cultural, social and political resources to inform their trust and legitimacy judgements.

To be clear this would merely be an intensification of processes that are already and have always occurred, but it may have significant implications. Perhaps most importantly, it suggests that trust and legitimacy become (more) detached from actual police activity, or at least from unmediated experiences of such activity, while at the same time the place of police in wider institutional and ideological structures becomes more important (than it already is). This process will moreover not be evenly spread across society. Some sections of the population may indeed become largely divorced from unmediated interaction with police. But at the same time ‘real-time’ contact will likely become ever more concentrated among regular client, suspect and ‘police-property’ groups, who are likely to continue to be disproportionately exposed to unsolicited police contact (Bradford, 2017). All this may have a number of unforeseen consequences. The ability of police to actively seek public trust – by improving the ways officers interact with those they encounter – may be undermined by an increased distance from significant parts of the population. Furthermore, a reduction in face-to-face engagement based modes of policing would disrupt the ability of police to build relationships over the longer term (Aston et al., under revision). And as the sources of information people draw upon *beyond* policing assume increasing importance, it may be that views of the police become more ‘fixed’ than is currently the case; more determined by factors such as ethnicity, class or political ideology.

Alongside and possibly interacting with elements of the above, it may be that as face-to-face contact in policing decreases, and the opportunity to demonstrate a procedurally just approach in these interactions diminishes with it, the importance of other *policing* antecedents of trust and legitimacy become more prominent. We have already discussed the possibility that effectiveness might gain a greater weight in people’s attitude formation. Yet, there are other aspects of police activity that do not fit so neatly into the effectiveness/ fairness dichotomy. When there is relatively less personal interaction with officers, people may prioritise responsiveness, availability and accessibility.

A decline in face-to-face contact may have other, possibly counter-intuitive, implications. It is commonly argued that the negative effect of ‘bad’, unsatisfactory, procedurally unjust treatment on trust and legitimacy is greater than the positive effect of ‘good’, satisfactory, procedurally just treatment (Skogan, 2006; Bradford et al., 2009). While the extent of this ‘asymmetry’ may have been over-stated (Oliveira et al., 2020), it does seem that it can be easier for officers to get things wrong than right (or, at least, that the penalty for the former exceeds the bonus from the latter). Tensions between police and community may therefore actually be *diminished*, at least in some circumstances, if face-to-face contact is minimised and other, possibly more consistent and transparent, modes of communication are used to fill the gap, although this would seem unlikely to be the case if the face-to-face contact that did continue was overwhelmingly adversarial, rather than engagement- or service-based.

All this raises an important counterpoint to the argument presented above, in that there are aspects of police activity performance and ‘delivery’ that may be made easier, and enhanced, by new technologies. It may well be the case, for example, that using social media makes police more available and accessible, at least to those with reliable access to the internet – although public confidence will also be important in shaping people’s willingness to engage with the police online (Aston et al., under revision). Below, we consider some of the other ways that problems raised by increased technological mediation may be ameliorated, sometimes by the very technologies involved.

**Mitigating the impact of technologically-mediated contact on police legitimacy**

While the future of policing is of course unknown, it is clear that the use of technology by police will increase. Given what we have outlined above, it is worth considering how police organisations might seek to mitigate some of the potential negative impacts of technologically-mediated contact on police legitimacy. In this final section we explore a number of potential concerns, futures and routes for policing to take; research to inform the approaches taken seems an imperative for the years ahead.

There is a danger that as police become increasingly ‘abstract’ and distanced from communities, ‘routine’ non-confrontational interactions decrease in number, leaving many experiencing only response and enforcement-based policing. As is often the case in policing, we have in a sense been here before – the shift of police patrols into motorcars in the 1960s and 70s, and this away from foot patrols that generated face-to-face interaction, has been cited as one of the factors behind the decline in public trust that occurred around the same time (Weinberger, 2016). Given that assessments of procedural justice tend to be lower in adversarial encounters (Skogan, 2006; Bradford, 2017), this poses a challenge for policing because perceptions of face-to-face contact, both direct and vicarious, would be more heavily based on enforcement and emergency responses, rather than proactive ‘non-essential’ engagement or encounters initiated by, for example, victims of minor crimes.

While we, like many others, may wish that police do not take this path, and avoid ‘retreating’ into enforcement, there may be a direction of travel here that is hard to reverse. In order to maintain legitimacy under such conditions, policing organisations could instead aim to use an evidence-based approach in order to adopt different forms of engagement and contact for various ‘publics’, in different types of situations, in order to reduce distance and increase personal contact where it is most needed. For example, this could allow ‘channel choice’: online reporting for certain types of offences, video or telephone resolution for other incidents, and face to face contact where necessary or appropriate, thus allowing police to mitigate potential access problems, digital exclusion, and target engagement appropriately.

A second ameliorative route could be that already being taken by some police organisations, who have used (or at least tried to use) technological mediation as a way to enhance the frequency and quality of police-public interaction, or at the very least the ‘push’ of more information (Heverin and Zach 2010). Indeed, the idea that increasing use of technology necessarily makes police more ‘abstract’ may itself be problematic. Research by the National Police Chief’s Council, for example, found that young people *expected* police to be visible and engaged on social media, that they did not necessarily see this as different from ‘traditional’ methods of engagement, and indeed that the former could be more important to them than the latter (NPCC n.d.). From the perspective of people born into the digital age, multi-channel engagement will seem entirely normal and not indicative of a distancing between police and public. In a world where many people are always on-line, the ability of police to contact community members more or less instantly via social media and other platforms need not come at the expense of other forms of contact, and may serve as a multiplier of interaction, not an inhibitor.

It is arguable that in the context of the COVID-19 pandemic the public have become even more used to living their lives online (from video consultations with health professions, to normalisation of online education) and minimising face-to-face contact, even with loved ones. During the pandemic police increasingly resolved matters over the phone, online or through other means rather than physically attending calls for assistance, and reduced face-to-face engagement in communities. COVID-19 may not simply have accelerated the trend of reduced face-to-face contact in policing, but served to justify, normalise and legitimise increasingly technologically-mediated contact. In the post-COVID-19 context it will be interesting to see whether expectations of police visibility and physical interaction will increase again, or whether people will become increasingly willing to engage in the ‘relational’ sense with police via other media such as video conferencing or online.

The important question will be *how* police organisations go about these changes. Different strategies are likely to produce ‘early adopters’, or forces who take up technology that has been ‘pushed’ onto them by technology providers may not have taken the time to explore user requirements (of their organisation, workforce or the public). We would propose instead that a consultative approach, which considers the needs of various publics, in relation for example to online contact, and police officers, in relation for example to BWCs/MDTs or other ‘kit’, might enhance aspects of procedural justice such as ‘voice’ and reduce ‘distance’ (c.f. MacCoun, 2005). Furthermore, informed public debates around the ethical implications of the adoption of technology, including concerns regarding, privacy, data security, surveillance and bias may be important factors in maintaining trust in such developments, perhaps particularly when a new technology represents a radical shift in focus or change in practice. Aspects of the governance of policing, such as availability of data and robust oversight, are also important ‘signifiers’, and in as much as they reach wider audiences and, in particular, demonstrate genuine openness and the potential for democratic involvement, have potential to demonstrate neutrality and the potential for voice. Technology can help in making police more accountable to the communities they serve – body worn video footage can be used in community reviews of stop and search and the use of other powers, for example – but such efforts need to be carefully managed in order to be successful.

Finally, as the ‘natural experiment’ of the policing of COVID-19 appears to show, both communication and ‘symbolism’ are extremely important (Jackson and Bradford 2021). Improvements to governance arrangements may be one way to at least symbolically demonstrate a commitment to enhancing legitimacy. But perhaps more importantly, if new communication tools and techniques can bolster, rather than undermine or simply replace, people’s sense of police presence, engagement, and involvement, this has the potential to generate significant benefits for both parties. Whether this is the outcome that eventually transpires remains to be seen.

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