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A Comparison of Video and Static Photo Lineups with Child and Adolescent Witnesses

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SUMMARY

In the UK video parades are the preferred method of identification employed in criminal cases. This policy implementation has been employed with little or no evidence concerning its validity. The reported research examines the effect of new video technology on children's identification evidence. The study compared 7–9 and 13–15-year olds' ability to make identifications from either video or static photo lineups. Two hundred and fifteen participants witnessed a live event and then after a delay of 2–3 days viewed a target present (TP), or target absent (TA) video or photo lineup. For video and photo TP lineups, correct responses did not differ as a function of age. Video lineups produced lower rates of false identifications for the TA lineups, but only for adolescent witnesses. It is concluded that there is nothing contra-indicated in the use of video identification procedures with children, and possibly certain benefits can accrue from its use. Copyright © 2009 John Wiley & Sons, Ltd.

INTRODUCTION

Identification evidence often plays a crucial role in forensic investigations. Procedures to obtain identification evidence from witnesses vary, but most often in the UK a lineup procedure is employed where a suspect is placed amongst known-innocent fillers who resemble the general appearance of the suspect. With a photo lineup, the most prevalent method of identification in the USA (see Wells, Memon, & Penrod, 2006), a number of photographs depicting static head-and-shoulder shots are presented to the witness, mostly in either a front or a three-quarter view. Photographs can be presented either simultaneously or sequentially (Lindsay, Pozzulo, Craig, Lee, & Corber, 1997). Video lineups are always presented sequentially. In the UK, photo lineups and live identification parades have now been predominantly replaced by video (VIPER: Video Identification Parades by Electronic Recording) lineups. Fifty thousand VIPER parades are created every year for police forces throughout the UK (E. Perriman, personal communication, March 23, 2009). A recent development in the use of identification evidence in the UK, is that every person under the age of 16 is given an opportunity to identify the offender from a video lineup (Vulnerable Witness Act, Scotland, 2004). A recent field survey of VIPER

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parades conducted in Scotland during 2008 found that one-third were viewed by witnesses under the age of 16 years of age (Memon, Havard, Clifford, & Gabbert, 2009). It is therefore important, not only to determine the efficacy of video lineups, but also to explore how well children under the age of 16 can make accurate identifications using this new technology.

Research exploring the identification accuracy of mock-witnesses following the use of different lineup media has not always found consistent results. Regarding positive identifications from target-present lineups, studies suggest that there is no significant difference between video and photo lineups (Cutler & Fisher, 1990; Darling, Valentine, & Memon, 2008; Valentine, Darling, & Memon, 2007). However when a target is absent from a lineup, there can be a reduction in the false identification rates for video lineups, as compared to photo lineups, e.g. 81 *vs.* 57% (Cutler & Fisher, 1990) and 92 *vs.* 75% (Valentine et al., 2007). Darling et al. (2008), however, found no significant differences in correct rejection rates when comparing photo and video lineups.

Other research using adults that has investigated the recognition of static *vs.* dynamic images after witnessing a staged crime has used a slightly different paradigm; namely the use of mug books for identification. Traditionally mug books would consist of a series of photographs placed in a book rather like a photo album, and the witness would go through the photographs page by page, however recent technological developments have involved digitising mug shots so that they can be stored on a computer along with other information about the suspect (Clede, 1991). Research using digital mug books is similar to lineups in that a series of facial images are presented to mock-witnesses who are tasked with identifying a previously seen target. However, many more images are used as compared to lineup studies (e.g. 18, 74 or 210). These studies suggest a slight advantage for moving *vs.* static images in relation to identification accuracy. For example, Schiff, Banka and de Bordes Galdi (1986) found higher correct identification rates when participants were presented with moving facial images (a 180 degree scan of a face from the left to right profile) *vs.* static facial images (frontal, ¾ views and profiles). Furthermore, research by McAllister and colleagues (McAllister, Bearden, Kohlmaier, & Warner, 1997; McAllister, Blair, Cerone, & Laurent, 2000; McAllister, Stewart, & Loveland, 2003) found that participants make fewer false identifications when presented with moving images (e.g. a person talking, walking and a 360 degree scan of the head) *vs.* static images. One exception to this general advantage for moving images is a study by McAllister et al. (2000) who used as many as 210 images at identification, and found fewer correct identifications for participants viewing dynamic mug books, as compared to static ones.

The face-recognition literature has also focussed on whether there is a benefit of viewing moving *vs.* static images during face-recognition tasks. Some of this research has examined identification accuracy for highly familiar faces, and has found enhanced recognition for moving images (e.g. Knight & Johnston, 1997; Lander, Bruce, & Hill, 2001; Lander, Christie, & Bruce, 1999; Lander & Chung, 2005; Roark, O'Toole, & Abdi, 2006). More interesting for the current paper however, is to explore whether this advantage holds for unfamiliar faces, as this is the situation for most eyewitnesses. Here, there is some evidence that face recognition accuracy is benefited by moving images (Hill, Schyns, & Akamatsu, 1997; Pike, Kemp, Towell, & Phillips, 1997). However, other studies have failed to find such an advantage (Bonner, Burton, & Bruce, 2003; Christie & Bruce, 1998; Lander & Bruce, 2003).

In sum, despite some inconsistent findings, the available evidence from different research paradigms appears to suggest that dynamic, moving images can facilitate accurate

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identification decisions, both in terms of increasing correct identifications and reducing false identifications. This body of research is encouraging, as the findings support the move towards using video lineups in place of static photo lineups. However, the evidence presented so far has only focussed on the identification accuracy of adults. There is relatively little research on how children under the age of 16 perform when attempting to identify someone from a series of moving *vs.* static facial images.

The majority of available research on the identification accuracy of children finds that performance on face recognition tasks typically improves with age (Brewer & Day, 2005; Carey & Diamond, 1977; Ellis & Flin, 1990; Goodman & Reed, 1986; Shapiro & Penrod, 1986). However, a recent review of developmental face recognition concludes that children as young as 5 years of age can process faces as efficiently as adults and presents evidence which strongly suggests that developmental differences in performance may be the result of developmental differences in memory capacities and visual attention (Crookes & McKone, 2009). Studies employing an eyewitness paradigm focus more specifically on age-related differences in both positive identifications (from a target-present lineup) and correct rejections (when presented with a target-absent lineup). Here, it is found that children over 5 years of age can be as accurate as adults for target-present lineups (Goodman & Reed, 1986; Lindsay et al., 1997; Parker & Carranza, 1989; Parker & Ryan, 1993; Pozzulo & Balfour, 2006; Pozzulo & Lindsay, 1998). However, in relation to target-absent lineups, children are more inclined to choose a lineup member than adults (Beal, Schmitt, & Dekle, 1995; Dekle, Beal, Elliot, & Huneycutt, 1996; Lindsay et al., 1997; Parker & Carranza, 1989; Parker & Ryan, 1993; Pozzulo & Balfour, 2006; Pozzulo & Warren, 2003). Furthermore, it is not yet known at what age adolescents reach adult-like rates for correct rejections (Pozzulo & Lindsay, 1998). Some research has found that children up to the age of 14 are still more likely than adults to choose from a target-absent lineup (Lindsay et al., 1997; Pozzulo & Warren, 2003, Experiment 1).

However, other research has found that older children can perform as accurately as adults on TA lineups. Pozzulo and Warren (Experiment 2, 2003) found no significant differences in correct rejection rates for 10–14 year olds *vs.* adults. Pozzulo and Lindsay (1997) also failed to find any difference in correct rejection rates for children aged 10–11 and 12–14 years *vs.* adults. In a further study, Pozzulo and Lindsay (1999) found that 10–14-year olds false identification rates could be reduced to that of adults by employing elimination lineups with cautionary instructions. Overall, these studies show that in some circumstances older children can exhibit higher correct rejections than younger children and that they can perform as well as adults. The differences in children's identification performance for target-absent lineups may not necessarily be due to differences in encoding and storage, but may relate to the social demands of the retrieval process. Researchers have argued that simply being presented with a lineup places implicit pressure on the witness to choose and that adults may be more able to resist this pressure than children (Beal et al., 1995).

The majority of studies reported above have used static photo lineups and did not investigate whether children's performance can be improved with the use of video lineups instead of static photo lineups. Given video lineups have been shown to facilitate correct rejections with adults (Cutler & Fisher, 1990; Valentine et al., 2007), it is valid to question whether the same advantage may be found with children. Beresford and Blades (2006) explored this issue with children aged 6–7 and 9–10 years, who viewed a video of a staged theft prior to making an identification from either a photo or video lineup. Six different types of lineups were used; the standard photo simultaneous, modified instruction photo

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simultaneous, modified instruction photo elimination, standard video serial, modified instruction video serial and modified instruction video elimination. In the serial conditions the faces appeared one at a time on the screen. For the modified instructions participants were given an additional caution about making a false identification. This was based on a procedure used by Pozzulo and Lindsay (1997, 1999). In the elimination procedure, witnesses were asked to firstly pick the person who looked most like the culprit, and then they were given the warning instructions before being asked whether the person they had chosen was the target from the film. Beresford and Blades (2006) found that the cautioning instructions improved accuracy for the target absent lineups, without reducing correct identifications for both video and photo lineups, and that the elimination lineup procedure reduced accuracy when the target was present for the video lineups, but not the photo lineups. However, Beresford and Blades (2006) did not find effects of age for either the TP or TA lineups, and no differences between the video and photo lineup conditions.

From the studies mentioned so far then, it appears that the use of video lineups may not necessarily be beneficial to younger children (Beresford & Blades, 2006). Given that the policy implementation of video parades was specifically targeted at children under the age of 16, this non-beneficial effect of video parades with children is a concern. However, given the care and attention devoted to the production of VIPER parades and their ubiquitous employment with children further investigation is clearly required. This was the purpose of the present study. At base, we hoped to find that video was no worse than static photo identification, given that video identification was being imposed on the criminal justice system Thus, we were concerned to compare children and adolescents' identification ability following a video or static sequential photo lineup procedure. In the light of the somewhat conflicting findings from dynamic *vs.* static, live *vs.* photo, and adult *vs.* child research reviewed above we held a number of tentative hypotheses:

- Accuracy rates will be higher for TP lineups than TA lineups.
- This will hold true for both video and photo lineups.
- Video lineups will produce better (or at least equal) performance compared to photo lineups.
- Video lineups will produce better performance compared to photo lineups with TA formats (based on research with adults).
- TA video performance will be better in our older child group (based on research with photo identification by older and younger children).

METHOD

Participants

A total of 215 children (211 Caucasian) were recruited from state run primary and secondary schools in Aberdeen, Scotland. There were 114 children aged between 7 and 9 years ($M = 7.7$ years, $SD = .7y$, 59 females and 55 males) and 101 aged between 13 and 15 years ($M = 13.8$ years, $SD = .7y$, 63 females and 38 males). These age ranges were selected on the basis that previous research had argued that the older age range were comparable to adults (Pozzulo & Lindsay, 1997; Pozzulo & Warren, 2003) while the younger age range performed less well than older children (Skelton & Hay, 2008). Consent

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to carry out the research was obtained from both the head teachers of the schools and legal guardians.

Materials

The target (actor) was a young male Caucasian aged 27 years of age. A male of this age was used as a recent field study found that the majority of witnesses making identifications from VIPER parades were trying to identify male suspects aged between 16–34 years (Havard, Memon, Clifford, & Gabbert, 2008). Eight 9-person lineups were created, half target present (TP) and half target absent (TA), according to VIPER specifications. The lineups were created by an experienced VIPER operator, in the same manner as a real identification parade would be made and foils were chosen in the same manner as reported by Valentine et al. (2007). The same foils were used for TP and TA lineups, apart from a designated target replacement foil that was used in the TA lineups. The target was filmed at a VIPER suite at a local police station in order that the lineup met the standard specific content. To control for factors that might affect identification accuracy, the images used in the lineups including the target were rated by 14 individuals who did not take part in the study. The raters were aged from 8 to 11 years of age (mean = 10 years). Each face was rated on a 7-point scale for distinctiveness i.e. *'if you had to pick this person out of a crowd at a railway station, how easy would it be'?* The analysis of ratings found no significant difference in ratings between the target and the other lineup members for distinctiveness ($F (9, 126) = 2.86, p = 0.07$). This suggests that the target was not in anyway more or less distinctive as compared to the other lineup members.

The positions of both the designated target replacement foil (TA lineup) and target (TP lineup) were manipulated so that for half of the relevant lineups (TP or TA) they appeared at position 4, hereafter referred to as Lineup A and for the other half at position 6, hereafter referred to as Lineup B. This manipulation was to try to detect any bias for choosing early or late in the sequence of faces. Each lineup member appeared as a standard VIPER film. In other words there was a 15 second video clip of the person looking straight to the camera and then turning their head to the right and then to the left. All the VIPER files contained the head and shoulders and were filmed under the same lighting conditions against a grey background. Once the film had been made it was sent to the VIPER headquarters for quality control purposes before being approved. This involves checking the head turn timings, motion, facial movements, positioning and making sure the film is not distinctive in any other way from other VIPER films. Each member of the lineup was presented sequentially one after the other. For the static lineups, a still image was taken of each person from the video lineups. This was a high quality still of the person looking straight at the camera and shown for 15 seconds. For the static lineups all images were shown sequentially one after the other on a laptop computer. The entire lineups were viewed twice before the witness was asked to make a decision, this follows the codes of practice as laid down by the Lord Advocate's Guidelines for Conduct of Visual Identification Parades (2007) in Scotland, and the code of practice (2008) required by the Police and Criminal Evidence Act (PACE: 1984) in England and Wales.

Design

The study employed a 2 (witness age: 7–9 years *vs*. 13–15 years) X 2 (media: video *vs*. photo) X 2 (lineup type: TP *vs*. TA) between subjects design. A total of 57 children aged

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7–9 years and 51 aged 13–15 years viewed the TP lineups and 57 children aged 7–9 years and 50 aged 13–15 years viewed the TA lineups. The dependent variables were the lineup identification decisions. For the TP lineups there were three possible responses, a correct identification (hit), a foil identification (false positive) or an incorrect rejection (miss). For the TA lineups, responses were either a correct rejection or a false identification. Data from the target present (TP) and target absent (TA) lineups were analysed separately.

The study took place in two stages. Phase 1 involved exposure to a live interaction with a single target. Phase 2 took place 2–3 days later, and involved identification from either a TP or TA lineup. This ecologically valid delay period was used as it was the shortest possible timescale for a realistic VIPER parade to take place after witnessing an incident. Presentation was necessarily sequential to accommodate the VIPER format.

Procedure

In the first phase, groups of children (ranging from 14 to 28) witnessed a live event (approximately 3 minutes in duration) where an actor entered the classroom, introduced himself and said he was doing some market research to determine what types of shoes children wore in schools. He then walked around the classroom and up and down each aisle to equalise his proximity and exposure to every child and looked at each child's shoes and made marks on the paper on his clipboard.

In the second phase 2–3 days later, children were tested individually and carried out the identification task. The participants were reminded of the shoe survey incident and the exact instructions were:

> *Today I am going to show you some pictures of people on the laptop and I want you to look carefully at every face. The shoe survey man may or may not be there. If you do see him I am going to ask you tell me what number he is. I am going to show the pictures to you twice and then I am going to ask if the person we are talking about is there or not. If you want to pause the video at any time, or you want me to go back and show you a picture again just say so. Do you understand?*

The children viewed the lineup twice and after the second viewing they were asked if they wanted to view any part of the lineup again. They were then asked if the person they had seen was in the lineup. If they identified a person, they were shown the lineup member and asked, 'is this the person you saw'? If they did not identify any lineup member, they were asked if any of the lineup members looked like the 'shoe survey man' and if so which person was it and in what way they looked like him. This procedure is used throughout the police forces in Scotland and follows the Lord Advocates' Guidelines (2007), and is very similar to the procedure used in England and Wales under the current PACE codes (2008). All the responses were recorded.

RESULTS

Total accuracy scores

Responses for both lineups were analysed looking at the correct and incorrect responses. There was no difference in accuracy between viewing the lineup 2 or 3 days later (χ^2 $(1) = 1.21$, $p = .27$). Accuracy for TP lineups was 63% and for TA lineups it was 45.8%.

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Table 1. The percentage of correct and incorrect responses for the target present and target absent lineups (frequencies are in parentheses)

	Photo		Video	
	Correct	Incorrect	Correct	Incorrect
TP	58.2 (32)	41.8 (23)	67.9 (36)	32.1 (17)
TA	41.5 (22)	58.5 (31)	50 (27)	50 (27)

Table 1 shows the overall accuracy scores for TP and TA lineups for the photo and video lineups A hierarchical loglinear analysis (HILOG) was conducted with lineup (TP, TA), media (video, photo) and accuracy (correct, incorrect) as factors. There was a significant effect of lineup, this was confirmed by a subsequent χ^2 test (χ^2 (1) = 3.76, $p = .011$; $\Phi = .2$). Responses were significantly more accurate for TP lineups as compared to TA lineups. Although there were more accurate responses for video (58.9%) as compared to photo lineups (50%), this was not statistically significant (χ^2 (1) = 1.71, $p = .19$).

Target present lineups

Overall, for the TP lineups 63% of participants (68 out of 108) correctly identified the target (correct ID), 15% incorrectly chose a foil from the lineup (foil ID) and 22% incorrectly rejected the lineup saying the target was not present.

Table 2 shows the percentage of responses for both age groups for the photo and video lineups. A hierarchical loglinear analysis (HILOG) was conducted with age (child, adolescent), media (video, photo) and response (correct ID, foil ID and incorrect rejection) as factors. No significant effects were present and subsequent χ^2 tests confirmed this. Although looking at the table it appears that there was a higher correct identification rate for the video lineups as compared to the photo lineups for the younger age group there were no significant differences in responses according to the lineup media (χ^2 (2) = 4.37, $p = .9$), or according to age group (χ^2 (2) = 1.4, $p = .5$).

As an additional measure the responses for lineup A (target position 4) and lineup B (target position 6) were also analysed, to see if there was any influence of the target's position in the lineup on identification decision. This was also found to be non-significant (χ^2 (2) = 1.30, $p = .5$).

Table 2. The percentage of responses for the target present lineups (frequencies are in parentheses)

	Photo			Video		
Age group	Correct ID	Foil ID	Incorrect rejection	Correct ID	Foil ID	Incorrect rejection
7–9 years	44.8 (13)	27.6 (8)	27.6 (8)	71.4 (20)	21.4 (6)	7.1 (2)
13–15 years	73.1 (19)	11.5 (3)	15.4 (4)	64.0 (16)	28 (7)	8 (2)

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Table 3. The percentage of responses for the target absent lineups (frequencies are in parentheses)

	Photo		Video	
Age group	Correct rejection	False ID	Correct rejection	False ID
7–9 years	35.7 (10)	64.3 (18)	27.6 (8)	72.4 (21)
13–15 years	48 (13)	52 (12)	76 (19)	24 (6)

Target absent lineups

For the TA lineups 45.8% of participants (49 out 107) correctly stated the target was not present (correct rejection) and 54.2% chose a member from the lineup (false ID). Table 3 shows the percentage of participants' responses for both age groups for the photo lineups and video lineups.

A hierarchical loglinear analysis (HILOG) was conducted with age (child, adolescent), media (video, photo) and response (correct rejection, false ID) as factors. There was an interaction for age group and media that approached significance, (χ^2 (1) = 3.76, $p = .053$; $\Phi = .48$). Subsequent χ^2 tests carried out for each lineup medium revealed that for video lineups, the older age group had more correct rejections as compared to the younger age group (χ^2 (1) = 12.59, $p < .001$; $\Phi = .3$), however there were no differences in correct rejections as a function of age for photo lineups (χ^2 (1) = .82, $p = .37$; $\Phi = .12$).

The responses for the TA lineups A and B were also analysed to examine whether there were any differences according to the order of the lineup members. There were no significant differences in responses for either lineup (χ^2 (1) = 1.34, $p = .2$).

Choosers *vs.* non-choosers

The data for the target present and target absent lineups were collapsed to investigate the overall choosing behaviour. A chooser was defined as someone who made a choice from the lineup be it a correct ID or false ID, whereas a non-chooser did not choose a lineup member. There was no significant effect of media on choosing behaviour (χ^2 (1) = .36, $p = .56$) and witnesses were just as likely to choose from a video lineup (73%), as compared to a photo lineup (69%). There was also no significant effect of age (χ^2 (1) = .42, $p = .29$) and adolescents (69%) were as likely to choose from a lineup as children (73%).

DISCUSSION

The aim of this research was to compare identification accuracy using video lineup technology and photo lineups with younger and older children. We had a number of hypotheses that will now be addressed in turn.

Our first hypothesis predicted that performance would be better for the TP lineups as compared to the TA lineups. This prediction held true as responses were more accurate for the TP lineups (correct identifications = 63%), as compared to the TA lineups (correct rejections = 45.8%). This pattern was most noticeable in the younger age group. A number of previous studies have also found that child witnesses can perform equally as well as adults on TP lineups and are considerably more accurate in their responses to TP lineups as compared to TA lineups (Beal et al., 1995; Dekle et al., 1996; Lindsay et al., 1997; Parker &

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Carranza, 1989; Parker & Ryan, 1993; Pozzulo & Balfour, 2006; Pozzulo & Lindsay, 1998; Pozzulo & Warren, 2003). Furthermore, a review of face recognition studies suggests that children as young as 5 years can process faces as efficiently as adults (Crookes & McKone, 2009). This provides evidence that decisions for TP and TA lineups may be driven by different processes; i.e. correct identifications from TP lineups rely more on cognitive processes; whereas correct rejections from TA lineups may rely primarily on social processes, in addition to necessary cognitive processes (Pozzulo & Warren, 2003).

Our second hypothesis predicted that performance would be more accurate for TP lineups in both video and photo formats. This was found to be the case as responses for video lineups were more accurate for TP as compare to TA lineups (67.9% *vs*. 50%) and the same pattern was found with photo lineups (58.2 *vs*. 41.5%). Previous research has also found overall better performance for TP lineups as compared to TA lineups for both video (50 *vs*. 29%) and photo lineups (46.5 *vs*. 25.5%), when using standard instructions (Beresford & Blades, 2006).

Our third hypothesis predicted that the overall accuracy rates for video lineups would be higher or at least equal to photo lineups. Overall when responses for both TP and TA lineups were collapsed, we found more correct responses for video (58.9%) than for photo lineups (50%), however this was not statistically significant and therefore overall performance for both types of lineups was comparable. Previous research has found little difference in overall accuracy for video (39.5%) and photo lineups (36%) using standard procedures, although using elimination procedures reduced correct identification for video lineups (Beresford & Blades, 2006).

Our fourth hypothesis predicted that video lineups would produce better performance as compared to photo lineups when the target was absent and our fifth hypothesis predicted that performance would be more accurate for our older age group in the video condition as compared to the younger age group. We found partial support for our fourth hypothesis, as there was a benefit for the video lineups, as compared to the photo lineups. However, the benefit for video lineups was only seen in the adolescent sample. The younger children were more inclined to choose a lineup member regardless of the lineup media. The findings for our adolescent group were similar to previous studies with adults, that have also found that video lineups can reduce false identification rates as compared to photographic lineups (Cutler & Fisher, 1990; Valentine et al., 2007). The finding that our younger children were numerically more likely to choose from TA lineups than our older children (72% and 24% respectively) also confirms findings from previous research (Beal et al., 1995; Dekle et al., 1996; Lindsay et al., 1997; Parker & Carranza, 1989; Parker & Ryan, 1993; Pozzulo & Balfour, 2006; Pozzulo & Lindsay, 1998; Pozzulo & Warren, 2003).

In our study it appears that the adolescents were making responses similar to adults for the TA lineups, when the format was a video lineup. Previous literature has reported mixed findings. Some studies report that older children (over 10 years of age) can perform as accurately as adults for target absent lineups (Pozzulo & Lindsay, 1997, 1999; Pozzulo & Warren, 2003, Experiment 2). However other research has shown that children aged 10–14 and between 11–15 years make fewer correct rejections than adults (Lindsay et al., 1997; Pozzulo & Warren, 2003, Experiment 1). It is therefore unclear at what age children can perform as accurately as adults on target absent lineups (Pozzulo & Lindsay, 1998) and a clear delineation of that point would be a noteworthy area of further research.

What is it about the video lineups that increases correct responses for the target absent lineups? Face recognition research suggests that there may be an advantage of seeing dynamic faces as they provide information to make a 3-dimensional representation of the

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face (O'Toole, Roark, & Abdi, 2002), or the opportunity to see multiple views, including both profiles of the target (Bruce, Burton, & Hancock, 2007). For the TA lineups this seems to suggest that seeing more angles of the face, as compared to a full frontal view may reduce mistaken identity. Valentine et al. (2007) suggest that the additional information provided in the video may reveal distinctive features of a face that the witness does not remember and this may lead to a decision that the face is not that of the culprit.

This additional information provided by dynamic stimuli formats appears to be better utilised by older children than younger children, possibly because older children have greater processing resources or more efficient processing mechanisms than do younger children (Chung & Thomson, 1995; Flin, 1980). Previous research has also found that younger children aged between 6–7 years and 9–11 do not necessarily benefit from viewing moving images of faces (Beresford & Blades, 2006; Skelton & Hay, 2008), however our study is the first to show that older children can benefit from the use of moving images.

Whatever the underlying mechanism, older children (adolescents) appear to benefit more from this greater amount of information, than younger children. Alternatively, it is possible that adolescents were simply more able to resist the social demands placed upon them to choose someone from the lineup, as compared to the younger witnesses (Beal et al., 1995). However, given the social demand would have been equally present for the video and photo lineups, and yet adolescents were less likely to make false identifications from the video lineups suggests that the video procedure in some way served to lessen these demand characteristics. It seems unlikely that video media could lessen demand characteristics as compared to static lineups, especially as the instructions and presentation times were exactly the same and therefore there is more evidence to support the idea that video parades provide more information that older children are better able to utilise (see O'Toole et al., 2002).

There are a few limitations of the current study. Like many other eyewitness studies (Beresford & Blades, 2006; Pozzulo & Balfour, 2003; Pozzulo & Dempsey, 2006; Pozzulo & Warren, 2003; Zajac & Karageorge, 2009), we only use one actor as our target. However the face itself was not used to represent a manipulated variable (e.g. gender, race or age), and it appeared in all conditions, therefore using one stimulus face is justifiable (Wells & Windschitl, 1999). It should be noted, however, that using one actor may reduce generalisability of our findings. A further shortcoming is that no adult group was used as a comparison and therefore we cannot determine whether our adolescent age group were performing at levels equivalent to adults, or just outperforming children for the TA video lineups.

In sum, we found that using video lineups when the target was present, results in correct identification performance that differed numerically, but not reliably from the more established photo lineup procedure. In addition, we found suggestive evidence that video lineups can be beneficial in that they may protect an arrested but innocent person from being chosen when presented in a lineup, however only with adolescent witnesses. This may be due to the age-related beneficial utilisation of additional information being obtained from the moving face (O'Toole et al., 2002), or the opportunity to view multiple views of a face from a VIPER lineup (Bruce et al., 2007). The use of video parades is widespread in the UK and other countries and jurisdictions are likely to consider similar technology in the near future because of its operational flexibility. Changes in policy and practice for gathering identification evidence in the UK were made with little or no empirical evidence as to the efficacy of the video procedure and the specific presentation format (see Malpass et al., 2008; Malpass, Tredoux, & McQuiston-Surrett, 2009 on the need for evidence that is sufficient to support policy recommendations). This paper is the beginning of the research on the likely impact of these changes in technology on the reliability of eyewitness evidence. The conclusion so far is that video parades can result in identifications that are as accurate as those made from photos, and, where the suspect may not in fact be the actual perpetrator, can have certain possible advantages.

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