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**A Sketchy use of Sketches: How Current Generation Facial
Composites are Misused and Potentially Harmful**

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ABSTRACT

Eyewitness identification in criminal cases is a significant resource for an investigator, and a major consideration in the outcome of countless criminal trials, often serving as the determining factor in whether a person accused of a crime is ultimately convicted. Investigators have several tools at their disposal to draw out and make use of information that those eyewitnesses provide. One such tool is the facial composite, which is intended to represent a two-dimensional likeness of a suspect based on the recollection of a witness. However, there is a significant body of research to suggest that witnesses, for a variety of reasons, have great difficulty recalling faces to the degree that they can accurately relay them to an investigator, even under ideal circumstances. Further, the tools available to produce facial composites based on eyewitness' recollections are severely lacking efficacy, and very few police departments have personnel adequately trained to make use of them properly. These factors combined can cause decisions to be made based on bad evidence, causing concerning outcomes.

Police agencies should strictly limit the use of composite sketches or software for the witness identification of criminal suspects in order to reduce the negative effects of improper use. Only by limiting the use of composite sketches to cases overseen by investigators highly trained in the facial composite tools and processes, and only to instances where the majority of the significant variables in the process can be properly accounted for, can one be hopeful that the end product is sound, and will lead to the furtherance of justice for all parties involved.

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INTRODUCTION

In the pursuit of criminal apprehension, law enforcement professionals use a wide variety of tools. These tools range from learned technique to relative technological marvels, and each one when used properly carries the potential to help bring a criminal to justice. Conversely, when used improperly each has the potential to damage a case, or worse, bring injustice to an innocent party.

One such tool is the facial composite. This tool is often used when a witness or a victim of a crime (both will be referred to as witness for the sake of brevity) has a recollection of the appearance of a perpetrator, but the perpetrator is otherwise unknown. Police personnel or another party, at the behest of the investigating agency, will interview the witness and using various techniques create a composite representation of the perpetrator's face. Facial composites can be published for public consumption and awareness, distributed internally for the use of officers or investigators, or placed with a case file for future reference.

The problems with this tool become more apparent when the processes used to obtain composites are examined. Although many police agencies in the United States have personnel to perform interviews and complete computerized composites, their training is not standardized, and many lack formal training (McQuiston-Surrett, Topp, & Malpass, 2006). Research shows that training is a significant enhancement factor in successful composite implementation (Davies, 1983). Further, it has been shown that witnesses commonly are not able to accurately reconstruct a face from memory (Ellis, Shepherd & Davies, 1975) and contemporary facial composite systems as well as the

use of sketch artists, however experienced, have overall low performance rates (Frowd et al., 2005).

The benefits of using facial composites to identify a perpetrator must be weighed against the deficits, namely their known unreliability; their potential to alter a witnesses memory of the actual perpetrator; and ethical concerns raised in publishing a facial composite to be acted upon by either the community or the police. Improper use of facial composites can damage otherwise solid criminal cases, negatively influence public perception and even lead to false convictions. Police agencies should strictly limit the use of composite sketches or software for the witness identification of criminal suspects in order to reduce the negative effects of improper use.

POSITION

While there are now decades of research covering the ability of eyewitnesses to recall facial memory, there has been little advancement until relatively recently to apply this research to the creation of forensic composites. The mechanical and computer-based systems that are used today to create composites have become more technically sophisticated, but most follow the same core principles as their predecessors. They tend to rely on the ability of a witness to recall and describe the individual features of a suspect to build up a likeness that hopefully bears a resemblance to the suspect. Often, the resulting composite will have a vague similarity, but nowhere near the level of accuracy required to identify a suspect independent of other means.

Some of the earliest research in this area revealed that attempts to fit together individual features of a face resulted in poor matches, even when the operator was looking at a photo and trying to recreate it (Ellis et al., 1975). No solution to the

deficiency was suggested by researchers at the time, and more recent research has drawn similar conclusions (McQuinston-Surrett et al., 2006). Now however, the research does point to better systems that use a holistic approach. Though still in research stages and not yet widely available, these systems use modified methods of composition that are proving to be more effective (Frowd et al., 2005). However even with the techniques employed by the newer systems, target identification remains low. Some of this may be related to research methodology, and the lack of field research as compared to laboratory studies. Even after several decades of research in the area, the overall utility of composites remains uncertain. Oswald & Coleman (2007) state “What remains unclear is whether facial composite software packages are of any use in creating identifiable composites of criminal suspects” (p. 347).

One difficulty in researching and testing various composite systems is in accounting for variables that mimic real world situations that might confound a witness’s ability to recall a face. Several variables have been identified and used in research related to witness’s ability to recall faces of suspects (Wells, Olson & Charman, 2003, p. 46). These are separated into two categories: system variables and estimator variables. System variables are “Those that are or can be under the control of the justice system”, and estimator variables, are “Factors over which the criminal justice system exerts no control” (Cutler , Penrod, & Martens, 1987, p. 236). Examples of system variables include things such as instructions given to a witness, delays between an event and an interview, comments from investigators to the witness, or the choice of forensics methodologies used. Some examples of estimator variables include the stress that the witness was under at the time of the crime, how good the lighting was at the scene, how

long the witness's exposure to the suspect was, their confidence in their recollection, and even their existing biases. The fact that so many variables exist substantiates the fact that in a real-life forensic situation the conditions that surround the creation of a composite will vary greatly from case to case, and many of those variables, the estimator variables, definitionally cannot be controlled by the investigators or by the adjudicating court.

It is good that these distinct variables in the eyewitness and composite building process are studied independently to capture the effectiveness and potential pitfalls of each one. Each variable represents a potential reduction of accuracy and effectiveness of the overall process, and it is important to investigate where these reductions can be curtailed. As the estimator variables by definition cannot be controlled but only accounted for post hoc, any system that is used must account for them effectively to be considered a worthwhile tool to be used in the furtherance of justice.

The training of officers in producing composites has shown to be inconsistent and lacking overall. The average police department has 5 individuals (usually detectives) with an average of 8 years of experience each producing roughly 4 composites a year, and the type of training received by personnel responsible for administering the composite process varied with only 68% of personnel receiving training from coursework or professional instruction (McQuinston-Surrett et al., 2006). McQuinston-Surrett et al., (2006) further reveals that only 55% of departments had a standard interviewing procedure for composite creation, which themselves varied across departments (p. 6). The fact that the results of composites vary greatly in quality is not at all surprising given these numbers.

When a composite is produced, a department must consider how best to use it, and how it might affect the case and the community. When surveyed, 90% of departments indicated they distribute composites throughout the department and to other agencies, 68% distribute to the news media, 38% distribute to schools, and 31% post them on the internet, among other distribution destinations (McQuinston-Surrett et al., 2006). The publication of composites in this way raises ethical concerns. By choosing to publish a composite, a police department is effectively asking the public to take an action. The public is being asked to consider the composite, and use it to help identify a suspect, or to use caution when encountering the person depicted. However, because of the limitations of the systems used and the limitations of the memory of the eyewitnesses, the composite being acted upon will most likely be inaccurate to varying degrees, and possibly not even immediately available for reference when a member of the public has the opportunity to make a comparison with a possible suspect, and therefore not a good basis for making these important decisions. Although ideal composites could produce favorable results under equally ideal witness conditions, Oswald & Coleman (2007) recognized that “Current experiments demonstrate that reliance on leads based on composites should be reduced in situations under which composites were held in or retrieved from memory” (p. 357). Further, relying on the confidence that a witness expresses in the accuracy of a produced composite to gauge its actual viability is problematic. Research shows that witness confidence in composite accuracy is largely influenced by retrospective questioning and is highly malleable (Wells et al., 2003).

Finally, the use of a composite in court presents its own challenges. If a composite is produced and is a poor match to the appearance of the defendant, the defense is sure to use it to support its case. Even if the composite is a reasonable match but of poor quality, the defense may use it to besmirch the quality of the investigation, as is often done with poorly written police reports and errors of forms. Arguably worse though to the pursuit of criminal justice is what can occur when a composite is a good match, but the defendant is, in actuality, innocent of the charges levied against him. Because these composites are reported as being produced based on descriptions of eyewitnesses, they are given a higher perceived level of credibility by a jury that they often merit. Juries tend to place high value on eyewitness evidence, often over other evidence (McQuinston-Surrett, Douglass, & Burkhardt, 2008). Composites are a de facto extension of eyewitness identification, and research indicates that eyewitness misidentification is believed to be largely responsible for historical wrongful convictions (Rattner, 1988).

COUNTER POSITION

Proponents and practitioners of composites and sketches argue that using composite tools regularly help to catch criminals and provide strong evidence in court to achieve a conviction. The public in general and juries specifically often place a high value on composites in solving crimes, as do many police investigators (McCarthy, 2009).

Although the public recognizes there may be drawbacks, they feel that the benefits of producing and publicizing composites outweigh any harm that may be done (Starke, 2009), and this makes the practice beneficial more often than not. The reality

however is that composites are ineffectual tools in many cases due to a number of variables. Witnesses are widely inconsistent in their ability to recall and reconstruct faces from memory (Ellis et al., 1975), and training among composite practitioners is non-standardized and of varying quality across police agencies (Oswald & Coleman, 2007). Further, multiple studies have shown that even under ideal circumstances, people are infrequently able to identify and associate composites with their targets. The potential harm done by producing less than ideal composites should also not be discounted. Interviewing witnesses in an effort to produce composites can have a detrimental effect on later recall and publicizing these composites can negatively affect the memory of other witnesses who see them (Wells, Charman & Olson, 2005). Further, juries are influenced by composites that resemble a defendant, regardless of guilt or innocence (McQuinston-Surrett et al., 2008) and composites that are too general in appearance can cause increased false reporting, resulting in wasted resources and causing unnecessary negative interactions between the police and members of the public.

The public and the media often demand that composites be produced and released, assuming that if there is an eyewitness than a composite can and should be produced. This is closely related to what has come to be known as the “CSI Effect” where popular media portrayals of forensic investigation methods raise the expectations of the public on investigators to unrealistic levels. From the popular culture portrayals of old west “Wanted” posters to the modern news media touting composites that reportedly were instrumental in solving major cases; the public has an expectation of composites that seldom bears out in reality. Especially in high profile cases, the failure to produce a

composite can be seen as a failure of the police to properly investigate. This puts pressure on police administration and investigators to produce composites in less-than-ideal conditions. Police departments may support these actions with claims that these composites, however inaccurate, are “Useful in police work mostly as a way of riveting public attention and eliciting more public cooperation” (Bruni, 1996, para. 10), but this belies the inherent negative impacts to the case and the negative impact to the reputation of the department. In one article covering an assault in Michigan, a composite was included, but it was blocky with clear polygonal segmentation lines across the face, a quality indicative of some computer composite systems (Aisner, 2009). Further, the image was run with the qualifier from the police “His nose is narrower and cheeks are chubbier” (Aisner, 2009, para. 4). The comments from citizens were wholly negative and reflected a lack of trust in the abilities of the police department. This case is illustrative of the wider issue.

RECOMMENDATION

Police agencies have been using facial composite systems and techniques based on eyewitness recall for many years to help identify and locate criminals. Surely this is frequently done with good intentions, but with ignorance of the harm that can be caused. As a whole, composites have a decades old track record of unreliability and inaccuracy. Improper use of this tool has harmed cases, clouded judgement and has led to false accusations and convictions. If the negative effects are to be curtailed, police agencies have to increase proficiency of their practitioners, invest in better systems and strictly limit the way in which composites are distributed and used.

Although advocates of composites are of the opinion that composite tools are largely effective, the research evidence does not bear this out. The public too often fails to recognize that composites are inaccurate and potentially harmful. Ignorance of the data seems to be the first hurdle that needs to be overcome before reform can be affected. Police agencies should be responsible in learning about and making known the deficiencies in the process. Witnesses, juries and the public need to have all the facts about composites so that informed decisions and actions can occur.

Police agencies should strictly limit the use of composite sketches or software for the witness identification of criminal suspects in order to reduce the negative effects of improper use. If a police agency is to use facial composites, they need to recognize the need for proper and thorough standardized training in the use of the chosen system and in the proper interview techniques to elicit an unbiased and untainted composite. Agencies should use restraint in the creation of composites, and should not be an automatic process. Appropriate weight should be given to a number of factors, including the number of witnesses that can provide a description of a suspect, the stressors present during the witness's observations, the vantage point and length of observation, and other factors that may affect the quality of the composite.

Police agencies should evaluate and participate in research related to holistic composite systems, which are proving to be more accurate than systems that use individual feature identification. McQuinston-Surrett et al., (2006) says "...The lack of research on police and forensic artist performed facial composite procedures is a major gap in the literature; indeed, this type of research would decrease the distance from empirical science to applied work" (p. 10). Police agencies should at a minimum

recognize that the systems currently in common use are not based on contemporary research and consider becoming active participants in the advancement of the technology.

Lastly, police agencies should be willing to recognize that a composite that turns out to be a good match for a suspect in a criminal case is only significant to a case once many other factors are considered. A good police officer never wants the wrong person to be convicted, because that means the right person got away. Rattner (1988) suggests that courts should permit expert witnesses to be used in cases that involve eyewitness identification, and issue cautionary instructions to juries about the nature of the evidence. Agencies should be supportive of any such recommendations that make the criminal justice process more effective.

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