Original article

Do the clothes make the criminal? The influence of clothing match on identification accuracy in showups

Stacy A. Wetmore [a,*], Jeffrey S. Neuschatz [b], Scott D. Gronlund [a], Kylie N. Key [b], Charles A. Goodsell [c]

[a] Department of Psychology, University of Oklahoma, Norman, OK, USA
[b] The University of Alabama in Huntsville, Huntsville, AL, USA
[c] Canisius College, Buffalo, NY, USA

ARTICLE INFO

ABSTRACT

Showups, a single suspect identification, are thought to be a more suggestive procedure than traditional lineups by the U.S. Supreme Court and social science researchers. Previous research typically finds that a clothing match in showup identifications increases false identifications. However, these experiments do not allow for a determination of whether this increase arises from a change in response bias, reduced discriminability, or both. In the present study, participants viewed a mock crime video and made a showup identification with either a clothing match or mismatch. Contrary to prior research, the best discriminability occurred when the guilty and innocent suspects wore clothing that matched the clothing worn during the crime. A clothing match also resulted in a more liberal response bias. The results are consistent with the principle of encoding specificity and the outshining hypothesis, as instantiated in the item, context, ensemble theory. Practical implications are discussed.

© 2014 Society for Applied Research in Memory and Cognition. Published by Elsevier Inc. All rights reserved.

Showups are a one-person identification procedure that is usually conducted soon after a crime has occurred, either in person or by presenting a photograph (see Goodsell, Wetmore, Neuschatz, & Gronlund, 2013). The U.S. Supreme Court has declared that showups are an unreliable identification procedure (Stovall v. Denno, 1967) and should only be used in a limited set of circumstances. Nonetheless, showups are one of the most frequently used identification procedures; some researchers estimate that as many as 77% of cases with eyewitness evidence involve showups rather than lineups (Dysart & Lindsay, 2007). Given the frequency with which showups are conducted, research regarding the factors that affect the reliability of showups is of great interest. The focus of the current paper is on one factor that may influence the reliability of showups, clothing match.

Eyewitness descriptions often contain descriptions of clothing, which means that clothing match could play a role at identification (Dysart, Lindsay, & Dupuis, 2006; Susa & Meissner, 2008). A clothing match, often referred to as a clothing bias in psycho-legal research, has generally produced an increase in false identifications. False identifications occur when an innocent suspect is chosen from a perpetrator absent identification procedure. For a lineup identification, a clothing match would make an innocent suspect stand out, which increases the likelihood that he will be chosen if the fillers – known innocents presented with the suspect – are not wearing the same thing (Dysart & Lindsay, 2007; Lindsay, Wallbridge, & Drennan, 1987). However, a clothing match could be even more problematic for showups. Individuals who are found near the crime scene, and happen to be wearing clothing similar to the perpetrator, are likely to be subjected to a showup identification. To the extent that an eyewitness bases a showup identification decision in part on what a suspect is wearing, a clothing match could increase false identifications (Schmechel, O'Toole, Easterly, & Loftus, 2006). But it is important to note that a clothing match likely does not only affect false identification rates. To fully understand the impact of clothing match, we also must examine the rate of correct identifications (when a guilty suspect is chosen from a perpetrator present identification procedure).

Clothing match can affect performance in two ways: (1) by altering discriminability, the ability to differentiate guilty suspects from innocent suspects, or (2) through a response bias, the greater willingness of participants to choose from one condition than another. For instance, a clothing match may provide additional cues to aid memory for the perpetrator, but fail to increase the degree to which an innocent suspect resembles the perpetrator.

* Corresponding author.
E-mail address: stacy.wetmore@ou.edu (S.A. Wetmore).

This increase in correct identifications, coupled with a decrease (or lack of increase) in false identifications, would produce an increase in discriminability. Alternatively, if the clothing match entices participants to select more from a showup, both correct and false identifications may increase, indicating a shift to a more liberal response bias. Of course, it is also possible for there to be an increase to both correct and false identifications, but the increase for correct identifications could be greater than for false identifications. This would result in a change to discriminability and response bias.

1. Clothing and context match

A few studies have found a negative effect on false identifications when clothing is matched in showups. Yarmey, Yarmey, and Yarmey (1996) found that an innocent suspect – similar to the perpetrator in physical appearance (e.g., hair style and length, weight, etc.) – was falsely identified more often from showups when wearing the same clothing at identification as at the event (white T-shirt). Dysart et al. (2006) found a similar effect on false identifications, but only when distinctive clothing (a Harley Davidson logo T-shirt, no effect for common clothing) was worn. However, there was no significant change in the correct identification rate as a function of clothing match versus mismatch in either study. Consequently, these results are consistent with an adverse effect of clothing match, an increase in false identifications, which produces an adverse effect on discriminability.

However, Valentine, Davis, Memon, and Roberts (2012) found no effect of clothing match. Although false identifications were higher when an innocent bystander was wearing a distinctive shirt during the incident, the increase was not significant. Correct identifications could not be evaluated because only perpetrator absent showups were conducted. Lawson and Dysart (2012) also reported no influence of a clothing match on own-race versus cross-race identification accuracy, but found that presenting the suspects in the same clothing worn by the perpetrator increased correct identifications by 14.6%. Unfortunately, false identification rates were not reported and could not be computed. Thus, it is unclear if the increase in correct identifications in the Lawson and Dysart study represents an increase in discriminability or a response bias.

Clothing match can be interpreted as a type of context, and the impact of context on retrieval has been addressed in the psycholegal literature (Cutler, Penrod, O'Rourke, & Martens, 1986; Cutler, Penrod, & Martens, 1987; Smith, Leach, & Cutler, 2013). Smith et al. (2013) examined whether matching the context of the event at a subsequent showup identification could enhance performance. The researchers varied whether the presence of the stolen property in question (a backpack) could provide an additional context cue to enhance memory retrieval. The results indicated that participants made more correct identifications when the backpack was present during the event and the identification. Furthermore, there was a non-significant decrease in false identifications when the backpack was presented with the innocent suspect. The authors argued that there was an increase in discriminability when the backpack was present during the showup, without affecting response bias. However, it is important to note that in the stolen property condition there was a 100% identification rate from the perpetrator present showup. This ceiling effect makes it difficult to determine if the results were due to the context match or an idiosyncrasy of the stimuli.

In sum, the few studies that have addressed clothing and context match in showups have led to ambiguous findings for a variety of reasons. Yarmey et al. (1996) found increases in false identifications when the perpetrator wore common clothing. Neither Dysart et al. (2006) nor Valentine et al. (2012) replicated this effect with common clothing. The one study that evaluated context match, Smith et al. (2013), was difficult to interpret due to the ceiling effect. The ambiguous findings are surprising given that basic memory theory makes clear predictions about the effects of context match on memory performance.

2. Memory theory and clothing match

At the most basic level, the showup is a recognition task and clothing match is a context effect. The encoding specificity principle predicts that the best memory performance (i.e., best discriminability) should arise when the cues available at encoding match the cues available at retrieval (Tulving & Thomson, 1973). However, as Nairne (2002) pointed out, memory performance is not based on the absolute match between cues and memory traces but on the relative degree of match. The relative match is the degree to which a cue compound (items integrated together into a whole) is distinctive and focuses on a target memory (Watkins & Watkins, 1975, 1976, called this cue-overload). Therefore, the discriminability of a guilty from an innocent suspect will be easier when there is a clothing match than when there is not a clothing match because a compound cue of the face and clothing together targets the guilty suspect better than does a face or clothing cue alone. A compound cue that includes the innocent suspect's face will match memory more poorly, irrespective of the clothing match.

Alternatively, the outshining hypothesis (Smith, 1988, 1994) also may provide an explanation for the effect of clothing match on showup identification. Smith argued that strong retrieval cues "outshine" weaker cues. In his evaluation of recognition memory for words, he found that memory was not enhanced by a context cue if the word was a sufficiently strong cue (the word outshines the context). Therefore, if an eyewitness was able to adequately view a perpetrator (e.g., long exposure time, good lighting, close proximity, high visibility of features), then the face should be well encoded and the addition of context information (clothing match) would not change performance. However, actual crimes typically occur in less than ideal viewing conditions (e.g., poor illumination, weapon focus, stress, disguise). Consequently, if the face is encoded poorly then the clothing becomes a relatively stronger cue. Because the clothing is common to the perpetrator and innocent suspect, this should increase both correct and false identification rates, which is akin to a shift in response bias, but produces no change in discriminability.

Lastly, Murnane, Phelps, and Malmberg (1999) proposed that recognition is based on three types of information: item, associated context, and ensemble (ICE). Murnane et al. define the item as the central focus of the primary cognitive task, the associated context is any information in the processing environment peripheral to the cognitive task, and the ensemble is the integration of the item and associated context. In terms of a showup, the item is the perpetrator's face, the associated context is the clothing, and the ensemble would be the unique integration of the face and the clothing. The encoding of an ensemble is optional, and likely is more effortful. In fact, if elaborative encoding is required to create an ensemble, the stressful situation that surrounds a crime might make it difficult to construct.

The ICE theory subsumes encoding specificity and the outshining hypothesis. According to the theory, both correct and false identification rates will increase when the associated context (the clothing) is used as a cue, making the identification of both the perpetrator and the innocent suspect more likely (due to a shift in response bias). These predictions are consistent with the outshining hypothesis. However, if ensemble information is encoded and clothing is part of that compound cue, correct identifications should increase more than false identifications because the ensemble includes the perpetrator's face and not the innocent