

Investigating Eyewitness Behaviour and Accuracy using Eyewitness Descriptions

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Abstract— While research surrounding eyewitness identification has flourished and continues to expand, there seems to be limited knowledge and research regarding eyewitness description and whether the detail within a given description has an impact on eyewitness accuracy. This paper reviews past literature of verbal overshadowing effect – a phenomenon that describes the act of verbally describing an item (a face, an event) will impair future memory and recognition of that item. Research surrounding verbal overshadowing effect has shown benefits such as improved performance during lineup identification while other research has illustrated weakened memory and recollection. With that said, this paper conducts a study that reviews real life eyewitness descriptions from Austin Police Department and extrapolates its data. Our study serves to provide clarity and a more in-depth understanding of what type of descriptors eyewitnesses provide and if the level of detail helps performance in lineup identification.

Keywords— *Eyewitness Identification, Forensic Psychology, Verbal Overshadowing Effect*

I. INVESTIGATING EYEWITNESS BEHAVIOUR AND ACCURACY USING EYEWITNESS DESCRIPTIONS

If you have ever witnessed a crime, you know that your memory of the event becomes a source of evidence. At some point, you will be asked to describe the event, including what you saw and the appearance of the person(s) who committed the crime – the perpetrator(s). However, this is not always an easy task, as empirical findings have concluded time and time again. People naturally vary in their ability to remember details of an event, or the people present, and if the witness did not get a good look at the perpetrator or their ability to create a memory was impaired in some other way (i.e., intoxication, stress), remembering and describing what happened or the people involved becomes even more difficult. Other factors that can contribute to memory fallibility include systems variables; variables that are controlled by the legal system, such as lineup instructions or administration of lineups and estimator variables which are variables that have no control by the legal system, such as witness' memory, exposure level of the perpetrator during the crime (Cutler et al., 1987).

When identifying the perpetrator is a key part of the investigation, eyewitnesses will often be asked to participate in procedures that are used to test whether the police suspect – a person of interest for the crime is the person the eyewitness saw commit the crime (Wells & Luus, 1990). The eyewitness identification procedures can be a showup - a single suspect presented to the eyewitness - or a lineup - an array of individuals or photos of individuals shown to the eyewitness. Lineups are a police procedure recommended by researchers

because the police suspect is embedded among similar looking people who are known to be innocent also called fillers. This means that these similar looking people can draw away errors resulting from weak memory or a willingness to choose even when uncertain so that they do not always result in a misidentification of an innocent suspect, as would be the case if a showup procedure is used. So, when lineups are conducted in line with best practices (see the Wells et al., 2020, Scientific Review Paper), the chance of incriminating an innocent suspect or a wrongful conviction is reduced.

Thus, it is not unusual for eyewitnesses to be asked to look at a lineup and indicate if the person that they saw commit the crime is in the lineup. Depending on the quality of their memory and what has happened since the crime, they may or may not be able to do this. Eyewitness memory is fallible, so their identifications, their descriptions, or even their recognition can be wrong. They could fail to recognize the perpetrator or identify a filler, which can have dire consequences. However, it seems likely that a detailed description might reflect a high-quality memory of the perpetrator they saw. That is, if an eyewitness can provide a lot of information about the perpetrator's appearance, that would indicate they have a good memory for that person's face. Perhaps the ability to recognize someone is associated with the ability to describe their appearance well from memory.

Wells (1985) conducted research to investigate if there is a difference between eyewitnesses who are “good describers” versus “good identifiers”. This research included 176 undergraduate students that were randomly assigned to view a photograph of an individual (the target) that was either three-quarter pose – face was partially shown or straight pose – whole face was shown. Participants were then tasked to provide a description of the photograph they viewed, followed by a lineup identification task. The results indicated that faces that are described more efficiently are identified better; however, having a completed description had no correlation to description accuracy or congruency. Results also showed that congruent descriptions and accuracy are strongly related. Wells (1985) concluded that there is no relationship between an eyewitness who is good at describing with one that is good at identifying (Well, 1985).

II. VERBAL OVERSHADOWING EFFECT

Considering eyewitness descriptions hold importance to different stages of a criminal investigation, it is vital to understand what studying eyewitness description and verbal description can offer not only to the research but also to the application of real-world events. There has been an on-going

debate on the effects of verbal description; on one side of the debate, it is argued that the act of describing an item (i.e., face, event) impairs memory of that item. A phenomenon known as verbal overshadowing effect (VOE), first studied by Schooler and Engstler-Schooler (1990), had participants watch a mock robbery video and were assigned to either complete a mundane task or provide a written description of the perpetrator. Participants were 25% less likely to select the perpetrator when they had to provide a description. In other words, when individuals verbally described the target's face, their memory and recognition of that described face deteriorated. With similar methodology, Alogna and colleagues (2014) were able to replicate Schooler and Engstler-Schooler (1990) and found that verbal description impaired participants' recognition. Recognition was impaired even more when participants did the lineup selection immediately after providing a verbal description (Alogna et al., 2014).

However, both studies were designed with target-present lineups only, therefore, they could only look at this effect in the context of correct identifications and misses, but not false identifications. That is to say, the study design did not account for if the participants were to select a filler, which if it happened in the real world could lead to a wrongful conviction. The reason behind the low rate of identification could be because of a reduced discriminability or because responses are more conservative after giving their description (Mickes, 2016).

Other research that has attempted to replicate VOE seems to have results that contradict VOE. For instance, Memon and Rose (2002) had a classroom of students aged 8-9 years old introduced to a confederate who informed the class that his dog was missing and had a picture of the dog shown to each student. Twenty-four hours later the students were randomly assigned to either provide a description or not. Though there was no verbal overshadowing effect found, participants were more likely to make a correct decision in the lineup where the target was absent. These results indicate that children can make correct identifications after a verbal description without memory being affected. This can carry great importance in the justice system.

Similarly, Meissner and colleagues (2000) found that though the literature surrounding VOE holds inconsistencies, perhaps given the proper circumstance we could see VOE. They explained that if participants were asked to make an identification immediately following the description that VOE is more likely to occur, however further research is needed to determine this (Meissner et al., 2000). There were several explanations offered for the mixed results in the literature. For example, one could make the argument that eyewitnesses do not know that they are about to witness a crime and subsequently give a description. In contrast, when conducting laboratory-based research, participants know that they would be asked to give a description; (i.e., Brown et al., 2010; Brown & Lloyd-Jones, 2005, 2006; Nakabayashi, Lloyd-Jones, et al., 2012; Wickham & Lander, 2008). The difference between research and the real world puts researchers at a disadvantage for understanding VOE.

The other side of the debate suggests that perhaps there could be benefits when it comes to verbal descriptions. Most of the research that illustrates the benefits of VOE reflect the

“more is better hypothesis” – in the context of eyewitness description, it elucidates that the more details in an eyewitness description results in a greater likelihood of an accurate identification (Jones et al., 2013). Jones and colleagues (2013) were able to illustrate that the more features described by the participants, the better the outcome - these participants tended to have a higher hit rate. They also found that generating a description of the perpetrator during the “study” phase was beneficial for the recognition and decision phase (Jones et al., 2013). This not only contradicts the argument that the act of verbal description is harmful to memory but also further illustrates the benefits in verbal descriptions, because it would characterize that the act of verbal rehearsal is beneficial to memory.

Another study by Sporer and colleagues (2016) sought to use context reinstatement techniques to improve the accuracy of participant decisions. They asked participants to re-read their own descriptions before completing the identification process. Participants were at least three times more likely to make a correct decision when the participants were encouraged to read their descriptions prior to the identification procedure, especially if the target was absent and the participants needed to reject the lineup to be accurate. However, it should be noted that the benefits of re-reading the description will depend on the quality (accuracy) and quantity (level of detail) of the elements of the description - a bad description does not produce the benefits observed (Sporer et al., 2016). Also, in real life cases, police officers do not know if the eyewitness description is accurate, so the benefits of re-reading the description cannot be tracked in this way.

Existing empirical data show that familiar faces are recognized faster, and people can remember familiar faces for longer than unfamiliar faces (Scapinello & Yarmey, 1970; Ellis, Shepherd, & Davies, 1979). Wickham and Lander (2008) further investigated potential benefits and determinants of VOE, however they wanted to explore the effects of VOE using familiar faces. Participants were randomly assigned to one of three conditions when asked to describe faces; holistically - descriptions about what kind of person the target looked like such as occupation or personality. Another condition was featural - descriptions of facial features such as eyes, nose, hair, etc., or no description. Faces that were described holistically were better identified by participants compared to featural or no description. There was no verbal overshadowing effect found. While the results elaborate that there are different ways of describing a face that are superior to the traditional way (featural), it is unrealistic for law enforcement to ask witnesses to describe what kind of person the perpetrator looked like in real cases.

Furthermore, Osborne and Stevenage (2013) divided familiarity into three categories; famous faces, newly learned faces and unfamiliar faces and investigated different processing styles. Participants were randomly assigned to one of the three categories and found that despite the level of familiarity of the target face, holistic processing - the whole face is processed at once - led to a demonstrably better performance than relational processing - features or certain regions of the face. Finally, Mickes (2016) conducted a meta-analysis on VOE and concluded that the empirical findings are too mixed. Thus, there is not enough information on VOE to

give guidance or recommendations to practice in the criminal justice system. As it stands, research surrounding eyewitness identification is extensive, and nuanced, however all the research reviewed in this paper enhances our understanding of memory, judgement, accuracy, and confidence. The variability of the results can also extend to the variability of people and how they function and behave. Understanding the current landscape of what the research says can further help us turn towards the direction of research that is needed. So far, there is no definitive prove of whether verbal description can be harmful or beneficial.

III. EYEWITNESS DESCRIPTIONS IN THE JUSTICE SYSTEM

For almost four decades, there has been substantial research done to clarify our understanding of how to collect reliable eyewitness evidence. Research surrounding eyewitness evidence has been able to establish that, in exoneration cases, the leading factor that can result in wrongful convictions is eyewitness evidence (Innocence Project, 2017; National Registry of Exonerations, 2024). Despite provisions embedded in the judicial system to prevent errors when collecting eyewitness evidence such as the Sophonow Inquiry, there remains reluctance. The Sophonow Inquiry report was released in 2001, and it documents several recommendations on conducting police lineups to reduce eyewitness errors. Mainly, the judicial system in Canada have held reluctance to permit expert eyewitness testimony in court because it is deemed “unnecessary” or “redundant” (Public Prosecution Service of Canada, 2011), but there have been high profile cases in which the Sophonow Inquiry recommendation was applied to assess eyewitness identification reliability (R v. Longman, 2013).

Research has established that eyewitness evidence is perhaps the most common type of evidence relied on by prosecutors and defense attorneys. Each year in the United States, at least 77,000 criminal cases’ primary source of evidence against the defense is eyewitness testimony (Wells, et al., 1998). There have been reforms placed that improve eyewitness identification and have been supported by organizations such as the U.S. Department of Justice, and the American Bar Association to name a few (Innocence Project, 2017). Wise and colleagues (2009) wanted to understand the level of knowledge defense attorneys and prosecutors held regarding eyewitness identification. 1100 defense attorneys and 73 prosecutors completed questionnaires asking about eyewitness evidence, their beliefs regarding how much judges, juries, police officers, and attorneys know about eyewitness testimony.

Defense attorneys were more knowledgeable about eyewitness testimony, they were more likely to have eyewitness experts, there was more skepticism surrounding eyewitness testimony. Whereas prosecutors were more reluctant to use expert testimony to educate jurors on eyewitness evidence and overestimated the knowledge jurors had on eyewitness testimony (Wise et al., 2009). However, reluctance to use expert testimony could be because it would not benefit their case for jurors to understand the importance of expert testimony. Prosecutors were unaware that having an expert witness is a legal safeguard that can result in effectively educating jurors (Wise et al., 2009). While prosecutors’ and attorneys’ knowledge of eyewitness identification is

inconsistent, unfortunately the same can also be said about judges.

Over 247 Canadian cases were reviewed that included discussion regarding reliability of eyewitness identification (Bruer et al., 2017). Results show that judges rarely discussed recommendations (i.e., Sophonow Inquiry), in so doing would empathize factors that would have influence on reliability of eyewitness memory (Bruer et al., 2017). The purpose of this study was to understand if Canadian judges applied the empirical findings regarding eyewitness identification in the cases they preside over. This was surprising given that the Supreme Court of Canada had emphasized that, as triers of fact, judges should be aware of the research-based recommendations surrounding eyewitness evidence. Bruer & colleagues (2017) conclude a few possibilities for this particular finding: (1) it could be possible that Canadian judges are just not aware of the potential consequences or influence that certain variables have on eyewitness evidence, (2) that judges do not think certain influences apply to the case they are handling, or (3) that judges do not believe that the particular eyewitness evidence in this case is not concerning, so it is not included in their decision (Bruer et al., 2017).

IV. THE CURRENT STUDY

There are many existing research studies that address different areas of eyewitness identification such as lineup size, the relationship between eyewitness confidence and accuracy. However, there is very little published about eyewitness descriptions, more particularly whether the level of detail in a description could predict accuracy in a lineup. The purpose of this study is to explore if details within an eyewitness description can provide further understanding into collecting reliable eyewitness evidence. In conducting this study, we aim to answer the following question: does the number of details and the type of details provided by an eyewitness description predict the nature of their recognition judgments?

Research has indicated that eyewitness descriptions commonly include five variables; gender, age, race, height and a description of hair (Wells et al., 2000). We have determined that descriptions that have five or more variables will have a higher likelihood of an accurate selection [Hypothesis 1]. Accuracy would entail that the eyewitness correctly rejected the lineup, therefore indicating that the suspect is not in the lineup, it could also mean that the eyewitness correctly selected the suspect – a person of interest for the crime. In contrast, general or vague descriptions such as build, height, gender are likely to be associated with incorrect lineup rejections or a filler selection [Hypothesis 2]. Finally, descriptions that include very specific details such eye color, tattoo, or distinctive facial features will be associated with a correct selection - identifying the suspect [Hypothesis 3].

V. METHOD

A. Participants

This study includes data files from Austin PD (N=204), cases include data of eyewitnesses to real crime. Case files that did not include a description were not included in the final data analysis, (N=57).

B. Design

Ethics approval for this minimal-risk study was obtained from Simon Fraser University Research Ethics Board (REB Certificate Number: 30002260). The design for this study was an archival data analysis; police files were examined where an eyewitness provided a description and was followed by a lineup. Since the aim of this study was to determine if there is a cause-and-effect between description and accuracy, our study is also quasi experimental.

C. Procedure

A spreadsheet was used to code the items included in a description, these include general variables such as age, race, height and build. But we also wanted to include details we thought would be uncommon or that would illustrate that the eyewitness had good memory and had a good look at the perpetrator such as scars, marks, or tattoos and distinctive facial features. The intention behind coding the description was to be very specific, so that certain variables do not overlap. For example, race and complexion were coded as two separate items because complexion would refer to skin tone but not necessarily race. Other variables such as distinctive facial features would refer to prominent features of the face such as “bumpy nose”, “eyes far apart” or “thin lips”. We also had a second coder to ensure consistency and reliability in our criteria and to account for any discrepancies. Other items that were coded included the eyewitness’ selection of the lineup which was restricted to “no selection”, “suspect”, or “filler”. It is important to note that because these are real eyewitnesses, we do not know whether the suspect was the true perpetrator, so suspect identifications and rejections of the lineup might be incorrect. But we are still treating suspect identifications as a “pseudo correct” response. Rejections are a “pseudo correct” response as well for similar reasons. We also wanted to know if the description was accurate to the suspect in question, so we had another column; “description accuracy” and based on the coders subjective view coded Y for “yes” and N for “no”. In the appendix is a table (Table 1) of the variables coded alongside their definitions of how they were coded.

There were discrepancies on whether build and weight should be coded the same and concluded that each coder would code based on their separate opinion. For example, coder A would code the following descriptor “chubby” as both build and weight, while coder B would code for only build. These were discrepancies that both coders had to resolve by creating two separate coding criteria to check back at the end of the coding process. Another discrepancy that needed to be resolved was coding the time when the eyewitness report was taken, for example, 2:30 am can be recorded as both night and morning. To resolve these discrepancies both coders reviewed their initial assessment to reach a consensus. Once the discrepancies were resolved, the dataset was cleaned up. The clean dataset was then put through *Rstudio* where we were able to get the percentages of the descriptions that had varying information.

VI. RESULTS

Results were gathered and based on three subsets; 1) descriptions from eyewitnesses who identified the suspect ($n = 131$), 2) descriptions from eyewitnesses who identified a filler ($n = 18$), and 3) descriptions from eyewitnesses who

rejected the lineup ($n = 55$). Point of caution, subset 2 has a low sample size, therefore, we will not mention the effects yet. The eyewitness selection was dummy coded into 3 variables; 1) suspect if the eyewitness selected the suspect, 2) filler if the eyewitness selected a filler, and 3) rejection if the eyewitness rejected the lineup. All three variables were run through 3 logistic regressions with the different descriptions as categorical predictors.

From the suspect pick results, we were able to obtain the following: when the eyewitnesses included build into their description, they were 3 times more likely to pick the suspect than to reject the lineup or pick a filler ($B = 1.22$, $p = 0.015$, $OR = 3.39$). When eyewitnesses included scars, marks, tattoos in their description, they were less likely to select the suspect than to just reject the lineup or select a filler ($B = -3.19$, $p = 0.008$, $OR = 0.04$). This might suggest that eyewitnesses are perhaps more focused on a particular mark that would make them easier to identify and more distinct than others.

When the eyewitness included complexion in their description, the eyewitness was more than 5 times more likely to reject the lineup than to select a filler or the suspect; ($B = 1.54$, $p = 0.007$, $OR = 4.66$). This finding could potentially mirror similar reasoning to the findings above regarding scars, marks, and tattoos, and that perhaps eyewitnesses are so focused on the specificity of the complexion other factors such as lighting could influence their decision; lighting during the crime, lighting during lineup could be different than what they remember. When the description included build, the eyewitness was less likely to reject the lineup ($B = -1.64$, $p = 0.003$, $OR = 0.19$).

In the appendix is a figure (Figure 1) that represents the percentage of each variable in the eyewitness descriptions. Race was the most common detail mentioned among suspect pick, rejection and filler pick; an average of 95% on all descriptions coded. Other common variables in the descriptions are age, height, hair, and build, which are relevantly basic features. However, it seems that the more detailed the variable gets, the less common it becomes in the description. For example, describing build was more popular in all three types of picks than describing weight.

VII. DISCUSSION

The rationale behind this study was to investigate if eyewitness descriptions have a cause-and-effect relationship with lineup accuracy. We initially anticipated detailed and specific variables, such as eye colour, distinctive facial features (nose, forehead, or chin) in the eyewitness descriptions. However, many descriptions had general and vague variables, such as race, height, and gender. This is echoed by research that has determined that on a typical description there are five variables that are collected; gender, age, race, height/build and some description regarding hair (Wells et al., 2000). If the eyewitness is pushed for more details, then there is risk of guessing details or having low accuracy during the identification process (Wells et al., 2000). While we cannot say for certain whether eyewitnesses were pushed for descriptions by law enforcement, descriptions that did have more details and ones that are specific did not predict

accuracy.

We also determined three hypotheses; hypothesis 1 stated that descriptions that have five or more variables will have a higher likelihood of an accurate selection. This hypothesis was not supported, based on our results having included height, race, hair, distinctive facial features on the descriptions was not associated with if the eyewitness was going to reject the lineup, pick a filler or select the suspect. Hypothesis 2 stated that general or vague descriptions are likely to be associated with lineup rejections or a filler selection, this hypothesis was not supported because eyewitnesses were less likely to reject the lineup if they included build in their description. Lastly, hypothesis 3 stated that descriptions that include very specific details such eye color, tattoo, or distinctive facial features are more likely to be associated with a correct selection of the suspect. Our results do not support this hypothesis; the more specific details given such as scars, marks and tattoos, the less likely the eyewitness would select the suspect. However, we cannot say with certainty that hypothesis 3 is unsupported by our results because when complexion which is a specific detail comes up on a description, the eyewitness is more likely to reject the lineup. Past research has indicated that pigmentation is an important characteristic in episodic face recognition (O’Toole et al.,1999).

One possible explanation for our results could be explained by verbal overshadowing effect. Despite the level of details and the number of variables provided, it did not provide clarity for predicting lineup accuracy, perhaps the act of verbally describing the perpetrator deteriorated the witness’ memory of the perpetrator’s face. While the research shows mixed results with VOE, our results could provide motivation for other researchers to further explore these two factors as it related to eyewitness identification. Much of the research on VOE that was reviewed in this paper have similar methodologies; participants watching a mock crime video then asked to verbally describe the perpetrator followed by a lineup. Our study had an advantage in that the participants were witnesses to real crimes and thus experienced different stages of a criminal investigation; therefore, this study holds ecological validity – our findings can be generalized to real world settings. Despite our hypotheses not being supported, this study could help eyewitness literature by capturing a clearer picture of forensic science and practicing proper collection of eyewitness evidence.

Our study came across a few limitations that need to be considered, for instance, this study was completed as part of a directed studies project, therefore our team had a short period to code through as much APD eyewitness descriptions in the lotted time. Another limitation was our final sample size; many of the APD files did not include a description and while we cannot say with certainty whether a description was collected and not recorded or just not collected, cases without a description were not included in our sample which reduced

our final sample size. However, for future research, our team plan to code and further analyze the remaining APD files to gain a better understanding of a cause-and-effect relationship between eyewitness descriptions and accuracy.

The criminal justice system relies heavily on the verbal recollection of crimes and perpetrators from the eyewitness, and while eyewitness descriptions provide a benefit to the public and law enforcement in solving criminal investigations, we do not know if an eyewitness’ own description could serve as a benefit during the identification stage. Eyewitness descriptions mainly have been known to help create a sketch of the perpetrator, warning the public of a potentially dangerous criminal and using descriptions to create a proper lineup. But little to no examination has been done to understand if eyewitness descriptions could help eyewitnesses. Perhaps future research could delve into understanding if there are any benefits that descriptions can provide for the eyewitness.

VIII. APPENDIX

TABLE I. EYEWITNESS DESCRIPTION VARIABLES.

Variable	Definition
Height	1=variable in description 0= not in description
Weight	1=variable in description 0= not in description
Build	1=variable in description 0= not in description
Hair	1=variable in description 0= not in description
Age	1=variable in description 0= not in description
Race	1=variable in description 0= not in description
Complexion	1=variable in description 0= not in description
Distinctive Facial Features	1=variable in description 0= not in description
Scars, Marks, Tattoos	1=variable in description 0= not in description

TABLE II. LOGISTIC REGRESSION EVALUATING FEATURES OF DESCRIPTIONS MADE BY EYEWITNESSES WHO IDENTIFIED THE SUSPECT FROM THE LINEUP.

Description Element/Feature	Parameter Estimate (B)	p value	Odds Ratio (OR)
Age	-0.50	0.249	0.61
Height	0.38	0.426	1.46
Race	-1.18	0.183	0.31
Complexion	-0.84	0.127	0.43
Hair	-0.40	0.392	0.67
Build	1.22	0.015*	3.39
Weight	0.11	0.842	1.12
Facial Features	0.15	0.822	1.16

Description Element/Feature	Parameter Estimate (B)	p value	Odds Ratio (OR)
Scars, Marks, or Tattoos	-3.19	0.008*	0.04
Distinctive Features	2.31	0.016*	10.07

Note: * Indicates effects that are significant at the $p = 0.05$ level.

Our sample size for filler picks were small ($n = 18$), therefore, the description elements were not associated with if the eyewitness selected a filler or not.

TABLE III. LOGISTIC REGRESSION EVALUATING FEATURES OF DESCRIPTIONS MADE BY EYEWITNESSES WHO IDENTIFIED A FILLER FROM THE LINEUP.

Description Element/Feature	Parameter Estimate (B)	p value	Odds Ratio (OR)
Age	-0.12	0.823	0.89
Height	-1.09	0.076^	0.34
Race	0.37	0.741	1.45
Complexion	-1.98	0.075^	0.14
Hair	0.73	0.207	2.08
Build	0.34	0.555	1.40
Weight	0.11	0.887	1.12
Facial Features	-0.41	0.668	0.66
Scars, Marks, or Tattoos	0.94	0.388	2.56
Distinctive Features	-1.38	0.209	0.25

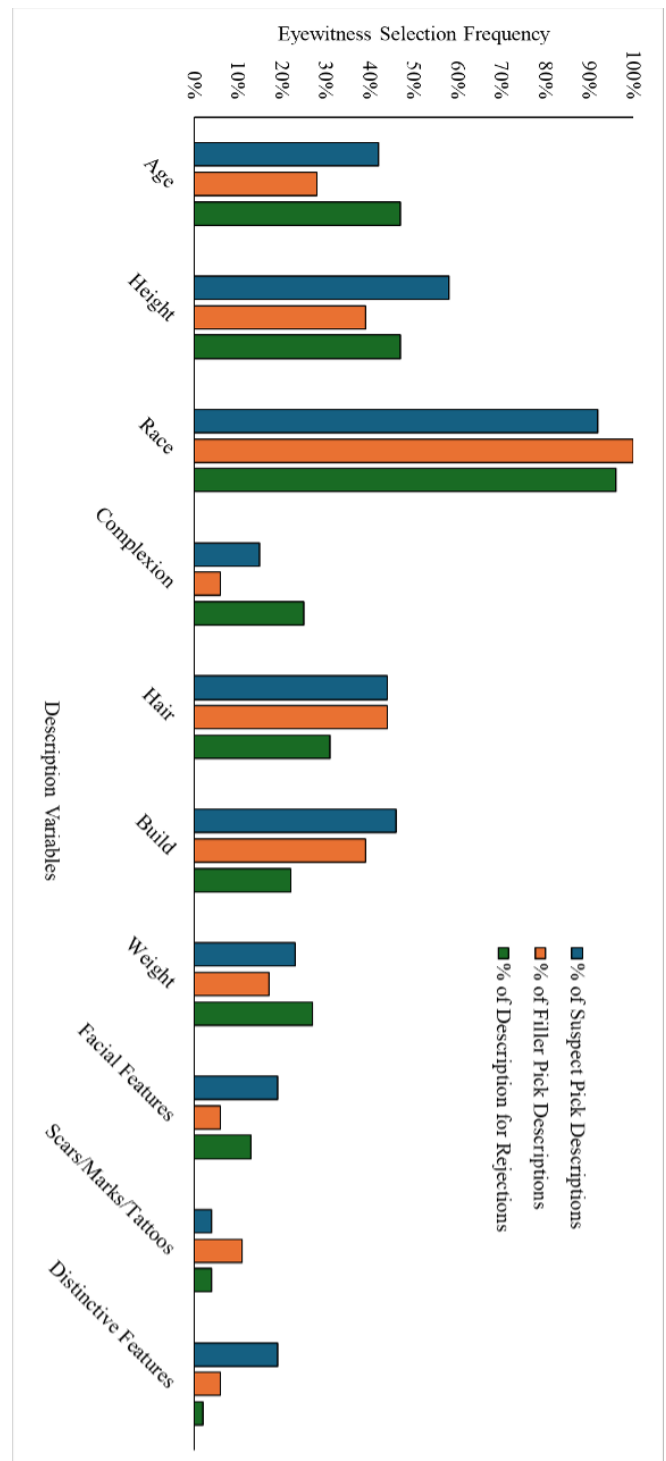
Note: ^ Indicates effects that are significant at the $p = 0.10$ level. Note that the sample size here is very small ($n = 18$) so these results should be interpreted with caution.

TABLE IV. LOGISTIC REGRESSION EVALUATING FEATURES OF DESCRIPTIONS MADE BY EYEWITNESSES WHO REJECTED THE LINEUP.

Description Element/Feature	Parameter Estimate (B)	p value	Odds Ratio (OR)
Age	0.88	0.048*	2.41
Height	-0.10	0.837	0.90
Race	0.46	0.605	1.58
Complexion	1.54	0.007*	4.66
Hair	-0.27	0.566	0.76
Build	-1.64	0.003*	0.19
Weight	-0.07	0.896	0.93
Facial Features	0.22	0.752	1.25
Scars, Marks, or Tattoos	2.00	0.045*	7.39
Distinctive Features	-1.38	0.127	0.25

Note: * Indicates effects that are significant at the $p = 0.05$ level.

Figure 1. Description Variables and Lineup Selection Frequency



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