

Finding and Interpreting Nonverbal Deception Cues Among the Blind and Deaf

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## Finding and Interpreting Nonverbal Deception Cues Among the Blind

Lying is a part of life. The act of deception, be it the words people say or the lie of omission, deception takes up a quarter of a person's daily conversations and interactions equating to about two lies told every day (Cohen, Beattie & Shovelton, 2010). Whether it is a small white lie told to a friend or a criminal attempting to deceive police, the reason for lying is to create a perfect image of the deceiver and their motives (Goffman, 1959). Whether or not any lie is acceptable and without consequence is perhaps a question best left to philosophers, but the ability to detect and discover deception is one skill that is a common desire among most people. Despite how hard someone might analyze and observe a potential liar, there is no one single clue or nonverbal cue that can reliably give away a person's deception (Ekman, 1986). Ekman believes that through the careful cross-referencing and analysis of factors such as visual and auditory interpretation, base-line comprehension and situational understanding, those with proper training can identify deceit; however, there is often too much information being displayed at once in order to easily comprehend any positive intent to lie (Ekman, 1986). It is possible that accurate and reliable nonverbal deception cues might be discovered through a greater understanding of the way people with disabilities use compensated senses to detect deception.

### **Background**

Research continues to identify and understand any and all possible nonverbal cues that might be leaked by an individual attempting to deceive. The benefits of gaining such knowledge can find application in many areas of everyday life, from law enforcement to business negotiations to personal interactions and relationships such as marriage. If there is too much

information being presented to determine if deception is being practiced, then perhaps the best way to search for individual clues is to focus on nonverbal cues that can be considered reliable.

In research conducted by Sahlman and Koper (1992), it was discovered that when blind individuals were interacting with sighted individuals, they were much more likely to discover deception than their sighted counterparts. With such successful results, more research should be conducted into this ability found in the blind which could garnish more reliable nonverbal cues than found in the past. In addition to blind individuals, hearing impaired individuals have also been studied and found to have different perceptions of nonverbal communication and interactions with non-impaired individuals. It has been proposed that when one sense is lost, that the other senses compensate by improving (Shingledecker, 1981). Deaf individuals are often forced to rely more on nonverbal visual cues in order to better interact with hearing individuals so that they can garnish information they can't through vocal tones and inflections (Magnusson & Karlsson, 2008).

Differences between the effectiveness of visual nonverbal cues and auditory ones can vary greatly. This could potentially give an advantage of discovering nonverbal deception cues to one group with disabilities over another. Research conducted in which only visual cues were given to individuals attempting to detect deception rendered results that were no better than or only slightly higher than chance (Bond, Omar, Mahmoud & Bonser, 1990). When both audio and visual cues were presented in research conducted by Al-Simadi (2000), individuals were able to detect deception at a much higher rate, even across cultural lines, in some cases without even knowing the language.

In the area of research conducted with hearing impaired individuals, the interpretation and understanding of facial expressions is not only helpful but necessary in communicating with others (Corina, Bellugi & Reilly, 1999). The reading of facial expressions is a part of interpreting American Sign Language, since two different sentences may be signed in precisely the same order and using the same words, but may convey different meanings through the facial expressions that accompany those signed words (Letourneau & Mitchell, 2013).

Despite the necessity of perceiving facial expressions in successful sign language interpretation, research into nonverbal deception cues has continued to show more accurate and identifiable markers in the area of auditory cues rather than visual. A number of researchers have been able to accurately find and categorize auditory cues such as the number of denials, vocal tension, directness and fluency, among others (Sahlman & Koper, 1992). Given this variation in visual and auditory deception recognition, research should focus more on auditory cues and how they could be used to detect deception. Utilizing the blind who have learned to compensate for their vision loss through heightened auditory recognition, could assist in identifying and singling out more accurate nonverbal deception cues. The hearing impaired's heightened ability to detect facial expressions should not be ruled out, but should be investigated further and a determination between the individuals most likely to detect deception should be made. If it is determined which, if either, group is more adept at interpreting non-verbal deception cues, then it could be suggested whether audio or visual cues are more important and reliable in detecting deceit.

### **Literature Review**

Previous research has searched for the Holy Grail in deception detection cues, the one or two simple, reliable and accurate signs that someone is lying. Due to the nature of the human

race, and the continuing and growing knowledge base of communication scholars, the glossary and understanding of nonverbal cues is always evolving. This is not to say that nonverbal cues are not a reliable way of detecting deception, it is just that a constant flow of research must be conducted in order to stay on top of the contemporary methods of detecting such deception.

Nonverbal communication can be both intentional and unintentional. When it comes to deceit, the focus and study is obviously more focused on the unintentional. While there are several cultural differences that can manipulate or alter the general perception of nonverbal deception cues, there are some constant facial expressions and emotional cues that are constant across all cultures (Barrett, 1993). Similar facial expressions can be seen between unimpaired young children and blind children. Both hearing and deaf children also exhibit the same facial features early in life (Hosie, Gray, Russell, Scott, & Hunter 1998).

Nonverbal deception cues are not always as universal. Although the reasons for them are. They come in the form of both visual and auditory leakage. This leakage is often caused by either nervousness or the cognitive load that deception places on the brain. Many cues, both auditory and visual, exist due to the attempt of the deceiver to compensate for this leakage (Zuckerman, et al., 1982). These cues are exhibited by markers such as gestures and vocal rhythms. Gestures are often a byproduct of speech and are almost always inevitably linked (Hillman, Vrij & Mann, 2012). People engaged in deceptive dialogue will often unintentionally use these gestures as emblematic slips, much the way they use vocal pauses such as “umms,” and “uhhs.” These gestures and adapters do not fit the conversation and can be utilized while the brain tries to think of the next thing to say. While they are not exclusive to deception, they are more frequent among those engaged in deception. Other gestures that can signal deception are

those gestures that don't match with what is being said. Similar to a Freudian slip, the gestures may be telling the truth while words are not (Cohen, Beattie & Shovelton, 2010).

Burgoon, Buller and Woodall (1989) explained that visual cues were more common and effective than auditory cues, but that this may be a result of people focusing more on visual than auditory ones. People can analyze and observe facial expression in more detail than a fleeting word or utterance. They suggested that while auditorial deception cues are more numerous and can be associated with deception more easily than visual cues, it is due to a person's visual bias which they have become accustomed to since birth, that causes them to prefer to rely on visual cues instead. Auditory cues can be harder to identify since they are so fleeting.

While vocal cues may be more difficult to notice in the midst of an analytical discussion, they are more numerous and accurate as well as more difficult for the deceiver to hide. These vocal cues can include greater fluency, nervousness and a higher speech rate, as well as lower consistency and certainty (Sahlman & Koper, 1992). These cues can also include a higher pitch, slower tempo and longer pauses, all results of an increase in the cognitive efforts of the brain (Burgoon, Buller & Woodall, 1989).

With all of these cues to learn to distinguish, deception detection can seem like a minefield of what is and what isn't an accurate cue. Research into cross-cultural studies might help distinguish these variations of nonverbal markers. Studies among both the blind and deaf have helped single out universal nonverbal cues while some studies across ethnic cultures have helped narrow down the most effective deception cues.

How different cultures view and perceive different verbal cues can help assist in breaking down deception cues that are universal across cultures. With facial expressions and gestures

being such an important part of deception detection, understanding how different cultures use these markers is an important first step. Letourneau, Mitchell, Atkinson, and Weisberg (2013) discovered that facial expressions were an important part of American Sign Language, and were used not only as emotional expression but as an important linguistic aspect of the language. It would first appear that since facial expressions are a very important part of communication for the hearing impaired, these individuals would have an advantage in detecting facial expressions that could be clues to deception; however, Conway, Karpicke, Anaya, Henning, Kronenberger, and Pisoni (2011) discovered that long durations without hearing can create a negative impact on nonverbal interpretation and cognition. So while hearing impaired may utilize facial expressions in their language, their heightened observation skills may end there.

Blind individuals may have a distinct advantage in detecting deceit over both the hearing impaired and unimpaired individuals. While there are cultural differences in nonverbal usage among blind and other groups, such as their conversational posture being directed less towards the person they are speaking to, or their lack of eye contact in conversations (Magnusson, 2006), and blind also use more adapters than they do gestures (Magnusson & Karlsson, 2008), this does not detract from their ability to communicate than other individuals. In fact, some studies show that blind individuals have a distinct advantage over other groups when it comes to deception detection. Sahlman and Koper (1992) showed that visually impaired individuals were more successful at detecting deception than sighted individuals. They discovered that this is not an inherent skill, but one that is learned and is more accurate and successful with those individuals who lost their sight earlier in life.

There is research to suggest the difference between blind and deaf individual's abilities to detect deceit may hold merit. One study conducted by Bond, Omar, Mahmoud and Bonser (1990) studied the effectiveness of individuals attempting to detect lies across cultures. They studied citizens of Jordan and the United States as the two groups attempted to detect deceit across their cultures. The results were no greater than chance. Al-Simadi (2000) challenged these results on the basis that the participants were only exposed to visual components. In his study among two cultural groups, he exposed both groups to audio and visual, as well as audio-only, components of deception interviews and both groups scored much higher, despite the fact that many of the participants couldn't speak the other's language. This suggests that auditory cues are more accurate at revealing deception than visual cues, even across cultures and languages.

### **Critiques**

Research in fields such as nonverbal communication will always have its critiques since it is such an ever-changing field. As research is conducted and new nonverbal cues are defined, these studies can tamper with future studies. For instance, it was once believed that a liar could not look someone in the eyes. Once this became general knowledge, people attempting to deceive others began to maintain eye contact longer. This caused the understanding of nonverbal cues to shift away from believing that a lack of gaze meant deception to longer than normal gazing meaning deception.

One of the potentially most devastating consequences for research into deception cues is the lack of a baseline. Research has shown how important the comprehension and understanding of a suspect's baseline is in detecting deception (Ekman, 1986). A baseline requires more than

only a few minutes or base questions to discover. Finding this baseline can be difficult to do in a short interview segment. Participants in research experiments are very rarely given the opportunity to discover and learn a suspect's baseline, in contrast to the way they would be able to gather a family member's or close personal friend's baseline over a series of months or years. Given the parameters of research studies, though, this is an acceptable and almost inevitable consequence, unless future research studies specifically sought out dyads in their selection process that have a history with one another.

In the study conducted by Sahlman and Koper (1992), they informed the participants that some suspects were telling the truth and others were lying. In doing this, an expectation contrary to the study was created. While possibly minuscule, the impact could create a bias in the interrogators by preparing them for the fact that some of the people they would be speaking with were lying and some were not. A potentially more accurate study would present the participants with the possibility that everyone could be lying, everyone could be telling the truth, or a combination of the two possibilities. In some studies, it could be in the best interest to tell interrogators the intention of the suspects, but in some studies, it could create a slight bias and influence the deception detecting abilities of the participants.

In several experiments where deception is being detected, at least half of the results are useless since there is no deception being deployed. If an individual is not being dishonest, then there are no deception cues to be found. Employing truth in a deception experiment may be useful in some research projects but can be pointless and waste valuable time and resources.

### **Research Proposal**

In order to examine the deception cues of a suspect with accuracy, eighty individuals with specific characteristics will be selected. These individuals will be selected based on degrees of sight and hearing impairments. These characteristics will give the individuals either advantages or disadvantages in detecting particular nonverbal deception cues. The first group, a set of blind individuals will be allowed to focus on solely auditory nonverbal cues. Hearing impaired individuals will make up the second group and will have the benefit of focusing solely on visual deception cues. The third group of individuals will have no impairments and will have access to both visual and auditory cues. This could potentially put the unimpaired individual at a disadvantage since research suggests that this could be too much information and data to comprehend at one time, forcing them to miss or misinterpret nonverbal cues (Burgoon, Buller & Rockwell, 1997). Unimpaired individuals may also rely too heavily on visual cues, cues that are too easily covered up or manipulated by suspects (Ekman, 1986).

By focusing on each particular deception type, auditory or visual, without the potential of relying on the other, and giving another group access to both, research could determine which of the two types of nonverbal deception cues are the most accurate and most reliable. The study could also allow researchers to determine which of nonverbal cues in each type are relied upon most by each set of individuals. Blind or hearing impaired individuals may reveal which nonverbal cues they have come to believe are most accurate and which ones they rely on most in their every day life. Since research suggests that they are more sensitive to the nonverbal communication cues specific to their non-affected senses, their sensitivity to these cues could be

more intense and could be relied upon more than an inexperienced individual (Shingledecker, 1981).

The purpose of the proposed research is to discover whether vocal or body leakage is most reliable in detecting deception. The research should first answer the question, “Are blind or deaf individuals better at detecting deception than individuals without these disabilities?” If it is confirmed that vocal and auditory nonverbal cues are more reliable then blind individuals should be better at detecting deception than hearing-impaired and unimpaired individuals. This research could allow future deception detection research to focus on the more reliable nonverbal leakage cues.

### **Method**

In order to best determine the accuracy of each of the two nonverbal cue types, auditory or visual, four separate groups will be selected and placed in interrogation settings in which participants will have access to both auditory and visual cues and will be asked to detect whether or not individuals are lying or being truthful. In order to most accurately portray real world situations, the interrogations will take place person-to-person, allowing the individuals to ask questions of the potential deceiver and make face to face analysis of their nonverbal communication cues. The participants will not be allowed to review the interrogations via video or audio tape since the more obvious nonverbal cues should be noticeable without review.

### **Participants**

Volunteers will consist of four groups of individuals. 20 blind individuals, 20 deaf individuals and 2 groups of unimpaired individuals, both consisting of 20 individuals. The blind, deaf and one of the unimpaired groups (Interrogators) will be asked to determine if the final

group of unimpaired individuals (Suspects) is lying or telling the truth about a photograph reviewed by the suspects.

The test will be conducted by taking the group of suspects and showing them a photograph. Ten suspects will be shown a picture of the Grand Canyon with a person wearing a red shirt and blue jeans in the foreground. The other ten suspects will be shown a picture of a vineyard with an attractive woman in colorful sundress. They will then be instructed that if they successfully lie about the person's description in the picture, then they will be rewarded a small monetary amount.

The interrogators will be told that the individuals may or may not be telling the truth; however, in reality, all of the individuals will be lying. Since this study is set to determine whether or not deception can be detected, no information would be gathered from suspects telling the truth. The only important variable is that the interrogators believe that the suspect might be telling the truth or might be lying. Through this method, the study will be able to determine if deception can be detected without having to throw out the groups in which truth is being told.

### **Interviews**

Once the photographs have been analyzed by the suspects, they will be led into an interrogation room where interrogations would be conducted in which the Interrogators (the unimpaired, blind and deaf individuals in the participant pool) would attempt to determine in an interview style setting whether or not an unimpaired individual (suspect) was engaging in deception or not.

Interrogators would be allowed to interact and ask questions, since past research has shown this to lead to more successful detection of deceit. The interrogation would take place in an atmosphere similar to that of a stereotypical police interrogation room. The atmosphere should help facilitate a seriousness to the test and should create a slightly elevated nervousness of the suspects.

Interrogation sessions will be limited to five minutes in which participants will be allowed to spend time gaining a base line of the suspect before delving into the details of the potential dishonest act. No physical contact with the suspects will be allowed and the interrogators may only ask details pertaining to the photographs and any information that would be considered public knowledge or polite conversation.

Once the five minutes have expired, the interrogation will be stopped and the suspect will be led out. Meanwhile, the interrogators will remain in the interrogation room and given time to make their final determination.

### **Determination**

After the initial interrogation, the interviewers will have the opportunity to reflect for a short amount of time before making a final determination as to whether or not the suspect was lying or not. Once they have made their decision, they will disclose on paper the simple choice of whether or not the person was lying, what they were lying about and what in particular they felt gave the deception away.

This will garnish the information of how accurate each of the groups are, as well as what visual or auditory cues are most expected, and additionally, what auditory and visual cues people believe to be important markers for the detection of deception.

### **Conclusion**

Once the results are gathered from the research experiment, the accuracy of each group of individuals would be analyzed and could potentially show whether one group of individuals is better at discovering deceit than the others. Given prior research into visual and auditory deception cues, it is expected that blind individuals will show a higher than normal ability to detect deception. Their results should show the higher success rate in detecting deception while those hearing impaired should show only slightly better results than unimpaired individuals. Unimpaired individuals should show a greater than chance ability to detect deception since both auditory and visual cues are being presented. Despite access to both auditory and visual cues, unimpaired individuals should find it more difficult to detect deception since such a large amount of information is being presented in the deception attempts. Hearing and sight impaired individuals will be focusing on only one of the particular deception cue ranges, audio or visual, and will therefore be less distracted by attempts at deceivers to cover up nonverbal leakage. Since deceivers are most familiar with visual deception cues, such as eye gaze and nervous adaptors, they will be more likely to attempt to cover those up and not be as aware of or attempt to cover up, auditory cues such as vocal pitch and speed. This should give blind individuals a greater advantage at detecting the deception over hearing impaired individuals

The results of this study will allow researchers to determine which of the two types of nonverbal cues can be considered more reliable. With this determination made, a deeper focus of the more successful nonverbal deception cues can be researched deeper and considered more valuable in the attempt to discover deceit. With more reliable deception detection techniques

available to researchers, law enforcement and suspicious spouses, the never ending search for the truth can continue to march forward with an even greater arsenal than it has now.

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