

Behavioral analysis relates heavily to the sciences of micro expression, body language analysis, and predictive analytics. Basic social skills are useful in everyday life; however, these skills only cover a fraction of what can be done when social science is taken to its greatest capacity. To what extent can behavioral analysis be taken? The ability to understand those around us more completely leads to a multitude of possibilities for utilizing our human sociability.

Micro expressions and body language are observational sciences based upon flashes of emotional expression. Considering these quick, involuntary behaviors led to my decision to make a video. I pictured a fast-paced short film with many quick-cutting clips to produce the feeling of observing flashes of emotion, like micro expressions, in the real world. This experimental, documentary-style film compares conscious and subconscious emotion. The intention of the video is to capture subconscious emotion as expressed through human behavior.

Humans are often superficial with their emotions, attempting to conceal emotion or replace an emotion with another one. I have always valued honesty, truth, and directness. It is very important for me to be true to myself, and not to sugarcoat how I really feel. I feel I can easily distinguish genuine emotion from superficial emotion; thus, I believe the truth will always get out eventually. In the long run, being truthful and straightforward saves time and energy. Why not be genuine?

Jackson

I have always been extremely extroverted, vibing completely off of others. I find myself constantly analyzing social situations around me, whether I am included or not. I watch and study the interaction between friends, family, and strangers, simply to entertain myself. In my attempts to read people in analyzing those around me, I find that any body movement or position can offer me insight into how someone is feeling. From obvious signs (such as an angry facial expression) to subtleties (such as a quick curl of the lip), anything can be interpreted through one's body language.

The possibility of reading someone else's mind is a consideration that has been pondered for many years. Most often found in sci-fi thrillers and comic books, the ability to read minds is seemingly unrealistic. Surely we cannot tap into one's mind and hear their exact thought dialogue; however, recent developments in the social science of behavioral analysis have seemingly granted humans the ability to read into one another's facial expressions and body language. Using techniques of analysis, one can reach into another's subconscious to find information that was not intended to be on display.

My interest in behavioral analysis, which stems from my own love for socialization, relates heavily to sciences of micro expression, body language analysis, and predictive analytics. Social skills I have learned on my own are useful to me in everyday life; however, these skills only cover a fraction of what can be done when social science is taken to its greatest capacity. When techniques and methods of social analysis are taken to the extreme, a variety of feasible hypothetical uses begin to form. [For example, evolving current interrogation tactics, policing crimes before they are committed, and developing training programs to read others, as well as block others from reading you.] To what extent can behavioral analysis be taken? When reading people is used for the benefit of others, ethics come into play. These methods of analysis get closer and closer to methods of manipulation. Is using behavioral analysis morally sound to pursue? Reading into people is a risky idea, as one may not know how to deal with what is found. An example of a resulting issue when using behavioral analysis is presented by author Stephen Porter, in the article: "*Reading Between the Lies: Identifying Concealed and Falsified Emotions in Universal Facial Expressions*". Porter states, "Modern humans are highly skilled deceivers; observers tend to perform at or slightly above chance in judging whether another person is lying." In other words, deciphering the lies of others is no easy task. What other potential consequences arise when humans begin to read one another? If this newfound power is accessible to all, would it be used for good or evil? Along with the possibility of success comes the possibility of abuse, but if used properly, the ability to read humans could lead to a fruitful era of interpersonal achievement. Development of social science brings with it a newfound social awareness in the human species. The ability to understand those around us more completely leads to a multitude of possibilities for utilizing our human sociability; however, as we develop methods of behavioral analysis, we also increase the risk of misusing this new technology. Misuse when extracting information comes when one uses the information for manipulation or personal gain. Social science misuse can be avoided by only using extracted information to benefit the greater good.

Behavioral analysis is based around the idea that what an individual displays externally correlates with what that individual is feeling internally. Author Susan Quilliam states in her book, Body Language: "By reading nonverbal signs you can be extremely accurate in analyzing what people are thinking and feeling, and even in reading their personality" (7). The science becomes useful when one can read between the lines into the correlation, deciphering the internal feelings based upon displayed external behaviors. Physical external behaviors can be categorized

into two equally important, mutually beneficial sections: facial expression and body language. Although it is possible to read someone using solely their face or solely their body, observing both the face and rest of the body simultaneously allows for the strongest, most accurate reading by extracting clues of emotion from two different aspects of the target.

Author Daphne Orebaugh once spoke her now famous quote: “The face is more honest than the mouth will ever be.” There is a heavy truth to this saying. People go to great lengths to hide their true feelings, but are rarely successful. As stated by Stephen Porter, “Darwin hypothesized that certain specific facial actions that cannot be created voluntarily may nonetheless be involuntarily expressed in the presence of a genuine emotion.” In other words, one cannot hold back facial expressions when an emotion is attached. These involuntary facial movements have become known as “micro expressions.” The article entitled “*Evidence for Training the Ability to Read Microexpressions of Emotion*”, written by David Matsumoto, describes micro expressions as “extremely quick facial expressions of emotion that appear on the face for less than half a second.” The article continues, “micro expressions are likely signs of concealed or deceptive emotion.” When one tries to suppress an emotion, it comes out in a quick, involuntary flash, similar to a twitch. Micro expressions cannot be held back and are universal throughout the human species, meaning techniques of observation can be used to read anyone.

People often try to suppress their emotions. According to author Stephen Porter, there are three forms of manipulation: “An expression is *simulated* when it is not accompanied by any genuine emotion, *masked* when the expression corresponding to the felt emotion is replaced by a falsified expression that corresponds to a different emotion, or *neutralized* when the expression of a true emotion is inhibited while the face remains neutral.” Essentially, in order to conceal one’s truly felt emotion, one has three choices: display a second emotion alongside the first, replace the original emotion with a faked emotion, or completely neutralize the emotion by showing nothing at all. This manipulation of emotion occurs very often in everyday conversation; however, without looking out for it, it can be nearly impossible to notice. The same article states: “It is commonly assumed that attention to certain aspects of facial expressions can reveal these forms of duplicity.” If, for whatever reason, people do not want to show themselves to others, they manipulate their emotions because it is easy to get away with. They believe no one can ever pick up on it, but through analysis of facial expressions and body language, they can be easily read.

Facial expressions on their own give major hints to how someone is feeling, but analyzing body language at the same time allows for a much more accurate read. The article written by Stephanie Buisine, entitled “*The Role of Body Postures in Recognition of Emotions in Contextually Rich Scenarios*”, states “postures, in general, provide additional cues to the facial expressions and help the viewer in decoding nonverbal emotional messages.” The correlation of body posture and facial expression to the emotion felt provides extra clues as to what the viewed person is feeling. The article continues, observing “body postures seem to draw the viewer’s attention to the emotional signals in the character’s nonverbal behavior.” If an analyzed face displays more than one emotion, the owner of the face’s body language can clarify which is the true emotion being felt. It is impossible to completely suppress an emotion, and therefore the truth often seeps out through a person’s physical actions. As stated by author Susan Quilliam: “Body language tells you a whole range of things, much of which they may not know they’re revealing” (9). She goes on to conclude “quite simply, what we think about inside our heads we express externally with our bodies” (28). We cannot hide the emotions put on display by our

physical appearance. Although everyone is susceptible to being read, the science of behavioral analysis is not completely foolproof.

Problems occur in an attempt to read someone when there is not enough information to draw conclusions from the viewed emotions. Author Susan Quilliam concluded “a nonverbal signal can mean any number of things, depending on the context” (115). Surely one can study someone else and read what emotion they are feeling, but it is much more important to figure out what the viewed emotion means. Knowing what emotion someone feels is not useful until we can figure out why they feel that way. Quilliam states: “Body language elements differ in meaning, and can be understood only in the context of a person’s life situation” (10). Context is extremely important when analyzing, for it leads to an understanding of why an observed emotion is being felt and displayed.

Once the reason for the emotion is understood, one can consider this information as potential motive. If there is indeed a potential for motive, it is possible to predict what someone may do as a result. Potential reactions can then be hypothesized, based on the emotion felt in combination with why one feels that emotion. A real world example showing a similar method of analysis is found in the article: *Reading People*, where article author and retired NYPD officer Michael J. Gorman states that “Most people become outraged when wrongfully accused of a serious crime. This is especially true when the alleged crime is against a family member or close friend. However, if a suspect tried to get ‘clever’ and play intellectual games with me, I knew that I had the right guy.” By using context and prior knowledge, Gorman could figure out which suspect was guilty, through his analysis of behavior.

In an article titled, “The article: *Using Other Minds as a Window onto the World: Guessing What Happened from Clues in Behavior*” provides evidence of how behavioral analytics can be used to conclude information about someone. The author, Dhanya Pillai, claims, “being able to identify mental states is an important cognitive process that equips us to understand a person’s behavior.” The author goes on to say that “mentalizing thus allows us, amongst other things, to make predictions about the future behavior of an individual based on our knowledge of relevant aspects of the situation.” From this stems an infinite possibility for utilization of these predictions. The presented process of guessing future events based on observable data is a version of predictive analytics that has been simplified.

When taken to the greatest extent, large-scale predictive analytics is the basis by which behavioral analysis could be used for the betterment of our society. According to the article: *Enterprise Data Analytics Strategy: A Guide for CIOs*, predictive analytics is defined as “the branch of data mining concerned with the prediction of future probabilities and trends.” The article defines data mining as “sorting through data to identify patterns and establish relationships.” Predictive analysis, simply put, is the collection of data in order to establish a trend used to predict something. When taken to its greatest capacity, predictive analytics could allow us to conceptualize the future. Aspects of society such as crime, economics, revolution, and politics would all be affected. The hypothetical clairvoyance presented could allow us to prevent certain parts of the future from ever converging into reality.

Some professions around the world already use methodologies of behavioral analysis and predictive analytics. Jobs that require social skills often have a basis in these social sciences. For example, psychologists understand the use of these sciences, as stated in Body Language: “The study of body language - the art of nonverbal communication - is possibly the most exciting and useful development in personal psychology today. It adds a whole new dimension to what you can understand about people” (Quilliam 8). Enforcement officers also use behavioral analysis.

Michael J. Gorman, mentioned in the article: "*Reading People*", is a retired NYPD officer who, as previously stated, would read into people by how they reacted to questioning. An organization known as PredPol gives police departments across the world an opportunity to use predictive analytics through their patented technological method. PredPol stands for Predictive Policing, and according to the official PredPol website: "The mission of PredPol is simple: place officers at the right time and location to give them the best chance of preventing crime. To accomplish this, PredPol processes crime data." PredPol is one of the first major developments leading to wide-scale usage of predictive analytics. TSA agents also rely on skills of social analysis, and are even trained to read behavior. As mentioned in "*Identifying Concealed and Falsified Emotions in Universal Facial Expressions*:" "Airline security officials in the U.S. have implemented a program to train security staff to identify potential threats in part by reading concealed emotions in the faces of passengers." These enforcers can read information on people that they think is hidden, leading to suspicion when necessary. The use of behavior analysis and predictive analytics can nullify threats before a situation of danger ever occurs. Some professionals already use social analysis as a tool to better themselves in their career, but consider what would be possible if these skills were taught to everyone that could use them.

The possibilities for utilizing behavioral sciences, when taken to their greatest capacity, are endless. If people could be trained to read behavioral triggers, the acquired skills would be useful for many professionals. The previously mentioned article entitled *Evidence for Training the Ability to Read Microexpressions of Emotion* states that "the ability to detect [micro expressions] may be important for individuals such as health care workers, psychotherapists, law enforcement officers, or anyone whose profession requires face-to-face interpersonal skills." Although this conclusion was drawn in reference to micro expressions, the same can be assumed of behavioral science as a whole. Whenever useful information must be drawn from someone who is unable or unwilling, these analytics come into play. Training professionals to fine-tune these skills and actively analyze social situations would lead to a more adept social awareness.

Many studies draw evidence that training skills of behavioral analysis is quite possible. The article entitled "*Using Other Minds as a Window onto the World: Guessing What Happened from Clues in Behavior*" contained a study to test the plausibility of training skills of behavioral analysis. The experiment was set up as follows: "Four scenarios (Joke, Waiting, Story and Compliments) were created that were expected to elicit a range of reactions. The researcher either told a joke, kept the participant waiting, told a story that might provoke an empathic reaction or paid compliments to the participant. This was done while the participant's reaction was surreptitiously filmed. [Participants'] responses were then edited into short video clips depicting their distinct reactions to the varying scenarios." Later, "[other] participants were asked to determine which of the four scenarios the [previous participants] had experienced." This experiment tested the ability to read someone's reaction in order to guess what he or she had just experienced. Data was recorded, leading the researchers to claim that "participants were generally able to distinguish the event which took place merely by viewing several seconds of a target's behavioral reaction." They continue, concluding the understanding that "effectively, participants could access something in the world that they could not sense directly through the window of another person's mind." This simple example of training allowed this small group to successfully read into another person. This study shows that training humans in areas of behavioral analysis is very possible. Another study, found in the article: *Evidence for Training the Ability to Read Microexpressions of Emotion*, also shows the plausibility of training these skills. The author draws many conclusions, such as how "training improved the ability to read

microexpressions,” and that “this ability was retained a few weeks after training.” If training sessions were held even once a week, trainees would retain the information from last session and be able to build and tune their skills even more. Researchers in the article: “*The Role of Body Postures in Recognition of Emotions in Contextually Rich Scenarios*”, speak of a future idea to use a virtual reality software as a training method. They say how “[their] long term goal is to design a virtual environment for training social skills based on 3D embodied agents that can talk while displaying emotional facial expressions and body movements.” This would effectively train people to read humans, by simulating facial expressions that can then be read as practice. Training people to use their social skills is very viable, and would lead to a better ability to understand those around us. By using methods of behavioral analysis, many professions could gain a much further comprehension of the emotions felt by those they interact with.

Suppose these skills of social analysis were developed to their greatest extent; what hypothetical scenarios arise? Interrogation tactics could be taken to the extreme by manipulating someone through reaching into their mind. If we are not careful we could tiptoe on the line of psychological torture. If the previously mentioned PredPol was taken to an extreme, we could end up with a situation such as that in the movie Minority Report, where suspects of future crimes are apprehended before they even commit the crime suspected of them. If the development of social skills became mainstream and everyone learned to read everyone else, we, as a species, could easily become surreptitiously deceitful. If this were the case, we would constantly manipulate each other, stringing along constant deception and widespread paranoia as a result. Although these are just hypothetical scenarios, each consideration demonstrates the possibility of misuse and abuse stemming from the development of behavioral analysis and predictive analytics.

Social sciences based around analysis and prediction harbor skills very useful to humanity. The most important variable to consider is how the skills are used. Whether the skills will be used properly or not truly determines how fruitful the development of these sciences will be. The morality of utilizing techniques of analysis and prediction is in the eye of the beholder. As long as these skills are used for the greater good, behavioral analysis and predictive analytics are very feasible methods of extracting information, and possibly even predicting the future in order to prevent unwanted happenings.

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