INTRODUCTION

Emoji is widely considered the fastest growing language in the world. Deemed the first truly global vernacular, Emoji has spread dramatically since its creation in 1999. The language consists of static objects, gesturing hands, depictions of actions, and a multitude of facial expressions that are used to tell intricate stories and convey complex emotional experiences. An emoji describes internal, psychological experiences more quickly than verbal explanations and transcend barriers of culture and language by relying on the universal nature of emotions, a concept initially put forward by Charles Darwin in 1872. More recently, research by Paul Ekman and colleagues has established that people globally express emotions with the same involuntary muscle movements\(^1\). Moreover, people are adept at interpreting genuine emotional signals; it takes only a fraction of a second to recognize whether someone is feeling happy, sad, or angry, and reading faces often provides information that words alone cannot convey.

The importance of comprehending and responding to nonverbal signals has sparked a science which has grown dramatically in the last 40 years, allowing researchers to decipher not only emotion, but personality traits and credibility from the examination of a subject’s behavior. Behavioral analysis has been leveraged in a variety of domains, from improving interview and interrogation techniques to designing more effective advertising campaigns. In collaboration with researchers at University of California, Berkeley, TeamCo has incorporated behavioral analysis in investment management due diligence. TeamCo believes that behavioral analysis is an insightful addition to the process of evaluating hedge fund managers, as it often exposes key facts and qualities about a hedge fund manager that might ordinarily remain veiled.

TRANSLATING NONVERBAL BEHAVIOR

CASE STUDY: A method known as “thin-slicing” can be used to evaluate both verbal and nonverbal behavior, based on brief interactions (typically no more than five minutes); this method has proven to reveal surprisingly accurate insights about a person’s character and personality traits.\(^2\) For example, an allocator conducts an initial interview with a hedge fund Chief Investment Officer in a video-taped session (with consent from the CIO). Rather than focusing on a professional biography, the interview is a conversation about the CIO’s personal background and experiences, which can often reveal more valuable material. Importantly, the allocator can compare the content of the answers with the nonverbal behaviors expressed while answering those questions. Even brief interactions can pave the way for an allocator to assess attributes like wisdom—the CIO’s ability to learn from past experiences—by considering his/her nonverbal behavior as he/she discusses previous challenges. A closer review and analysis of the meeting footage may further reveal a host of behaviors—ranging from vocal tone to brief emotional leakage—that can provide the informed observer with new insights and knowledge needed to accurately assess the CIO’s psychological states and traits.

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Due diligence within the hedge fund world is a time-consuming, costly endeavor. There are as many philosophical and methodological variations to conducting due diligence as there are investors, often with an overt emphasis placed on the quantifiable and verifiable metrics inherent to risk and return analysis. Regardless of where emphasis is placed (historical performance, back office structures, governance controls, manager pedigree, fund terms) hedge fund due diligence is an all-encompassing necessity and it is, therefore, incumbent upon hedge fund investors to ensure that resources are allocated wisely. Despite careful screening, the imperfect nature of due diligence and quantitative analysis may allow unwanted high-risk managers to slip through the approval process and into client portfolios. Furthermore, in the world of hedge fund investing, a bad decision can damage a program far more than a good decision can be helpful.

In addition to rigorous quantitative analysis, TeamCo believes that the consideration of certain personal attributes of the hedge fund’s key people is vitally important. Key people control the investment decisions, set the firm’s culture, drive the firm’s day-to-day operations, and are ultimately responsible for its success or failure. Despite this importance, careful investigation of these personal attributes (such as leadership, integrity, and intellect) is a disproportionately small segment of total fund due diligence for most hedge fund allocators. TeamCo posits that the most important form of risk mitigation involves evaluating key people of the hedge fund according to a rubric of psychologically meaningful behavioral criteria.

Behavior analysis takes into account the movements of the face and body and their underlying meanings during social interactions. These expressions can be consistent with what the individual is saying verbally, or they can diverge when a person conceals or falsifies a feeling (i.e. emotional leakage). In a due diligence application, skillful presenters, as are many hedge fund managers, can seem confident, intelligent, and trustworthy on the surface. Yet, when examined closely, can show signs of deception, fear, or other emotions indicating the need for deeper analysis. For example, it is widely known that happiness is revealed by the contraction of muscles around the mouth, pulling the corners up into a smile. Such an expression may occur as a manager states that the numbers for the current month “look good.” A genuine expression of optimism, however, should involve not only muscles around the mouth, but also activation of muscles around the eyes, creating crow’s feet in the eye corners (see Exhibit 1: Falsified vs. Genuine Smiles). In the absence of this tell-tale signal of authenticity, the statement may take on a whole new meaning.

![Exhibit 1: Falsified vs. Genuine Smiles](image)

Genuine smiles are associated with upturned lips and contraction around the eyes, creating crow’s feet in the eye corners (left image).

False smiles (right image) are revealed by the lack of muscle movement around the eyes. 

In addition to fluctuations in an emotional state, patterns of verbal and nonverbal behavior can provide
insight into enduring personality traits and social orientations which can aid in predicting how a person may react when faced with certain obstacles in the future. These potential predictions can affect the due diligence process; in practice, an allocator alerted to confidence in a manager may want to consider probing whether or not the confidence is overstated. This can indicate areas or topics for further targeting. Armed with this understanding of fluctuating emotional states and their connection with enduring personality aspects, one can extract a multitude of meanings from even a brief interaction. For example, one intuitively knows that dominant individuals tend to take control of social interactions; however, the skilled interviewer will be able to identify a dominant individual more precisely based on their behaviors (such as more often interrupting others in conversation, adopting more expansive postures, or expressing their emotions more freely than submissive individuals) as seen in Exhibit 2: Dominating Without Words.

Exhibit 2: Dominating Without Words

Even without facial expressions or verbal cues, the body can still communicate to others.

Expansive postures are associated with feelings of pride and dominance.

**LOUDER THAN WORDS**

**CASE STUDY:** The markets have been difficult and an allocator wishes to discuss the changing regulatory environment with a hedge fund’s Chief Operating Officer. During the meeting, the COO exhibits nonverbal signs of gratitude, conscientiousness, and agreeableness (such as smiling with eyes cast downward, using precise hand gestures, and using head nods to indicate agreement). Due to these visible signs, the allocator leaves the meeting more confident in the outcome of their relationship with the hedge fund. Regardless of the subject matter, stable personal traits – amicability in this example – are likely to shine through. “All-star” qualities, such as leadership or intellect, as well as non-“All-star” qualities such as psychopathy, callousness, or narcissism, can be picked up from almost any interaction. Behavioral cues to deception, on the other hand, are intrinsically linked to the subject being discussed. An allocator must ensure the necessary depth of questioning and attention to detail in order to identify potential deception.

While a careful review of investment strategy, performance, and infrastructure is critical to any due diligence process, behavioral analysis can supplement that process and add valuable information to an assessment of allocation risk. Through behavioral analysis, an allocator can gather insights into a manager’s stable psychological traits—the way in which a manager generally thinks, feels, and behaves—as well as his/her dynamic psychological states—how a manager thinks, feels, and behaves with regard to a particular
Desirable stable leadership traits, such as emotional intelligence and confidence, can be read in the mimicry of gestures (unconsciously mirroring facial expressions, speech, or movement during a conversation), appropriate facial expressions (matching facial expressions of emotion with verbal cues), open postures, and empathic gestures (movements used to stress a word or idea in a message, such as pounding a fist on a table). For many managers, being able to communicate information in a dynamic way as well as relate to and incorporate the audience is integral to a success; a hedge fund manager needs to instill passion in their employees and establish valuable relationships with potential investors and current clients.

Conversely, certain undesirable traits can denote potential risk to investment. For instance, potential indicators of deception, evidenced by negative psychological states, include emotional leakage (inappropriate affect displays), signs of mental taxation, or a lack of cooperation (avoiding questions or offering combative responses). Similarly, psychopathic stable personality features are associated with both a propensity for engaging in deception and with poor leadership outcomes. Indicators of psychopathy may include impulsivity, aggression, and callousness—reflected in signals of impatience, excessive anger displays, and the lack of emotional concern for others.

While deception and aggression are in and of themselves not indicative of future hedge fund performance, let alone failure, just as leadership traits are not wholly indicative of success, being aware of these stable traits in a hedge fund manager can influence investment decisions. When considering an allocation to a manager, the knowledge that the key people at the fund show signs of undesirable stable traits or deceptive fleeting states may indicate that more due diligence is required to gain comfort with the investment. In conducting interviews with these individuals, behavioral analysis can reveal potentially deceptive statements and sensitive issues—allowing interviewers to direct questioning toward topics that possibly pose greater risk to an investment. Once invested, remaining cognizant of how a hedge fund manager presents him/herself or displays nonverbal behavior related to a certain position, period of performance, or personnel changes can offer helpful insight into the direction a fund may be heading and may further inform allocation decisions.

CASE STUDY: While interviewing a hedge fund co-founder about the impetus of a partner’s departure, an allocator may notice a fleeting lip raise hidden by an insincere smile. The lip raise may indicate contempt (unilateral lip raise) or disgust (bilateral lip raise), and if the co-founder expresses this emotion while simultaneously suggesting that the departure occurred on friendly terms, it may signal deception. In other words, the co-founder may be lying about why the partner departed. The allocator should consider whether the facial expression matches the explanation being provided. If it does not, additional questions should be asked as there may be information not being shared. Although behavioral indicators of deception do not equate to a smoking gun, it’s the allocator’s job to notice them, continue the conversation, and understand the origin of the emotional leakage.

TeamCo’s interest in behavioral analysis is twofold: as a means of trying to recognize and avoid potentially bad investments by identifying fraud, dishonesty, or conflicts of interest, and as a way to better recognize what makes some hedge fund managers exceptional. TeamCo is currently compiling a database, from independent sources, with researchers at the University of California, Berkeley, to track certain traits, both positive and negative, across successful hedge funds and major hedge fund blow ups in order to understand what separates these two subsets of hedge funds from the vast hedge fund universe.

TeamCo’s “Major League All-Star” traits, which TeamCo posits define the most successful and promising managers, include high intellect, leadership skill, and determination. Signs of these ideal attributes can be identified via behavioral analysis, with attention to indicators (both verbal and nonverbal) of cognitive intelligence, emotional intelligence, grit, competitiveness, wisdom, and trustworthiness. Identified by empirical psychological research, indices of emotional intelligence include mimicry of body language and the ability to “read” the tone of a conversation and respond appropriately. Grit can be revealed by the nonverbal display of determination, as expressed in a firm jaw or furrowed brow. Wisdom indicates a manager’s ability to think abstractly and can be revealed in the use of analogies or in displays of humor and laughter. With careful attention to even a brief interaction with a manager, specific behaviors can reveal whether he or she has the traits that TeamCo deems important to make intelligent, profitable decisions, and manage the difficult and pressure-filled position of a fund manager.

In addition to assessing potential indicators of success, TeamCo also examines potential signals of failure. Specifically, TeamCo’s key negative attributes are the presence of deception and personality traits associated with the penchant for dishonesty. Acts of deception are accompanied by a constellation of verbal and nonverbal behaviors, which, when they co-occur, indicate that the response may be fabricated. Lies are associated with long pauses, slowed speech, vague responses, and speech hesitations. Emotional expressions may reveal the manager’s true sentiment or reveal that the expressed reaction is not truly felt. For example, while discussing a supposedly amicable exit of a partner from the firm, the manager may pause before responding to questions, allowing him/her to formulate a fabricated but convincing response. The lips may...


press revealing anger, and then be replaced by a false smile. In one specific instance, behavioral analysis by TeamCo revealed a brief unilateral lip raise—indicating contempt as seen in Exhibit 4: Contempt Revealed—as a manager sent well-wishes to a former investment partner, similar to the case study above. While, on the surface, this relationship appeared positive, TeamCo’s behavioral analysis suggested otherwise.

Exhibit 4: Contempt Revealed

Careful analysis of facial expressions may reveal signs of contempt, even if there are attempts to conceal this emotion.

Feelings of contempt are revealed in the unilateral raising of the upper lip, as demonstrated on the left-hand side of this man’s face.

The personality dimension most related to deceiving others is the Dark Triad – which includes narcissism, Machiavellianism, and psychopathy (delineated in Exhibit 5: Dark Triad Traits). Deception and psychopathy often go hand-in-hand, as the callous and unemotional psychopathic personality tends to also include manipulative tendencies, including lying. Persistent behavioral signals of psychopathy include a consistent lack of emotion, schadenfreude (the enjoyment of others’ failure), reduced sensitivity to discomfort, disingenuous kindness, and impatience. While individuals with these personality traits can benefit by being cunning and clever, caution is warranted. Psychopathy is also associated with a high risk tolerance and lower ethical standards—attributes that may lead to unstable returns, regulatory backlash, and anxiety for investors.

Exhibit 5: Dark Triad Traits
DEALING WITH AMBIGUITY

CASE STUDY: A hedge fund COO is being interviewed by an allocator. Someone within the COO’s chain of command was recently terminated for suspected wrong-doing. When the allocator asks to learn more about the situation, nonverbal indicators of deception are observed, including thinking hard, increased speech hesitations, and lack of detail. This could potentially suggest the COO is lying. Lies are more difficult to keep track of than truths and a liar needs to slow down to think closely about what is said. Conversely, the COO could be truthful and speaking carefully because legal counsel has restricted what can be shared beyond the firm. The allocator should ask follow-up questions to understand the source of the pauses and hesitations, assess whether they are caused due to deception, and determine if more due diligence is required.

Just like emojis in a text message, behavioral analysis can aid communication and facilitate social understanding. However, behaviors can be misread or incorrectly recalled, consistent with the pitfalls of human bias and memory. To avoid potential downfalls of misreading behavior signals, TeamCo employs a prescriptive and consistent process to assess and quantify psychological states and traits—as TeamCo does with all components of hedge fund due diligence. TeamCo believes that any decision-making model an allocator utilizes should be standardized to generate comparable metrics that can be applied over time and across contexts. TeamCo’s method of behavioral analysis focuses on attributes or features which TeamCo regards as central to the successful hedge fund manager’s personality and character. This results in a formal articulation of values and selected criteria which can then be used to evaluate investment options.

CONCLUSION

TeamCo posits behavioral analysis is an important element of hedge fund due diligence. In making complex investment decisions, careful behavioral analysis, including attention to verbal and nonverbal cues, can inform an allocator’s understanding of money managers, potentially providing critical risk signals to investors trying to avoid possible hedge fund blow ups, regulatory backlash, and headline risk. This analysis should be paired with a thorough understanding of a manager’s strategy, investment process, experience, back office infrastructure, and a myriad of other factors. In an industry where each investment vehicle is driven primarily by a select group of key individuals, behavioral analysis offers a meaningful, additive method to understand the individuals ultimately responsible for investors’ capital.

The case studies used are hypothetical and only for illustrative purposes. No inference should be made that they are reflective of any particular person and resemblance to any actual person is unintended and coincidental. This analysis and review are being provided for informational purposes only and should not be considered either an offer of or a solicitation to purchase or participate in any of the particular services or securities referred to herein. This paper is not an offer to sell or a solicitation of offers to buy any security, including interests in any private fund TeamCo may now or in the future offer. Any such offer or solicitation may only be made pursuant to a confidential offering memorandum relating to the interests in the applicable fund. An investment in any specialty fund involves a variety of risks and conflicts of interest, which are discussed in additional detail in the applicable confidential offering memorandum, and investors should carefully review the applicable confidential offering memorandum and other relevant documents and consult with their professional advisers prior to making any investment decision. Past performance is not necessarily indicative of future results.