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ARTIFICIAL INTELLIGENCE, PSYCHOLOGY AND HUMAN BEHAVIOUR

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Abstract

Artificial intelligence is increasingly influencing psychology and human behavior which involves the study of human mind, emotions and behavior. By consolidating theories of metal and interpersonal social connections, person-to person communication, cognitive language processing, and human-machine interaction, these developments elucidate how accommodating artificial intelligence terminology and behavior can evoke passionate allocation, appearance of mutual understanding. Hypothesis and investigation should aim towards a profound understanding of human perceptions of artificial intelligence systems, mental processes, this study of the mind, and human behavior related to people, individuals, and persons interacting with artificial intelligence, intelligence systems, and machine intelligence through communication, engagement, connection, and exchange. This research recommends several approaches by applying the dual process framework of interactive media effects to examine their influence on perceptions and interpretations, as well as the effects that enable activities.

Keywords

Artificial intelligence (AI), Psychology, Human Behavior, Human-AI interaction, Cognitive processes, Interpersonal communication, Human perception, Dual-process framework

1. INTRODUCTION

We have stepped into a modern technological landscape in which intelligent technologies not only supply information to individuals but also collaboratively create interactions with them. Artificial intelligence operates as a conversational partner-a responsive and attentive system that engages people in exchanges that are customized to their needs and preferences. These technological systems allow individuals to retrieve knowledge and achieve goals with extraordinary speed, scale, and breadth. Despite their real-world benefits and drawbacks being widely acknowledged, the effects of these technologies on communities, relationships between individuals, and the mechanisms that may influence fundamental aspects of human existence remain insufficiently understood and lack adequate theoretical development. Individuals have consistently perceived consciousness where no mind exists. We assign names to automobiles, rebuke our computing machines, and experience concern for a depicting sadness artificial agent in a motion picture. Psychology experts describe this human-like attribution as assigning human qualities to inanimate objects. Intelligent technology intensifies this behavior because it accomplishes activities traditionally carried out exclusively by human beings. It interacts verbally in grammatically complete statements. It expresses self-referential expressions and

apologies. It reacts to our state of mind and makes reference to our earlier words shortly before. To the human cognitive system, that can seem comparable to an individual, despite the fact that we are aware it does not possess a human identity. The explanation might be that verbal expression stimulates social tendencies. Scholars indicate that, because only human beings could communicate verbally for the majority of human history, the human cognitive system may instinctively perceive any speaking entity as an interactive being. We detect intentions. Certain scholars propose that attributing mental abilities to an object helps us anticipate its future behaviour, which could have been advantageous for survival. We are socially interactive individuals, and for some people, an always-accessible, non-judgmental recipient of communication might seem particularly attractive, especially during periods of social isolation. In the 1960s, computer scientist Joseph Weizenbaum developed a simple conversational agent named ELIZA. It mainly reformulated people's expressions as questions. However, many people who interacted with the system reported that they perceived it as understanding their feelings. This phenomenon became known as the ELIZA effect: our tendency to perceive a greater degree of understanding in machine-generated language than is genuinely present. The conclusion is that attributing human qualities to AI is not unreasonable; it is an innate psychological response. The essential factor is to appreciate AI in practical terms while recognizing what it truly represents: a technological resource that resembles human communication but remains a non-human system. Behavioural scientists acknowledge that the majority of responses are acquired through experience, although people also exhibit instinctive behaviours that occur automatically. Most individual actions are learned, and knowledge acquisition in cognitive science influences personal development, social dynamics, and personality traits. Media commentators argue that human beings may adopt undesirable behaviours from television programmes, films, and radio broadcasts. The dual-process framework provides a useful explanation of how individuals respond to artificial intelligence. Automatic and rapid thinking may cause people to believe that AI systems can understand their emotions, while careful and conscious thinking helps them assess the capabilities and limitations of these systems. This framework offers valuable insights into human perception, thought processes, and behaviour during interactions with artificial intelligence. Therefore, this study aims to examine how artificial intelligence influences human perception, psychological processes, communication, and behaviour.

2. LEARNED ACTIONS AND PROBLEM-SOLVING STRATEGIES IN HUMAN BEHAVIOUR

Psychologists recognize that most human behaviours are learned, while only a few are reflexive. A limited number of problem-solving strategies have been identified as important in various situations. Two key examples are selecting a satisfactory solution and using goal-oriented problem-solving methods. When individuals lack the necessary recognition skills, proficiency, or organized procedures to find answers, they may engage in exploratory behaviour. Humans may also exhibit disorganized behaviour when placed in situations in

which they feel compelled to respond appropriately. When selecting a response becomes difficult or impossible, their behaviour may become repetitive and limited in range. Individuals may either completely avoid responding to a stimulus or consistently react to it in the same manner (Lundin, 1961; Maier & Klee, 1941). Learned behaviours constitute a fundamental aspect of human development, influencing individual actions, decision-making processes, and problem-solving capabilities. Through personal experiences, formal education, observation, and social interactions, individuals acquire knowledge and develop behavioural patterns that shape their perceptions and responses to various situations. These learning experiences contribute to the development of cognitive abilities, enabling individuals to interpret challenges, analyse complex circumstances, and formulate appropriate solutions. Problem-solving involves identifying challenges, critically examining available information, assessing alternative approaches, and implementing effective strategies to achieve desired outcomes. Furthermore, previously acquired knowledge and experiences can enhance an individual's ability to address similar challenges with greater efficiency and accuracy. In the context of artificial intelligence, interactions with AI systems may introduce individuals to alternative methods of reasoning, earning, and problem-solving. Nevertheless, the effectiveness of such interactions depends on an individual's ability to critically evaluate AI-generated information, recognise its limitations, and exercise independent judgement. Consequently, examining learned behaviours and problem-solving strategies provides valuable insight into the relationship between human experience, cognitive functioning, and the influence of artificial intelligence on human behaviour.

3. ARTIFICIAL INTELLIGENCE AS A FRAMEWORK FOR UNDERSTANDING HUMAN BEHAVIOUR AND COGNITION

AI-driven interpretations of human behaviour and cognition are gaining increasing recognition. On the one hand, considering the growing integration of artificial intelligence into everyday life, AI-generated imagery and conceptual representations have become more prominent among members of the general public when explaining human behaviour and mental processes. On the other hand, academic researchers are advancing substantial philosophical arguments concerning the relationship between artificial intelligence and human cognition. For instance, Christopher Summerfield argues that “Turing’s question [Can machines think?] has a trivial answer. Machines that think already exist. They are called brains and there are many trillion of them on this planet” (Summerfield, 2023, p. 5). Similarly, although BLAISE AGUERA Y ARCAS does not assert that “the brain is a Transformer,” he argues that “the Turing completeness of the Transformer model, the breadth of intellectual moves it can readily learn, and the ability to chain those moves using short-term memory are the key prerequisites for general intelligence” (AGUERA Y ARCAS, 2025, ch. 8). These statements illustrate how human cognitive processes and concepts can be conceptualized and interpreted through the theoretical frameworks of artificial intelligence. Here, I have rewritten your entire

paragraph sentence by sentence by changing the words to suitable synonyms, while keeping the original meaning and academic style, Artificial intelligence (AI) is progressively being employed as a conceptual approach to interpreting human conduct and mental processes.AI-driven models offer fresh insights into how individuals acquire knowledge, think logically, resolve difficulties, make choices, and analyse information. expanding incorporation of AI into everyday activities has also shaped how individuals comprehend human thought processes and behavioural patterns. Researchers have increasingly begun to examine similarities between human mental functions and computational processes, particularly in areas such as memory, concentration, language comprehension, knowledge acquisition, and analytical reasoning. For instance, computational neural networks and Transformer architectures illustrate how intricate patterns can be identified from data and utilized to produce outputs, thereby encouraging comparisons with particular dimensions of human cognitive functioning. Nevertheless, human intellectual abilities encompass physiological, emotional, interpersonal, and contextual factors that cannot be comprehensively accounted for by computer-based systems alone. Consequently, AI-driven methods can offer meaningful perspectives on human conduct and mental functioning; however, they should be regarded as supplementary approaches rather than exhaustive explanations of the multifaceted nature of the human mind.

4. CHALLENGES OF HUMAN-AI INTERACTION MITIGATION APPROACHES

The tendency to favour human judgement over AI-based systems indicates that individuals perceive human decision-making as more transparent and comprehensible. However, this perceived clarity is likely to be misleading, arising from the assumption that introspection offers direct insight into how individuals make choices. Human judgement is also difficult to interpret, as people frequently lack awareness of their own and others' thought processes and instead depend on mental shortcuts to interpret human behaviour. Research on medical AI suggests that individuals prefer human healthcare professionals to AI-based tools partly because they overestimate their ability to accurately and thoroughly understand clinicians' medical judgements. Interventions that minimise differences in perceived understanding between decisions made by humans and those produced by AI can improve attitudes towards AI-based tools. In one study, participants were asked to explain how either a human or an AI system solves a medical problem, such as identifying cancer from skin scans. The task led to a greater decline in participants' perceived understanding of human decision-making than of AI decision-making, presumably because the difficulty of providing explanations made them recognise that their assumed understanding of human judgement was an illusion. Interactions between humans and Artificial Intelligence (AI) may present various challenges that affect individuals' thought processes, emotions, behavioural patterns, and decision-making abilities. Some users may become overly reliant on AI tools for obtaining information, seeking guidance, and resolving problems, potentially weakening their independent reasoning skills. Furthermore, individuals may misinterpret AI-generated content, place excessive trust in

inaccurate information, or develop emotional connections with AI chatbots. These issues may influence human judgement, interpersonal relationships, and communication practices. To address these concerns, users should strengthen their analytical thinking abilities, cross-check AI-generated information with trustworthy sources, and maintain a healthy balance between digital interactions and face-to-face communication. Moreover, AI technologies should be developed to deliver reliable, transparent, and ethical responses while clearly indicating their limitations. Encouraging digital awareness and the responsible use of AI can enable individuals to recognise its strengths and weaknesses, make well-informed choices, and preserve healthy behavioural patterns in human–AI interactions.

5. ARTIFICIAL INTELLIGENCE AS A RELATIONAL MEDIATOR

Artificial intelligence functioning as a social interaction partner generally involves direct communication between humans and artificial intelligence, in which individuals perceive machines as social-like entities. This role relies on mental processes similar to those found in one-sided social connections, therapeutic relationships, and emotional bonds between humans and animals. For example, users of emotionally supportive chatbots may perceive these technologies as demonstrating compassion, understanding, or companionship, even when they recognise that AI systems lack consciousness or genuine intentions (AIRENTI, 2015; A. Y. Chen et al., 2023; Pelau et al., 2021). The language generated by AI during these interactions can imitate human responsiveness, encourage emotional closeness, and establish a feeling of psychological connection that resembles conventional interpersonal relationships (Bozdağ, 2025; X. Li & Sung, 2021).Conversely, artificial intelligence functioning as a communication intermediary operates between individuals by filtering, modifying, and restructuring their messages during conversations. In this context, AI technologies support and enhance communication between people by rewording messages to convey greater emotional sensitivity, composing personalised expressions for challenging discussions, or adjusting language and tone to improve interpersonal outcomes. These technologies may help individuals become more confident, articulate, and understood in their relationships with others. However, they may also gradually influence the genuineness of communication, personal independence, and mutual trust between individuals (Ateeq et al., 2024; A. Chen et al., 2024; Liu et al., 2024). Unlike social-like interaction partners, who participate visibly in conversations, communication intermediaries may function indirectly through background processes such as message restructuring and response prioritisation.

6. THE INFLUENCE OF EMOTIONAL STATES ON PROBLEM-SOLVING AND PERCEPTION

In humans, emotions are still closely associated with cognition and thought processes. According to Marvin Minsky, emotions are not necessarily extraordinary phenomena; rather, each emotional condition represents a distinct mode of thinking. Therefore, this perspective does not present a universal explanation of emotions, because each major emotion operates differently and involves different mental structures that regulate how individuals think, make decisions and determine their subsequent actions.

Contemporary theories describe emotions as the brain's conscious interpretation of events that have occurred at a subconscious level. In other words, individuals react unconsciously and rapidly, after which the brain interprets these experiences through emotions or states of physiological arousal, such as fear. Consequently, in an artificial intelligence system, generated emotional responses can represent the nature of the circumstances or situations the system encounters.

Emotions can also be understood in terms of arousal states. When individuals are relaxed and composed, they are generally more capable of processing information, listening attentively, acquiring knowledge and resolving problems. Consider another emotional condition, such as extreme fear. When individuals experience terror, their ability to engage in complicated problem-solving activities may become impaired. This is one reason why safety planning and evacuation drills are recommended: during emergencies or frightening situations, the brain does not need to develop a new solution from scratch. Instead, individuals can follow a previously prepared procedure. Another example is a road accident, when the body releases adrenaline, the heart beats rapidly and the hands begin to tremble. Under such stressful circumstances, most individuals may find it difficult to solve a complex mathematical problem, such as a calculus equation. Furthermore, emotional conditions frequently affect how individuals interpret their surroundings. Depression, for example, may influence a person's ability to recognise positive aspects of a particular situation. Someone experiencing clinical depression may interpret circumstances in a more pessimistic or negative manner. Consider a rainy morning: a person experiencing depression who struggles to find pleasure in everyday activities may decide to remain in bed, even if they enjoy rain. In contrast, a person without depression, even someone who dislikes rainy weather, may recognise opportunities to splash in puddles or use a favourite umbrella and enjoy the experience.

7. ANTHROPOMORPHISM IN HUMAN – AI INTERACTION

According to Nass and Moon [23], people unconsciously apply social norms and expectations to computers. They explain that individuals often respond to familiar cues by relying on previously learned social scripts, stereotypes, labels, and expectations rather than carefully considering the information available in the present situation. Their article presents three important concepts for understanding human perceptions of artificial intelligence. First, their experiments demonstrate that people frequently apply social categories to computers, including gender stereotypes and ethnic associations. Second, individuals transfer learned

social behaviours, such as politeness and reciprocity, to interactions with computers. Third, people develop early cognitive assumptions about computers based on the labels assigned to them. Nass and Moon conclude that individuals tend to apply social rules designed for human-to-human interactions when communicating with computers. Similarly, Sarah Harmon [6] found that gender did not produce a statistically significant difference in people's perceptions of computers. However, the findings revealed associations between certain characteristics that may have been influenced by gender and the physical form of the computer. For example, passive and likeable were significantly correlated for male computers, while understandable and pleasant were associated for both male and female computers. In addition, reliable and likeable showed a significant correlation for male computers. These findings suggest that people are willing to attribute human-like characteristics to computers. However, Harmon emphasised the importance of considering potential confounding variables. The study also indicated that the degree of physical embodiment may influence how people associate different characteristics with computers. For instance, both the terminal and the robot showed significant correlations between understandable and pleasant, as well as between friendly and optimistic. In contrast, only the terminal demonstrated significant correlations between understandable and capable, pleasant and reliable, and helpful and reliable.

8. POSITIVE AND NEGATIVE IMPACTS OF AI ON HUMAN BEHAVIOUR

Non-intelligent robots and artificial intelligence technologies appear to receive both favourable and unfavourable responses from people. On the positive side, AI technologies can improve human performance and support various activities. For instance, as previously discussed, AI can assist in identifying potential national security threats, training military personnel, and addressing complicated challenges. However, on the negative side, AI may replace certain tasks traditionally performed by humans. The automotive industry provides an example of how robotic technologies have enabled machines to perform duties previously carried out by human workers. This raises important questions about the extent to which AI can exceed human capabilities and the possible consequences for employment and human-performed tasks. Consequently, people may either welcome AI technologies or resist their adoption.

Furthermore, the acceptance of AI, like that of other technological innovations, may depend on familiarity, experience, and the time required to learn how to use it. Individuals may need to develop additional technological knowledge and skills to interact effectively with AI systems. The use and acceptance of the internet and mobile phones demonstrate that technological familiarity can differ across generations. Cultural backgrounds may also influence people's attitudes towards AI and their willingness to adopt it. Therefore, the widespread acceptance of AI in everyday life may require time, experience, and adaptation.

9. THE ROLE OF HUMAN LIKENESS IN PERCEIVING AI AS HUMAN-LIKE

Further research has shown that human-like appearance, communication, and behaviour can strengthen the tendency to attribute human qualities to artificial systems. For example, people were more likely to perceive an autonomous driving simulator as human-like when it communicated through a human-sounding female voice rather than functioning without such interaction (WAYTZ et al., 2014). People may also judge robots according to characteristics that resemble their own identities and experiences, because they often use themselves as a reference when interpreting others (Haslam et al., 2004, 2005; KARNIOL, 2003). One study found that participants perceived a speaking robot as more human-like when its voice matched their own gender (Eyssel et al., 2012). Another study showed that a robot's perceived national background and name could influence how human-like it appeared to participants (Eyssel & KUCHENBRANDT, 2012). Additional evidence comes from research examining brain activity during interactions with different types of partners, including computers, non-humanoid robots, humanoid robots, and human beings (Krach et al., 2008). The findings indicated that participants attributed greater mental abilities to entities that more closely resembled humans. Furthermore, brain activity associated with theory of mind—the ability to consider and interpret another individual's mental states—increased as the perceived human similarity of the interaction partner increased. Overall, these findings suggest that human resemblance plays an important role in anthropomorphism, influencing how people interpret artificial systems and the extent to which they attribute human-like thoughts, emotions, and mental abilities to them.

10. ATTRIBUTING HUMAN CHARACTERISTICS TO MACHINES

“EFFECTANCE MOTIVATION” can encourage anthropomorphism because people often rely on familiar human experiences to understand things they do not fully comprehend. When individuals encounter complicated Innovations whose internal functioning is unclear, they may interpret their behaviour by comparing them to human actions and intentions. Although Epley et al. (2007) initially had limited direct evidence linking “EFFECTANCE MOTIVATION” to anthropomorphism toward machines, earlier research suggested that people frequently responded socially to malfunctioning computers. For example, many users reported scolding or swearing at their computers when technical problems occurred (Luczak et al., 2003). Such reactions indicate that individuals may treat machines as if they were capable of responding intentionally. Building on these observations, Waytz, MORE WEDGE, et al. (2010) investigated the relationship between EFFECTANCE motivation and anthropomorphism more directly. Their research found that people were more likely to attribute mental states, such as beliefs and desires, to their personal computers when those computers malfunctioned. In additional experiments, participants assigned more human-like characteristics to technological devices that behaved unpredictably than to those that operated consistently. These unpredictable devices were also perceived as more difficult to control. Brain-imaging findings further indicated that interacting with unpredictable technologies activated brain regions associated

with thinking about human mental states. Other studies showed that people attributed more human qualities to virtual robots that provided unexpected answers and to mobile robots whose behaviour they had stronger reasons to anticipate. Subsequent research also demonstrated that expecting to interact with an unpredictable robot could increase anthropomorphic perceptions (Eyssel et al., 2011; Eyssel & KUCHENBRANDT, 2011). Overall, these findings suggest that the desire to understand and predict unfamiliar or unpredictable technologies can lead people to interpret machines as if they possess human-like thoughts, intentions, and behaviours.

11. THE ROLE OF SOCIAL CONNECTION IN HUMAN–AI INTERACTION

When people lack meaningful human interaction, they may seek companionship from non-human entities, including robots and other technologies. In such situations, individuals may attribute human-like qualities to machines and perceive them as sources of social support. Research indicates that people experiencing greater loneliness are more likely to perceive robotic devices as having human-like characteristics (Epley et al., 2008; Bartz et al., 2016). Similarly, loneliness has been associated with human-like perceptions of smartphones, humanoid robots, and computers (Eyssel & Reich, 2013; Shin & Kim, 2020). Studies have also found that temporarily increasing feelings of loneliness can lead people to attribute distinctively human characteristics to robots (Li et al., 2020). Overall, these findings suggest that when social relationships are limited, people may view machines as alternative sources of companionship and emotional connection.

Although some individuals may enjoy the idea of developing close emotional relationships with robots that appear to have human-like minds, such relationships can also create feelings of discomfort or uneasiness. The idea of a machine expressing love and appearing to return human affection may feel unsettling to many people, even when others find such interactions appealing.

12. HUMAN PREFERENCES FOR HUMAN-LIKE ROBOTS AND THE UNCANNY VALLEY

People generally prefer robots that seem capable of experiencing emotions rather than those that appear to possess only intellectual abilities when replacing workers in emotionally demanding professions, such as social work (WAYTZ & Norton, 2014). Similarly, research conducted in a robot-operated hotel found that customers reported greater because hotel employees are expected to demonstrate social awareness, emotional sensitivity, and effective communication (Yam, Bigman, Tang, et al., 2021). The same research indicated that customers were more willing to forgive mistakes made by human-like robots, largely because they perceived these robots as having a greater capacity for emotional experience. For example, a robot that appears capable of experiencing emotions may be perceived as expressing regret after making an error in a room-service order. Related findings from healthcare research also

indicate that people may favour robots that appear emotionally responsive. In a 49-day intervention, participants who interacted with an emotional healthcare robot developed more positive attitudes towards it than those who interacted with a robot that did not display emotions (Creed et al., 2014).

Robots perceived as having emotional and social abilities can also encourage positive human responses. People may behave more cooperatively and helpfully towards robots that demonstrate social characteristics (Riek et al., 2009; Kahn et al., 2015; Wang & KRUMHUBER, 2018). Furthermore, human-like robots and those that create a stronger sense of social presence are often regarded as more trustworthy (Kim et al., 2013; Natarajan & GOMBOIAY, 2020; Rosenthal-von der Putten et al., 2018). Children, in particular, may respond more favourably to social robots that communicate through body movements and adjust their behaviour according to the children's emotional states (Tielman et al., 2014).

13. BRAIN EVOLUTION AND THE INTERCONNECTION BETWEEN EMOTION AND INTELLIGENCE

To understand the connection between emotions and intelligence, it is important to examine the development of the human brain throughout evolution. In Emotional Intelligence, Goleman (1995) discusses the anatomical and physiological development of the brain and nervous system, explaining how emotional processes developed alongside intellectual abilities. The brain contains different regions that contribute to essential bodily functions, emotional responses, learning, and reasoning. The thalamus plays an important role in processing sensory information and transmitting signals to other brain regions, while other neural structures help regulate vital functions and automatic responses. These systems support the body's basic survival needs, such as responding to potential danger.

The development of emotional processes is closely associated with the brain's ability to detect and interpret sensory information. Smell, for example, plays an important role in identifying environmental signals that may indicate food, danger, or other significant conditions. The olfactory system processes smells and communicates with other brain regions, helping organisms respond appropriately to their surroundings. As mammals evolved, the development of the limbic system contributed to emotional processing, memory, and learning. These functions enabled organisms to associate present experiences with previous events and distinguish between potentially dangerous and safe situations. Such developments also contributed to the complex neural systems involved in emotional and cognitive responses.

Another important stage in brain evolution was the development and expansion of the neocortex, a region associated with higher cognitive functions, including reasoning, perception, planning, and aspects of emotional regulation. Goleman (1995) explains that the development of more complex brain structures expanded the range of possible responses to environmental situations. For example, while an animal may respond to a threat through a

limited set of survival behaviours, humans can evaluate a situation and choose from several possible actions. Emotional processes also contribute to human relationships, including affection, attachment, and parental care. The interaction between emotional and cognitive brain systems therefore plays an important role in shaping human behaviour and decision-making.

LeDoux (1996), in The Emotional Brain, also examines changes in the brain throughout evolution, particularly the development of the cerebral cortex. His work highlights the importance of understanding how different brain regions contribute to emotional and cognitive processing. Rather than functioning independently, these regions communicate through interconnected neural pathways. This interaction helps explain how emotional reactions can influence thinking, memory, and behaviour. Although the cerebral cortex has expanded considerably during human evolution, more basic emotional and physiological response systems continue to play an important role in human functioning.

14. UNDERSTANDING BEHAVIOURAL INTELLIGENCE ACROSS DIFFERENT FIELDS

The concept of behavioural intelligence has not yet been universally defined, and its meaning varies according to the discipline and the researchers studying it. Fields such as psychology, computer vision, sociology, and artificial intelligence interpret this concept differently, demonstrating its complexity and broad range of applications. In psychology, behavioural intelligence is generally understood as the ability to identify and appropriately respond to one's own actions and the behaviours of others in different social situations [3]. It is often considered a component of social intelligence, complementing conventional measures such as intelligence quotient (IQ) and emotional quotient (EQ). Furthermore, it is closely associated with social adaptability and is regarded as an important ability for maintaining interpersonal relationships and functioning effectively in professional environments [4].

In computer science and artificial intelligence, behavioural intelligence refers to a machine's capacity to observe, interpret, predict, and respond to human actions. Initially, research in this area concentrated mainly on recognising physical activities through visual information. However, the concept has gradually expanded to include the interpretation of underlying intentions, abstract meanings, and social circumstances. It also involves analysing behavioural patterns over time to identify the possible intentions or emotional states associated with particular actions. Fuchs et al. (2023) [5] describe behavioural intelligence as the ability to adjust and direct actions flexibly according to the context of human–machine interaction. They suggest that developing this capability requires a combination of approaches, including game theory, reinforcement learning, and Theory of Mind (Tom). These different perspectives

demonstrate that behavioural intelligence has distinct meanings and practical uses across various academic and technological fields.

In recent years, Behavioural AI has gained increasing attention in industrial applications. It uses digital behavioural information, including clicking activity, browsing habits, movement patterns, and eye-gaze data, to anticipate future actions and support automated decision-making. This development demonstrates how behavioural intelligence has progressed beyond simply analysing human actions to becoming a practical technology that can generate real-world benefits and support decision-making across different sectors.

15. CONCLUSION

Artificial intelligence should be considered a tool that enhances human abilities rather than entirely replacing human judgement, emotional understanding, and interpersonal relationships. The responsible development of AI requires careful consideration of human needs, ethical standards, transparency, and psychological well-being. Additional research is necessary to explore the long-term influence of human–AI interactions on mental processes, emotional health, and behavioural patterns. Therefore, adopting a balanced and responsible approach to AI can help society benefit from technological advancements while preserving meaningful human connections and independent decision-making.

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