Nika Nunez

ENGL 399W

Prof. Hintz

Affective Neuroscience and Anthropomorphism

 Anthropomorphism “in the present scientific context” as defined by Jaak Panksepp, “is the recognition of certain human qualities in other animals”. Bearing this definition in mind, we can infer that anthropomorphism is often associated with the imposition of human thoughts, values, speech, culture, and ideals onto animals and inanimate entities, respectively. For the purpose of this paper, we will be referring to animals. While this essay does not pretend to be strictly scientific, it will incorporate various aspects of research to support the claim that anthropomorphism is an indelible asset to pedagogy and psychotherapy. Anthropomorphism has transgressed stand-alone boundaries, seeping into neuroscientific and psychological research. Jaak Panksepp, the pioneer of the term “affective neuroscience”, or the neural process of emotion, argues in favor of anthropomorphism as “the potential to generate a deep understanding of foundational brain-mind processes such as pain, fear, anger, loneliness, play, joy, and the various hungers and desires” (377). This essay advocates for the use of anthropomorphism as a pedagogical tool inside elementary school classrooms and clinical settings.

 **Defining Anthropomorphism**

 Understanding and therefore grasping the concept of anthropomorphism is as pivotal in adults as it is in children. Anthropomorphism stems from the Greek words anthrōpos (ἅνθρωπος), meaning human and morphē (μορφή) meaning shape or form[[1]](#footnote-1). In this paper, anthropomorphized animals do not physically take the shape or form of humans. Instead, they display human affect, or the outward expression of a person’s internal emotions. Here, I argue that anthropomorphism is the conduit for us as humans to comprehend the complexities of our emotions. Panksepp makes an emphasis on the notion of “well-reasoned”, neuroscientifically constrained anthropomorphism as the possible sole effective strategy for understanding certain foundational aspects of the human mind” (Panksepp 377). Being that anthropomorphism is “one of the most robust strategies for understanding the foundations of human emotions and motivations,”, I contend that anthropomorphism has a tremendous empirical and pedagogical value for teachers, parents, and psychologists treating and educating children’s young, burgeoning minds. Teachers and therapists alike should implement anthropomorphism through visual media and literary forms. To achieve successful implementation, adults must fully comprehend and grasp the concept of anthropomorphism to properly convey lessons of inclusion and empathy. Likewise, children exposed to anthropomorphized media will be able to gain understanding of their own emotional states. Media, especially that of vivid imagery enables children to better retain information and thus implement it in their daily lives.

**Anthropomorphic Neurological Research**

 A 2014 study conducted by the UCL Institute of Cognitive Neuroscience maintains that the portion of the brain that may be responsible for anthropomorphism occurs in the region known as the temporoparietal junction, or TPJ. TPJ is an area at the intersection of the parietal and temporal lobe of our brain. Its functions are associated with attention and social cognition. Therefore, this shows that anthropomorphism may require attention and social cognition. This study consisted of conducting brain scans of male and female university students with a median age of 24 after answering a questionnaire about anthropomorphic differences[[2]](#footnote-2). It is pivotal for adults to understand anthropomorphism without neglecting it because this knowledge can be used to instruct children on abstract concepts of emotion while helping children understand why and how they experience emotional states of anger, sadness, pain, and joy.

A 2010 study published in the Journal of Social Evolutionary and Cultural Psychology conveyed results collected from an online questionnaire surveying empathic and communicative abilities of animals varying in phylogenetic relatedness to humans. This study determined that the more a non-human animal displayed physical traits similar to humans (e.g., homologous structures), the more likely humans would express empathy towards that animal. The participants were given a series of statements such as “I would be able to understand what this animal/creature is feeling” and “this animal/creature would be able to understand communication from me” to rank in relation to different animals. Among those animals were cats, dogs, invertebrates, birds, fish, and other mammals. This can also explain why we as humans are more likely to find penguins, bears, dogs, and cats ‘cute’ and ascribe the pronouns he/she to them . The author of this study claims that “if humans use their own experiences to make inferences about the experience of others, this explains the expression of empathy for non-human animals” (Harrison 43). Therefore, humans are less likely to be empathic or indifferent to organisms deviating from phylogenetic semblance to us.

**“A Bug’s Life”- An Anthropomorphic Exception**

Although invertebrates do not phylogenetically resemble us, the media company Disney Pixar Studios has successfully anthropomorphized invertebrates to craft an emotive story of friendship, loyalty, and community in their 1998 film “A Bug’s Life”. While the motives of the creation of “A Bug’s Life'' are unknown, we can only speculate that they go beyond mere entertainment. In this film, viewers are more likely to empathize with the plight of the protagonist, a small but mighty ant in search of allies to counter the bullying of grasshoppers threatening to evict him and the other ants out of their colony.

**Anthropomorphic Speculation**

The tendency of humans to anthropomorphize non-human entities has long been speculated. Among those speculations is Nicholas Epley’s three-factor theory that “people are more likely to anthropomorphize when anthropocentric knowledge is accessible and applicable, when motivated to be effective social agents, and when lacking a sense of connection to other humans” (Epley et. al., 363). If we take into consideration that children from a young age inevitably anthropomorphize their stuffed animals, then we are well on our way to understand the social dynamics that form as a result of these interactions. More specifically, “young children show a particular penchant for attributing life and mental states to nearly all stimuli in the environment, from angry clouds, to a happy sun [and] to a stuffed animal companion” (870).

**A Three-Factor Theory, Explained**

Let’s break down this tripartite theory. If people who anthropomorphize are knowledgeable of anthropocentrism and its applications, then what does this suggest for the people that unwittingly anthropomorphize, such as children? Children who anthropomorphize their stuffed plush toy do so because they desire some sort of social interaction. Young, school age children (4-6 years old) cannot readily express themselves, hence avoiding to dispel kids from having imaginary friends or stuffed animal companions. Stuffed animals can also be used during cognitive behavioral or talk therapy sessions so that kids feel more comfortable and at ease when trying to explain why they feel sad or lonely. Therefore, it makes sense for adults to have a solid foundational knowledge of anthropomorphism in order to help kids navigate through complex social interactions.

**Child Neurodevelopment**

Jean Piaget[[3]](#footnote-3) is at the forefront of cognitive development theory through four stages. A child’s brain, social performance and maturity undergoes a series of changes during this time. The earliest stage, or sensorimotor stage, concurs with the idea of children experimenting with motility. Infants and toddlers interact with the world solely through the manipulation of physical objects, basic reflexes and systematic behaviors. It is during the sensorimotor stage that children go through a period of dramatic growth and learning, akin to an actor immersing into a role. Toddlers from infancy to 2 years of age experiment with walking and crawling; they also acquire linguistic knowledge from interpersonal interaction.During the latter portion of the sensorimotor stage, early representational thought emerges. Piaget believed that the understanding that objects remain existent even when they are not in plain sight, was an important element for toddlers. By learning that objects are separate and distinct entities and that they have an existence of their own other than individual perception, children are then able to begin to attach names and words to objects.

The preoperational stage spans the ages of 2-7 years old. Here, toddlers and children are familiarizing themselves with symbolism and pretend play, stemming from the newfound understanding that objects exist on their own accord. Role playing, and anthropomorphic tendencies occur the most during this stage. Nevertheless, children in this stage are egocentric; they do not yet grasp concrete logic, cannot mentally manipulate information for rapid processing, and are unable to take the point of view of other people.

**Anthropomorphism in Televised Media**

In terms of effective social agents, people heavily rely on anthropomorphism to convey powerful messages inclusive of self-empowerment. A prime example of this is the 2018-2020 Disney show, Bluey. It’s creator Joe Brumm, in association with the Australian Broadcasting Corporation, Screen Australia and BBC worldwide created 8 minute segments or shorts meant for a young audience to learn about mental, physical and emotional resilience. He achieved this goal making mundane life into an extraordinary adventure led by “an inexhaustible Blue Heeler puppy, Bluey”. According to the Disney+ website, this show provides us with “a funny and honest look at modern family life, celebrating how imaginative play helps shape healthy children”. In Season 1, Episode 16, Bluey’s sister Bingo learns to stand up for herself, assertively using her “big girl bark” to tell her father that because of her smaller size, sometimes he plays too rough with her. This “big girl bark” emblematizes self-advocacy and confidence that can be used in a plethora of situations including in the workforce.

It is not uncommon for humans to lack connection to other humans. After all, it is innate for humans to crave interpersonal relationships and interactions, which can be why people anthropomorphize pets and other animals. It is also common for dogs to be integrated as members of a family, whether it's through birthday celebrations and other holidays. Thus, by anthropomorphizing a pet, you are giving them an identity, a story and a life.

Animal rights aficionados are likely to concur with the 2010 study and argue in favor of anthropomorphizing animals to ensure their welfare and well-being. Richard Adams, author of the 1977 novel Plague Dogs portrays dogs in captivity, giving them an out from the travesty of confinement. Adams employs anthropomorphism to main character Rowf in distress and angst resulting from being subjected to “survival expectation conditioning (water immersion)” (Adams 14). Following this revelation, readers are exposed to main character Rowf’s post-traumatic stress which mirrors a humans’ response. Post-traumatic stress is a mental condition that develops when a person undergoes a perilous or horrific experience. Despite Rowf wanting to “stand firm” and be brave despite decrepit conditions, he succumbs to his post-traumatic stress, cowering at the mere mention of “getting into water” (Adams 16). This anthropomorphic expression of cowering as well as the description of Rowf’s language and mannerisms propels us to understand the mechanism of post-traumatic stress in us as humans. We are also aware of the ramifications of trauma on our psyche, namely the trauma bonds that form between aggressor and victim. Rowf reflects, “The men must have some reason, mustn’t they? It must do some sort of good. They must know best” (Adams 16). This speech shows is indicative of a reaction commonly known as Stockholm Syndrome. Despite being brutally conditioned, starved and confined by scientists operating in an illicit laboratory, Rowf feels that his drowning and starvation are for a greater good. This behavior garners an empathic response in readers while also serving to instruct readers about how trauma is expressed in different bodies.

A 2020 study published in the journal of Neuroscience and Biobehavioral Reviews favors anthropomorphism to obtain a deeper understanding of human social behavior. The authors of this study emphasize the notion of anthropomorphism “stemming from the human need to understand the surrounding world and to connect socially with others” (Brosnan et.al. 300). In other words, the aforementioned may serve as an explanation as to why children conjure imaginary friends. Brosnan notes that, “anthropomorphism can be mediated by factors such as loneliness and the need for control”. This can explain why children have imaginary friends. The question is not so much whether it is right or wrong, but more so understanding why children have imaginary friends for example. We thus can speculate that it is a by-product of anthropomorphism.

The question as to why we anthropomorphize has long been contested. One viable theory is attributed to the in-tandem concept of anthropocentrism, or the belief in the superiority of human entities. According to Robert C. Jones, “Much of canonical Western philosophical theory (along with Western scientific and cultural thought) is anthropocentrically speciesist” (100). In other words, because we as humans consider ourselves the super species, everything that we anthropomorphize hence becomes at the behest of our superiority. We name our vehicles because they may serve as companions of transit.

Brosnan presents the controversy surrounding anthropomorphism as encompassing the lack of humans seeing animals’ true form and affect. Although this assertion may be true, as long as humans employ anthropomorphism in what Jaak Panskepp refers to as “reasonable bounds” it is not an impediment for understanding animal cognition. In other words, if we as humans are able to think of anthropomorphism as an engaging tool used to parse human mental states, we can separate animals’ true form and affect from any human imposition. So long as we as humans can separate fact from anthropomorphism, it is permissible to employ anthropomorphism to lay human affect onto them. Another possible issue of using anthropomorphism is object attachment. People such as Jaak Panksepp would argue against naming a car or any machinery for that matter because it is not within the bounds of reason. Naming and hence anthropomorphizing a car does not add any scientific value to understanding the meaning of being human, yet it’s still a common practice.

I hypothesize that children of elementary and middle school age, namely those of ages 3 to 12 who are privy to anthropomorphism in media and literature are more likely to develop healthy patterns of emotional intelligence in their adult lives. First, we must understand the meaning of emotional intelligence. Emotional intelligence is a model of behavioral conduct. It refers to the ability, capacity, talent, or self-perceived aptitude to recognize, appraise, and control one's own, others', and collective emotions. People with a high level of emotional intelligence are keenly aware of their own feelings and can detect the emotions of others. They're friendly, tenacious, and upbeat. Emotional intelligence or sometimes referred to as an emotional quotient (EQ) is the capacity to recognize, use, and control one's own emotions in a constructive way in order to reduce stress, communicate effectively, sympathize with others, overcome obstacles, and diffuse conflict. Emotional intelligence aids in the development of better relationships, academic and professional success, and the attainment of career and personal objectives. It can also assist you in connecting with your emotions, putting your goals into action, and making well-informed decisions.

A 2017 article from the Chemnitz University of Technology reported that using anthropomorphism in a biology lesson about viruses and immunization aids in material retention and better performance. This article cited that “while learning was fostered through facelike features, perceived difficulties of the learning materials decreased, and motivation increased for students [exposed] to anthropomorphic features. Anthropomorphism captures learners’ attention. If students from this study had higher retention rates than those who were merely given texts, then it can be said that the exposure to anthropomorphism at an early age can forge a healthy prosocial environment in adults. Going back to the show Bluey, it thus becomes a model for young children to follow and imitate.

Anthropomorphism occurs inadvertently even in babies. According to a study by DeLoache, Pickard, & LoBue, “babies are more attentive in the presence of animals than any other kind of object in their environment” (167). It is also known that young children often give names to their stuffed animals, action figures, and Barbie dolls, allowing them to foster a preemptive bond with their toys. It is not uncommon for people to dress their pets for holidays like Halloween. Why do we do it? The answer may simply be due to the fact we think it is cute. However, University of Hong Kong scientists contend that people may dress their pets on Halloween because it allows us to foster deeper bonds with our pets. Their perspective is marked by the assertion that anthropomorphism shrouds individuals in comfort and pleasure. In other words, people anthropomorphize because “humanness engenders positive feelings of sympathy and comfort” (Chen and Wan 89). This goes back to the notion of humans anthropomorphizing to avoid feelings of loneliness and to foster social interactions.

Flagrant opposition of anthropomorphism within the neuroscientific discipline stems from the inherent defamiliarization of animal processes. The scientific community has anxieties surrounding the interpretation of animal behavior as human-like. This might fog or cloud the scientists’ ability to observe unique behaviors exclusively to animals (de Waal, 2016). For instance, a 2001 study of ultrasonic vocalizations (USVs) were perceived as an emotional response to separation distress from their mothers. However, there was also speculation that their USVs are merely physiological responses and reflexes.

Brosnan et. al., weighs in on the anthropomorphic angst, citing, “For affective processes, the challenge is even more acute – we might use a human framework as a starting point, but there is a serious risk of missing or misattributing affective responses that are specific to other species” (301). In order to avoid erroneous speculation, it is important to have situational awareness of animals’ environment and behavior.

Infant and child brains are rapidly growing, as seen through Piaget’s cognitive developmental theory. According to the 2019 Applied Developmental Science Journal, “early experiences shape neural connections and give rise to neural circuits that enable increasingly complex mental activities” (Cantor et.al. 6). Therefore, the brain uses past affective, cognitive, social, and emotional experiences, including some that are not remembered consciously to create a template for future function. The brain marks anticipated, patterned experiences as “normal,” integrating them into existing templates, and sort of discards them, keeps them dormant. Conversely, when experiences are unpredictable, atypical, and/or unusually harmful, the brain cannot easily install them into existing templates and thus keeps constant attention to them. Because the brain tends to pay more attention to traumatic events and recurrent stress, it is important to use anthropomorphism to reshape and reframe these traumas, to keep them away from the forefront.

The acquisition of emotional intelligence can begin as early as childhood. Children’s minds are growing and developing. If kids are indeed like sponges, then they should be able to absorb anthropomorphism in media and in literature. This in turn becomes monumentally important for kids to understand abstract and arcane concepts such as emotions, depression, anger, sadness, etc. Children appreciate cute and cuddly animals, so by showing them such a model, children are more likely to listen and mirror a pattern of behavior.

Studies have shown that emotional intelligence renders positive behavioral and prosocial patterns in children and adults. Children with higher emotional intelligence are adept at staying focused and engaged in school as well as fostering positive social interactions with others (Raver, Garner, & Smith-Donald 2007; Eggum et al. 2011). In order for children to have these traits and qualities, they must observe model behaviors in others. Sometimes, parents fall short of modeling adequate behaviors for their children, making it difficult for children to grow up in a healthy environment.

This is where anthropomorphism in the media steps in. Most notably, shows such as Martha Speaks (2006) and Clifford The Big Red Dog (2000) on PBS Kids, a broadcasting television network aids toddlers and kids to identify, regulate, and express their emotions in a proactive and safe manner (Fisch et al., 1999). This next section will examine two episodes- one from the show Martha Speaks and the other from Clifford The Big Red Dog. The following examinations will provide an in-depth analysis as to why anthropomorphism is important for children as a conduit to explore and tap into their own emotions inclusive of loneliness, confusion, grief, disappointment, happiness, anger, and sadness. Using the Consortium for Research on Emotional Intelligence in Organizations (1998), I will be explaining each episode with the five-part framework of emotional intelligence. Emotional intelligence comprises two broad categories: personal and social aptitudes. Under the branch of personal aptitudes are self-awareness, regulation, and motivation. In terms of social competency, therein exists social awareness and social skills.

**Martha Speaks- Season 1, Episode 15**

Martha speaks is a PBS Kids television show in which the main character is Martha, a talking Labrador. Each episode recapitulates her acquisition of language: “She ate some alphabet soup. Then what happened was bizarre. On the way to Martha’s stomach, the letters lost their way… They traveled to her brain!”. Although purely fictional, the shows’ writers crafted a clever and innovative form to justify Martha’s speech ability, rather than stating it as a mere fact. The ingestion of alphabet soup becomes the crux of the show. In another episode, the removal of some alphabet soup letters regresses her language ability, suggesting that the less a language is practiced, the more likely it is to lose touch with it. She is very loquacious, and she communicates with every dog, animal, and human in sight. Her monologues usually incorporate typical “dog’ behavior as well as human affect. In this particular episode, Martha begins the narration by expressing gratitude: “Well, I guess I’m a pretty fortunate dog--- I have a home, a family, a [chew toy] or two, but you never know when you might go from lucky to unlucky” (02:09-02:18). This is a prime example of self-awareness. She recognizes that she enjoys commodities that perhaps other animals do not. Her monologue also teaches children about unforeseen circumstances and functions to foreshadow impending conflict-resolution. The next series of events segue into another important scene of emotional intelligence. Martha, like most dogs, hates taking baths. Helen, her owner, and best friend removes Martha’s color and places it on the ledge of the ajar window and carries Martha into the tub to bathe her. When Helen’s mother calls upon Helen to take out the garbage, Martha gives a shout, reminding Helen to put her collar back on. However, a slight breeze propelled Martha’s collar to fall into the trash can that was being picked up by the sanitation department. Martha decides to take-off after the garbage truck, in hopes of recovering her collar. Instead, Martha ends up in a dog pound, where she learns the origins of other dogs who were either abandoned or neglected by their owners. Instead of merely looking out for herself, Martha demonstrates empathy towards her fellow dogs. She acknowledges that prior to living with Helen, she was in a shelter as a puppy. That acknowledgment then becomes a motivational factor to the commitment to helping the dogs find families of her own. Once Martha is reunited with Helen and her parents, she shares her initiative to help the dogs at the pound become adopted. Martha’s kindness and willingness to serve her community serves as a model for children to perform acts of service and be tolerant and empathic towards their peers. By visually observing Martha and Helen brainstorming ideas to promote dog adoption in their backyard, children are thus motivated to mirror those actions when in school and during social interactions. Anthropomorphism thus becomes a pedagogical tool. For children who may have trouble grasping the concepts of neglect, loneliness, and tolerance, Martha Speaks allows kids to observe proper, optimally pro-social behaviors.

Anthropomorphism also becomes a didactic and dynamic tool for parents, teachers, and psychologists to employ when teaching emotional intelligence and other skills such as empathy, patience, and inclusion. In the following episode of Clifford, the Big Red Dog, we will observe how a dog with 3 legs new to the neighborhood is emblematic of meeting someone with a physical disability and how children should be tolerant and accepting of people’s differences.

**Clifford the Big Red Dog- Season 1, Episode 8**

In this episode, Clifford and his friends T-Bone and Cleo meet a three-legged dog, named K.C. At first, everyone seems to be weary of the new dog, given that they have never seen a three-legged dog before. Cleo is hesitant to interact with K.C because she thinks his lack of a fourth leg is a “leg-losing disease” that is contagious, (04:25). She questions if they play tag, and K.C. taps her, she will somehow get infected with said ailment. Once at the beach, Cleo is hesitant to throw the ball back to K.C. after he throws it to her. However, when a neighborhood kid pets K.C., Cleo and T-Bone notice that he is perfectly fine and has both his legs. This segues into the scene where K.C tackles the issue of his disability in a straightforward manner: “I know it probably looks strange to you, but I am still a dog and I like to do the same things any dog does... I really like doing things for myself (10:07-10:49). K.C. demonstrated an adept ability to “effectively give-and-take, registering emotional cues in attuning their message (being the dogs’ apparent discomfort with K.C.’s lack of a fourth limb), dealing with difficult issues straightforwardly, listening intently, and seeking mutual understanding” (Consortium for Research on Emotional Intelligence in Organizations. 1998. Emotional Competence Framework). K.C addressed each dog individually in a diplomatic manner. He acknowledged that while Clifford had good intentions by placing himself in the intersection so that he can cross the street and nudging him up the cliffs, K.C. respectfully stated that “he likes doing things for himself”. K.C therefore elucidates self-sufficiency, a quality that children must learn to aid them in adulthood. His ability to stand confidently amongst his peers is a trait indelible to emotionally intelligent individuals. This episode tackles the issues of diversity, physical disability, inclusion, and tolerance. By showing these playful and fun graphics, kids are likely to act kindly when faced in a similar situation.

**Trapping Tigers and Grappling with Grief**

Elder children aged 8 to 12 are more adept at expressing their feelings. The novel “When You Trap a Tiger” by Tae Keller addresses the ways in which a young girl and her family deal with loss and grief. Protagonist and narrator Lily sees a tiger which is the manifestation of her fear of her grandmother dying. The apparition of a tiger solidifies the tangible fear Lily has of losing a relative that is near and dear to her heart. The introduction of the tiger into the story is adeptly made. Author Tae Keller introduces a seemingly otherworldly voice that taunts Lily, summoning her towards the kitchen:

“The shadows in the kitchen start to take shape, shifting and stretching. And then they come together, forming one shape. The giant shadow steps forward, into the starlight, and it becomes a tiger-- as big as a car, filling the whole hallway” (Keller 96).

The tiger represents Lily’s internal battle; she knows that her grandmother is ill, yet she refuses to believe that she will pass away. The tiger then becomes a symbol of inner-turmoil and conflict, something young people experience. This novel anthropomorphizes a tiger by giving it a voice reflecting the fears and qualms of a young girl not wanting to lose a family member to illness.

While tigers are not phylogenetically related to us humans, there is evidence that chimpanzees display grief-like responses. In 2016, chimpanzees in a Zambian sanctuary were seen “dragging a corpse out of the forest into an open area near the fence where more than half of the group [of chimpanzees] gathered quietly around the body to observe and respect it; some individuals were observed to guard the body, cover it with branches and even clean its teeth with a piece of grass”. The chimpanzees’ behavior resembles funeral services that humans hold for the deceased.

**Therapeutic Anthropomorphism?**

Anthropomorphism may also have a therapeutic value in terms of cognitive behavioral therapy for kids ages 6-12. Cognitive behavioral therapy is a mechanism psychologists utilize to treat individuals of all ages to reframe people’s negative thoughts and behavioral patterns. Aaron T. Beck, the pioneer psychiatrist of cognitive behavioral therapy in the 1950s. As a young psychiatrist in the 1950s. At the time, the prevailing approach to treating mental health disorders was psychoanalysis. The birth of cognitive behavioral therapy occurred during Dr. Beck’s rudimentary research encompassing depressed individuals having the inherent proclivity to suffering. Instead, he found that the need to suffer wasn’t the primordial pillar of depression, but rather the notion of worthlessness and failure, which were “automatic thoughts” in depressed patients. Dr. Beck then talked through the feelings of failure with patients in hopes of reframing their thought processes. Now, cognitive behavioral therapy includes role-playing of scenarios to get patients to switch their conduct and response to certain stressors. Anthropomorphism, namely the usage of stuffed animals to enact role-playing scenarios can facilitate a child’s treatment for anxiety or mood issues as well as conduct in school. It is widely known for psychologists around the world to have young children draw a picture conveying their feelings and emotions as well as employing dolls or puppets to elucidate model behavior. This can be especially pivotal in the treatment of toddlers and young children as their brains are in the developing stage and have not yet mastered effective and proactive communication skills. Therefore, by using anthropomorphism as a foundational framework of therapy and instruction, then kids will be able to cultivate proactive and prosocial behaviors. Early onset of emotional intelligence transgresses into healthy and strong interpersonal relationships.

**Concluding Remarks**

Anthropomorphism goes beyond a mere imposition of human thoughts, values, culture and ideas onto non-human entities and organisms. It defies those boundaries by percolating into branches of neuroscience and neurobiology. By anthropomorphizing animals, whether in television, literature or art, allows us as humans to better comprehend social behaviors and patterns within ourselves. Although anthropomorphism does indeed overreach in terms of providing sentience to animals commonly not associated with sentience (such as fish, invertebrates), it has a greater value. Anthropomorphism becomes a tremendous teaching tool utilized not just by teachers, but by parents who want to support and empower their children's healthy social involvement and development. Child psychologists, therapists and social workers should be keen on the notion of anthropomorphism in order to better serve their patients. More and more research in the past few decades has proven time and time again the importance of anthropomorphism in their respective fields of study, namely neuroscience and psychology. While this paper is not a scientific one, it does contain a review of various theories and claims made by professionals to support the overall claim that anthropomorphism is an indelible asset to children and young adults’ learning environment. Over the past 35 years, there have been advancements in neuroscience research pertaining to the importance of anthropomorphism to the neuro affective condition of the human brain. When delving into the idea of anthropomorphism as an indelible factor to humans, we realize its positive contribution to the healthy maturation and growth of children as well as the healthy development of emotional intelligence. To quote neurobiologist Jaak Panskeep, “in order to comprehend ourselves as humans, we must turn to anthropomorphism within reasonable bounds”. With the information outlined in this essay, my hope is that psychologists would thus be more motivated to incorporate anthropomorphism in treatment of their child patients. Children’s minds are growing and developing. If kids are indeed like sponges, then they should be able to absorb anthropomorphism in media and in literature. This in turn becomes monumentally important for kids to understand abstract and arcane concepts such as emotions, depression, anger, sadness, etc. Children appreciate cute and cuddly animals, so by showing them such a model, children are more likely to listen and mirror a pattern of behavior. If we as parents, educators, psychologists, and therapists alike begin to digest the notion of the animal brain as related to ourselves, we can use this empirical knowledge to transmit it to humans.

Works Cited

Adams, Richard. *The Plague Dogs: A Novel*. Vintage Books, a Division of Penguin Random House LLC, 2016.

Arbilly, Michal, and Arnon Lotem. “Constructive Anthropomorphism: A Functional Evolutionary Approach to the Study of Human-like Cognitive Mechanisms in Animals.” *Proceedings of the Royal Society B: Biological Sciences*, vol. 284, no. 1865, 2017, p. 20171616., doi:10.1098/rspb.2017.1616.

“Bluey” Joe Brumn, 2018-2020.

Beck, Judith S., and Sarah Fleming. “A Brief History of Aaron T. Beck, MD, and Cognitive Behavior Therapy.” *Clinical Psychology in Europe*, vol. 3, no. 2, 2021, doi:10.32872/cpe.6701.

Brédart, Serge. “The Influence of Anthropomorphism on Giving Personal Names to Objects.” *Advances in Cognitive Psychology*, vol. 17, no. 1, 2021, pp. 33–37., doi:10.5709/acp-0314-1.

Cantor, Pamela, et al. “Malleability, Plasticity, and Individuality: How Children Learn and Develop in context1.” *Applied Developmental Science*, vol. 23, no. 4, 2018, pp. 307–337., doi:10.1080/10888691.2017.1398649.

“Clifford the Big Red Dog.” Season 1, episode 8, PBS Kids, 2000.

Cullen, Harriet, et al. “Individual Differences in Anthropomorphic Attributions and Human Brain Structure.” *Social Cognitive and Affective Neuroscience*, vol. 9, no. 9, 2013, pp. 1276–1280., doi:10.1093/scan/nst109.

Epley, Nicholas, et al. “When We Need a Human: Motivational Determinants of Anthropomorphism.” *Social Cognition*, vol. 26, no. 2, 2008, pp. 143–155., doi:10.1521/soco.2008.26.2.143.

“Martha Speaks.” Season 1, episode 15, PBS Kids, 2008.

Pietrangelo, Ann. “Cognitive Behavioral Therapy (CBT) for Kids: How It Works.” *Healthline*, Healthline Media, 5 Dec. 2019, www.healthline.com/health/mental-health/cbt-for-kids#how-it-works-for-kids.

Serrat, Olivier. “Understanding and Developing Emotional Intelligence.” *Knowledge Solutions*, 2017, pp. 329–339., doi:10.1007/978-981-10-0983-9\_37.

“Teaching Emotional Intelligence in Early Childhood.” *NAEYC*, www.naeyc.org/resources/pubs/yc/mar2017/teaching-emotional-intelligence.

Urquiza-Haas, Esmeralda G., and Kurt Kotrschal. “The Mind behind Anthropomorphic Thinking: Attribution of Mental States to Other Species.” *Animal Behaviour*, vol. 109, 2015, pp. 167–176., doi:10.1016/j.anbehav.2015.08.011.

Wan, Echo Wen, and Rocky Peng Chen. “Anthropomorphism and Object Attachment.” *Current Opinion in Psychology*, vol. 39, 2021, pp. 88–93., doi: 10.1016/j.copsyc.2020.08.009.

Waytz, Adam, et al. “Who Sees Human?” *Perspectives on Psychological Science*, vol. 5, no. 3, 2010, pp. 219–232., doi:10.1177/1745691610369336.

1. Epley et. al. 2007 [↑](#footnote-ref-1)
2. Data was collected using MRI scans. Participants were asked to rank the consciousness, free will, intent and emotional experience of 15 anthropomorphic entities and 15 non-anthropomorphic entities. [↑](#footnote-ref-2)
3. Jean Piaget (1896-1980) was a Swiss scientist who became an influential figure regarding cognitive development theory. He saw child development as stages according to age where children develop simultaneous social skills and intelligence.His early interest in the natural sciences propelled him to create developmental theories, while his views on cognition began to take shape while he assisted Theodore Simon trying out new reasoning (IQ) tests on children. [↑](#footnote-ref-3)