The word “mindset” can be defined as the set of expectations a person has about a phenomenon before observing it. It is possible to imagine how mindset could influence observations made in research areas such as Artificial Intelligence, Cognitive Neuroscience, and Clinical Psychology. This essay will discuss examples from each of these areas.

First, consider an artificial intelligence researcher, observing the behaviour of a complex Artificial General Intelligence (AGI). If the AGI is attempting to replicate human responses to questions, it may analyse a multitude of human responses and create a mathematically-calculated approximation of how a human may respond. If it does this well enough, the researcher may see personality in its responses that does not exist. This could be due to the researcher having read many human responses and associating imagined personalities with them, then doing the same thing with the AGI-produced response. The response may seem angry, but the AGI is not.

Next, consider a cognitive neuroscience researcher observing the results of a subject’s brain scan when asked certain questions. If, when the subject is asked a question about her spouse, the researcher observes activity in the amygdala, he may initially assume that the subject has been traumatized by her spouse, even if this is not the case. This could be due to the amygdala having once been associated most strongly with fear, but since being associated with many emotions, including positive ones, which the subject may feel when thinking about her spouse. Even if the researcher has since become aware of the broader association, his mindset could still strongly associate the amygdala with fear as he learned this first.

Finally, consider a clinical psychologist who has recently published a paper on neurocognitive impairment due to injury. If this person transitions to research involving neurocognitive function of schizophrenic subjects, she may observe certain behaviours as being indicative of injury that does not exist. This could happen as, to publish that paper, she would have had to do extensive research and study on the topic, associating certain behaviours with injury-induced impairment, and developed a mindset prone to these associations that will be hard to break when outside that injury-specific environment.

In conclusion, these examples make it clear that mindset can indeed influence observations in Cognitive Systems research. Researchers must observe not only their intended subjects, but also themselves, managing their expectations to be as objective as possible.