

# [Causal inferences and ecological validity essay sample](https://assignbuster.com/causal-inferences-and-ecological-validity-essay-sample/)

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Obtaining valid results that allow for causal inferences and ecological validity

The challenge of making valid research from causal inferences and ecological validity is to maintain perspective in their application and the conclusions developed from them. Thought the most important element of any research is the validity of data, inference is just as critical in developing the research or a concept. Nevertheless, if the inferences are only made in the interest of supporting a theory without considering their validity, then it defeats the purpose of the research which is to establish knowledge and basis for future studies.

One critical standard to maintain is ecological validity which requires that research or experiment methods, design and analysis are able to reflect reality. This is separate from both external and internal and does not influence the validity of the experiment as a whole. However, it when there is assumptions are made too solely on the basis of observed reality, particularly when research is done in the second or third person, that a research can become compromised. Consider the studies on language. Since language depends significantly on factors like culture and society which vary widely, creating inference or assumptions from previous researches can serve as platform for the research. This can be seen in the function of language as a means of communication or as a means of identification.

Across of disciplines, there is less emphasis on the development of universal data because of the recognition of innate differences in cultural, social, political and psychological perspectives but the requirement of validity still stands. This means that even if research is specific to an individual or group, it holds when the research or experiment is repeated, it can be parallel to other researches and it is not solely based on an insight that is purely designed to support a theory presented.

Human cognition: rationalist and empirical approaches

Human cognition is a subject that has been researched from all disciplines. The process of cognition does not only provide insight regarding the process of learning but is also considered as one of the intrinsic human attributes that has set apart its specie. There are several approaches that can be taken in studying human cognition and among these are rationalist and empirical in nature. Because human cognition develops working models to link behavior to the process of human thought, these approaches serve only as perspective to the study instead of being prescriptive.

Rationalism is an approach where reason is the central factor. In such an approach, the criteria set to study and analyze human cognition are the reasoning behind it rather than any sensory perception. The intellectual or deductive basis of the cognitive process holds precedence over all other factors that can explain it. In contrast, empiricism holds experience more importantly in the process of human cognition. From this approach, physical and internal senses such feelings are the basis for human cognition. Though these two approaches are generally used to contrast each other but contemporary literature highlights that there is a significant gray area between the two and often complement each other.

Consider studies focusing on the process of learning. Rationalists would argue that language can not be fully developed based on needs and associations with objects which is essentially based on experience. A person then would not jump off a cliff because that it is fatal. Empiricists would in turn argue that meaning is created through the experience.  A man then does not jump off the cliff because of the fear of dying or causing pain to loved ones. In either scenario, the act or the stimulus can not account for the generative development of the behavior against jumping off a cliff and it is by the reasons and the feeling towards that the corresponding behavior develops.

Learning occurs through a process of assimilation and accommodation of knowledge and information where learning depends on the individual rather than solely on stimuli presented.

Though it is important to have a specific approach in the study of human cognition to develop the research objectives and process, it is critical that the implication of either approaches are always kept in mind. This process can serve as a means to establish parameters as well as track the progress of a research. Often, the argument whether a cognition process is rational or empirical in nature can become a circular argument when in fact either perspective is a valid one.

Human cognition: biological methods and behavioral methods.

Biological methods focus on the study of the physiological factors that influence human cognition. On the other hand, behavioral methods focused on observable actions or tendencies that influence human cognition. An advantage of biological models is that they can be studies in all humans. This is important in developing standards for a study or creating a map of the cognitive process. However, it is greatly dependent on the technology that can be developed to observe neurological activity and their significant or purpose in thinking. Though there have been significant progress in developing the equipment and other resources, many of the observable information has yet been interpreted.

On the other hand, observing behavior is a more flexible and practical means of gathering information. Since the focus of the method is behavior which are expressed, invasive procedures can be avoided and subjects can be observed in as natural an environment as possible. One of the difficulties with the model is that it is dependent on the interpretation of the behavior by the researcher which in turn greatly depends on experience, knowledge and perspective.

When a child’s lack of attention in class is a concern because of hyperactivity, this can be because of a hormonal or neurological problem as much as it is a behavioral one. These models should be used collaboratively to ensure the validity of a research because biology and behavior both influence each other. Just like the different models of approach that can be adopted in human cognition studies, methodologies can also vary.

Reference

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