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Inductive deductive method pdf

In logic, we often refer to two broad methods of reasoning as a deductive and inductive approach. The deductive reasoning operates from more general to more specific. Sometimes it is informally called a top-down approach. We could start by thinking up a theory of our topic of interest. Then we narrow it down to the more specific hypotheses we can test. We narrow down even more when we collect observations to address hypotheses. This eventually leads us to be able to test hypotheses with specific data – confirmation (or not) of our original theories. Inductive reasoning works in a different way, moving from specific observations to broader generalisations and theories. Informally, we sometimes call it a bottom up approach (please note that it's from the bottom up, not bottoms up, which is the kind of thing the bartender says to customers when he tries to close in on the night!). In an inductive basis, we begin with concrete observations and measures, begin to discover patterns and regularity, formulate some temporary hypotheses that we can explore, and ultimately develop some general conclusions or theories. These two methods of reasoning have a very different feel to them when you do research. The inductive reasoning, by its very nature, is more job-free and exploratory, especially at first. The deductive reasoning is narrower and involves testing or endorsing hypotheses. Even though a particular study may look like it is purely deductive (such as an experiment designed to test the hypothesis effect of some treatments for some results), most social studies involve both inductive and deductive reasoning processes at some point in the project. In fact, it doesn't take a rocket scientist to see that we can compile two charts above in one circular one that continually cycles from theory down to observation and back up again theories. Even in the most limited experiment, researchers can observe patterns of data that lead them to develop new theories. Next topic » Knowledge base written by Prof. William MK Trochim. Changes and additions, Conjoint.ly. This page was last modified on 21 December 2015, at 19:50. © 2020, Conjoint.ly, Sydney, Australia. ABN 56 616 169 021. For legal and data protection issues, please refer to the terms and conditions and privacy policy. Describe the inductive approach to research and provide examples of inductive research Describe the deductive approach to research and provide examples of deductive research Describe ways in which inductive and deductive approaches can be complementary theory structures and inform the social work study. In turn, social work research structures and inform theory. Students are aware of the relationship between theory and research when they consider the relationship between two inductive and deductive approaches. In both cases, the theory is crucial, but the relationship theory and research vary from approach to approach. Inductive and deductive approaches to research are quite different, but they can also be complementary. Let's start by looking at each of them and how they differ from each other. Then we move on to thinking about how they complement each other. Inductive approaches and some examples When a researcher uses an inductive approach, they begin to collect data that is relevant to their interests. Once a significant amount of data has been collected, the researcher will take a break from data collection to step back and get the bird's eye to its data. At this stage, the researcher looks for models of data that work to develop a theory that could explain these patterns. Thus, when researchers take an inductive approach, they start with a set of sash, and then they move from these specific experiences to a more general set of proposals for that experience. In other words, they move from data to theory, or from specific to generic. Figure 6.1 sets out the measures related to the inductive approach to research. Figure 6.1 Inductive studies There are many good examples of inductive studies, but we will look at just a few here. One fascinating study in which researchers took an inductive approach are Katherine Allen, Christine Kaestle, and Abbie Goldberg's (2011) study of how boys and young men learn about menstruation. To understand the process, Allen and her colleagues analyzed written messages from 23 young men in which men described how they learned about menstruation, what they thought about it when they first learned about it, and what they think about it now. By searching for patterns in all 23 male narratives, researchers were able to develop a general theory about how boys and young men learn about this aspect of girls' and women's biology. They conclude that nurses play an important role in boys' early understanding of menstruation, that menstruation makes boys feel somewhat separated from girls, and that by entering young adults and building romantic relationships, young men develop a more mature attitude to menstruation. Sign how this study began with the data —men's messages about menstruation — and tried to develop the theory. In another inductive study, Christine Ferguson and colleagues (Ferguson, Kim, & McCoy, 2011) analysed empirical data to better understand how best to meet the needs of young people experiencing homelessness. The authors analyzed data from focus groups of 20 young people in a homeless shelter. From this data, they developed a set of recommendations for those interested in applied activities that serve young people experiencing homelessness. The researchers also developed hypotheses for people who might want to conduct further investigations on the subject. Although Ferguson and her colleagues did not examine the hypotheses that they evolved from their analysis, their study ends when most begins: with theory and hypothesis derived from this theory. Deductive approaches and some examples of researchers taking a deductive approach will begin with a compelling social theory and then test its effects with data. In other words, they use the same steps as inductive research, but they'll change the order by moving from general to more specific levels. The deductive research approach is most related to scientific research. The researcher explores what others have done, reads existing theories about any phenomenon they learn, and then tests hypotheses stemming from these theories. Figure 6.2 sets out the measures related to a deductive approach to research. Figure 6.2: Figure 6.2. We'll take a look at a couple of them next. In a study of U.S. law enforcement responses to hate crimes, Ryan King and colleagues (King, Messner, & Baller, 2009) hypothesized that law enforcement response would be less vigorous in areas of the country that had a stronger history of racial violence. The authors developed their hypothesis from their reading of previous studies and theories on the topic. They examined the hypothesis by analyzing data on national lynching history and hate crime responses. In general, the authors found support for their hypothesis. This study could be linked to a critical theory. In another recent deductive study, Melissa Milkie and Catharine Warner (2011) studied the effects of different classes of environments on first-graded mental health. Based on previous studies and theory, Milkie and Warner hypothesized that negative class functions, such as lack of basic supplies and even heat, would be associated with emotional and behavioral problems in children. This study could be linked to system theory. Researchers found support for their hypothesis by proving that policymakers have more attention to mental health outcomes in children's school experiences, just as they track academic results (American Sociological Association, 2011). Additional approaches, although inductive and deductive approaches to research seem quite different, can be quite complementary. In some cases, researchers plan their study to include several ingredients, one inductive and the other deductive. In other cases, the researcher could start his research planning using only one approach, but then discover along the way that another approach is needed to help illuminate the conclusions. Here is an example of each such case. The original author of the textbook, from which this textbook is adapted by Dr. Amy Blackstone, covers the story of her collaborative study on sexual harassment. We started the study knowing that we would like to take both a deductive and inductive approach to our work. That's why we managed a quantitative answers that we could analyse to test hypotheses, as well as conducting qualitative interviews with several survey participants. The survey data were well suited to a deductive approach; we could analyze these data to test hypotheses that were created based on harassment theories. The interview details were well suited to an inductive approach; we were looking for models across interviews and then tried to make sense of these models, theorizing about them. In one paper (Uggen & Blackstone, 2004), we started with a remarkable feminist theory of sexual harassment of adult women and developed a set of interpreters that outlined how we expected the theory to apply to the case of younger women and men in harassment experiences. We then examined our hypotheses by analysing the survey data. Overall, we found support for the theory, which is positive that the current gender system, in which heterogeneous men have the most power in the workplace, explained workplace sexual harassment, not only adult women, but younger women and men as well. In the latest paper (Blackstone, Houle, & Uggen, 2006), we have no hypothesis of what we might find, but instead inductively analyzed interview data, looking for models that could tell us something about how or workers' perceptions of harassment are changing as they age and gain work experience. From this analysis, we educated that workers' perceptions of harassment really changed when they gained experience, and that their subsequent definitions of harassment were stricter than those they had in their teenage years. In general, our desire to fully understand the experience of harassment of young workers — based on their objective work experience, understanding of these experiences and stories about our experiences — led us to recruit both deductive and inductive approaches. (Blackstone, n.d., p. 21) Researchers may not use both approaches in their work, but sometimes their use of one approach leads them to another. One such example is described eloquently in Russell Schutt's Inquiry into the Social World (2006). As Schutt describes, researchers Lawrence Sherman and Richard Berk (1984) conducted an experiment to test two competing theories about the effects of punishment on deterring deviance (in this case, domestic violence). Specifically, Sherman and Berk hypothesized that the deterrence theory would provide a better explanation of the impact of the arresting accused riddle than the labeling theory. The deterrence theory predicts that arresting the accused spouse puzzle will reduce future incidents of violence. Conversely, the labeling theory predicts that arresting the accused spouse puzzle will increase future incidents. Figure 6.3 summarises two competing theories and predictions that Sherman and Berk had to test. Figure 6.3: Figure 6.3: and Berk found that the arrest was discouraging future incidents of violence, thus supporting their hypothesis that a preventive theory would better predict the impact of the arrest. After carrying out these studies, they and other researchers continued to conduct similar experiments in six additional cities (Berk, Campbell, Klap, & Western, 1992; Pate & Hamilton, 1992; Sherman & Smith, 1992). Further studies gave mixed results. In some cases, the arrest deters future incidents of violence, while in other cases, there is no arrest. These results left researchers with the new data they needed to explain so that they used an inductive approach to understand their latest empirical observation. New research has revealed that arrest has a deterrent effect on individuals who are married and employed, but the arrest may contribute to further battering offenses for individuals who are single and unemployed. The researchers thus turned to control the theory to explain their observations because it predicts that rates of matching are being developed through social ties such as marriage and employment. Figure 6.4: Figure 6.4: The inductive approach starts with a set of empirical observations, looking for models in these observations and then envid on these models. The deductive approach begins with the theory, developing hypotheses from this theory, and then collecting and analyzing data to test these hypotheses. Inductive and deductive approaches to research can be used together to gain a full understanding of the topic being studied by the researcher. Although researchers are not always determined to use both inductive and deductive strategies in their work, they sometimes find that new questions arise in the course of investigations that can best be answered using both approaches. The deductive approach is to start by studying what other researchers have done and reading existing theories on the topic, and move on to testing the hypotheses arising from these theories Inductive Approach- start by copying observations and then move from specific experience to a more general set of proposals for this experience