

Controversial Issues in Psychological Science

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Why does psychology need a *Taking Sides* book? “Taking sides” implies that there are “controversial psychological issues,” as the book title states. But how can there be controversial issues in a discipline that considers itself a science? Controversial issues would seem inherent in such disciplines as philosophy and religion, but wouldn’t the issues of psychology be resolved by science, by finding out what is true and false through psychology’s empirical methods? If so, are the “controversial issues” presented in this book only *temporary* issues waiting for empirical resolution? And if they are only temporary, why learn or argue about them? Why “take a side?”

As this introductory chapter will argue, there are all sorts of reasons and opportunities to take a side in psychology. Scientific findings are not only decided by data—the information produced by scientific research—scientific findings are also decided by theoretical allegiances, industry loyalties, and philosophical assumptions that are not themselves driven or resolved by data. These allegiances and assumptions allow for and even spawn controversial issues. Indeed, they form what some call the “disguised ideologies” of science (Bernstein, 1983; Richardson, Fowers, & Guignon, 1999), implicit worldviews or philosophies that guide what variables to select for research, what methods to use in these investigations, and what sense to make of the resulting data. As we will see, these are just a few of the many places in psychological research where the researcher’s bias or ideology, and thus “controversial issues,” can come into play.

Some may hold that the problem of bias only affects the “soft” sciences. They may believe that “hard” sciences, such as physics and chemistry, have essentially eliminated biases and ideologies. However, as we will show, both soft and hard sciences are subject to these ideologies and controversial issues. Indeed, one of the recent conclusions of physics is that the

observer's "frame of reference" always affects what is observed (Einstein, 1990; Heisenberg, 1958; Wolff, 1981). In this chapter, we will point to dramatic examples of systematic biases in both types of sciences, showing how some of the most important research—research about health treatment—is substantially driven by factors outside the data per se.

Even so, some scientists will argue that these biases are miscarriages of science, that science conducted correctly would have no systematic ideologies. As we will attempt to describe, however, nothing could be further from the truth, because the scientific method is itself based on a philosophy. It is itself based on a broad ideology in this sense. This is not to say that science is *only* bias or that science is worthless. Indeed, we will argue that science is one of the best tools we have for helping to resolve controversial issues. The main point of this chapter is that ideologies, biases, and "issues" are *never* avoided entirely and, indeed, play a *necessary* role in science. We believe this role is all the more reason to become aware of the psychology's controversial issues, think them through, and, yes, even take a well-reasoned and well-informed "side."

Allegiance Effects in the Soft Sciences

There are many examples of systematic bias in psychology (Slife, Reber, & Richardson, 2005), but Luborsky's theoretical (or ideological) "allegiance" is surely one of the more striking and significant (Luborsky, Diguier, Seligman, et al. 1999; Luborsky & Barrett, in press). It is striking because theoretical allegiance is such an impressive predictor of psychological research, forecasting an unprecedented two-thirds of the variability in treatment outcomes, with correlations as high as .85 (Luborsky & Barrett, in press). We say "unprecedented" because correlations in psychology are rarely this high. Theoretical allegiance is also significant because

it concerns the pivotal question: which psychological treatment is best? In other words, this particular systematic bias is involved in deciding what actually works in psychology.

The term “allegiance” refers to a person’s conscious or unconscious loyalty or commitment to a particular ideal, philosophy, or organization. In research on psychotherapy, Luborsky views theoretical allegiance as the degree of a researcher’s loyalty to a specific theory of behavior change. The most common theories of psychotherapy, and thus types of theoretical loyalty, are the broad categories of dynamic, cognitive, behavioral and pharmacological. Luborsky and Barrett (in press) essentially showed that a researcher’s preference for one of these broad categories—as rated most accurately through reprints, self-ratings, and colleague ratings—correlates with the therapy found to be the best in the researcher’s comparison of several therapies. In other words, whatever therapies or ideas that researchers favor *before* the investigation is, with few exceptions, what the researchers “find” their results favoring *after* investigation.

Luborsky found this correlation through “meta-analyses.” Instead of a conventional analysis of one particular study, meta-analysis is usually an analysis of many studies—an analysis of many conventional analyses. To understand what Luborsky’s meta-analysis means, consider an example. Let us say that a particular researcher favors a certain theoretical approach, such as behavioral, and sets up a study comparing behavioral and pharmacological therapies. Luborsky’s analysis indicates that this study will probably favor behavioral therapies over pharmacological, even though the two might *really* be equivalent in effectiveness. According to Luborsky, “treatment benefits, as evidenced in comparative trials, are so influenced by the researcher’s theoretical allegiance that in many comparisons differences between treatments

lessen or become negligible when the influence of allegiance is considered” (Luborsky & Barrett, in press, p. 355).

Therefore, if we know the theoretical orientation of the researcher, we can predict with considerable accuracy the outcome of an empirical comparison among the various treatment approaches—without even making the comparison! Theoretical allegiance, in this sense, is a clear bias or ideology that is not being corrected by what is really happening in the treatment comparison. Theoretical allegiances are occurring in spite of the controls instituted for subjective biases in these elaborate research designs. Although Luborsky believes that such allegiances *should* be controlled, conventional scientific methods are not currently doing so. In short, there are “controversial issues” that are not *currently* being resolved by the data. Also, as we will see (in the “What is Happening?” section below), scientific research is conducted in a way that will never eliminate or resolve *all* the controversial issues.

Allegiance Effects in the Hard Sciences

Is this also true in the hard sciences, or do they avoid the ideas and ideologies that lead to controversial issues? As mentioned, physics has long recognized Heisenberg’s (1958) “uncertainty principle” and Einstein’s (1990) relativity of the “inertial frame of reference” as just two of the ways in which the observer is assumed to have an important impact on the observed (Bohm, 1980; Wolff, 1981). However, there are also similar meta-analyses to Luborsky’s in the hard sciences. Findings in medicine, for example, parallel those we have just described in psychology. Here, *theoretical* allegiance is less of an issue, but *industry* allegiance is widely acknowledged as a potent bias in medical research (Bhandari et al., 2004; Kjaergard & Alsnielson, 2002; Lexchin et al., 2003). Industry allegiance refers to the high correlations between the industry sponsor of research and the pro-industry outcome of this research.

Healy (1999), for instance, suggests that much of our current conception of the effectiveness of antidepressants is molded more by the marketing imperatives of the pharmaceutical industry than by the scientific findings. There is certainly no dispute that the pharmaceutical industry is the largest funder of medical research in North America, and this, as Valenstein (1998) notes, is “overwhelmingly true” for research on psychiatric drugs (p. 187). Indeed, Valenstein (1998) claims that these companies are unlikely to fund researchers who have been negative about drug effectiveness. Still, it is one thing to point to this industry’s massive funding efforts and profit motives, and quite another to claim that industry allegiance biases investigators. Is there evidence for this latter claim?

In fact, editorials in five different prestigious medical journals have all pointed to evidence that pharmaceutical funding has tainted the objectivity of these studies (Greenberg, 2001). Freemantle (2000), for example, has recently shown in a meta-analysis of comparative studies that a sponsor’s funding is the best predictor of whether studies will show the sponsor’s drug to be effective. Similarly, Friedberg et al. (1999) have shown empirically that company-supported studies are more likely to report efficacy for the company’s product than are independent studies of the same product. Bhandari et al. (2004) even report this effect for surgical interventions. Sterns and Simes (1997) also found considerable evidence that studies which do not reflect positively on antidepressants are less likely to be published. Moncrieff (2001) reports that the problem of publication bias is even more pronounced with recent SSRI antidepressants, because the majority of trials have been conducted by the pharmaceutical industry, which has no obligation to publish negative results and may see little advantage in doing so.

What is Happening?

What is happening in the soft and hard sciences to produce these “allegiance” effects, either theoretical or industrial? There are issues, such as allegiance, that data never seem to determine or decide definitively. This suggests that some issues require old-fashioned discussion and debate among those in the discipline. It also indicates that scientific experiments alone will not always suffice. Why? Why can’t data alone decide all the discipline’s “controversial issues?” One of the primary reasons is a concept called *underdetermination*.

Underdetermination means that research data never *completely* determine the interpretation made of that data (Curd & Cover, 1999; Slife & Williams, 1995). The researcher always has a limited choice (within the parameters of the data) about which interpretation to use.

To begin to understand why this is true, consider that any set of data is meaningless without some interpretive framework for that data. In other words, a researcher must *add to* the data his or her own organization or interpretation for the results of any study to be meaningful findings. Even a quick scan of a (typical) data set reveals a bewildering array of numbers, especially if this scan lacks the researcher’s explanation as to what specific categories of data and statistical results *mean* (or how they should be interpreted). (For an example, see Slife & Williams, 1995, pp. 5-6.) Researchers will often claim to “see” meanings in their data, but this not because the data *inherently* “mean” something. This is because the researcher *already* has an interpretive framework, consciously or unconsciously, for the data in mind.

It is important to recognize that the interpretation selected must “fit” the data for the interpretation to be viable. In other words, not just any interpretation will do; meaningful interpretations must make sense of *all* the data. Nevertheless, more than one interpretation of all the data is always possible, with some potentially dramatic differences in these interpretations.

This is what “underdetermination” means. (Please see Curd & Cover, 1999 and Slife & Williams, 1995, pp. 185-187 for the more technical considerations of this conception.) In this sense, a study’s “findings” are never *merely* the data, because the data are not meaningful findings until the researcher organizes or interprets the data, allowing for systems of ideas, and thus “controversial issues,” to enter the research picture.

Actually, data interpretation is just one of the many places where biases can creep into scientific research. Consider how researchers have all sorts of “subjective” choice-points in their studies: 1st—what to study (what variables are crucial); 2nd—how to study the variables (what operationalization and method design to use); 3rd—how to analyze the study (what assumptions are met and statistics used); 4th—what the statistical results really mean (what interpretation to use); and 5th—what limits the study has (what study problems might impede certain interpretations). These choice-points mean that subjective factors, such as allegiance, are inevitably part of any research study. Researchers, knowingly or unknowingly, are favoring their own ideologies through the decisions they make at these choice-points. Part of the purpose of *Taking Sides* books, then, is to reveal and discuss these ideologies, and help students to become aware of their impact on the discipline.

Science as Ideology

Many scientists will want to argue that influential ideological factors are not a necessary part of science—that the allegiance effects of psychology and medicine are examples of bad research. They may believe that good science occurs when all the systematic biases, and thus disguised ideologies, have been eliminated or controlled. However, as mentioned in this chapter’s introduction, science itself is based on a broad ideology (or philosophy) about how science should be conducted. Moreover, this broad ideology could not have itself been

scientifically derived, because one would need the ideology (before its derivation) to conduct the scientific investigations to derive it. In short, *there is no empirical evidence for the philosophy of empiricism that underlies the scientific method*. Some may claim that this philosophy has been successful, but this is only a claim or an opinion, not a scientific fact. Even if we were to endorse this claim, which we would, it does not minimize the broad ideology of this philosophy of science, along with the biases and values it promotes.

Perhaps the most obvious bias or value of the philosophy of empiricism is the observability value. Because this philosophy assumes that sensory experience is the only really knowable experience, traditional science has based its doctrine of knowing on the sensory experience of vision or observability. For many students, this valuing of observability will not seem like a value (Slife, in press). These students may have unknowingly (no pun intended) accepted this philosophy as their own, without critically examining it. In this case, the doctrine of observability will seem more like an axiom than a value.

To be a value rather than an axiom, observability must indicate not only what particular things have merit or worth but also what alternative things *could* be valued (Slife, in press). Regarding the worth issue, it is probably obvious that traditional empiricism values, and thus selects, observable phenomena as having more merit or worth than nonobservable phenomena for scientific purposes. Perhaps the bigger hurdle for appreciating the value-ladenness of observability is understanding the possibility of alternatives—in this sense, the possibility of knowing *nonobservables*. Here, we could ask the empiricist if their doctrine of observability is itself observable. In other words, is the idea that “only the sensory can be known” *itself* observable? And if it is not, how then do we know that this idea is correct? Given that

empiricists do not observe this idea, and given that they hold it to be correct, there must be other ways of knowing things than observability.

We can at this point describe other philosophies (or epistemologies) of knowing that assert that many unobservable experiences are knowable, such as the feelings we have for someone or the thoughts we have about something. With the feelings of love, for example, we can surely observe someone who is “in love” hugging and kissing or any specified observable factor (in research, these are called *operationalizations*). However, we would rarely assume that the feeling of love and these observables are identical. Hugs and kisses can occur without this feeling, and this feeling can occur without hugs and kisses. Therefore, studies of hugs and kisses (or any specified observable) are *not* studies of love. At the risk of noting the obvious, studies of observables are not studies of nonobservables. They may be studies of observables that are associated with nonobservables, but then if we cannot know the nonobservable, how can we know what is associated with them?

For this reason, traditional scientific methods selectively attend to, and thus value, one particular aspect of the world—observables over nonobservables. Indeed, this is part of the reason qualitative research methods were formulated and have become increasingly popular in psychology and other disciplines. They claim that they can investigate nonobservable experiences that are not strictly observable, such as meaning and emotion (cf. Denzin & Lincoln, 2000). If this is true, knowing nonobservables is possible, and the value-ladenness of only attending to observables is clear. Again, some may insist that only observables can be known, but this insistence is not itself a scientific claim, because it cannot be decided through scientific observation (Slife, Wiggins, & Graham, 2005). It is a philosophical claim about how knowing

occurs, and is thus subject to comparison with other philosophical claims about knowing (other epistemologies).

Observability is not the only value of traditional scientific methods. Many of the customs and traditions of how one conducts and is supposed to conduct research originate from similarly unproven values and assumptions, including reductionism (Yanchar, 2005), instrumentalism (Richardson, 2005), naturalism (Richards & Bergin, 2005), and positivism (Slife & Williams, 1995). Indeed, there is an entire special issue of the journal *Counseling and Values* (in press) that deals with the values and assumptions of psychology's scientific methods, which are the hidden roots of some of today's "controversial issues."

The lesson here is that many values and unproven ideas are *inherent* in the system of science itself. Before a method is even formulated, the persons formulating the method must make assumptions about the world in which the method would be successful. The world cannot be known through the method, because the method has not been invented yet. Consequently, the assumptions and values used for its formulation have to be speculations and guesswork to some degree—in short, values and assumptions that are not themselves scientifically proven (Slife, in press). Again, this does not make science wrong or bad. Indeed, these scientific values and assumptions have made science what it is, including any perceived effectiveness it has.

Still, the perceived effectiveness of the scientific enterprise does not mean that we can forget about these values. They are still unproven values, after all, and as such they can be problematic or helpful, depending on the context in which they are used. As we described, they may be useful for observable aspects of the world but not so useful for nonobservable aspects of the world. In this sense, there will always be "controversial issues" in any scientific enterprise,

hard or soft. Some will be resolved by data, but some will require other means of examination and debate.

Application to the Issues of This Book

The issues of this book are a wide assortment of both types: “empirical questions,” which are primarily decided by research, and “philosophical questions,” which are primarily decided by discussion and consensus or theoretical examination in relation to disciplinary values. Psychologists typically have the most skills in resolving empirical or research issues. They have been trained since their undergraduate days with multiple courses, such as “Research Methods” and “Statistics,” all in support resolving empirical or research questions.

Psychologists are rarely as adept at philosophical questions, even though these questions pervade the discipline (as we have shown). Indeed, many psychologists may despair at such questions, because they associate philosophy with irresolvable issues—issues that seem interminable. We have sympathy for this attitude, yet we need to be careful not to “throw the baby out with the bath water.” In other words, just because there are seemingly interminable problems in philosophy does not mean that decisions and judgments cannot be made about the philosophical issues of a discipline such as psychology.¹ Many decisions and judgments have, of course, already been made. Otherwise, we would not have a philosophy that guides our science or a set of values that guide our ethics. As the issues of this book indicate, however, not all of these values and assumptions have been decided. Moreover, there is a case to be made that even the decided values should be continually explicated and re-evaluated, as new research arenas and topics come to the fore.

¹ Likewise, we should not “throw out” the achievements of science just because it is not totally objective.

Let us close this introductory chapter, then, by pointing explicitly to how such philosophical issues may rear their “ugly heads” in a discipline such as psychology, and thus in this book. One way to categorize these issues is in terms of the *production* of research and the *outcome* of research. The first involves the many ways in which controversial ideas can enter the conducting of psychological investigations, whereas the second entails the many ways in which controversial ideas can enter the interpretation of a study’s data or a program of research.

In the first case, controversial issues can arise when researchers have an “allegiance” or “agenda” in formulating and conducting their programs of research. This agenda does not have to be conscious, because loyalties can be influential—political or sociological, theoretical or organizational—whether or not they are known or articulated. For example, in the homosexual parenting issue of this *Taking Sides* edition, one author accuses researchers of a liberal agenda in conducting the investigations (Issue #9). We make no judgment here about the validity of this particular accusation. However, there is no doubt that such agendas can infiltrate these studies. They can influence what researchers consider important to study, how they design the study, how they operationalize the variables involved, and how they analyze the study. All these phases of a study, as we have described above, are choice-points for researchers that allow for agendas to be revealed and loyalties to be identified. It would thus be important for students of “controversial issues” to attempt to discern these loyalties and agendas in the production of data. That is the reason there is often no substitute for studying the studies themselves.

Controversial issues can also result from interpretations of the existing data and studies. Perhaps the most striking example of this involves two sets of scholars—each well-trained and each looking at essentially the same data—coming to dramatically different conclusions. For example, the authors of each side of the divorce issue (Issues 8) basically consider the same data.

First, as we have noted, they can interpret the same data in two different ways (through the “underdetermination” of the data). Second, these interpretive frameworks can also lead researchers to weigh different sets of data differently. While one set of investigators views certain studies as pivotal, another set considers the same studies deeply problematic, and thus gives them far less weight. In both cases, the interpretive framework of the researchers is part of the reason they “take the side” they do. There is no doubt that the data of the studies are important. Nevertheless, there is also no doubt that the “sides” taken and the interpretations made are not solely “data-driven.”

Conclusion

The bottom-line is that no science will avoid controversial issues. As long as humans are involved *as* scientists, allegiances and biases will be a factor. There are just too many “choice-points” for a scientist’s ideologies, known or unknown, to seep into the methods employed. Truth be told, human beings are also the inventors and formulators of the methods of science. This means not only that these methods embody the biases and assumptions of the original inventors but also that subsequent changes in the philosophies that guide science will stem from biased humans. In this sense, we will never be rid of controversial issues. Our job, then, is to expose them, discuss them, and take a well-informed “side” with respect to them.

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