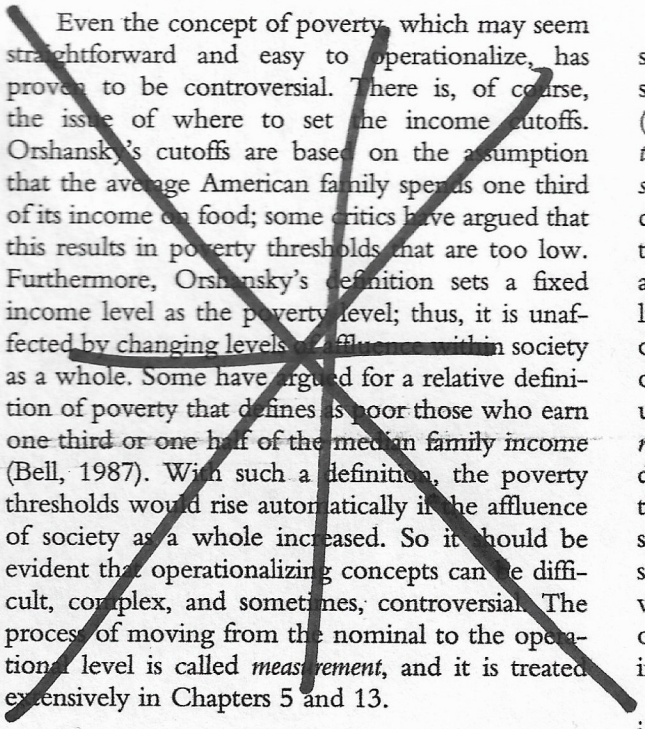

Even the concept of poverty, which may seem straightforward and easy to operationalize, has proven to be controversial. There is, of course, the issue of where to set the income cutoffs. Orshansky's cutoffs are based on the assumption that the average American family spends one third of its income on food; some critics have argued that this results in poverty thresholds that are too low. Furthermore, Orshansky's definition sets a fixed income level as the poverty level; thus, it is unaffected by changing levels of affluence within society as a whole. Some have argued for a relative definition of poverty that defines as poor those who earn one third or one half of the median family income (Bell, 1987). With such a definition, the poverty thresholds would rise automatically if the affluence of society as a whole increased. So it should be evident that operationalizing concepts can be difficult, complex, and sometimes, controversial. The process of moving from the nominal to the operational level is called *measurement*, and it is treated extensively in Chapters 5 and 13.

Developing Hypotheses

A common strategy in scientific investigations is to move from a general theory to a specific, researchable problem. A part of this strategy is to develop **hypotheses**, which are testable statements of presumed relationships between two or more concepts. Hypotheses state what we expect to find rather than what has already been determined to exist. A major purpose of developing hypotheses in research is to test the accuracy of a theory (see Figure 2.1). The concepts and propositions of which theories are composed usually are too broad and abstract to be directly tested. Concepts such as *reinforcement* and *learning*, for example, need to be specified empirically through operational definitions before they are amenable to testing. Once operationally defined, these concepts generally are referred to as **variables**, or things that are capable of taking on more than one value. If hypotheses are supported, then this supplies evidence for the accuracy of the theory on which they are based.

In the construction of hypotheses, the relationship between variables is stated in one of two possible directions: a positive relationship, or a negative (also called an inverse) relationship. In a *positive relationship*, the values of the variables change in the *same* direction, such as both increasing or both decreasing. For example, we might hypothesize that the acceptance of the use of alcohol among an adolescent's peers will lead to an increased likelihood that the adolescent will consume alcohol. In other words, as acceptance of the use of alcohol by one's peers increases, so does the adolescent's own use of alcohol. In a *negative relationship*, or an *inverse relationship*, the values of variables change in *opposite* directions. We might hypothesize, for example, that, among adolescents, reduced parental supervision will lead to an increase in the likelihood of substance abuse. In this case, as the value of one variable (parental supervision) declines, the value of the other (substance abuse) is predicted to increase.

Useful guidelines to keep in mind for developing hypotheses include the following:

1. *Hypotheses are linked to more abstract theories.* Although generating hypotheses without deriving them from theories is possible, hypotheses are always linked to theories because the theories provide explanations for why things happen.
2. *It is important that the independent and dependent variables in hypotheses be clearly specified.* The **independent variable** is the presumed active or causal variable—the one believed to be producing changes in the dependent variable. The **dependent variable** is the passive variable, or the one that is affected. In the previous examples, peer acceptance of alcohol and parental supervision are the independent variables, and alcohol use and substance abuse are the dependent variables.
3. *It is important that the precise nature and direction of the relationship between variables be specified in the hypothesis.* Students sometimes are tempted to state hypotheses like this: "Parental supervision will have an effect on teenage alcohol use."

However, although this statement says that there *is* a relationship, it doesn't say *what the nature or direction of the relationship is*. A proper hypothesis, as above, would state how changes in one variable will be associated with particular changes in the other: "As parental supervision decreases, teenage alcohol use increases."

4. *Hypotheses should be stated in such a way that they can be verified or refuted.* If this is not the case, then they are not hypotheses. Hypotheses, after all, are statements about which we can gather empirical evidence to determine whether they are correct or false. A common pitfall is to make statements that involve judgments or values rather than issues of empirical observation. For example, we might hypothesize that investigations should be increased to reduce the incidence of welfare fraud. On the surface, this statement might appear to be a hypothesis, because it relates to investigations and welfare fraud in a negative direction. As stated, however, it is not a testable hypothesis. The problem is the evaluative "should be." What should or should not be social policy has no place in hypotheses. However, the statement can be modified so that it qualifies as a testable hypothesis: "Increased levels of investigation tend to reduce the incidence of welfare fraud." The hypothesis now makes an empirical assertion that can be checked against fact.

5. *All the concepts and comparisons in hypotheses must be clearly stated.* For example, consider the following hypothesis: "Southern Baptists have superior moral standards." The concept of "moral standards" is so abstract and vague that it is impossible to know what it means. This would have to be clearly specified in terms of what is considered to be a moral standard. In addition, to say that someone's standards are superior requires a referent for comparison: superior to whom or what? It could mean higher than some other religious group, or it could mean higher than some chosen, absolute standard.

Developing hypotheses from theories is a *creative* process that depends, in part, on the insight of the investigator. Because hypotheses link theories to particular, concrete settings, the researcher's insight often is the trigger for making such connections. In addition, researchers, at times, combine two or more theories to develop hypotheses that neither theory alone is capable of generating.

Concepts and Operational Definitions among Minority Populations

When conducting research on minority populations, considerable opportunity for bias exists if concepts and operational definitions are not carefully developed. This has been a chronic problem with research on crime. For example, many people believe that nonwhites commit crimes at a higher rate than we would expect, given their numbers in the population. Although this is partly true, it greatly oversimplifies a complex reality, and it reflects how crime is typically operationalized. Official crime statistics from the Federal Bureau of Investigation (Federal Bureau of Investigation, 2012) are an important source of data on crime. The FBI operationalizes some crimes as "offenses cleared by arrest" and others as "offenses known to the police." In other words, an occurrence is not officially considered to be a crime until it is "known to the police" or "cleared by arrest." These official crime statistics show that nonwhites commit more crimes, proportionate to their numbers in the population, than whites do. However, this is a function, in part, of how the official statistics operationalize the concept of crime. We know that nonwhites are more likely to be arrested for a given offense, suggesting that it may be arrest that is more common among nonwhites rather than the actual commission of crimes. It has been proposed that nonwhites also are more likely to commit highly visible crimes, such as armed robbery or assault, that are more frequently reported to the police and result in an arrest. Some suggest that whites, on the other hand, commit more "hidden" crimes, such as embezzlement or fraud, that are less likely to come to the attention of the police. Research suggests that there may be no class difference in the amount of hidden crimes that are