



DISCUSSION

According to Dr. William Pollin, former director of the National Institute of Drug Abuse, "Cocaine is currently the drug of greatest national concern, from a public health point of view..." (Pollin 1984, p. vii). Once thought to be a fairly safe drug, cocaine was christened "the champagne of drugs" when it became the substance most popularly abused by the masses in the 1970s. It was an unknowing euphemism, attesting to its "desired" physiological potency combined with the myth of its alleged safety. As casualties of the cocaine epidemic of abuse mounted, cocaine use was finally recognized as a serious public health problem late in the 1970s (Adams & Durrell 1984).

Consequently, the "need" for more animal studies — like the ones surveyed above — grew in response to the startling rise of cocaine's popularity in our society. Unfortunately, these studies have contributed little to the solution of the problem. Of course, scientists are now more aware of cocaine's unique characteristics because of animal research, particularly its pharmacology. However, this information has yet to be found useful in effective clinical applications.

One reason for this poor record is unnecessary duplicative effort, evident by the values presented in Figure 1 and Figure 2. Since over 100 studies have yet to be added to this figure, it is safe to assume that tens of studies have been devoted to identical research topics. The significance of these estimates depends on whether the research classifications listed above are accurate representations of how research is performed. Although cocaine studies could be divided into a smaller or larger number of categories depending on the conclusion one wanted to support, the divisions discussed above represent a reasonable middle ground. Admittedly, some are more heterogeneous than others (self-administration, neurobiology).



But even here, the large number of studies is at least presumptive evidence for duplication.

Although the remaining categories contain fewer studies, they are more homogeneous. Therefore, the groupings of toxicity and lethality, metabolism, non-brain neurobiology, spontaneous behavior, discrimination, and behavioral adaptation — containing at least 20 studies a piece — probably contain substantial duplication. Although duplication can serve the useful function of confirming novel experimental findings, extensive duplicative effort can only hinder the realization of research goals.

Also revealing is how administrators, funding agencies and researchers have responded to the problem of cocaine abuse. If by analogy the rise in animal research on cocaine abuse is a tidal wave, then the extent of human research represents a mere ripple. While human research is gaining momentum, fundamental gaps still exist (Post & Contel 1983, p. 178; Resnick & Resnick 1984, p. 720; Jones 1984, p. 39; Fischman 1984, p. 72, 78, 82; Kleber & Gawin 1984).

Human studies of cocaine abuse have been both experimental and clinical. In experimental work, cocaine is administered to volunteers who have a known history of cocaine use or abstinence. Peruvian Indians who habitually chew coca leaves (which contain cocaine) have been noteworthy experimental subjects. In clinical studies, information is gained from patients undergoing treatment for cocaine abuse. Other sources of human information have come from telephone surveys of people who have solicited advice using a cocaine hotline (Washton & Gold 1984). This information has added to the knowledge of cocaine's adverse effects on health and social behavior.

These sources pose little or no risk to human subjects. While volunteers for exper-