

# AN ANALYSIS OF THE DEFINITION OF AN EXPERIMENT IN INTRODUCTORY PSYCHOLOGY TEXTBOOKS

NATALY BERIBISKY, SUPERVISED BY DR. MICHAEL J. PETTIT HH/PSYC3890

## INTRODUCTION

The experiment may be the most prominent research methodology in early 21<sup>st</sup> century Psychology. Many designate the experiment to be, at the very least, a superior research methodology, and at most extreme, the only technique that ensures causality. A set of seemingly essential characteristics is often included in the definition of an experiment. Accordingly, an investigation of the fluctuating importance of the definition's characteristics over time can illuminate upon the variable nature of research methods within Psychology.

## THE PRESENT STUDY

This study examined the definitions of an experiment in Introductory Psychology textbooks between the 1970s and 2000s. The study had two objectives:

- 1 To partially replicate the findings of Winston and Blais' (1996) article for the 1970s, when they determined the definition of the experiment in Introductory Psychology textbooks first became widespread.
- 2 To extend analysis to textbooks published in the 1980s, 1990s, and 2000s, by monitoring the trend of the definition and the addition or removal of any of its components.

## METHOD

Fifteen textbooks from each decade of interest (1970s, 1980s, 1990s, and 2000s) were investigated.

To conduct a thematic analysis, each textbook was coded for:

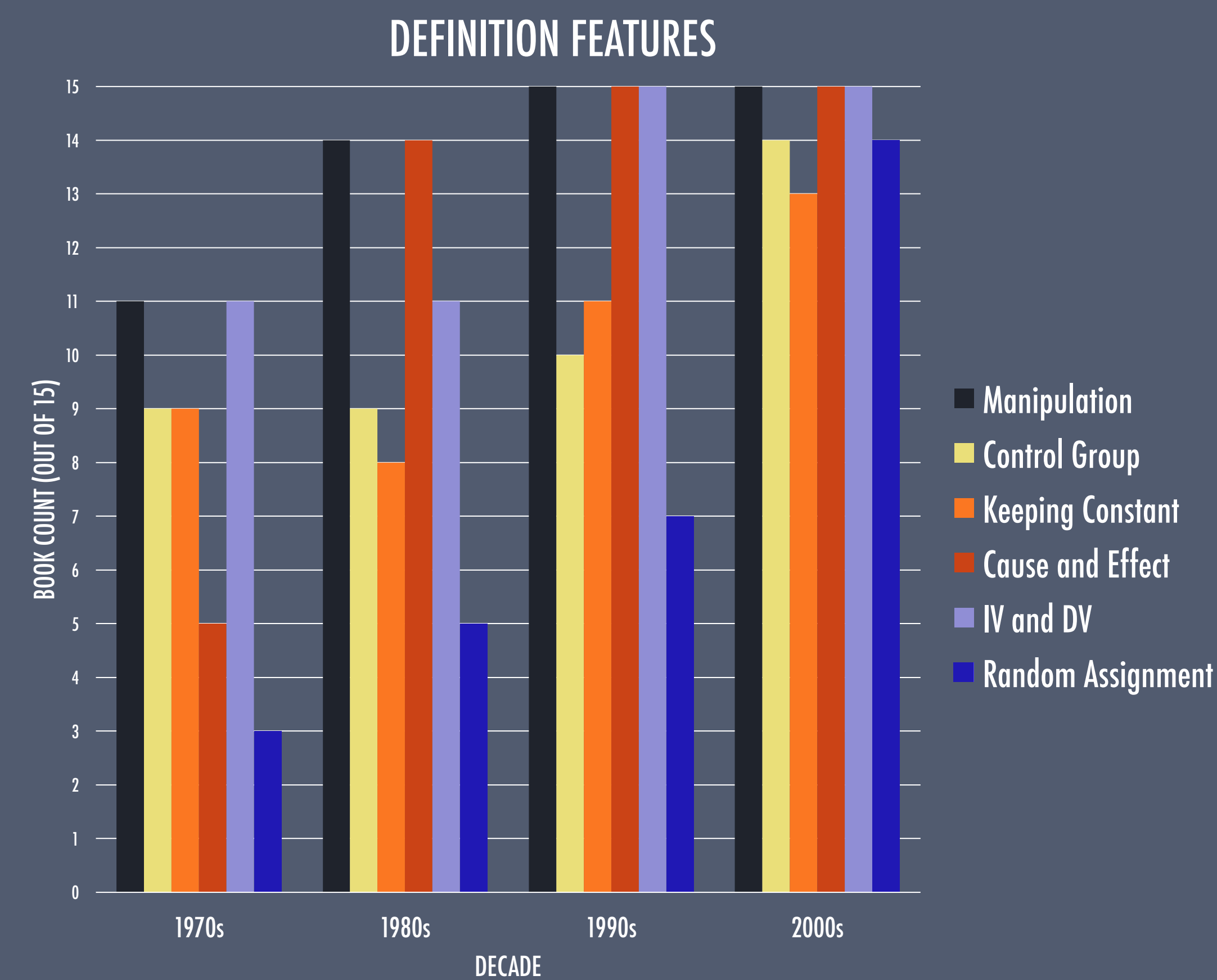
- The presence or absence of the definition of an experiment,
- The presence of six pre-specified potential features, most of which came from the Winston and Blais (1996) study.

FEATURE	DEFINITION
Manipulation	The act of changing a variable to see what effect the change has on a phenomenon of interest.
Control group	A group that is not exposed to a treatment.
Constant extraneous factors	Components of the experiment that are held in place in order to attribute change to the manipulated variable only.
Cause and effect	A conclusion that suggests Event A invariably leads to Event B.
Independent and dependent variables (IV and DV)	Unknowns that aim to explain psychological phenomena. They are usually described as the experimenter-changed variable (IV) and the observed variable of interest (DV).
Random assignment	The act of placing participants into groups via randomization.

## RESULTS

### Presence of Definition

- In the 1970s, 13 out of 15 textbooks defined the experiment in some way.
- By the 1980s, every textbook included a definition of the experiment.



### Presence of Features

- The frequency of each feature increased throughout the time period.
- No aspect of the definition disappeared.
- Random assignment, a component hardly present in the definition during the 1970s, became widespread by the 2000s.
- Manipulation, cause and effect, and independent and dependent variables were features that were included in all of the definitions by the 1990s.

## CONCLUSIONS AND IMPLICATIONS

### Possible Explanations for the Rise of Random Assignment Intrinsic to Psychology:

- Random assignment began to be mentioned in prominent methodological texts such as Campbell and Stanley's (1963) "Experimental and Quasi-Experimental Design for Research."
- Concerns over methodological practices led to the APA Task Force to publish, "the Wilkinson report" in *American Psychologist*.

### Extrinsic to Psychology:

- Medicine, a field currently heavily associated with Psychology, rapidly escalated the use of random assignment during the second half of the 20<sup>th</sup> century.
- With the demand of randomization in clinical trials, many internationally recognized medical journals progressively became more interested in works involving random assignment within the 1990s and 2000s.

### Increasing Homogeneity

- During the analyzed time-period, the definition of the experiment has acquired novel yet essential requirements.
- Accordingly, though textbooks often appear objective, they are also entrenched within the norms of a culture.
- Being critical about research methodologies will ultimately produce more insightful and reflexive research.