DOCUMENT RESUME

ED 355 173 SO 023 149

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TITLE Trends of Soviet Psychological and Educational Research: 1982-1989.
PUB DATE [91]
NOTE 11p.
PUB TYPE Reports - Research/Technical (143) -- Information Analyses (070)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Educational Research; Foreign Countries; Higher Education; *Political Influences; *Psychological Studies; Scholarship; Writing for Publication
IDENTIFIERS Perestroika; *Research Trends; *USSR

ABSTRACT

A study reviewed Russian-language research reports published during the year 1982-1989 (spanning pre- and post-perestroika). Statistical analysis of the numbers of articles published each year in specific topic areas revealed a number of changes over the years under review. Numbers of publications in general psychology, human experimental psychology, and physiological psychology appear to have declined over the years 1982-1989, while studies devoted to physical and psychological disorders appear to have increased. Results appear to support earlier findings by A. Czapinski linking democratization with an increase in negatively oriented research topics and publications in psychology and education. (One table of data is included; 20 references are attached.) (Author/SR)

Trends in Soviet psychological and educational research: 1982-1989.

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Abstract

This study describes a review of Russian-language research reports published during the years 1982-1989. Statistical analysis of the numbers of articles published each year in specific topic areas reveals a number of changes over the years under review. Numbers of publications in general psychology, human experimental psychology, and physiological psychology appear to have declined over the years 1982-1989, while studies devoted to physical and psychological disorders appear to have increased. The results of this study appear to support earlier findings by Czapinski (1985) linking democratization with an increase in negatively oriented research topics and publications in psychology and education.

Running head: Trends in Soviet Research, 1982-1989

Modern philosophers of science (e.g. Kuhn, 1962; Toulmin, 1972) have argued persuasively that political, historical, and other social influences play important roles in defining the scientific enterprise. One example of this in American science is the potentially dramatic influence of government decisions to fund (or not fund) scientific research. In the republics of the former Soviet Union in the years under review, however, the connection between politics and science was even more direct, since virtually all scientific research relied on government funding and the national scientific research agenda was planned by the central government. Given the connection between politics and scientific research in the former USSR, it seems reasonable to suppose that the dramatic social and political movements of the last decade have left their mark on the Soviet scientific enterprise. It is the purpose of this paper to explore the legacy of the early perestroika years for educational and psychological research in the Soviet Union.

The paper has two main objectives. One objective is to provide a general quantitative overview of published studies in Soviet educational and psychological research across the years 1982-89. A second objective of the proposed research is to test a number of research hypotheses concerning the independence of numbers of studies in topic categories and time. The articles surveyed were categorized by topic and year of publication and frequencies were determined for individual years and blocks of years. Data were analyzed in order to address the following research questions:

1) Are numbers of published studies in research categories independent across years and blocks of years?

2) If numbers of studies in topic categories and time are not independent, what is the degree of association between them?

3) If numbers of studies in topic categories and time are not independent,

which research categories have been most influenced across time?

4) What is the direction and degree of relationship between time and research categories that appear to have been most influenced?

Finally, in addition to considering these quantitative questions, this paper will suggest two possible interpretations for the findings reported here by drawing on other related studies that have explored patterns of dissertation research in the USSR (Bodaliov & Melnikov, 1982, 1985a, 1985b), reviewed characteristics of psychological studies in Poland (Czapinski, 1985), and have discussed recent trends in Soviet psychology generally (Davydov, 1982; Kondakov, 1983; Matyushkin & Kuz'mina, 1983; Zinchenko, 1989) and as reflected in specific psychological journals (Pedagogika, 1985; Talyzina, 1986).

Method

Data and Sample

Data consist of frequency counts for 17 different topic categories across the years reviewed. Topic categories are those identified in Table 1 and come from Appendix C of the Sixth Edition of the Thesaurus of Psychological Index Terms (Walker, 1991).

Insert Table 1 about here.

The data are based on a sample of 4885 Russian-language research studies published during the years 1982-1989 that are a part of the PsycLIT CD-ROM database (PsycINFO, 1991). The articles included in the review come from 12 different Soviet journals in psychology or education and a number of other, predominantly eastern European, journals that publish Russian-language studies. All of the journals included have been in continuous publication across the years of the review and, according to PsycINFO User Services (Bagwell, 1991), criteria for selecting articles for inclusion in the database have been uniform across the

years of the review. Thus, although this sample is selective, there is no reason to believe that differences across time are attributable to criteria used to select articles.

Analysis

The independence of topics and time (Question 1) was assessed by means of a chi-square test of independence with frequency counts arranged in a Years X Topics contingency table. In the event of a statistically significant (alpha < .05) deviation from expected cell counts, a Cramer's contingency coefficient (Phi)(Iman & Conover, 1983, pp. 308) was planned to assess the degree of association between the research categories and time (Question 2). In order to identify topic categories most influenced by time (Question 3), a goodness-of-fit analysis was carried out for each of the 17 topic categories using the expected cell frequencies of the full contingency table as expected values. Given the post-hoc character of the goodness-of-fit tests, statistical significance for each goodness-of-fit test was set at alpha < .005.

In order to assess the degree and direction of the relationship between topic categories and time (Question 4), a Spearman's Rho (Iman & Conover, 1983, pp. 126-129) was calculated for each individual topic category that showed statistically significant differences in the goodness-of-fit test. The Spearman's Rho was used, rather than a Pearson correlation coefficient, since there seemed no a priori reason to expect a linear relationship. Since the Spearman's Rho employs ranks, it represents a more modest assumption of monotonicity. All analyses were carried out using the ABSTAT (Anderson-Bell, 1989) statistical package.

Results

The chi-square analysis of topic categories by years (DF=112) revealed significant ($p<.0001$) deviations from expected cell frequencies indicating that

numbers of publications in topic categories do not appear to be independent of time. A second chi-square analysis was carried out to examine differences between block of years representing pre- (1982-1985) and post-perestroika (1986-1989) periods (Gorbachev announced perestroika at the 27th Party Congress in February, 1986.) The chi-square analysis for blocked years (DF=16) once again revealed significant ($p<.0001$) differences from expected cell frequencies suggesting that the number of publications appearing across the topic categories is not independent of the blocks identified.

The Cramer's contingency coefficient based on the full YEAR X TOPIC contingency table yielded Phi = .0096, indicating only a weak overall association between numbers of studies published in topic categories and time. Calculation of Phi for a contingency table collapsing years into blocks (1982-1985 and 1986-1989) yielded a slightly greater (Phi = .0268), but still weak association.

Individual goodness-of-fit tests were carried out, revealing 7 individual topic categories that deviated significantly from expected values. A Spearman's Rho was calculated for each of these seven topics, only 4 of which showed statistically significant (alpha = .05) evidence of monotonicity. Of these 4 topic categories, General Psychology, Human Experimental Psychology, and Physiological Psychology indicated monotonically decreasing relationships and Physical and Psychological Disorders evidenced a monotonically increasing relationship.

Discussion

Results indicate that numbers of studies concerned with general psychology (2100), human experimental psychology (2300), and physiological psychology (2500) have declined over the years 1982-1989, while studies devoted to physical and psychological disorders (3200) have increased. One possible interpretation of this finding draws on negativity bias (Carlson, 1966; Wispe, 1979), a concept

that suggests negative information is weighted more heavily in decision making than positive information (In other words, people are more concerned with possible losses or deficits than possible gains or advantages.)

Czapinski (1985), in a study reviewing polish publications in psychology over the years 1946-1981 noted that substantial numbers of negatively oriented works were found and, significantly, that "The prevalence [of negatively oriented works] grew after political events providing for democratization of social life (1956, 1980) and receded at times of state power becoming more authoritarian (1968, 1976)." (p. 27). Czapinski's findings appear to be echoed in the findings of the present study which show a marked increase in studies devoted to physical and psychological disorders across the early years of the perestroika/glasnost period of democratization.

A negativity bias interpretation, however, is certainly not the only, and perhaps not the most useful, way of viewing these findings since such an interpretation fails to address the decline in numbers of studies in other areas. Numerous papers by prominent Soviet psychologists and educators appeared during the years under review (e.g. Bodaliov & Melnikov, 1982, 1985; Davydov, 1982; Matyushkin & Kuz'mina, 1983; Kondakov, 1983) calling on Soviet researchers to address pressing practical problems having to do with education and industry. These calls for practically oriented research can plausibly be argued to reflect a devaluation of more abstract ideological, physiological, and laboratory studies in favor of more action-oriented investigations. Kerr (1990) has also noted a number of recent issues that have been central in debates concerning specifically educational reform. Interpreting the findings reported in this paper, therefore, will probably require a broader perspective than that provided by the concept of negativity bias alone.

Obviously, in this kind of preliminary study, it is premature to seek out

a single interpretation that excludes all others, or even to suppose that all reasonable interpretations have been identified - almost certainly, they have not. It is, however, interesting to note the apparent confirmation of Czapinski's hypothesis of a relationship between democratization and negativity bias. It is also interesting to consider what, if any, relation the negativity bias may have with the noted declines in numbers of published studies in general psychology, human experimental psychology, and physiological psychology.

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Table 1

Topic categories for the articles included in the study

2100 General Psychology

2200 Psychometrics

2300 Human Experimental Psychology

2400 Animal Experimental and Comparative Psychology

2500 Physiological Psychology

2600 Physiological Intervention

2700 Communication Systems

2800 Developmental Psychology

2900 Social Processes and Social Issues

3000 Social Psychology

3100 Personality

3200 Physical and Psychological Disorders

3300 Treatment and Prevention

3400 Professional Personnel and Professional Issues

3500 Educational Psychology

3600 Applied Psychology

3700 Sport Psychology and Leisure