

***The Language of Risk in Psychology:
A Social Constructionist Analysis of a Psychological Database***

Mary Jane Paris Spink^{1 2}

Pontifícia Universidade Católica de São Paulo, Brazil

Vera Mincoff Menegon

Universidade Católica Dom Bosco, Campo Grande, Mato Grosso do Sul, Brazil

Jefferson de Souza Bernardes

Universidade Federal de Alagoas, Maceió, Alagoas, Brazil

Angela Elizabeth Lapa Coêlho

Universidade Católica Dom Bosco, Campo Grande, Mato Grosso do Sul, Brazil

Abstract

This paper discusses psychology’s contribution to the language of risk — the set of historically constructed discursive practices used to refer to behaviour in situations open to the possibility of gains or losses. A sample of 433 PsycINFO abstracts published between 1887 and 1998 was analysed considering the growth rate for publications with risk* in title and the use of the risk concept in different areas of psychology. The distribution of references per area suggests that there were four periods of incorporation of the risk concept in psychological literature: 1887-1949; 1950-1969; 1970-1989 and 1990-1998. Publications tended to address two issues - *who is at risk and why people take risks* reflecting psychology’s concern with subjectivity. Results also suggested that the risk concept has been imported a-critically from other disciplines without discussion of its implications for governmentality.

Keywords: Discursive practices; language of risk; psychological databases; PsycINFO; governmentality.

**El Lenguaje del Riesgo en la Psicología:
Un Análisis Socio-construccionista de una Base de Datos Psicológicos**

Compendio

Este trabajo discute la contribución de la Psicología para el lenguaje del riesgo – el conjunto de prácticas discursivas construidos históricamente usado para referirse al comportamiento en situaciones abiertas a la posibilidad de ganancias y pérdidas. Una muestra de 433 resúmenes publicados en la PsycINFO entre 1887 y 1998 fue analizado considerando la tasa de crecimiento en las publicaciones con riesgo* en el título y el uso del concepto de riesgo en diferentes áreas de la Psicología. La distribución de referencias por áreas sugiere que existan 4 períodos de incorporación del concepto de riesgo en la literatura de la Psicología: 1887-1949; 1950-1969; 1970-1989 y 1990-1998. Las publicaciones tendieron a dos cuestionamientos – quién está en riesgo y por qué las personas se arriesgan reflejando la preocupación de la Psicología con la subjetividad. Los resultados sugirieron también que el concepto de riesgo ha sido importado de forma indiscriminada de otras disciplinas, sin la discusión de sus implicaciones en la gobernabilidad.

Palabras clave: Prácticas discursivas; lenguaje del riesgo; base de datos psicológicos; PsycINFO; gobernabilidad.

The specific purpose of the research here reported was to understand psychology’s contribution to the language of risk. With this aim, we opted to examine a psychological database in order to comprehend the time and manner through which risk repertoires entered into psychological literature, as well as the use of the risk concept in different areas of psychology. From our point of view, databases are important vehicles for the circulation of ideas in society and, specially, for the legitimization of these ideas. Seen as

social practices, they are bound by rules for inclusion and exclusion of data, for internal organization of information and for creating specific vocabularies for retrieval of this information: the thesaurus. As such, when considering language from the point of view of repertoires available for making sense of the world, databases are important mediatic devise.

Risk has been a prominent topic in contemporary social science. It has fuelled an animated debate on epistemological issues that, as proposed by Lupton (1999), brings to the fore realist conceptions of risk based on the calculation of risk factors, socio-cultural positions (Douglas, 1992) and social constructionist positions (Rose, 2000). In a more political vein, risk has offered a standpoint from which to discuss societal changes in the transition from industrial to *risk society* with the resulting processes of governmentality (Foucault, 1991), that presupposes a complex and fluid

¹ Address: Pontifícia Universidade Católica de São Paulo, Rua Monte Alegre, 984. CEP 05014-901, São Paulo, Brazil. *E-mails:* mjspink@pucsp.br; verasonia@ucdb.br; angelacoelho@ucdb.br; jbernardes@uol.com.br.

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government network, which occurs throughout deliberations, strategies, tactics and devices, best described as bio-politics - a set of government strategies that, according to Rose (2000, p. 1), is “inextricably bound up with the rise of the life sciences”, that “has given birth to techniques, technologies, experts and apparatuses for the care and administration of the life of each and all”.

Risk-talk has become a common aspect of everyday life, specially with regards to domains of destradicionalization, reflexivization and individualization discussed by Beck (1992). These changes tend to alter the patterns of societal relations structures in industrial society, leading to new strategies of social life that have become increasingly open to imponderability such as ecological issues centered on global warming, the increased use of biotechnology and technological applications of genetic research to health. From a discursive point of view, risk-talk puts into motion linguistic repertoires that are derived from a variety of knowledge domains that have contributed to format the language of risk. Historically, this somewhat messy set of vocabulary and contexts of use have been associated with calculation:

“The language of risk is traditionally associated with the economic world of trade and insurance, the medical world of health professionals and their clients, as well as dangerous sports and individuals “risking” their lives for others. In these traditional risk situations, people assessed the risk potential of certain actions and made decisions and choices in the light of their appraisal... The perception of risk entailed a particular relationship to an essentially unknown future whose likelihood of coming about could nevertheless be calculated on the basis of extrapolating from past occurrences: a calculated socio-cultural response to potential anticipated happenings. Risk assessment and behaviour of this kind is a question of mathematics irrespective of whether the risk is explicitly or implicitly calculated” (Adam & Van Loon, 2000, p. 7)

Adam and Van Loon (2000) consider that, as we advance deeper into risk society, where risks are more messy and frequently imponderable, the language of calculation must be replaced by other genres of talk. However, looking at it from a Bakhtinian perspective (Bakhtin, 1994),³ it seems likely that the language of risk, as any other social language, is in constant movement and able to incorporate new repertoires that, side-by-side, with older forms of talk, become available for making sense of the events in our daily life. Repertoires concerning ancient meanings of risk-as-danger as well as the more traditional risk-as-probability have come to incorporate, more recently, a vocabulary related also to risk-

as-adventure, where imponderability and individualization join hands.

For the purposes of this article, therefore, language of risk is defined as the set of discursive practices used to explain experiences and behaviours in situations that are open to gains and losses. This definition stems from a review of studies on risk that addressed the use of the language of risk in late modernity (Beck, 1992, 2000; Giddens, 1998; Lupton, 1999; Spink, 2000, 2001; Spink & Menegon, 2005).

The discursive framework used in this particular study incorporated dialogical positions derived from Bakhtin (1994) and Foucaultian proposals concerning the role of discourse for the government of populations (eg., Foucault, 1991). Although closely related to social constructionism (Gergen 1985; Hacking, 1999; Ibañez, 1993) and to discursive psychology perspectives (Iñiguez, 2005; Potter & Wetherell, 1987), it is a framework that attempts to integrate relational experiences – discourse in the context of everyday communications – with a more historical archeological perspective concerned both, with the emergence and institutionalization of certain social practices and the governmentality effect they have.

A Brief History of Discourses on Risk

The word risk is of recent origin in occidental languages. It has an early presence in Latin languages in the fourteenth century and acquired the clear connotation of *running risks* in the seventeenth century. It is likely that this meaning emerged in a nautical context to talk about invisible dangers such as submerged reefs. But it was the progressive association between possibility and probability that made risk a central concept in classic modernity as well as a powerful tool for the government of populations in the transition from feudal society to one based on national states (Douglas, 1992).

As a linguistic repertoire, risk structured and was structured by sensibilities that emerged from new modalities of social relationships in classic modernity. Obviously, people faced dangers before the modern era: natural disasters and accidents have always been present, as danger or adventure. There were many ways of talking about these events: as destiny, fate, luck, danger, hazard and even chance; but not as risk.

The language of risk is not, however, homogeneous. According to Spink (2001), there are two traditions of thinking about risks that have been present in the long history of the risk repertoire. The first tradition is related to the growing need for governing populations in modern nation-states. The second inherited the positive connotations of risk as adventure.

Within the *governmentality tradition* (Foucault, 1991), a further two distinctive discourses about risk management can be found. The first concerns collective measures devised for the management of people in physical and social space. Given the increased separation of private and public spaces in modern

³ Mikhail Bakhtin (1895-1975) was a Russian linguist well known in the context of cultural and linguistic studies. He is recognized for his contributions to the concepts of dialogy and polyphony, to the discussion about the relationship between persons and society, and the aesthetic and ethical patterns of communication.

societies, these collective measures for the control of risks could not easily be applied to individual bodies in private spaces. But bodies could and did become the target of control through processes of discipline, thus leading to a second type of governmentality discourse.

In Foucaultian theorization, discipline encompasses two distinct stages. First, the discipline of bodies that takes place through the ideology of hygiene - of self, homes and morals -, a movement that spans the later part of the nineteenth century and earlier twentieth, and fuels the morality of *prevention*. As living conditions improved throughout the twentieth century, infectious diseases became progressively controlled and life expectation increased. As chronic diseases became a central preoccupation for public health, new modalities of control, based on bio-power, came into play and lifestyle became the focus of attention (Petersen & Lupton, 1996). These two modalities of discipline hygiene and lifestyle control survive today side-by-side and, in both cases, *education* has played a major role in the prevention of risks.

The second tradition in the management of risk is associated with *adventure*, and also encompasses a diversity of repertoires for making sense of risk that, in some ways, escape from the overwhelming pull of governmentality. The adventure tradition antecedes classic modernity, carrying old connotations that make *running risks* a necessary preamble for gains of a certain kind. This tradition is reinterpreted in modern society in two distinct types of discourse. The first is that of Economics. Running risks is an intrinsic element of the know-how of this domain, despite the variety of protective mechanisms that are in operation (monitoring risk indices, diversifying investments and insurance among them). Some of the repertoires of adventure, such as courage and discernment, have been incorporated into talk about investments.

The second discourse within this tradition is profoundly bound up with sensation seeking and can be understood within the framework of games proposed by Caillois (1958). Some modalities of games and risk-adventures have become *domesticated* and thus reintegrated within the governmentality tradition. Thus, rules, regulations and safety equipment of all kinds, as well as the emphasis on the character formation role of risk-adventure (as in the *Outward Bound* programmes) have provided the opportunity for *flow* (Csikszentmihalyi, 1975) with a safety belt. But, in obvious contrast with rule-bound modalities of adventure, the literature on risk (for example, Le Breton, 1996) suggests that there is a growing number of risk-adventure activities that are centered on sensation seeking. These various modalities of sensation seeking include a variety of radical sports as well as experiences aimed at testing survival skills or suspending rationality (such as in drug taking). These new pursuits have led risk analysts to expand their theoretical

framework so as to incorporate *desired risk* (Machlis & Rosa, 1990).

This brief historical overview on the language of risk points to the fact that we have inherited certain areas of tension related to the way risk has been formatted in modern society. First, the tension between the collective strategies for risk management often sustained by legislation and the individual perspective of discipline. Secondly, the tension between objective risk - amenable to quantification by risk experts - and perceived risk - the everyday management of risks by the public. Finally, we have inherited the tension between the imperative of risk prevention (in public and private sphere) and the belief that risk experiences are essential for personal and societal development.

Psychology's Contributions to the Language of Risk: Using Databases as Research Data

In order to explore the role of psychology in formatting the language of risk the literature indexed in the PsycLIT database was analysed with two related aims: mapping the emergence of risk research in psychological literature and understanding how the risk concept was appropriated by different areas of classification adopted by the PsycINFO database.

Data collection was carried out in 1999 during the period when PsycLIT was the standard access to the PsycINFO database in institutional settings. Subsequently, as direct access through the Internet improved, PsycLIT was discontinued; on-line consultation is now made directly to PsycINFO, a service by American Psychological Association (APA) to help researchers locate the relevant psychological literature. The database has been edited since 1974 and includes journals, dissertations and research reports from over 50 countries. In 1990, it incorporated references on books and book chapters written in English and in 1998 it incorporated APA's historical archive (Psychological Abstracts) with entries dating back to 1887.

The data collection period for this research spanned from 1887 to 1998, a period that adequately addresses two fundamental issues: the inclusion of the different risk descriptors in the Thesaurus of Psychological Index Terms, and the incorporation of APA's historical archive. The various editions of the Thesaurus (now in its tenth edition) respond to the classification needs of the database and are interesting indicators of emerging areas of research and theorization. For our purposes, most of the relevant descriptors were included between 1967 and 1997: *risk taking* in 1967; *at risk populations* in 1985, risk analysis terminology in the 1990's (*risk analysis* in 1991, *risk management* and *risk perception* in 1997) and *sexual risk taking* in 1997.

Two procedures were adopted for data collection: 1) a survey of all the literature indexed in PsycLIT from 1887 to 1998; 2) the definition of a sample of reference abstracts. For

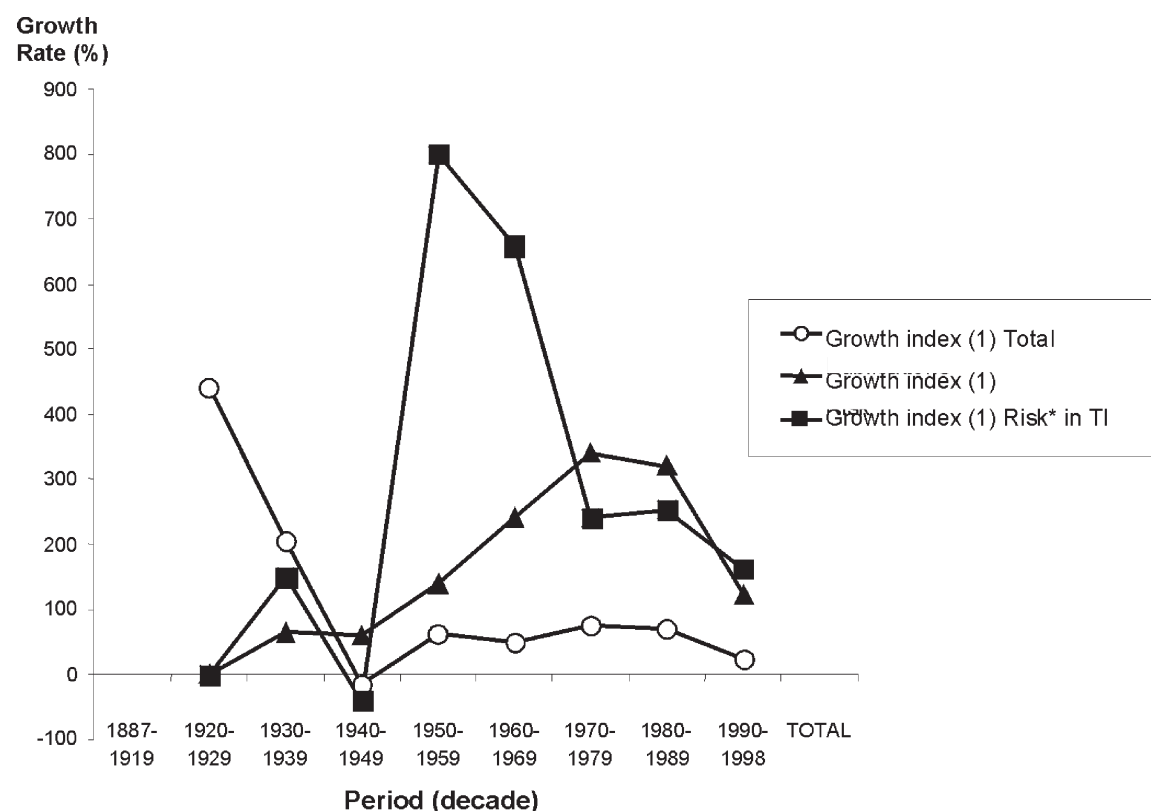


Figure 1. Growth rate from 1887 to 1998 – Risk publications versus PsycINFO total publications

the initial survey, the following data was registered for each year: number of references; number of references with the root risk (*risk**) in any of the search fields and references with *risk** in the title (Risk* in TI). The use of *risk** is a strategy for inclusion of composed words, prefixes, suffixes and plural. The decision to work with titles, as opposed to descriptors (DE), was based on the reasoning that titles were indicative of the centrality of risk in the text.

A total of 1,353,603 references, published between 1887 and 1998, had been included in the database at the time this research was carried out. The word *risk** was present in 39,598 references and in the title of 9,868 references. The growth rate for publications per decade was calculated for the total of references in the database, references with the word *risk** in any field and those with *risk** in the title (Figure 1). Results show a greater increase of references on risk than references as a whole, specially from 1950 onwards which corresponds to the heyday of the risk analysis frame of reference.

This initial survey served as a basis for the calculation of a sample of 433 abstracts with *risk** in the title ($\alpha=0.05$) used for the more detailed analysis of the use of the language of risk. The sample was calculated so as to include all references found in the period 1887-1959 ($n=37$) and a proportional number for each decade of the period 1960-1998. A table of random numbers was used for the definition of articles to be included in the sample for this latter period.

Analysis was carried out in two phases. First, the use of the language of risk in the 433 titles included in the sample was examined for each of the 22 areas of the classification system used by PsycINFO. Second, a qualitative analysis of all abstracts in the sample was carried out in order to understand the differential use of the language of risk within the classification areas.

Risk by Classification Areas: A Time Line

The distribution of the sample articles per decade according to the different areas of psychology in the classification system adopted by PsycINFO is presented in Table 1. The distribution of references per area suggests that there were four periods of incorporation of the language of risk in psychology.

The first period spans from 1887 to 1949. Publications focusing risk were few ($n=12$), and did not address risk as a formal concept. The first article located dates from 1928, and it is an example of the use of the word *risk* in a less formalized context. The article was published in a German Christian magazine with the title *Faith as Risk*.

The second period 1950 to 1969 represents the peak of risk measurement and the experimental analysis of risk behavior. One third (34,8%) of the references with *risk** in title for this period were classified in Human Experimental Psychology (Area 23). In fact, the 24 references classified as Human Experimental Psychology in this period represent 63% of the total sample references ($n=38$) of the area.

The third period, 1970 to1989 is characterized by the hegemony of Psychological and Physical Disorders (Area 32) and Health and Mental Health Treatment and Prevention (Area 33), totalizing, respectively, 35% and 19,5% of the 154 references found in the period. The data also suggests that risk research had become central to these two area with an increase from 33,1% to 58,3% between periods three and four for Area 32 and 39% to 58,4% for Area 33. Curiously, it also shows the rise and fall of the contribution of Social Psychology (Area 30) to the study of risk. In the 1970’s, 11 references concerned risk whilst in following decade none were present in the sample. This period also marked the emergency of new areas of psychology where the risk concept began to be incorporated: Engineering and Environmental Psychology (Area 40), Professional, Psychological and Health Personnel Issues (Area 34) and Developmental Psychology (Area 28). It was also observed a renewed interest in risk studies within the Psychometrics and Statistical and Methodology (Area 22).

The fourth period -1990 to1998 - is characterized by the consolidation of the hegemony of Psychological and Physical Disorders (Area 32) and Health and Mental Health Treatment and Prevention (Area 33) now clearly devoted to a biomedical approach to risk. It is worth noticing that the publications regarding Aids were classified in those areas and there is no doubt about the prevalence of this theme in

the production of this decade. Also during this period, the risk approach was incorporated into traditional areas of research, such as Educational Psychology (Area 35) and Industrial and Organizational Psychology (Area 36), as well as to new areas, such as Communication Systems (Area 27) and Forensic Psychology and Legal Issues (Area 42).

The Centrality of the Risk Concept in the Different ClassificationAreas

The variety of risk dimensions researched within psychology can be better understood through the analysis of the specific contributions of the 18 areas where the publications of the sample were classified (Table 1). The PsycINFO classification system comprised 22 main areas at the time data was collected. Abstracts with risk* in title were located in all areas but four: General Psychology (Area 21), Psychology and the Humanities (Area 26), Military Psychology (Area 38) and Intelligent Systems (Area 41).

As can be seen on Table 1, 34.8% of the publications in the sample were classified as *Psychological and Physical Disorders* (Area 32). The risk factors for psychological, physical and social disorders were the main focus of the abstracts in the sample. The concern here was to define, detect and measure risk factors so as to better predict who is at risk.

The largest number of references in this Area 32 (29%) concerned social disorders: behaviour disorders and antisocial

Table 1
Number of References with the Word Risk* in the Title by PsycINFO Classification of Psychological Areas (1887-1998)

Period(Decade)	22	23	24	25	27	28	29	30	31	32	33	34	35	36	37	39	40	42	Total(*)
1887-1919	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1920-1929	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
1930-1939	0	0	0	0	0	0	0	0	1	3	0	0	1	1	0	0	0	0	6
1940-1949	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	4
1950-1959	5	8	0	0	0	0	4	2	2	5	1	0	1	1	0	0	0	0	29
1960-1969	1	16	1	0	0	1	0	9	3	4	0	0	2	2	0	0	1	0	40
1970-1979	1	5	0	0	0	0	3	11	4	12	3	1	1	0	0	0	2	0	43
1980-1989	9	3	1	1	0	5	1	0	2	42	27	5	4	1	0	2	8	0	111
1990-1998	7	6	3	1	1	17	7	4	6	95	45	9	14	10	1	1	4	3	234
Total	23	38	5	2	1	24	15	27	18	163	77	15	23	16	1	3	15	3	469
%	4,9	8,1	1,1	0,4	0,2	5,1	3,2	5,8	3,8	34,8	16,4	3,2	4,9	3,4	0,2	0,6	3,2	0,6	99,9

Notes. (*) A total of 36 references had been classified in more than one area, hence the difference between the number of references per area (N=469) and sample size (N= 433) the difference between the final sample (469) and the original sample (433).

- Legend
- 22: Psychometrics and Statistical and Methodology

23: Human Experimental Psychology

24: Animal experimental &Comparative Psych.

25: Physiological Psychology & Neuroscience

27: Communication Systems

28: Developmental Psychology

29: Social Processes and Social Issues

30: Social Psychology

31: Personality Psychology

32: Psychological and Physical Disorders

33: Health and Mental Health Treatment & Prevention

34: Professional Education, Psychological and Health

35: Educational Psychology

36: Industrial and Organizational Psychology

37: Sport Psychology and Leisure

39: Consumer Psychology

40: Engineering and Environmental Psychology

42: Forensic Psychology and Legal Issues Personnel Issues

behaviours ($n=17$), substance abuse and addiction ($n=21$) and criminal behaviour and juvenile delinquency ($n=10$). Physical disorders also presented a considerable number of references (27%) that focused risk factors for cancer, cardiovascular disease, neurological problems and immunity disorders such as HIV infection. References classified as psychic disorders (19.6%) dealt with the risks for a bad prognostic for mental and affective disorders, including genetic risks and new diagnostic categories, such as eating disorders.

A total of 16.4% of the references in the sample were classified as *Health and Mental Health Treatment and Prevention* (Area 33) where the analysis of risk factors is seen as essential to the development of prevention programs, therapeutic decisions, and support programs for health caretakers. The emphasis in these references tends to be on *who is at risk*, an issue approached from the perspective of different types of care ($n=22$); treatment of physical diseases ($n=18$); rehabilitation ($n=12$) and side effects of pharmacological treatments ($n=11$).

Analysis of risk factors was used in order to prevent hospitalization and institutionalization, understand the factors associated with caretakers' violence towards patients as well as to devise programs of formal support for caretakers. With regards to treatment, there was a predominance of articles concerning welfare promotion with emphasis on risk reduction. Rehabilitation studies concerned a variety of risk behaviours such as smoking, alcohol consumption, illicit drug use, and delinquency and it is interesting to note that the use of the risk analysis framework for the study of illicit drugs increased as from 1990 in the wake of the Aids epidemic. The area also encompassed studies concerned with the side effects of pharmacological treatment that focused the evaluation of the equation risk/benefit in treatment, thus abandoning the perspective of risk factors. An example of this approach is the study that examined theoretical approaches and empirical risks and benefits related to the use of psychopharmacological medication in the treatment of children with autism (Alexander, 1996).

The approach to risk in *Human Experimental Psychology* (Area 23) centered on cognitive factors operating in decision making in risk situations. The guiding question was why do people take risks?

There seems to have been two distinct phases in the experimental approach to risk behaviour. The first can be found in studies published in the 1950's, 1960's and 1970's, and it is centered on cognitive styles. An example of this approach is the study that investigated the relationship between personality characteristics and styles in roulette betting (Cameron & Myers, 1996). The second phase, from the 1980's onwards, is characterized by the emergence of the sub-area of Cognitive Processes. The experimental situations became more complex, addressing behaviour

contingencies present in risk decisions. Typical of this approach is the comparison of different types of risks and their consequences (Wiseman & Levin, 1996).

The experimental approach appears to better characterize the contribution of psychology to interdisciplinary studies on risk. Its legacy is the association between personality styles and decision-making about risk, as well as the analysis of the context of risk information processing.

The study of the influence of group processes in decision-making is central to *Social Psychology* (Area 30), specially, in the tradition known as *risky shift* (Wallach, Kogan, & Bem, 1962). A total of 27 sampled references (5,8%) were classified in area 30 and it is worth noticing that 22 of them were published between 1957 and 1979. There was a peak in the number of publications in the 1970's ($n=11$) but, in contrast, among the 100 articles located in the sample for the decade of 1980 none was classified in the *Social Psychology Area*. Risky shift seemed to have yielded to the critics, especially regarding the generalization of experimental results to real world contexts.

Other theoretical perspectives and new research arenas emerged as from the 1980's, with the inclusion of topics such as risk perception and risk communication with reorientation of publications to new journals. Thus, in the 1960's and 1970's, the prominent journals in the Area of Social Psychology were the *Journal of Personality and Social Psychology*, the *Experimental Journal of Social Psychology*, and the *European Journal of Social Psychology*. In the 1990's, these journals did not appear in the sample; two out of the four articles published in the 1990's appeared in *Risk Analysis*, a journal specialized in studies on perception, evaluation, management and communication of risks.

The studies about risk in *Developmental Psychology* (Area 28, representing 5.1% of the total sampled) were classified, mainly, in the sub-area of *Psychosocial and Personality Development*. They were characterized by the focus on adolescence (alcohol consumption, delinquency, and pregnancy). Out of the 24 articles found in the sample, 22 were published after 1980, 17 of which in the 1990's. There are indications that this is an upcoming field of research, with methodological innovations - such as the use of narrative perspectives to understand risk behaviours, (Lightfoot, 1992) - and conceptual concerns, such as the controversy on the relevancy of the application of risk factors terminology in the context of day-care centers (Caruso, 1990).

The focus of the sample abstracts classified as *Psychometrics and Statistical and Methodology* (Area 22) was on the prediction of risk based on the epidemiological paradigm with emphasis on the use of measuring scales. An example of this approach is the article that argues for the use of prevalence data to estimate populations at risk (Stacy, 1981). The diversity regarding the concept of risk, the degree

of concept formalization and the areas of application are reflected in the variety of scientific journals where the sampled articles were published.

The studies classified as *Educational Psychology* (Area 35) were concerned with the risk of academic failure and the challenge was to determine who was at risk so as to develop programs to prevent failure and stimulate success. The research on demographic risk factors that might predict school success is an example of this approach (Worrel, 1997). The area seems to have incorporated a style of a risk analysis inherited from Epidemiology and aimed at the identification of vulnerability.

In the 1990's, a more critical perspective seems to have emerged regarding the use of the risk concept. An example of this new approach is the article that explored the possibility that the *at risk* category might be a product of the adult's world vision (Ronda & Valencia, 1994). Analysis of the abstracts also suggests the emergence of new uses of the risk concept in the education area that are more in tune with *risk society* theorization, as in the article that dealt with the role of education in teaching about environmental risks (Riechard, 1993).

The publications in *Personality Psychology* (Area 31) were quite heterogeneous. Analytic concerns included social context, group influence and increasingly focused risk perception and the overall purpose of many of the publications was to establish who is more prone to take risks. Until the 1970's, when there seemed to be a clearer definition of the personality concept, research was published in classic journals of the area, such as the Journal of Personality.

The studies classified as *Industrial and Organizational Psychology* (Area 36) focused risk perception in two complementary approaches. The first one, typical of the 1960's, was aimed at the prevention of accidents, as in the measurement of propensity to take risks in industrial environments (Williams, 1961). More recently this approach was expanded so as to include new risks, such as occupational infection by HIV (Roth & Carman, 1993), and the incorporation of comparative studies of risk perception in different occupations (Harrell, 1990). The second approach is more explicitly focused on risk management. As risk management became central for dealing with the complex risks of late modernity, it is no surprise that these studies started to be published at the end of the 1980's.

The analysis of the abstracts classified as *Social Processes* (Area 29) suggests that the area might be considered as a sociological approach to Social Psychology (Farr, 1996) in contrast to the more psychological approach typical of Area 30. Even though the topics in the abstracts were heterogeneous, the various publications had a common concern with macro social processes such as social structure and gender relationships.

The publications classified as *Professional, Psychological and Health Personnel Issues* (Area 34) focused the training of

professionals for early recognition of risk situations as in the article on the ability of residents to identify risk behaviors for HIV (Curtis, Paauw, Wenrich, & Carline, 1994).

The studies classified in *Engineering and Environmental Psychology* (Area 40) concerned mainly the risks for traffic accidents. Focusing initially on the perspective of drivers, from the 1980's onwards modern environmental problems were also included in the research agenda, as in the study of human error in complex technical systems such as the nuclear energy industry (Kirwan, 1998).

The remaining areas of classification in the PsychINFO system were barely represented in the sample. However, some of the classification areas are particularly open to research on risk related topics. One such area is *Forensic Psychology and Legal Issues* (Area 42), as the regulation of risks is one arena that aptly expresses modern sensitivity to manufactured risks (Giddens, 1998), especially in the field of the civil law (Priest, 1990), because of liability claims related to damages from products and services, as well as from governmental agencies' lack of control of such risks. The discussion on the methods used in the United States to deal with risks associated with pollution and food supplies (Gillette & Krier, 1992) is an example of this trend. Other areas, although not very present in this study, are likely candidates for development of a risk approach, among them *Consumer Psychology* (Area 39) and *Communication Systems* (Area 27), given the growing concern with risk communication as a risk management strategy (Fischhoff, 1995).

Discussion

The Role of Psychology in the Social Construction of Risk

As the notions of self and subjectivity have always been central to psychological theorization, the approach to risk within this discipline seems to have been focused on two issues: *who is at risk* and *why do people take risk*. In order to address the issue of *who is at risk* it is necessary to understand the biological, psychological and social factors that, alone or in combination, generate vulnerability to risk. The research task is to define these factors so as to develop objective measures of individual, group, community and even societal vulnerability, an approach that is heavily influenced by demographic and epidemiological methodology.

In contrast, when considering the question *why people take risk*, it is necessary to take into account the psychosocial processes responsible for the meaning of risk situations for different people (risk perception, social representations of risk and the meaning of risks). It is also important to consider decision processes regarding risks (social interaction and information processing within experimental situations). These questions also guide studies conducted so as to understand the role of emotions on risk taking behaviour and are more open to qualitative methodologies and critical analysis.

Considering the *traditions of risk discourse* discussed in the introduction to this paper, psychology's contribution concerns mainly governmentality processes and, more specifically, the disciplinarization processes associated with prevention (through education or life-style approaches) and treatment. Integrating the temporal perspective of the analysis of the database with the literature review on psychological contribution to risk analysis, four themes emerge: risk perception (Areas 30, 36), attitudes to risk promotion and prevention (Areas 28, 32, 33), *decision making under uncertainty* (Areas 23, 30, 36, 40) and *risk-taking* (Areas 28, 29, 32, 33, 40).

As from the 1970's, *risk perception research* was greatly influenced by the methodology proposed by the Oregon Decision Research Group (for example, Slovic, Fischhoff, & Lichtenstein, 1980). These studies mostly used scales developed from qualitative aspects of a variety of risks (whether they were seen as common, fatal, catastrophic and so forth), a style of research that propitiated a number of cross-cultural studies. Meta-analysis reviews of the literature in this area (Boholm, 1998) have suggested the need for methodological and theoretical refinement, and have pointed out two main difficulties: risks tend to be context bound and are sensitive to experience, whether direct or mediated by access to relevant information.

Vigorous criticism to risk perception research has also come from cultural theorists associated with Douglas and Wildavsky (1983). With strong anthropological connotations, this perspective emphasizes the role of world views on the definition of risks, hence criticizing the psychological perspective on risk perception for ignoring inter-subjectivity, the search for consensus and social influences in risk decisions.

Research and theory have also been strongly influenced by the need to understand *attitudes to health promotion and the prevention of disease*. Psychosocial theorization about health behaviour, according to Ogden (1995), runs parallel to theories about health policy. From an initial focus on external factors, it went on to emphasize information processes in interaction with the environment and, more recently, to focus on the *self-at-risk*; that is, on identity as an intra-active phenomenon.

Psychological theory for understanding *risk prevention* followed a similar movement. Thus, in the first half of the twentieth century, the focus was on external factors that impacted on individual health. Prevention efforts, therefore, were aimed at minimizing external forces, hence the importance of legislation (as in Public Health) and education (as in hygiene). From the 1960's on, psychological theories strived to understand people in interaction with their environment and the theoretical focus was displaced to *information processing*. One of the most influential theories on information processing in the health arena was the *Health Belief Model* (Rosenstock, 1966). Towards the end of the

century, these models were expanded to include internal variables, such *self efficacy* (Bandura, 1977), where people are seen to interact both with the external environment and with their own selves. This re-orientation signals the predominance of the social cognition models in health psychology.

The Aids epidemic, where external infectious agents enter into the body through social practices associated with life-style, has become a powerful antidote for the individualizing tendencies of the dominant models for the explanation of risk behaviours in health. The need to explain resistance to preventive information regarding risk practices related to sexuality and drug use, fuelled criticism of the individualistic frame of many psychological models of explanation. Within these critical strands of the debate, risk behaviours are seen as negotiated practices between at least two persons (Rhodes, 1997).

With regards to *decisions in situations of uncertainty*, two important contributions are closely related to psychology although devised within the framework of economic theory. The first is Game Theory (Von Neumann & Morgenstern, 1947), a highly mathematical model of decision-making that has been influential in management and military strategy. The second has a strong cognitive flavour and is focused on individual ability to process information (Kahnemann & Tversky, 1979; Tversky & Kahnemann, 1981).

Although expressed in terms of probability and employing the language of utility, this second trend of research in decision making under uncertainty is definitely a psychological approach to the risk debate. From this set of research comes the powerful insight that losses are more salient than gains, that context has an important impact in preferences concerning degree of risk and that values and beliefs frame decision processes.

In contrast, research concerning risk-taking, specially in the mode of *risk-adventure*, is less influenced by cognitive models. Traditionally, psychosocial theorization in this area has tended to focus on one of two aspects. The first concerns the emotional experience of adventure, as in Csikszentmihalyi's (1975) discussion of *flow*. Associated with this trend, there have been attempts at developing scales to tap risk-taking as a dimension of personality (for example, Zuckerman, 1979). The second aspect has a more sociological flavour and looks at risk-adventure from the point of view of the role it plays on the regulation of social tension, as in Le Breton's (1996) work on the passion for risk where the author provides a typology of risk experiences in order to analyse present-day modalities of risk-adventure. It is important to note that the tradition of risk adventure was not present in the sample of publications that was analyzed and it is likely that this literature is indexed in other databases more related to sociology and anthropology.

Although psychology has fully incorporated the language of risk, the results of this research suggest that the concept of risk has been imported a-critically from other domains. Few publications questioned the use of the risk concept or attempted to extend the perspective so as to incorporate cultural aspects.

Critical approaches to the risk concept seem to be situated mostly in the areas of developmental and educational psychology. Further analysis of the production in these areas is necessary so as to understand the reasons for this more critical perspective. In the specific case of developmental psychology, two articles with a more critic approach were found, both already mentioned: the first, published by Caruso in 1990, is part of a debate on the concept of developmental risk; the second, published by Lightfoot in 1992, adopted a narrative perspective to portray risk as a worldview that is specific to each social group. The trend to take risk as a cultural category is also present in the area of educational psychology, where the definition of risk is seen as a product of the worldview of socially positioned teachers.

Certainly, the most critical literature about the risk concept in psychology seems to be a byproduct of the impact of research on Aids – a scenario known for its potential to bring new meanings to social research. However, the most critical production in the area of Aids seems to come from anthropology, urban sociology and feminist studies, which tend to adopt an interdisciplinary approach that perhaps falls beyond the scope of the PsycINFO database.

Concluding Remarks

Why should the contribution of psychology to the language of risk be a relevant topic for research? And why approach this contribution from the perspective of literature databases? Language both creates and naturalizes a variety of social phenomena, risk among them. Social languages – ways of talking that are common to social groups (Bakhtin, 1994) – are powerful mechanisms for the naturalization of human symbolic constructions. And understanding the process of naturalization is a central task of constructionist research. However varied the epistemological and theoretical basis of constructionist positions, there is at least a common thread running through them: that “X need not have existed, or need not be at all as it is. X, or X as it is at present, is not determined by the nature of things; it is not inevitable” (Hacking, 1999, p. 6).

The X in question – the notion of risk – has been approached in very diverse manners in different knowledge domains, each of them contributing repertoires for talking about future events: the language of risk. Psychology’s contribution to this vocabulary gives a subjective spin to epidemiological notions of risk factors, bringing to the fore predispositions, motivations, emotions and cognitive styles as an input for the definition of problematic or abnormal behaviour.

The data presented seems to suggest, as happened in other domains of knowledge, that, as from the 1950s – following the golden years of risk analysis – risk has been fully incorporated into psychological theorization and research. This incorporation, however, has taken place without much consideration about the effects of risk-talk for disciplinarization purposes. As pointed out by Bradley and Morss (2000, p. 519),

“In standard forms of empirical psychology, the concept of risk is a useful addition to discourses that construct and fix the social boundaries between “anormality” and “normality” ... The value of the idea of risk from this perspective is that it adds a new dimension of predictive calculability to discussion about who is or not “problematic” (abnormal)”.

References

Adam, B., & Van Loon, J (2000). Introduction: Repositioning risk; the challenge for social theory. In B. Adam, U. Beck & J. Van Loon (Eds.), *The risk society and beyond* (pp. 1-31). London, UK: Sage.

Alexander, G. (1996). Psychopharmacological treatment of autism in children: Rationale, risks and benefits. *Italian Journal of Intellectual Impairment*, 9, 133-138.

Bakhtin, M. (1994). The problem of speech genres. In C. Emerson & M. Holquist (Eds.), *Speech Genres and other late essays* (pp. 60-102). Austin, USA: University of Texas Press.

Bandura, A. (1977). Self efficacy: Towards a unifying theory of behaviour change. *Psychological Review*, 84, 191-215.

Beck, U. (1992). *Risk society: Towards a new modernity*. Cambridge, USA: Polity Press.

Beck, U. (2000). Risk society revisited: Theory, politics and research programmes. In B. Adam, U. Beck & J. Van Loon (Eds.), *The risk society and beyond* (pp. 211-229). London, UK: Sage.

Boholm, A. (1998). Comparative studies of risk perception: A review of twenty years of research. *Journal of Risk Research*, 1, 135-63.

Bradley, B. S., & Morss, J. R. (2000). Social construction in a world at risk. *Theory and Psychology* 12, 509-531.

Caillois, R. (1958). *Les jeux et les hommes*. Paris, France: Gallimard.

Cameron, B., & Myers, J. L. (1996). Some personality correlates of risk taking. *Journal of General Psychology*, 74, 51-60.

Caruso, D. (1990). The concept of developmental risk: Response to Berge. *Infant Mental Health Journal*, 11, 374-376.

Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety*. San Francisco, USA: Jossey-Bass.

Curtis, J. R., Paauw, D. S., Wenrich, M. D., & Carline, J. D. (1994). Internal medicine residents skills at identification of HIV risk behaviour and HIV related disease. *Academic Medicine*, 69, 545-547.

Douglas, M. (1992). *Risk and blame - Essays in cultural theory*. London, UK: Routledge.

Douglas, M., & Wildavsky, A. (1983). *Risk and culture*. Berkeley and Los Angeles, USA: University of California Press.

Farr, R. (1996). *The roots of modern social psychology*. London, UK: Blackwell.

Fischhoff, B. (1995). Risk perception and communication unplugged: Twenty years of process. *Risk Analysis*, 15, 137-45.

Foucault, M. (1991). Politics and the study of discourse. In G. Burchell, C. Gordon & P. Miller (Eds.), *The Foucault effect: Studies in governmentality* (pp. 53-72). Chicago, USA: The University of Chicago Press.

Gergen, K. (1985). The social constructionist movement in modern Psychology. *American Psychologist*, 40, 266-275.

Giddens, A. (1998). Risk society: The context of British politics. In J. Franklin (Ed.), *The politics of risk society* (pp. 22-34). Cambridge, USA: Polity Press.

Gillette, C. P., & Krier, J. E. (1992). Courts, agencies and social risk assessment. In R. L. Isaacson & K. F. Jensen (Eds.), *The vulnerable brain and environmental risks* (pp. 311-325). New York, USA: Plenum Press.

Hacking, I. (1999). *Social construction of what?* Cambridge, USA: Harvard University Press.

Harrell, W. A. (1990). Perceived risk of occupational injury: control over pace of work and blue collar versus white collar workers. *Perceptual and Motor Skills*, 70, 1351-1359.

Ibáñez, T. (1993). Construccinismo y psicología. *Interamerican Journal of Psychology*, 28, 105-123.

Iñiguez, L. (2005). Prática da análise do discurso. In L. Iñiguez (Ed.), *Manual de análise do discurso em Ciências Sociais* (2a ed., pp. 105-160). Petrópolis, Brasil: Vozes.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47, 263-91.

Kirwan, B. (1998). Human error identification techniques for risk assessment of high risk systems: Towards a framework approach. *Applied Ergonomics*, 29, 299-318.

Le Breton, D. (1996). *Passions du risque*. Paris, France: Métailié.

Lightfoot, C. (1992). Constructing self and peer culture: A narrative perspective on adolescent risk-taking. In L. T. Winegar & J. Valsiner (Eds.), *Children's development within social context* (Vol. 2, pp. 229-245). Hillsdale, USA: Lawrence Erlbaum.

Lupton, D. (1999). *Risk*. London, UK: Routledge

Machlis, G. E., & Rosa, E. A. (1990). Desired risk: Broadening the social amplification risk framework. *Risk Analysis*, 10, 161-68.

Ogden, J. (1995). Psychosocial theory and the creation of the risky self. *Social Science and Medicine*, 40, 409-15.

Petersen, A., & Lupton, D. (1996). *The new public health: Health and self in the age of risk*. St. Leonards, UK: Sage.

Potter, J., & Wetherell, M. (1987). *Discourse and social psychology: Beyond attitudes and behaviour*. London, UK: Sage.

Priest, G. (1990). The new legal structure of risk control. *Daedalus*, 119, 207-227.

Rhodes, T. (1997). Risk theory in epidemic times: Sex, drugs and the social organization of "risk behaviour". *Sociology of Health and Illness*, 19, 208-27.

Riechard, D. E. (1993). Risk literacy: Is it the missing link in environmental education? *Journal of Environmental Education*, 2, 8-12.

Ronda, M. A., & Valencia, R. R. (1994). At risk Chicano students: The institutional and communicative life of a category. *Hispanic Journal of Behavioral Sciences*, 16, 363-395.

Rose, N. (2000) The politics of life itself. *Theory, Culture & Society*, 8, 1-30.

Rosenstock, I. M. (1966). Why people use health services. *Milbank Memorial Fund Quarterly*, 44, 94-124.

Roth, N. L., & Carman, J. (1993). Risk perception and HIV legal issues in the work place. In L. Diamant (Ed.), *Homosexual issues in the workplace* (pp.173-186). Washington, DC: Taylor & Francis.

Slovic, P., Fischhoff, B., & Lichtenstein, S. (1980). Facts and fears: Understanding perceived risks. In R. C. Schwing & W. A. Albers (Eds.), *Societal risk assessment* (pp. 181-214) New York, USA: Plenum Press.

Spink, M. J. (2000). Contornos do risco na modernidade reflexiva: contribuições da psicologia social. *Psicologia & Sociedade*, 12, 156-173.

Spink, M. J. (2001). Trópicos do discurso sobre risco: risco-aventura como metáfora na modernidade tardia. *Cadernos de Saúde Pública*, 17, 1277-1311.

Spink, M. J., & Menegon, V. S. M. (2005). Práticas discursivas como estratégias de governamentalidade: a linguagem dos riscos em documentos de domínio público. In L. Iñiguez (Ed.), *Manual de análise do discurso em Ciências Sociais* (2a ed., pp. 258-311). Petrópolis, Brasil: Vozes.

Stacy, E. (1981). On defining at-risk status. *Evaluation and Program Planning*, 4, 363-375.

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211, 453-58.

Von Neumann, J., & Morgenstern, O. (1947). *Theory of games and economic behavior*. Princeton, USA: Princeton University Press.

Wallach, M. A., Kogan, N., & Bem, D. J. (1962). Group influence on individual risk taking. *Journal of Abnormal Psychology*, 68, 263-274.

Williams, L. K. (1961). The measurement of risk-taking propensity in industrial settings. *Dissertation Abstract*, 21, 3847-3848.

Wiseman, D. B., & Levin, I. P. (1996). Comparing risk decision making under conditions of real and hypothetical consequences. *Organizational Behavior and Human Decision Processes*, 66, 241-250.

Worrel, F. C. (1997). Predicting successful or non-successful at-risk status using demographic risk factors. *High School Journal*, 81, 46-53.

Zuckerman, M. (1979). *Sensation seeking: Beyond the optimal level of arousal*. Hillsdale, USA: Erlbaum.

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Mary Jane P. Spink is Professor of Social Psychology at the Pontifical Catholic University of São Paulo, Brazil. Her research interests concern discursive practices of everyday life and the use of risk discourses as governamentality strategies. She has published extensively on issues related to a critical perspective in psychological theory and epistemology. Email: mjspink@pucsp.br

Vera Mincoff Menegon is lecturer in Health Psychology and Social Psychology at the Universidade Católica Dom Bosco (UCDB), Campo Grande, Mato Grosso do Sul, Brazil. Her research and publications are focused on the production of meaning in the health arena with emphasis on the use of social languages in public documents and in discursive practices in everyday situations. Email: mincoff@uol.com.br

Jefferson de Souza Bernardes is lecturer in Psychology at the Universidade Federal de Alagoas (UFAL), Maceió, AL, Brazil. His research interests are focused on historical and discursive aspects of professional development in the psychology area. Email: jbernardes@uol.com.br

Angela Elizabeth Lapa Coelho is a lecturer in Health Psychology and Social Psychology at the Universidade Católica Dom Bosco (UCDB), Campo Grande, Mato Grosso do Sul, Brazil. Her research interests concern the health area, with emphasis on aids and cancer. She also carries out research on natural disasters, triangulating Environmental Psychology, Social Psychology and Health Psychology. E-mail: angelacoelho@ucdb.br