

Mapping the Research Domain in the Field of Applied Psychology: A Bibliometric Analysis of the Emerging Literature

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The current study, based on a content analysis of the recent literature, presents a barometer on the major emphasized topical areas and research streams in the field of Applied Psychology. The bibliometric analysis included a review of 675 articles published in the top-tier publication: *Journal of Applied Psychology*, for years 2007-2015 inclusive. The data analysis showed that the most popular investigatory topics, in recent years, focus on a broad range of both traditional and emergent areas in applied psychology: (in rank order) teams, theoretical frameworks and models, methods/data analysis, organizational justice, leadership, ethics/values, work-family issues, abusive supervision, turnover, personality factors, performance appraisal, LMX theory, personnel selection, incivility, and worker creativity. These issues have been reported as major research topics in prior bibliometric studies of Industrial/Organizational Psychology (see Cascio & Aguinis, 2008; Piotrowski, 2014). In addition, a host of popular topics evident in major texts across the field of applied psychology were found to be somewhat underrepresented, i.e., job loss, assessment centers, sleep-shift factors, diversity issues, sexual harassment, crisis management, entrepreneurship, retirement issues, absenteeism, leisure, work recovery, and employee compensation. This analysis illustrates a foundation for mapping the intellectual structure and research domain of the emerging literature in applied psychology.

Keywords: Applied Psychology, Taxonomy, Topical Analysis, Bibliometrics, Scholarly Mapping

The field of Applied Psychology spans across diverse domains of the human enterprise, including the areas of education, professional human services, health care, the law, military life, government, political processes, human factors, and business applications. Although, most of these areas are promoted and function as individual disciplines (with unique publication outlets), several scholarly journals, over the past century, have served as research repositories that have reflected both empirical and theoretical investigatory findings across the general field of applied psychology. The importance of applied research is perhaps, best evident in the recent initiative of 'Translational' sciences that portray the aspirational nature of applying knowledge gained from basic research towards adaptations to solving human problems in the real world. However, due to the voluminous nature of the extant literature in the select field of applied

psychology, obtaining a clear perspective on the breadth of investigatory interest, over the years, seems rather elusive. Thus, in order to grasp emerging developments and research attention devoted to select issues in the field, a systematic review and analysis of the literature seems in order.

Bibliometric analysis is a recognized and valid means of gaining a detailed perspective on research trends in the extant literature. Indeed, bibliometric approaches have been productively applied, over the past 50 years, in the social sciences (Nederhof, 2006; Schui & Krampen, 2010) and across business fields such as management (Fernandez-Alles & Ramos-Rodriguez, 2009; Podsakoff et al., 2008) and Industrial/Organizational Psychology (I/O) (Carlson & Millard, 1984; Meltzer, 1973; Piotrowski, 2012; Stock-Kupperman, 2011).

Moreover, examination of repositories of the scholarly literature, in order to gain a historical perspective of disciplines like organizational science, has provided a utilitarian and educational view of published research over time (e.g., Stagner, 1982; Zickar, 2015).

Perhaps, the most recognized bibliometric tool is referred to as 'Content Analysis' (see Krippendorff, 2004), which has been used in the field of Applied Psychology (i.e., Luse, Mennecke, & Townsend, 2012; Neall & Tuckey, 2014; Piotrowski & Armstrong, 2004). Over the years, this investigative technique has been particularly applied to the analysis of topical trends and aggregated publication characteristics of scholarly journals (e.g., Cox & Catt, 1977; Piotrowski, 2012). In fact, a host of studies have analyzed individual journals in the areas of applied behavioral science, management, I/O Psychology, and business-related issues (Brutus et al., 2013; Brutus et al., 2010; Giraud & Autissier, 2013; Lin et al., 2010; Miles & Naumann, 2011; Mirvis, 2014).

Literature Review

Several systematic reviews have reported detailed findings on the knowledge domain of the field of applied psychology, specific to industrial-organizational (I-O) psychology, over the past 50 years. Stagner (1982) analyzed the nascent literature in the I/O field and concluded that despite advances in the sophistication of research methods, the prominent areas of research focused on personnel selection, training, work performance, job satisfaction, and employee mental health. In an examination of the robustness of validity studies published in the Journal of Applied Psychology from 1964-1982, Schmitt et al. (1984) found that performance rating criteria generally produced lower validity coefficients. In terms of predictors, these investigators reported that cognitive ability tests were not superior to other predictors such as assessment centers, work samples, and job evaluations with personality measures was the least valid. In an extensive analysis on 'philosophical influences' of 4000 published articles from 23 management journals from 2002-2006, Adcroft and Willis (2008) concluded

that egalitarian and positivist approaches captured the scholarly framework of the majority of studies. In a related study based on a content analysis of the Journal of Business Ethics, Piotrowski and Guyette (2012) identified neglected topical areas of influence. Interestingly, a study on the intellectual impact on the Journal of Organizational Change Management, from 1995-2011, showed that books seemed to have a greater influence than highly-cited articles by top scholars (Giraud & Autissier, 2013).

Recently, Cascio and Aguinis (2008) conducted a content analysis of 5,780 articles of two top-tier journals. The most popular topical areas for the Journal of Applied Psychology, from 2003-2007, included issues like satisfaction with the work setting and one's responsibilities, work groups-teams, employee's appraisal in terms of work performance, organizational culture and climate, and outcome measures. These findings, to a moderate degree, varied somewhat to the subject matter areas emphasized between 1963-1972 in Journal of Applied Psychology, i.e., ergonomic factors, psychometrics-testing issues, career areas of interest, and approaches in research design. These investigators concluded that the field has divergent goals related to topical research emphasis versus issues considered salient in practice settings. Using a bibliometric approach with a focus on keywords, Miles and Naumann (2011) identified the major topics emphasized across four Academy of Management publications between 1958-2009; viz., Personnel management, decision-making, organizational effectiveness, organizational development, industry culture, employee work satisfaction and performance, leadership characteristics, motivational predictors, and productivity in teams. More recently, Piotrowski (2014) reported on investigatory interest in I/O Psychology, based on a content analysis of the recent dissertation literature. In rank order, the following were the most popular areas of research interest emphasized as the primary focus of study: Leadership, performance appraisal, theory, personality factors, personnel selection, teamwork, job engagement/satisfaction,

organizational citizenship behaviors, and organizational commitment and change.

Study Design & Methodology

The aim of this investigatory exercise is to obtain a perspective on the research emphasis of select topical areas in the discipline of Applied Psychology. To that end, the author 1) conducted a content analysis of articles published, over the last eight years, in a top-tier journal in this field (Journal of Applied Psychology, hereon JAP), and 2) compared the results to prior studies on research trends in I/O Psychology. Since, the JAP is considered a prestigious publication outlet for research in applied psychology this journal has been the subject of intense bibliometric study and has generated much research interest over the last 30 years (Finch et al., 2001; Gilliland & Cortina, 1997; Howard et al., 1985; Schmitt et al., 1984; Shen et al., 2011; Stone-Romero et al., 1995).

To date, 9,760 articles have been published in JAP from 1917. The author identified all articles published in the JAP, from July 2007-July 2015 issues via the database PsycINFO. From this pool of 876 articles, about 200 were 'corrections', introductions to special issues, or editorial commentaries. Thus, the data-set for the current analysis involved 675 articles. Since the objective was to identify the major focus of each study, every article was reviewed to determine the main topical emphasis as presented by the investigators of each article. To provide a systematic, coding scheme, a scoring template served as a protocol for tabulation of frequency counts across topical areas. Thus, a distribution of topical areas, based on frequency count, emerged from the content analysis procedure. The evolving taxonomy ultimately reached over 100 specific topics; only those domains that were emphasized in 10 or more articles, in this data-pool, are reported here.

Although, the main focus of most articles was rather straightforward, a small minority of studies were somewhat difficult to score (for example, when more than two variables were under investigation or when the focus was on

a unique methodological approach on one key variable). However, the author (C.P.) tried to maintain objectivity and attempted to view each study from the investigator's perspective.

Results and Discussion

First, it may be informative to observe how the PsycINFO database indexes were aggregated for articles in the current JAP analysis, based on 'main topical categories'. Table 1 presents the major topical emphasis of the 876 articles in JPA, years 2007-2015, as analyzed by American Psychological Association staff. Most of these topical areas also were ranked highly in the current analysis, but several (e.g., organizational behavior) seem rather general, broad categorical depictions.

Table 1.

Top 10 Major Topical Areas in JAP Articles as Indexed by PsycINFO (2007-2015)

	N
Job performance	170
Organizational behavior	132
Employee attitudes	112
Leadership	81
Work teams	77
Organizations	55
Group performance	54
Job satisfaction	53
Organizational commitment	50
Organizational citizenship behaviors	49

Current Findings

Based on this bibliometric analysis, Table 2 lists, in rank order, the most frequently researched topics that appear in published articles in the Journal of Applied Psychology from 2007-2015. Over this time frame, there has been major emphasis on the theoretical framework, applied models, and methodological approaches; this signifies that the field of applied psychology is: a) in a prolonged nascent stage

with influences from a diverse host of scholarly stakeholders, b) struggling with inclusive and competing intellectual domains, and c) lacking consensus on conceptual frameworks and investigatory tools that foster advances in knowledge. This latter issue most probably reflects concerns with psychometric credibility on not only 'methods' used in research but, also shortcomings of measurement instruments on which reported findings are based. Moreover, these pressing issues have implications for the 'practice' of applied psychology. Professionals who are actively involved in addressing and solving a myriad of real-life challenges lack a confident, validated, evidence-based knowledge base to formulate and extrapolate solutions across applied settings.

A perusal of the top 15 topical areas that are stressed in research (Table 2), suggests that many key areas (i.e., teams, organizational justice, leadership, ethical issues, work-family factors, employee selection and performance, and personality dimensions) continue to be major emphasized areas of study. In fact, all these investigatory topics were highly ranked in recent bibliometric studies in the field of applied psychology (see Cascio & Aguinis, 2008; Piotrowski, 2014). An examination of Table 2 offers a revealing snapshot with regard to contemporary and emerging areas in applied psychology. For example, the important and central role of humanistic aspects of organizational life such as creativity, citizenship behaviors, safety climate, and the role of emotions point to an affirmation of the human experience in a frequently sterile, bottom-line business world.

At the same time, the current analysis indicates that there has been burgeoning research interest regarding several rather onerous and non-complimentary aspects of work-life like abusive supervision, incivility, workplace bullying, and counterproductive work behavior. These critical topics have recently attained wide professional attention as these issues harbor and perpetuate much discontent,

obstructionism, and organizational dysfunction reflected in the contemporary work environment (Bolton et al., 2010; Fox & Spector, 2005; Gruys & Sackett, 2003; Piotrowski, 2012, 2015). Furthermore, the current findings show that macro-issues like organizational performance have garnered attention as a worthy and important area of applied investigation. This, perhaps, reflects the integration of the academic side of I/O Psychology with the real world of business via collaborative research efforts. However, it is difficult to determine, based on the current findings, whether the academic-practice divide, as noted by Cascio and Aguinis (2008), has been narrowed over the last decade as the practice side of applied psychology appears to be focused on an aspirational orientation whereas the science side seems to be mired in traditional academic disputes. Future overview studies of the field may elucidate these tentative conclusions.

Neglected Areas of Research

At times, bibliometric investigations of specific fields shed some interesting insights on where a field has been or where it may be heading. Such advances can be elucidated by examining specific neglected areas of study (see Piotrowski, 2012; Piotrowski & Armstrong, 2004). The current data analysis provides such a keen perspective on the field of Applied Psychology. Surprisingly, a host of popular topics, covered in contemporary textbooks in this area, showed non major areas of investigation presented in JAP. The following subject areas were noteworthy: job loss, assessment centers, sleep-shift work, diversity issues, sexual harassment, impression management, crisis management, entrepreneurship, substance abuse, retirement issues, worker pay, absenteeism, burnout, psychological contract, leisure factors, work recovery, work ethic, and mentoring. While these issues tend to be presented as popular topics in the management-business literature, the current analysis indicates that these are not intensive investigatory areas in applied psychology. The reason why recent research attention has not

been directed on these apparently important topics remains somewhat speculative; however, editorial preference, reviewer bias, and selective acceptance/rejection of submitted manuscripts may be a contributing factor (Coughlin, 1989; Kepes et al., 2014).

Table 2. Rank Order of the Most Emphasized Topical Areas in JAP via Content Analysis (July 2007-July 2015; based on Total n= 675 articles)

Research Topic	N
Teams (behaviors, function, outcome, conflict)	52
Theoretical framework/Models	39
Statistical methods/design/analysis	28
Organizational justice (all types)	28
Leadership (general factors)	26
Ethics/Values/Mores	21
Work-Family issues	20
Abusive supervision	19
Turnover	18
Personality (traits, issues)	17
Individual performance appraisal	17
LMX theory	17
Personnel selection (general issues & factors)	16
Personnel selection (discrimination)	15
Incivility	15
Creativity (predictive factors)	14
Organizational citizenship (OCB)	13
Safety climate	13
Organizational performance	13
Trust issues	13
Goals (goal-setting)	13
Personnel selection (cognitive appraisal/tests)	12
Emotions in the workplace	12
Career development	12
Transformational leadership	11
Service climate	11
Negotiation	11
Training	11

Counter-productive work behaviors, customer behaviors, group issues, gender differences, Individual assessment (personnel), Big 5 factors, cross-cultural comparisons, employee performance, employee relationships, employee attitudes	10 each
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Conclusion

The current study a) presents an overview on specific topical research areas of emphasis and streams of scholarship appearing in the emerging literature in applied psychology, and b) serves as a comparative benchmark to the findings on select research domains identified in prior bibliometric studies of this rather expansive field. The current data analysis also shows that both theoretical and applied issues continue to represent a central focus in this emerging discipline. However, the linkage on the translational nature of published research findings seems to be somewhat elusive. Yet, the breadth of the emerging knowledge base seems rather eclectic, represented by over 100 salient topics. Overall, these comprehensive investigatory interests, perhaps, reflect the robust nature of the field of applied psychology. It must be noted, however, that while mapping the intellectual structure of this discipline seems to be a worthy endeavor, scholars question the application of empirical findings and their relevance for core competency in applied practice (Tett et al., 2013). Understanding the sociology and dynamics of research attention devoted to investigatory topics in the field of applied psychology may shed some light on this dilemma regarding applications in professional education and graduate-level training. Moreover, the field must recognize and address the dissonance, quite apparent, between the scholarship presented in research forums versus the professional interests, needs, and challenges confronting the contemporary practitioner in applied settings.

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