

Assessing the Scholarly Impact of Health Psychology: A Citation Analysis of Articles Published From 1993 to 2003

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Objective: We conducted a citation analysis to explore the impact of articles published in *Health Psychology* and determine whether the journal is fulfilling its stated mission. **Design:** Six years of articles ($N = 408$) representing three editorial tenures from 1993–2003 were selected for analysis. **Main Outcome Measures:** Articles were coded for several dimensions enabling examination of the relationship of article features to subsequent citations rates. Journals citing articles published in *Health Psychology* were classified into four categories: (1) psychology, (2) medicine, (3) public health and health policy, and (4) other journals. **Results:** The majority of citations of *Health Psychology* articles were in psychology journals, followed closely by medical journals. Studies reporting data collected from college students, and discussing the theoretical implications of findings, were more likely to be cited in psychology journals, whereas studies reporting data from clinical populations, and discussing the practice implications of findings, were more likely to be cited in medical journals. Time since publication and page length were both associated with increased citation counts, and review articles were cited more frequently than observational studies. **Conclusion:** Articles published in *Health Psychology* have a wide reach, informing psychology, medicine, public health and health policy. Certain characteristics of articles affect their subsequent pattern of citation.

Keywords: citation analysis, dissemination, scholarly impact assessment

Scholarly journals are the main mechanism for the dissemination of theory and research within the behavioral, social, and clinical sciences. They are so fundamental to the spread of ideas

that it is sometimes easy to take them for granted. But it is important for scientific journals to periodically turn their critical lens inward, to examine whether the impact of published articles fulfills the mission of communicating findings to a journal's intended audience.

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This study employs citation analysis to report on publication and citation trends for *Health Psychology*, the official journal of the American Psychological Association Division of Health Psychology (Division 38). Citation analysis is a bibliometric method that has been used extensively to explore the impact of a particular journal or program of research on academic scholarship, or to trace the knowledge-dissemination patterns of a field of study. For example, a citation analysis of nursing journals compared citation rates for research studies and clinical practice articles to draw conclusions about the integration of research and practice in the nursing literature (Oermann, 2006). Another study of family medicine research examined both the citation rate for family medicine studies over 40 years and the design of studies being published to provide an understanding of the quality of this body of literature in comparison to other medical fields (Mendis & Solangarachchi,

2005). Citation analysis has also been used to compare the relative research productivity of different countries (Fava, Guido, & Sonino, 2004), and to identify the most important scholars in the field of psychology (Griggs & Proctor, 2002). Thus, citation analysis enables a greater understanding of the impact of different research agendas, methods, and topics, providing guidance for editors, authors, and journal readership.

The mission of Division 38, according to the official website, is to advance contributions of psychology as a discipline to the understanding of health and illness through basic and clinical research that integrates biomedical information about health and illness with current psychological knowledge. At its core, Division 38 aims to educate the scientific community and the lay public about current research on the psychology of health and illness, and to contribute to improving health care services and formulating health policy (see, <http://www.health-psych.org/AboutWhatweDo.cfm>).

The goal of the present study was to conduct a descriptive analysis of *Health Psychology's* impact on the field, in order to assess how the journal is helping to achieve the aims of Division 38, particularly in terms of disseminating findings to the scientific community and contributing to improvements in health care services and formulation of health policy. Although assessing the direct impact of a journal in influencing health services and policy is difficult, we intended to use citation rates, particularly in journals outside of psychology, as a proxy of the degree to which the findings published are reaching audiences in these fields. To this end, we examined the type of journals (psychological, medical, and public health/health policy) citing articles published in *Health Psychology*. We assumed that citations of *Health Psychology* articles in medical and other nonpsychology journals provide an indication of impact on these specific fields. We also explored whether specific article features had a significant impact on subsequent citation rates.

Methods

Sample Data

Citation data were retrieved during the summer of 2006 from the ISI Web of Science, a widely used database that tracks the citations of peer-reviewed articles published in scientific journals. Data were retrieved for three 2-year periods, beginning with 1993 because these were the earliest published articles that were available to us electronically. For each 2-year period we retrieved citation data on all articles published during this time period. The time periods we focused on represent three editorial tenures of *Health Psychology*: Karen A. Matthews, Ph.D (Tenure, 1990–1994, data retrieved: 1993, 1994; 113 articles), David S. Krantz, Ph.D. (Tenure, 1995–1999, data retrieved 1998, 1999; 144 articles), and Arthur A. Stone, Ph.D. (Tenure, 2000–2004, data retrieved 2002, 2003, 151 articles). Due to the lag from acceptance to publication of an article, the articles published in the journal during the initial years of an editor's tenure frequently spillover from the previous editor. Therefore we focused our sampling on the later years of each editor's tenure. For Stone's tenure we decided not to include the last year of his editorship, to ensure sufficient time for published articles to have been cited by other published articles.

Coding of Articles

Rather than focusing only on raw citation data, each published paper was coded for several dimensions to enable exploratory analyses examining the relationship of article features to subsequent citations rates. The coding categories, shown in Table 1, were developed iteratively by the authors, using articles published in years that were not included in our sample to refine and calibrate the coding categories and definitions. For each iteration of the coding scheme, every author coded the same set of 10 articles. This was done with five separate calibration samples until we arrived at coding definitions that produced a high level of agreement across coders. The final aggregate agreement across coders for the last calibration sample was 87.5%, implying that multiple coders agreed in almost 9 out of 10 cases, on average.

Journals Citing Articles Published in Health Psychology

The 408 articles in our sample were subsequently cited in 1299 different scientific journals representing a myriad of disciplines. While the ISI Web of Science categorizes journals into specific domains, in many cases journals are classed into multiple categories. For example, the *American Journal of Community Psychology* is classed into three categories: psychology, public health, and social work. In order to simplify our analysis we decided to assign each journal to one of four overarching categories that were relevant to our research question of whether *Health Psychology* is meeting its mission: (1) psychology journals ($N = 284$), (2) medical journals ($N = 709$), (3) public health and health policy journals ($N = 125$), and (4) other journals ($N = 181$). The "other" category included a diverse group of journals, for example: *Administrative Science Quarterly*, *Journal of Applied Communication Research*, and *Risk Analysis*, among others. Four authors (AJT, CAL, DLF, DS) assigned each journal to one overarching category, reaching agreement on 81.5% of journals. The remaining 18.5% of journals were assigned to one category through consensus discussions among the four coders.

Analysis

As noted in our introduction, our chief aims were to explore where articles published in *Health Psychology* were subsequently cited, and how features of the articles impacted subsequent citation rates. We first describe the proportion of citations in different journal categories over time. We used multivariate analysis of variance (MANOVA) to explore whether different article coding categories had an effect on the proportion of citations in different categories of journals. Proportion data were analyzed using arcsine transformations, but we report the actual proportions for ease of interpretation. Tukey's HSD test was used to adjust for multiple comparisons when the independent variable had more than two levels. We used multivariate regression to explore the impact of our article coding categories on overall citation rates. We used a log transformation to normalize the data. The regression coefficients were converted into percentages to illustrate how differences in the independent variable impacted subsequent citations. Finally, for each of the 6 years of articles included in our sample, we identified the two articles that were both most widely and most

Table 1
Coding Categories for Published Articles

Category and response choices	Proportion of sample
Type of article/study	
Observational study	63.3%
Intervention/treatment or experimental manipulation	27.6%
Review	3.4%
Theoretical/conceptual article	1.2%
Commentary or editorial	3.9%
Other type of article (e.g., introduction to special issue)	0.5%
Sample size (<i>N</i>)	
1–200	51.2%
201–500	26.0%
501–1,000	9.8%
1,001–5,000	10.3%
5,001 or greater	2.7%
Sample gender	
Males only	8.7%
Females only	20.6%
Males and females	70.7%
Source of sample	
College students	12.7%
Clinical/patient sample	43.4%
Community/general population sample	35.0%
Health care providers (e.g., physicians, nurses, psychologists)	0.5%
Other	8.4%
Type of medical condition	
Healthy populations	37.9%
Additional sub-categories covered a range of common medical conditions of which the most common ones were cancer (12.6%), cardiovascular disease (12.6%), HIV/AIDS (11.0%) and musculoskeletal conditions (2.8%)	62.1%
Sample age	
Infants (0–1 year)	0.6%
Children (1–12 years)	5.3%
Adolescents (13–18 years)	8.3%
Young adults (19–25 years)	17.5%
Adults (26–50 years)	46.9%
Older adults (51–65 years)	14.4%
Elderly/geriatric (65+ years)	6.9%
Sample race	
General population convenience sample	86.6%
General population representative sample	8.7%
Focus on subpopulation of African descent	3.3%
Focus on subpopulation of Asian descent	0%
Focus on subpopulation of Latino descent	1.1%
Focus of other subpopulation	0.3%
Does the article make a clear statement of its hypotheses?	
Yes	67.4%
Does the article discuss the theoretical implications of its findings?	
Yes	48.9%
Does the article discuss the practice implications of its findings?	
Yes	45.9%
Does the article discuss the policy implications of its findings?	
Yes	9.5%

frequently cited. This was done by creating a new variable to describe the breadth of an article's citations. First, we calculated the median proportions of citations in each of the four journal categories. Each article in our sample was then assigned a value of 1 for the journal category if the proportion of citations in that

category was above the median or a value of 0 if the proportion of citations was at or below the median for that category. We then summed these values across the four journal categories to create the new citation breadth variable with a value ranging from 0–4 (higher numbers mean greater breadth of citations). For each year in our sample we then identified the two articles that had the highest citation rates *and* scored 3 or 4 on the citation breadth variable.

Results

Characteristics of Articles Sampled

Table 1 provides an overall snapshot of the percentages of articles as categorized by our coding factors, including study type, sample size, gender proportion, source of sample, medical conditions examined, and age and ethnic composition of the sample. The majority of articles reported observational studies with relatively small clinical or patient samples. Most studies used convenience samples of both genders, focusing on adult populations. Two-thirds of studies reported their hypotheses, but less than half discussed theoretical or practice implications of their findings. Only one in 10 articles discussed potential policy implications. The average number of citations per article was 30.18 ($SD = 44.86$), ranging from 0 to 588.

Top Ten Journals Citing Health Psychology Articles

Table 2 shows the unadjusted frequency of journals citing *Health Psychology* articles. The most common citations were from *Health Psychology* itself. The remaining journals in the top 10 are also closely related to the interface of psychology and medicine. It is important to note, however, that these 10 journals account for less than one fifth (19.8%) of total citations of the articles in our sample.

Factors Impacting Proportion of Citations in Different Journal Categories

Figure 1 shows the proportion of citations in the four journal categories over time. The majority of subsequent citations are in psychology journals, followed by medical journals, public health and health policy journals and other journals. Overall, the proportion of citations in the journal categories appeared relatively stable over time. Table 3 shows the proportion of subsequent citations by journal category and sample source. The proportions of citations were entered into a MANOVA model as the dependent variables with the sample source as the independent variable, $F(16, 1097.4) = 3.65, p < .001, \text{Wilks' } \lambda = .854$. A few observations appear noteworthy. Relative to the average citation proportions, studies reporting data collected from college students are significantly more likely to be cited in psychology journals than other sample sources (all comparisons $p < .05$). Conversely, studies reporting data collected from clinical (patient) populations were more likely than college student ($p < .05$) or general population ($p < .05$) samples to be cited in medical journals. Table 4 shows the proportion of subsequent citations in different journal categories, depending on whether the article discussed theoretical, practical or policy implications of the findings. We ran three separate

Table 2
Top Ten Most Common Citing Journals

Citing journal	Total citations	Percent of total citations	Cumulative percent
<i>Health Psychology</i>	3,141	4.59	4.59
<i>Preventive Medicine</i>	1,605	2.34	6.93
<i>Annals of Behavioral Medicine</i>	1,586	2.32	9.24
<i>Psychosomatic Medicine</i>	1,563	2.28	11.53
<i>Psychology & Health</i>	1,243	1.81	13.34
<i>Journal of Behavioral Medicine</i>	1,029	1.50	14.84
<i>Journal of Consulting and Clinical Psychology</i>	912	1.33	16.17
<i>Addictive Behaviors</i>	877	1.28	17.45
<i>Psycho-Oncology</i>	822	1.20	18.65
<i>Health Education Research</i>	785	1.15	19.80

MANOVA models, entering the proportions of citations variables as the dependent variables, and the discussion of theoretical, practical, or policy implications as the independent variables. Articles discussing the theoretical implications of the findings were marginally more likely to be cited in psychology journals and less likely to be cited in medical journals, $F(4, 391) = 2.35, p < .055$, Wilks' $\lambda = .977$. Articles discussing the practice implications of the findings were significantly less likely to be cited in psychology journals and more likely to be cited in medical journals, $F(4, 391) = 3.64, p < .007$, Wilks' $\lambda = .964$. Finally, articles discussing the policy implications of findings were significantly less likely to be cited in medical journals and more likely to be cited in public health/health policy journals, $F(4, 390) = 3.62, p < .008$, Wilks' $\lambda = .964$. Discussion of policy implications did not

appear to lead to differential citation proportions in psychology journals.

Multivariate Analysis of Factors Impacting Subsequent Citations of Articles

Table 5 shows the results of our multivariate regression analyses with coefficients converted to percentages for ease of interpretation. We ran five models. The first model explored citations in any type of journal and the remaining four models explored citations in each of the 4 journal categories (i.e., psychology, medicine, public health/health policy, other). For each of the categories of citing journals as well as overall citations, we considered eight explanatory variables in a linear regression of citation count: study type;

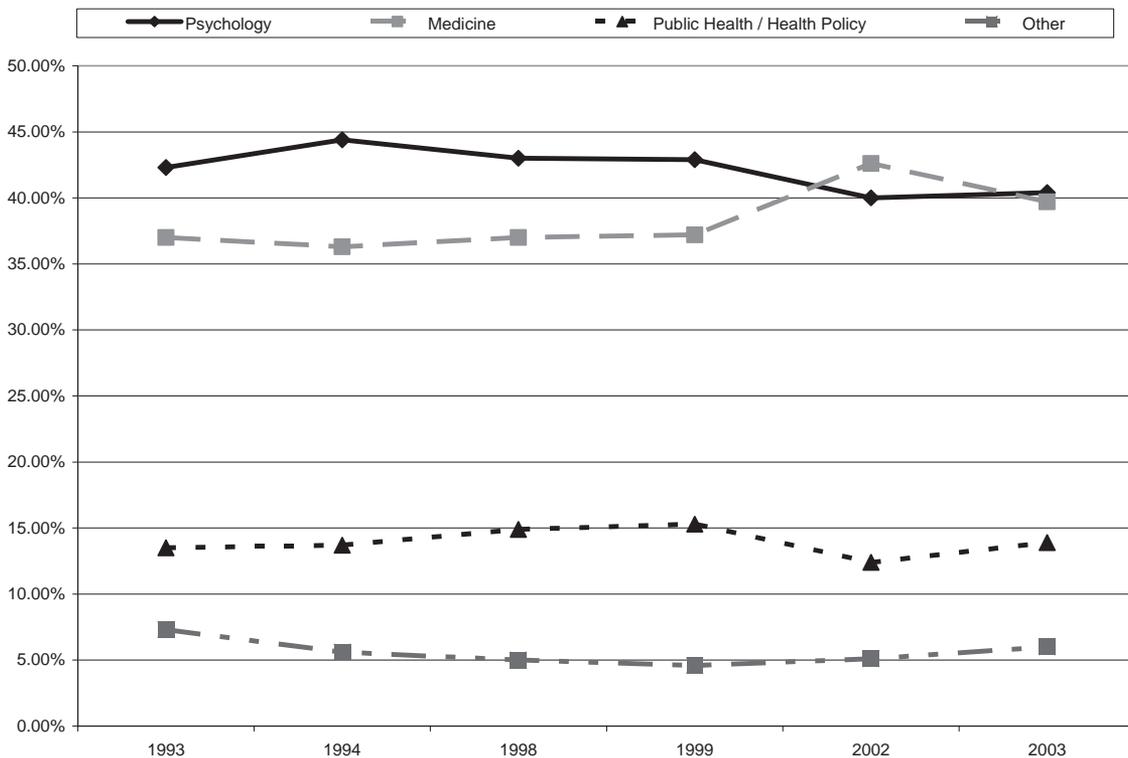


Figure 1. Proportion of citations by journal type between 1993 to 2003.

Table 3
Proportion of Citations by Journal Type and Source of Sample

Source of sample	Journal type			
	Psychology	Medicine	Public health/health policy	Other
College students	58.8%	26.0%	10.4%	4.8%
Clinical/patient sample	38.8%	44.5%	10.9%	5.7%
Community/general population	41.7%	36.7%	16.7%	5.0%
Health care providers	11.2%	53.6%	28.7%	6.5%
Other	35.5%	36.9%	20.6%	7.0%

discussion of theoretical, practice, and policy implications; an explicit statement of hypotheses; months elapsed since publication; and the number of pages and authors. In the interest of parsimony we did not include items we coded that did not apply to all types of articles (e.g., source of sample). We accounted for a substantial portion of the variability in citation counts with a regression on the log transformation of the number of citations, with over 29% of the variance in citation counts across all journal categories accounted for with these eight covariates. The log transformation required that an article be cited at least one time, which resulted in exclusion of a small number of observations in each column shown. The regression model was specified as:

$$\log(\# \text{citations in Journal type}) = \beta X + \epsilon$$

with the eight covariates represented in X . Table 5 shows the calculated percentage changes from the regression coefficients: $100(e^{\beta} - 1)$.

Not surprisingly, the time since publication had the strongest impact on citation count. Following that, for most journal types, the number of pages was a strong predictor of the number of citations an article receives; for each additional page there was a 6.3% increase in expected citations, all else equal. Observational studies were our reference type for these regression models, representing 63.6% of the *Health Psychology* articles included in our data. Review articles were cited with much greater frequency than observational studies, with 75.1% more citations. Intervention studies and editorials were cited less frequently than observational studies although these findings were not significant. The results

also indicated that large authorships have increased penetration as well as increased numbers of self-citations. The pattern of results for the coefficients for discussion points were, on the whole, similar. For example, policy discussion was most strongly associated with publication in public health journals, and theory discussion had a negative association with citations in medical journals. However, only one of these effects was significant: discussion of practice issues significantly increased the citation number in medical journals by 35.1% after accounting for the covariates above.

Articles With the Greatest Impact

Table 6 lists the 2 articles in each of the years of articles sampled that had the broadest and highest impact. Each of these articles had citation proportions above the median for three journal categories and had the highest raw citation count for the respective year. Overall, these articles reflect the diversity of articles published in *Health Psychology* with regard to study type, health topic of focus, study samples, and other respects. The most common type of articles were observational studies. Six of these studies were observational in nature with four utilizing a cross-sectional and two a longitudinal design. Intervention studies were the next most common with four articles. Finally, there was one review article (meta-analysis) and one theoretical/conceptual piece.

A wide variety of health topics were the focus of these 12 articles, but in general reflected some of the most popular areas of study within health psychology over the time period and some of the most important contributors to morbidity and mortality. It is

Table 4
Proportion of Citations by Journal Type and Discussion of Implications

	Journal type			
	Psychology	Medicine	Public health/health policy	Other
Theoretical implications discussed				
Yes	45.4%	35.4%	13.3%	6.0%
No	38.7%	41.4%	14.7%	5.2%
Practice implications discussed				
Yes	37.5%	42.1%	14.4%	6.0%
No	45.8%	35.4%	13.6%	5.2%
Policy implications discussed				
Yes	39.3%	31.0%	22.3%	7.5%
No	42.3%	39.2%	13.1%	5.4%

Note. MANOVA for theoretical implications: $F(4, 391) = 2.35, p < .055$, Wilks' Lambda = .977. MANOVA for practice implications: $F(4, 391) = 3.64, p < .007$, Wilks' Lambda = .964. MANOVA for policy implications: $F(4, 390) = 3.62, p < .008$, Wilks' Lambda = .964.

Table 5
Percent Increase in Citation Counts Given Unit Increases in Control Variables

Independent variable	Citing journal type				
	All, <i>N</i> = 401 [†]	Psychology, <i>N</i> = 393	Medical, <i>N</i> = 391	Public health, <i>N</i> = 267	Other, <i>N</i> = 322
Study type					
Observational	REF	REF	REF	REF	REF
Editorial	-0.28	-0.49	0.02	-0.55	-0.01
Intervention	-0.16	-0.20*	-0.17	-0.13	0.10
Review	0.75**	0.47	0.85**	0.90**	0.59*
Theoretical	0.52	0.44	0.11	2.13***	1.39***
Hypothesis stated	0.17	0.15	0.05	-0.17	0.01
Theory implications discussed	0.04	0.12	-0.04	0.08	0.09
Practice implications discussed	0.15	-0.09	0.37***	0.21	-0.05
Policy implications discussed	0.19	0.07	0.01	0.24	0.13
Months since publication	0.01***	0.01***	0.01***	0.01***	0.01***
Number of pages	0.07***	0.09***	0.06**	0.02	0.05*
Number of authors	0.06**	-0.03	0.15***	0.06	0.08***
Constant	1.13***	0.61*	-0.12	-0.07	-0.19
<i>R</i> ²	0.29	0.29	0.27	0.20	0.14

Note. Mean number of citations was 30.22. REF = Reference category.

[†] Due to the log transformation, articles with zero citations in the stated category were excluded from the multivariate analysis, resulting in uneven sample sizes across categories and less than 408 observations in the "All" column.

* *p* < .05. ** *p* < .01. *** *p* < .001.

noteworthy that no studies featuring a college student sample appeared in this list of most widely cited articles.

Discussion

This study explored where articles published in *Health Psychology* have been cited and what factors predicted higher citation rates. Our goals were to better understand the journal's contribution to the fields of psychology, medicine, and public health and health policy, and to examine whether the journal is meeting its stated mission of integrating medical and psychological knowledge for a broad audience. Editors and Division 38 board members can use these data to gauge the journal's performance and plan

future directions. Our findings also inform members of the division and potential contributors to the journal. Future contributors can use these data to gain insight as to what factors help make a paper influential, and what ingredients are needed in order to influence other disciplines.

We can conclude from the results that *Health Psychology* articles have a wide reach, with citations fairly evenly split between psychology journals and medical journals, a smaller number of citations coming from public health or health policy journals and the remainder coming from other types of journals. These proportions were fairly stable over the 10-year span we examined, with the single exception of 2002 when citations in medical journals

Table 6
Most Widely and Most Frequently Cited Articles

First author	Title	Year	Total number of citations
P. Ditto	Stability of older adults' preferences for life-sustaining medical treatment (OL)	2003	20
D. Neumark-Sztainer	Correlates of unhealthy weight-control behaviors among adolescents: Implications for prevention programs (OC)	2003	21
J. Fogel	Internet use and social support in women with breast cancer (OC)	2002	29
G. Williams	Facilitating autonomous motivation for smoking cessation (I/M)	2002	31
W. Velicer	Interactive versus noninteractive interventions and dose-response relationships for stage-matched smoking cessation programs in a managed care setting (I/M)	1999	80
C. Lerman	Evidence suggesting the role of specific genetic factors in cigarette smoking (OC)	1999	125
G. Williams	Autonomous regulation and long-term medication adherence in adult outpatients (OL)	1998	69
S. Cohen	Types of stressors that increase susceptibility to the common cold in healthy adults (I/M)	1998	108
J. Prochaska	Strong and weak principles for progressing from precontemplation to action on the basis of 12 problem behaviors (OC)	1994	146
J. Prochaska	Stages of change and decisional balance for 12 problem behaviors (RM)	1994	588
N. Weinstein	Testing 4 competing theories of health-protective behavior (TC)	1993	190
J. Prochaska	Standardized, individualized, interactive, and personalized self-help programs for smoking cessation (I/M)	1993	333

Note. Type of study: I/M = intervention/manipulation; OC = observational/cross-sectional; OL = observational/longitudinal; RM = review/meta-analysis; RN = review/narrative; TC = theoretical/conceptual.

exceeded psychology journals. Given that the stated mission of Division 38 is to integrate biomedical information with psychological knowledge and to inform both the psychological and biomedical community, the fairly even split of citations to psychological and medical journals suggests that *Health Psychology* is successfully meeting this goal of reaching both communities.

Several factors predicted higher numbers of citations in our multivariate analyses. Article length (number of pages) was positively associated with citations. This is interesting because, even though there has been a trend in many journals, particularly medical journals, toward shorter articles, this finding suggests that longer articles may be at an advantage in terms of their dissemination within the field. This may be the case because longer articles are able to report more results, provide more depth of analysis, or devote more attention to the broader implications of their results.

Surprisingly, whether articles included presentation of hypotheses or discussion of theoretical, practice, and policy implications did not appear to significantly affect citation rates, with the exception that practice discussion was associated with more citations in medical journals. It makes intuitive sense that greater attention to practice implications would boost medical journal citation rates, especially because articles with a discussion of clinical practice would be more likely to focus on medical patient or provider populations or address provider interests and needs. However, overall it appears that an explicit discussion of the theory, policy or practice implications of a particular paper's findings does not affect the likelihood that the paper will be cited. It does affect, however, *where* a paper is likely to be cited. As our data indicate, articles that include theoretical implications are more likely to be cited in psychological journals, while articles that offered practical implications had higher citation rate in medical journals. Likewise, our results show that the study population exerts similar effects. Psychological journals were more likely to cite studies with student samples, while data obtained from clinical populations appear to be of greater interest to medical journals. These results may inform researchers' selection of their study samples, based upon where they would like their work to have an impact.

When compared to observational studies, editorials and intervention studies received fewer citations while review articles and theoretical studies received more citations. In the case of review articles, this difference was large (75%) and statistically significant. Like most scientific journals that are not explicitly review-oriented, *Health Psychology* publishes many more empirical studies than review articles. This relative infrequency suggests that reviews may be subject to more stringent editorial criteria than other types of submissions, which might help to explain their higher citation rates. However, our results also suggest that review articles may be more impactful than other types of articles, perhaps because they provide an efficient way for authors to summarize the literature for audiences outside of psychology including the readership of medical, public health, and related disciplinary journals.

Finally, an examination of the most widely and frequently cited articles reveals that the main health topics of focus echo common areas of research within health psychology over the past two decades, in particular health behaviors and tobacco use. Other frequently cited articles were those focused on theoretical, methodological and conceptual issues that cut across multiple behaviors and are of interest to researchers and practitioners in multiple

disciplines. Four of these articles were written by the developers of the Transtheoretical Model of Change, arguably one of the most influential conceptual models within health psychology, if not psychology in general, over the past 20 years.

This study is limited by its exploratory nature and focus on only 6 years of articles from *Health Psychology*, given the almost 20 years of the journal's existence. While these 6 years were selected to represent the tenures of the three most recent editorial teams, and were chosen to avoid the very beginning of each editor's term, it is impossible to ensure that these 6 years are fully generalizable to the other years in which *Health Psychology* was published. This paper also relied on a coding system and a system for classifying types of journals that was designed by the authors and hence only addresses some dimensions and not others that are more challenging to measure (e.g., scientific rigor). Another limitation is that it is impossible for us to fully determine the overlap between article content and formal characteristics (e.g., study type, page numbers, number of authors). It is possible that articles with content that is particularly influential to the field (e.g., the Transtheoretical Model of Change, mentioned above) share certain formal characteristics that swayed our overall patterns of results, making it hard to tease apart the subject matter of articles from the types of variables we explored in this study.

Another important limitation of our study is that we were unable to account for differential impact factors of citing journals. Arguably, subsequent citations in high impact journals (e.g., *Psychological Bulletin*, *New England Journal of Medicine*), may be more important than in journals with less visibility. However, impact factor data were not available to us prior to 2000, nor were they available for all the citing journals, thereby leaving it unclear how adjustments for impact factor might have altered our findings.

One of the stated goals of this study was to assess *Health Psychology's* success in meeting the aims of Division 38, in terms of contributing to health practice, health policy, and academic scholarship. We acknowledge, however, that citation analysis is most useful in understanding a journal's impact on scholarship. Nonetheless, we believe that the results of our analyses provide some insight as to the diffusion of *Health Psychology* findings to disciplines outside of psychology, including medicine and public health that may be more likely to shape health service delivery and policy development. More in-depth research would be needed to directly assess *Health Psychology's* impact on practice and policy such as using a case study approach to explore the adoption rate of policies following publication of relevant results in the journal. We declined to take this approach since we sought a broad understanding of *Health Psychology's* contributions over a decade of research and instead used citation rates to assess dissemination to audiences outside of psychology.

Despite these limitations, this paper contributes to our understanding of *Health Psychology* and its overall impact on the field, as well as the larger evolution of health psychology itself over the past two decades. Our findings confirm the reputation of *Health Psychology* as a cross-disciplinary journal, reflected by fairly equal rates of citation in psychology and biomedical journals. The analyses of the most widely and frequently cited articles also indicate the broad appeal of *Health Psychology*; these articles reflect a broad array of research areas, as well as health behavior as a priority for the period reviewed. Our

findings also provide evidence that shorter articles are not necessarily more frequently cited; longer articles received significantly more citations, a result that may help to challenge recent trends toward publishing shorter articles and away from publishing review articles. Explicit statements of hypotheses or discussions of theoretical, policy, and practice implications did not appear to significantly influence citation rates, although they did have an impact in citations to different types of journals. Finally, our results for the most widely and frequently cited articles mirrored larger trends within the field and suggest that *Health Psychology* has kept pace with the dynamic discipline that it has sought to cover.

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