

Looking back, looking forward: forty years of the Journal of Behavioral Medicine

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Abstract The inception, development, and rise of the *Journal of Behavioral Medicine* (JOBM) has paralleled that of the field of behavioral medicine. Under the leadership of founding editor, W. Doyle Gentry, published its first issue in 1978. The subsequent 40 years have seen JOBM progress to the level of a top tier journal publishing inter-disciplinary work devoted to furthering understanding of physical health and illness through the theories and methodologies of behavioral science. In recent years, JOBM has become a prominent international platform for scientific communication in the field of behavioral medicine. The present article examines many of the important milestones JOBM has achieved and examines the scope and impact of the most highly cited papers in the journal's history. As Stephen Weiss and Gary Schwartz predicted 40 years ago, behavioral medicine is in a unique and powerful position to address a broad range of issues surrounding individual, community, and population health. It is the hope of the current editorial team that in the next 40 years the journal will facilitate a broadening of the clinical and public health contexts that the science and practice of behavioral medicine addresses and informs.

Keywords Behavioral medicine · History · Impact factor · Publication trends

In many ways, the history of the *Journal of Behavioral Medicine* has mirrored the history of the field of behavioral medicine. The 1977 Yale Conference on Behavioral

Medicine is aptly credited with producing the “big bang” that spawned formal recognition of the field (Schwartz & Weiss, 1978). Several other complementary forces were also simultaneously in play at the time including ongoing discussions between Plenum Publishing and an advisory group of leading researchers concerning the possible launch of a new journal, dedicated to reporting the best science in the broad, interdisciplinary, behavioral medicine domain. The introduction of the biopsychosocial model (Engel, 1977) in the pages of *Science* around this same time further primed the appetites of the scientific community for more attention to psychosocial and behavioral influences on health. Moreover, timely efforts from the same group of forward thinking scholars at the Yale Conference led to the formation of the Society of Behavioral Medicine in fall of 1978. Collectively, these efforts created the “perfect storm” that would launched the field quickly forward in the subsequent decades.

Over the past five decades, the *Journal of Behavioral Medicine* (JOBM) has been at the forefront of publishing inter-disciplinary work devoted to furthering understanding of physical health and illness through the theories and methodologies of behavioral science. The *Journal of Behavioral Medicine*, under the leadership of founding editor, W. Doyle Gentry, published its first issue in 1978. The Yale Conference participants and the consensus conclusions reached at that 1977 meeting laid the foundation for the scope and guiding principles of the new journal. The lead article for Volume 1(1) was, not surprisingly, a report on the proceedings and consensus proposals from the Yale meeting (Schwartz & Weiss, 1978) while the first regular article was a review of the utility of EMG biofeedback in treating neuromuscular disorders (Keefe & Surwit, 1978). Gentry's discipline-diverse set of associate editors consisted of a number of scholars who would come

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to be identified as founders of the field including Herb Benson, MD; Ed Blanchard Ph.D.; Irving Janis Ph.D.; Stan Kasl Ph.D.; Steve Weiss Ph.D. and Redford Williams MD, to name a few. Prior to the inception of JOBM as a scientific outlet, a range of specialized journals existed spanning various facets of the behavioral medicine domain (e.g., *Biological Psychology*, *Psychosomatic Medicine*, *International Journal of Psychiatry*) but with little cross-pollination between them. As the Yale conference participants articulated, the absence of a common scientific platform for sharing diverse perspectives and methodologies and for bridging contributing scientific disciplines around the hub of behavioral medicine, posed a substantial barrier to scientific communication and cross-disciplinary collaboration and advancement in an area with linkages between behavioral and biomedical science is at its core. The *Journal of Behavioral Medicine* readily and aptly filled that critical void.

Gentry's term as Editor-in-Chief lasted an impressive 27 years. A monumental commitment and accomplishment in scientific publishing and one that saw the circulation of the journal and its reputation steadily increase. Subsequent to Gentry's term, Springer Science acquired the journal and Christopher France was appointed as Editor in 2005. With Springer's backing and marketing acumen and France's astute and forward looking editorial guidance, JOBM quickly rose to a new level of scholarly visibility and scientific rigor. Included in this transition was the adoption of uniform methodology reporting guidelines for intervention studies with randomized and nonrandomized designs, Consolidated Standards for Reporting of Trials (CONSORT; Moher et al., 2001) and Transparent Reporting of Evaluations with Nonrandomized Designs (TREND; Des Jarlais et al., 2004). In fall 2009 progress continued as Kevin Masters became the third editor-in-chief in the journals history. Like his editorial predecessor, Master's focused on enhancing the journals impact and image as an outlet for the most rigorous, innovative, and impactful science. The use of consensus guidelines was also expanded to include reporting of critical elements of systematic reviews and meta-analytic studies (PRISMA; Preferred Reporting Items for Systematic Reviews and Meta-Analyses, Moher et al., 2009).

I assumed the role of Editor-in-Chief in 2015, and along with my excellent associate editors, Austin Baldwin, Elizabeth Broadbent, Nancy Hamilton, M. Bryant Howren, Jeffrey Gonzales, Gozde Ozakinci, and Margaret Schneider, we have seen the journal progress on every metric. In 2017 the number of full text download requests for JOBM rose to over 200,000 annually and the number of published citations to over 4500 a year. Journal impact factor has been steadily rising the past several years and sits at 2.88 for 2017 (up from 1.66 in 2007). One particular emphasis

for my own editorial term has been to enhance the international presence of JOBM. JOBM is currently receiving nearly 500 submissions annually, over half of which are submitted from scholars outside of the United States and over half of all article downloads are from outside of North America. JOBM has clearly become an international platform for scientific communication in the field of behavioral medicine and it is my hope that this trend continues.

The science represented in the journal pages has evolved in the past 40 years and trends in research and scholarship have come and gone in waves. Still, the initial charter of JOBM to publish "the best available articles on any aspect of behavioral science knowledge and technology relevant to an understanding of physical health and illness" (Gentry, 1978) is centrally in play today. Advances in the field have produced a broadening of the original scope and certainly of the methodologies represented. In 2018 the *Journal of Behavioral Medicine* remains "a broadly conceived interdisciplinary publication devoted to furthering understanding of physical health and illness through the knowledge and techniques of behavioral science" (JOBM home page, <https://link.springer.com/journal/10865>). A significant function of the journal is the application of this knowledge to prevention, treatment, and rehabilitation of physical disease as well as the promotion of wellness in individuals and in societies. Reflective of the breadth of the field, the journal scope spans many disciplines relevant to behavioral medicine research including psychology, psychiatry, sociology, neuroscience, anthropology, health economics, public health, health services research, and biostatistics. Increasingly and perhaps less anticipated in the formative years of the journal has been a tremendous surge in work involving sociocultural influences on health and illness and recently, an even bigger surge in work involving the role of technology and the digital health revolution.

Publication Trends

Among the most common questions I am asked as a journal editor are; "What papers have had the biggest impact on the field?", or "What direction is the field moving?". Capturing a clear snapshot of where a field is or is moving is difficult. Publication patterns ebb and flow like a mountain stream and of course there is considerable lag between when work is conceptualized and conducted and the when papers reflecting the work are published and ultimately cited. As a result, it is most informative to take the long view in considering publication trends. Given the historical context of the 40-year anniversary of the journal I examined citation histories of the 10 most widely cited papers published in JOBM across its 40 years history.

These articles and their citation counts (overall and per year) as of May 2018 are shown in Table 1.

In perusing the “Top 10”, several things stand out. The 1989 article reporting the initial validation of the Fagerstrom Tolerance Questionnaire (Fagerstrom & Schneider, 1989) is the most highly cited paper overall and remains an excellent example of how to effectively and critically introduce a behavioral medicine assessment tool. The Fagerstrom instrument and its successor the Fagerstrom Test for Nicotine Dependence remain the gold standard nicotine dependence measures in the field. Work on racial disparities and on socioeconomic factors influencing health and health behaviors has been a central driver of the increasing visibility of behavioral medicine over the past four decades and the best of this work is reflected in two seminal articles published in *JOBM* (Hanson & Chen, 2007; Williams & Mohammed, 2009). The Williams and Mohammed (2009) paper provides a review and critique of empirical research on the link between perceived discrimination and health and health practices, and this highly influential article leads the pack in terms of annual citation count with nearly 1000 in < 10 years. Hanson and Chen (2007) provided a systematic review of the, at times, nuanced association between socioeconomic status and health behaviors across adolescence.

Some of the most visible and influential early examinations of the health effects of mindfulness based stress

reduction techniques were published in *JOBM* (Carmody & Baer, 2008; Kabat-Zinn et al., 1985; Shapiro et al., 1998) and have provided a springboard to a broad and deep contemporary literature on mindfulness based interventions and health. Not surprisingly, review articles are strongly represented among the most highly cited articles. Those articulating a theoretical framework or an analysis of underlying biobehavioral mechanisms in addition to a systematic review have been particularly influential (e.g., Leeuw et al., 2007; Uchino, 2006). Uchino (2006), for example, reviews evidence for models implicating cardiovascular, neuroendocrine, and immune pathways as mediators of the link between social support and physical health outcomes; while Leeuw et al. (2007) critically examines evidence for a behavioral model of musculoskeletal pain. Neil Weinstein reporting on his highly influential work on positive optimism bias and health related cognitions has the distinction of having two of the ten most highly cited articles in journal history and this work has continued to be impactful and highly cited across four decades (Weinstein, 1982, 1987).

Computer and internet-based assessment and intervention has come onto the scene too recently to be seen as historical heavy hitters in terms of citation count. This will certainly change in the coming years as we are already seeing the impact of this work in the journal and in the field more broadly (e.g., Moller et al., 2017). In the next half of

Table 1 Most highly cited articles from *Journal of Behavioral Medicine* 1978–2018. Listed in rank order of highest cumulative citation count as of May, 2018

Rank	Title	Total citations	Average citations per year*
1	Fagerstrom KO, Schneider, NG (1989). Measuring nicotine dependence: A review of the Fagerstrom Tolerance Questionnaire	992	36.07
2	Williams DR, Mohammed SA (2009). Discrimination and racial disparities in health: Evidence and needed research	969	129.20
3	Leeuw M, Goossens, ME, Linton SJ, Crombez G, Boersma K, Vlaeyen JWS (2007). The fear-avoidance model of musculoskeletal pain: Current state of scientific evidence	816	85.89
4	Uchino BN (2006). Social support and health: A review of physiologic processes potentially underlying links to disease outcomes	685	65.24
5	Weinstein ND (1987). Unrealistic optimism about susceptibility to health problems: Conclusions from a community-wide sample	684	35.08
6	Kabat-Zinn J, Lipworth L, Burney R (1985). The clinical use of mindfulness meditation for the self-regulation of chronic pain	625	29.07
7	Shapiro SL, Schwartz GE, Bonner G (1998). Effects of mindfulness-based stress reduction on medical and premedical students	542	29.30
8	Weinstein ND (1982). Unrealistic optimism about susceptibility to health problems	523	15.16
9	Carmody J, Baer RA (2008). Relationships between mindfulness based practice and levels of mindfulness, medical and psychological symptoms, and well-being in a mindfulness based stress-reduction program	505	60.59
10	Hanson MD, Chen E (2007). Socioeconomic status and health behaviors in adolescence: A review of the literature	407	42.84

*Citations per year computed based on time elapsed since second full calendar year since publication

my own editorial term I am eager to see an expansion of work in the digital health space. Work in digital health reflects a crucial springboard for increasing the effectiveness of and broadening the reach of behavioral interventions and the importance of this platform will only increase in the coming years. I am also eager to see a broadening of the clinical and public health contexts that the science and practice of behavioral medicine addresses and informs. As I write this, Nancy Hamilton, Alan Delamater, and I are in the process of developing a special series devoted to the basic, epidemiologic, and translational science related to gun violence as well as the associated policy implications. I strongly believe it is time that behavioral medicine push beyond what may have been our traditional comfort zones in terms of the types of scientific and social problems we work to address. As Stephen Weiss and Gary Schwartz predicted 40 years ago, behavioral medicine is in a unique and powerful position to address a broad range of issues surrounding individual, community, and population health. I fully expect that over the next 40 years JOBM will continue to be as forward looking as it was in the first 40 years and will play a central role in reporting and facilitating progress in the field.

Compliance with ethical standards

Conflict of interest Alan J. Christensen declare that he do not have any conflict of interest.

Human and animal rights and Informed consent No animal or human studies were carried out by the authors for this article.

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