



Behavioral medicine and behavioral health research and practice: An introduction to the Special Issue



ARTICLE INFO

Keywords:

Behavioral medicine
Health interventions
Health psychology
Physical health
Comorbidity
Treatment

ABSTRACT

The field of behavioral medicine continues to have a major impact on psychological science and public health. Presently, the field of behavioral medicine is undergoing rapid development and continues to evolve as a sub-discipline in allied disciplines. This Special Issue highlights emerging work that contributes to the evolution of behavioral medicine as pertaining to behavioral, psychosocial, and biomedical science integration to prevent, diagnose, and treat illness and disease. The present introductory article calls attention to research in behavioral medicine in the larger context of behavioral health research and practice and encourages continued research in this area. Research presented in this Special Issue covers a variety of topics, ranging from the role of cognition and emotion in behavioral disorders, development and refinement of novel technological and integrated interventions, substance use comorbidity, sexual health across special populations, and social determinants of health. This Special Issue is organized into three parts classified as transdiagnostic processes in health behavior and physical illness; personalization of health-specific therapeutic tactics in modern day healthcare in behavioral medicine; and social determinants of health and health disparities in behavioral medicine among special populations. It is hoped that this issue will alert readers to the significance of this work, illustrate the many domains currently being explored via innovative approaches, and identify promising and impactful areas for research.

The field of behavioral medicine continues to have a major impact on psychological science and public health. The field leads research focused on health behaviors related to disease, quality of life, and premature death. It also has spearheaded efforts to develop behaviorally-oriented prevention and intervention tactics to address some of the most common and lethal medical illnesses and chronic diseases, including cancer, cardiovascular disease, HIV/AIDS, and diabetes. Over the past two decades, behavioral medicine research has highlighted the tremendous role of psychological factors, ranging from personality characteristics to cognitive styles and affective states, in health behavior and physical illness. This work has guided a paradigm shift for conceptualizing health and informed the now widely accepted recognition that psychological factors, broadly defined, are integral to understanding the complexities and enigmas of health status and quality of life. Further, interventions targeting such psychological mechanisms has been a formative element in health promotion and disease management.

Presently, the field of behavioral medicine is undergoing rapid development and growth as it continues to evolve as a sub-discipline. This Special Issue of *Behaviour Research and Therapy* aims to highlight recent developments and advancements in behavioral medicine that address some of the exciting and impactful areas of research that are currently revolutionizing the field. In this issue, we bring together exemplary contributions from numerous experts in behavioral medicine to illustrate the latest perspectives on how health outcomes are shaped by a wide range of biopsychosocial processes and factors. We have organized the Special Issue into three parts that we classified as (1)

transdiagnostic processes in health behavior and physical illness; (2) personalization of health-specific therapeutic tactics in modern day healthcare in behavioral medicine; and (3) social determinants of health and health disparities in behavioral medicine among special populations.

1. Transdiagnostic factors in health

One new area of research in behavioral medicine pertains to the role of transdiagnostic factors in health behavior and illness. Research in psychological science has documented that many forms of psychological disorders may be underpinned by underlying transdiagnostic vulnerability processes. Transdiagnostic factors that are intrapersonal and engage an emotion process are of particular research interest because of their responsiveness to intervention. Within this conceptualization, transdiagnostic vulnerability factors are theorized to be involved in the onset and maintenance of psychological symptoms and disorders. This framework has been increasingly applied to behavioral medicine topics, including smoking, obesity, and HIV/AIDS, and offers a conceptually-helpful explanation as to why numerous types of psychological symptoms and problems are consistently related to health behavior, disease, and health-related quality of life. Indeed, burgeoning research has begun to illuminate that transdiagnostic factors play a key role in why people with poor health behavior and increased health problems are at an increased risk for psychological disturbances. Whereas past work has largely documented linkages between transdiagnostic factors and health processes, emerging work is showcasing

<https://doi.org/10.1016/j.brat.2019.01.004>

how engagement with these variables is related to trajectories of risk, intervention response, and wellness. In this Special Issue, the roles of a range of transdiagnostic factors in health behavior and physical illness are highlighted in terms of their linkages to trajectories of risk, intervention impact, and well-being.

Special Issue papers within this domain offer new insights into novel relations between transdiagnostic processes and health outcomes, the malleability of identified processes, and the impact of transdiagnostic-oriented treatment on outcomes. Rogers et al. (2019) underscore the importance of emotion regulation in the conceptualization of smoking withdrawal trajectories and identify this process as a potential treatment target. Heckman et al. (2019) report that cessation fatigue, a transdiagnostic factor reflecting the exhaustion of coping resources due to quitting smoking, may represent an important, yet unrecognized and untreated, individual difference factor relevant to smoking abstinence. One method to effectively engage these transdiagnostic processes may be through exercise. Indeed, Jacquart et al. (2019) provide robust evidence from a meta-analysis for the efficacy of exercise to engage transdiagnostic constructs, including anxiety sensitivity, stress reactivity, and general self-efficacy. Extending this work, reports included in the current Special Issue suggest that behavioral health interventions that target transdiagnostic processes through psychoeducation, exposure, and practice lead to greater treatment engagement and gains among individuals with cannabis use disorder (Buckner et al., 2019), and improved outcomes among adults with chronic pain (Vowles, Sowden, Hickman, & Ashworth, 2019). These studies exemplify behavioral medicine research as it pertains to the investigation, development, and treatment of transdiagnostic factors to improve mental and physical health.

2. Personalization of health-specific therapeutic tactics

Symptom-oriented treatment development research has led to a host of interventions and tactics proven to be helpful in changing health behaviors, the management of illness, and for improving health-related quality of life. Much of this important outcome research has focused on blanket approaches targeting the “average individual,” ignoring the fact that interventions of all kind and for any indication yield outcomes that are highly variable across individuals. Appreciating this individual variability, or recognizing that (the timing, aims or content of) interventions may require modifications depending on who presents (and when), encourages research approaches to personalize treatment and methods to enhance efficacy of personalization. Both moderator research (and by extension multiple group research), which aims to identify treatment-person characteristic(s) matching variables, and research delineating the core change processes responsible for efficacy (i.e., mediation research) facilitate the goal to personalize interventions. Data-driven models can be useful to identify subpopulations in need of specialized treatment and methods to bolster the efficacy of personalization. In addition to data-driven approaches, which can help generate hypotheses, theory-driven work is useful to this effort. With respect to the latter, transdiagnostic models of psychopathology-health (behavior) relations yield clear testable hypotheses about core therapeutic change processes (i.e., targets) as well as person characteristics predictive of target engagement and thus efficacy/effectiveness. If validated, these hypotheses and their supporting evidence provide guidance for subsequent treatment development and refinement research. This Special Issue highlights work across several stages in this domain (e.g., target identification, target validation, development and testing of new strategies to engage critical targets).

Topics of interest in this domain relate to group-specific treatment, targetable health behaviors, and physiological intervention. Taggart et al. (2019) present data on sexual minority status and sex-related substance use. Findings suggest that sexual minorities may represent a vulnerable subgroup that would benefit from tailored substance use treatment to meet their unique needs. Disaster relief professionals represent another vulnerable group who would likely benefit from

personalized care. Waszczuk, Ruggero, Li, Luft, and Kotov (2019) explored potential treatment targets for this group and propose targeting individual health-related daily behaviors and experiences to enhance health. One approach to personalization for vulnerable or general groups is through the use of personalized feedback interventions. Neighbors et al. (2019) found that such interventions focus on unhealthy drinking behaviors reduce drinking and alcohol-related problems over time among college students. Additionally, providing feedback on multiple, interrelated health domains in context of a single personalized intervention has the potential to modify motivation to change and enhance knowledge across several domains of behavioral health, including tobacco smoking and pain (Ditre, LaRowe, Vanable, De Vita, & Zvolensky, 2019). Beyond personalization based on subjective experience, Stanton, Boyd, Fogarty, and Meston (2019) found evidence that heart rate intervention via biofeedback can improve sexual health among women. Collectively, these studies provide a strong foundation for personalization at different stages of behavioral medicine research and encourage continued work in this area.

3. Social determinants of health and health disparities

There has been a long-standing recognition of the role of socio-cultural factors and health, with less socially integrated individuals generally demonstrating poorer physical/mental health and increased mortality. Research has focused on advancing theory and elucidating mechanisms in potentially bi-directional causal pathways between social factors and health behaviors/outcomes. More recent work has begun to focus on ‘social determinants,’ which is intended to shift the focus from individual risk behaviors to the economic and sociocultural factors that relate to health status of individual persons and the larger community as well as features of the environment that affect adverse health consequences. In the present Special Issue, we have included a range of papers that document sociocultural influences on health behavior and disease problems across a range of populations (e.g., racial/ethnic minorities, men who have sex with men). Such articles in this issue provide a novel application of how research on the social determinants of health is being used to develop high-quality and comprehensive accounts of health disparities.

To transcend from individual-level to population-based understanding of social determinants for poor health outcomes, research is required that examines broad constructs relevant to general and specific groups. Consistent with this approach, Bello et al. (2019) identify lower perceived social standing and lower parental socioeconomic status as two unique risk factors for poly-product use among adolescents. An important consideration for this work that has not yet been examined is method of drug delivery. Prince and Conner (2019) postulate that method of drug (particularly cannabis) administration is centrally relevant to understand the link between use/potency and physical and mental health. Drug users as a collective group are often stigmatized and discriminated against, and thereby experience greater distress. Informed by psychosocial theories, Steers et al. (2019) report that social support can buffer against psychological distress. In particular, among African Americans, the effect of discrimination on psychological distress is weaker when individuals perceive greater social support. This work warrants further investigation among individuals who identify with multiple minority groups. For example, the intersection of sexual and ethnic/racial minority status likely has a multiplicative effect on distress experience and thereby places these individuals at increased risk for poor health behaviors and outcomes. Indeed, Brady et al. (2019) present findings that young Latino sexual minority men highly invested in, and dissatisfied with, their appearance are significantly more likely to engage in condomless anal sex, which significantly increases their risk for acquiring HIV. Continued work on psychosocial determinants of health and health disparities is needed to implement successful policy reform that results in systemic change to improve overall health and decrease disease across all persons.

4. Summary

The present issue includes a set of articles that span major research and application areas in behavioral medicine and illustrative examples of cutting-edge work on theory, research methods, and clinical applications. The purpose of this issue is to highlight to readers of *Behaviour Research and Therapy* the significance of this work in the context of behaviorally-oriented research and practice; illustrate some of the many domains currently being explored via innovative approaches; and pinpoint fruitful areas for programmatic study. We hope that readers will recognize the important role of behavioral models in behavioral medicine and the vast opportunities available for future work that maintains a high degree of public health importance.

References

- Bello, M. S., Khoddam, R., Stone, M. D., Cho, J., Yoon, Y., Lee, J. O., et al. (2019). Poly-product drug use disparities in adolescents of lower socioeconomic status: Emerging trends in nicotine products, marijuana products, and prescription drugs. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.11.014>.
- Brady, J. P., Nogg, K. A., Rozzell, K. N., Rodriguez-Diaz, C. E., Horvath, K. J., Safren, S. A., et al. (2019). Body image and condomless anal sex among young Latino sexual minority men. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.10.017>.
- Buckner, J. D., Zvolensky, M. J., Ecker, A. H., Schmidt, N. B., Lewis, E. M., Paulus, D. J., ... Bakhshae, J. (2019). Integrated cognitive behavioral therapy for comorbid cannabis use and anxiety disorders: A pilot randomized controlled trial. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.10.014>.
- Ditre, J. W., LaRowe, L. R., Vanable, P. A., De Vita, M. J., & Zvolensky, M. J. (2019). Computer-based personalized feedback intervention for cigarette smoking and prescription analgesic misuse among persons living with HIV (PLWH). *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.10.013>.
- Heckman, B. W., Cummings, K. M., Stoltman, J. J., Dahne, J., Borland, R., Fong, G. T., et al. (2019). Longer duration of smoking abstinence is associated with waning cessation fatigue. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.11.011>.
- Jacquart, J., Dutcher, C. D., Freeman, S. Z., Stein, A. T., Dinh, M., Carl, E., et al. (2019). The effects of exercise on transdiagnostic treatment targets: A meta-analytic review. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.11.007>.
- Neighbors, C., DiBello, A. M., Young, C. M., Steers, M.-L. N., Rinker, D. V., Rodriguez, L. M., ... Lewis, M. A. (2019). Personalized normative feedback for heavy drinking: An application of deviance regulation theory. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.11.004>.
- Prince, M. A., & Conner, B. T. (2019). Examining links between cannabis potency and mental and physical health outcomes. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.11.008>.
- Rogers, A. H., Bakhshae, J., Garey, L., Piasecki, T. M., Gallagher, M. W., Schmidt, N. B., et al. (2019). Individual differences in emotion dysregulation and trajectory of withdrawal symptoms during a quit attempt among treatment-seeking smokers. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.10.007>.
- Stanton, A. M., Boyd, R. L., Fogarty, J. J., & Meston, C. M. (2019). Heart rate variability biofeedback increases sexual arousal among women with female sexual arousal disorder: Results from a randomized-controlled trial. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.10.016>.
- Steers, M.-L. N., Chen, T.-A., Neisler, J., Obasi, E. M., McNeill, L. H., & Reitzel, L. R. (2019). The buffering effect of social support on the relationship between discrimination and psychological distress among church-going African-American adults. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.10.008>.
- Taggart, T. C., Rodriguez-Seijas, C., Dyar, C., Elliott, J. C., Thompson, R. G., Jr., Hasin, D. S., et al. (2019). Sexual orientation and sex-related substance use: The unexplored role of bisexuality. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.12.012>.
- Vowles, K. E., Sowden, G., Hickman, J., & Ashworth, J. (2019). An analysis of within-treatment change trajectories in valued activity in relation to treatment outcomes following interdisciplinary Acceptance and Commitment Therapy for adults with chronic pain. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.10.012>.
- Waszczuk, M. A., Ruggero, C., Li, K., Luft, B. J., & Kotov, R. (2019). The role of modifiable health-related behaviors in the association between PTSD and respiratory illness. *Behaviour Research and Therapy*. <https://doi.org/10.1016/j.brat.2018.10.018>.

Michael J. Zvolensky*

University of Houston, Department of Psychology, Fred J. Heyne Building,
Suite 104, Houston, TX, 77204, USA
The University of Texas MD Anderson Cancer Center, Department of
Behavioral Science, 1155 Pressler Street, Houston, TX, 77030, USA
Health Institute, Houston, TX, 77204, USA
E-mail address: mjzvolen@central.uh.edu.

Jasper A.J. Smits

University of Texas at Austin, Austin, TX, 78712, USA

Lorra Garey

University of Houston, Department of Psychology, Fred J. Heyne Building,
Suite 104, Houston, TX, 77204, USA

* Corresponding author. The University of Houston, Fred J. Heyne Building, Suite 104, Houston, TX, 77204-5502, United States.