

BIOGRAPHICAL SKETCH

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NAME: **Hollon, Steven D.**

eRA COMMONS USER NAME: steven.d.hollon

POSITION TITLE: Gertrude Conaway Vanderbilt Professor of Psychology

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
George Washington University	BA	06/1971	Psychology
Florida State University	MS	09/1974	Clinical Psychology
Florida State University	PhD	09/1977	Clinical Psychology

A. Personal Statement

My research focuses on the treatment and prevention of depression. I have four decades of experience conducting RCTs with an emphasis on the comparative efficacy of psychosocial interventions relative to antidepressant medications with a particular emphasis on the cognitive and behavioral interventions. While the bulk of my work has focused on cognitive therapy in comparison to medications, more recent work has extended to more purely behavioral interventions. I was part of a group that found that behavioral activation was as efficacious as antidepressant medications and superior to pill-placebo (Dimidjian et al., 2006), even among patients with more severe depressions, and as enduring as cognitive therapy in terms of preventing subsequent relapse (Dobson et al., 2008). Even more recent work has focused on the concept of task shifting; using less intensively trained professionals or lay counselors to deliver the behavioral intervention. In a recent trial we found that behavioral activation delivered by less intensively trained counselors was as efficacious as and less expensive than cognitive therapy as delivered by intensively trained cognitive therapists (Richards et al., 2016). Of particular relevance to the current proposal, we found that lay counselors could be trained to deliver a culturally-adapted version of behavioral activation called the Healthy Activity Program (HAP) that was more efficacious than enhanced usual care in the treatment of depression in primary care in rural India (Patel et al., 2017). It is now time to compare HAP versus antidepressant medications, the current standard of treatment. My role in the project will be to serve as a co-principal investigator along with my colleague Vikram Patel and I bring my considerable experience in psychotherapy-pharmacotherapy comparisons to the project.

1. Dimidjian, S., **Hollon, S. D.**, Dobson, K. S., Schmaling, K. B., Kohlenberg, R. J., Addis, M. E., Jacobson, N. S. (2006). Behavioral activation, cognitive therapy, and antidepressant medication in the acute treatment of major depression. *Journal of Consulting and Clinical Psychology, 74*, 658-670.
2. Dobson, K. S., **Hollon, S. D.**, Dimidjian, S., Schmaling, K. B., Kohlenberg, R. J., Gallop, R. J., Jacobson, N. S. (2008). Randomized trial of behavioral activation, cognitive therapy, and antidepressant medication in the prevention of relapse and recurrence in major depression. *Journal of Consulting and Clinical Psychology, 76*, 468-477.
3. Richards, D. A., Ekers, D., McMillan, D., Taylor, R., Byford, S., Warren, F., Barrett, B., Farrand, P., Gilbody, S., Kuyken, W., O'Mahen, H., Watkins, E., Wright, K., **Hollon, S. D.** ... Finning, K. (2016). Cost and outcome of behavioural activation versus cognitive behaviour therapy for depression (COBRA): Results of a non-inferiority randomised controlled trial. *Lancet, 388*, 871-880.
4. Patel, V., Weobong, B., Weiss, H. A., Anand, A., Bhat, B., Katti, B., Dimidjian, S., Araya, R., **Hollon, S. D.**, & Fairburn, C. G. (2017). The Healthy Activity Program (HAP), a lay counsellor delivered brief

psychological treatment for severe depression, in primary care in India: A randomised controlled trial. *Lancet*, 389, 176-185.

B. Positions and Honors

Positions and Employment

1975-1977 Predoctoral Fellow, Department of Psychiatry, University of Pennsylvania
1977-1980 Assistant Professor, Department of Psychology, University of Minnesota
1980-1985 Associate Professor, Department of Psychology, University of Minnesota
1985-1988 Associate Professor, Department of Psychology, Vanderbilt University
1988-present Professor, Department of Psychology, Vanderbilt University
2011-present Gertrude Conaway Professor of Psychology, Vanderbilt University

Other Experience and Professional Memberships

1981-1985 Editor, *Cognitive Therapy and Research*
1989-1990 Associate Editor, *Journal of Abnormal Psychology*
1989-1993 Member, NIMH Treatment Development and Assessment Research Review Committee
1993-1994 Member, APA Task Force for the Development of Guidelines for Treatment Efficacy
1994-1997 Member, APA Template Implementation Work Group
1997-1998 Board of Directors, Academy of Cognitive Therapy
1998-1999 President, Association for the Advancement of Behavior Therapy (AABT)
2001-2002 Member, NIMH Strategic Plan for Depression and Bipolar Disorder Research
2002-2004 NIMH Council Workgroup on Clinical Trials
2003-present Fellow, American Psychological Society (APS)
2004-2005 Member, APA Presidential Task Force on Empirically Based Practice in Psychology (EBPP)
2007-2010 Member, APA Committee on Scientific Awards
2010-2016 Chair, APA Advisory Steering Committee on the Development of Treatment Guidelines
2016 President, Society for a Science of Clinical Psychology (SSCP)
2017-2019 Member, Board of Professional Affairs American Psychological Association (APA)

Honors

1998 Litchfield Lectureship, Oxford University, Oxford England
2002 Aaron T. Beck Award for Research, Academy of Cognitive Therapy (ACT)
2002 Distinguished Scientist Award – Society for a Science of Clinical Psychology (SSCP)
2002 George A. Miller Award for Outstanding Article – American Psychological Association (APA)
2005 Award for Excellence in Research – Beck Institute for Cognitive Studies (Assumption College)
2007 Alexander Heard Distinguished Service Professor Award – Vanderbilt University
2010 Outstanding Researcher – Association for Behavioral and Cognitive Therapies (ABCT)
2010 Distinguished Scientific Contributions to Clinical Psychology – APA Division 12 (Clinical)
2011 Distinguished Professional Contributions to Clinical Psychology – APA Division 12 (Clinical)
2012 Award for Excellence in Graduate Teaching - Vanderbilt University
2016 Zubin Award for Lifetime Contributions – Society for Research in Psychopathology (SRP)

C. Contribution to Science

1. **Cognitive Behavior Therapy as Efficacious as Medication for Depression:** When I first entered the field there was no evidence that any psychosocial intervention could hold its own with medications in the treatment of depression. I joined a group that had developed cognitive therapy for depression and was part of the first controlled trial that suggested that it was not just as efficacious medications but possibly superior (Rush, Beck, Kovacs, & Hollon, 1977). After I took my first job at the University of Minnesota, I secured funding for a grant that showed that cognitive therapy and medications did not differ from one another when each was adequately implemented (Hollon et al., 1992). In a subsequent trial, conducted at Vanderbilt University and the University of Pennsylvania, we found that cognitive therapy was as efficacious as antidepressant medications (with each superior to pill-placebo) among patients with more severe depressions (DeRubeis, Hollon, et al., 2005). Cognitive therapy now has been firmly established as

being efficacious in the treatment of depression and comparable in efficacy to antidepressant medications even among patients with more severe depressions when adequately implemented (Hollon et al., 2002).

- a. Rush, A. J., Beck, A. T., Kovacs, M., & **Hollon, S. D.** (1977). Comparative efficacy of cognitive therapy and pharmacotherapy in the treatment of depressed outpatients. *Cognitive Therapy and Research*, 1, 17-37.
- b. **Hollon, S. D.**, DeRubeis, R. J., Evans, M. D., Wiemer, M. J., Garvey, M. J., Grove, W. M., & Tuason, V. B. (1992). Cognitive therapy and pharmacotherapy for depression: Singly and in combination. *Archives of General Psychiatry*, 49, 774-781.
- c. DeRubeis, R. J., **Hollon, S. D.**, Amsterdam, J. D., Shelton, R. C., Young, P. R., Salomon, R. M., ... Gallop, R. (2005). Cognitive therapy vs. medications in the treatment of moderate to severe depression. *Archives of General Psychiatry*, 62, 409-416.
- d. **Hollon, S. D.**, Thase, M. E., & Markowitz, J. C. (2002). Treatment and prevention of depression. *Psychological Science in the Public Interest*, 3, 39-77.

2. **Cognitive Behavior Therapy has an Enduring Effect not found for Medications:** Perhaps my major contribution to the field has been my pursuit of possible enduring effects for the psychosocial interventions (Hollon et al., 2006). As good as the antidepressant medications are, they only work for as long as you take them, and in a chronically recurrent disorder like depression it was inevitable that practice would evolve in the direction of keeping recurrent patients (the vast majority of those who come to treatment) on medications indefinitely. One of my primary roles in the early Philadelphia trials was to keep track of subsequent course and we found that patients treated to remission with medications were about twice as likely to require additional treatment as patients treated to remission with cognitive therapy (Kovacs, Rush, Beck, & Hollon, 1981). We replicated this finding in subsequent studies conducted at the University of Minnesota (Evans, Hollon, et al., 1992) and Vanderbilt University (Hollon et al., 2005) and found that prior exposure to cognitive therapy was at least as efficacious as keeping patients on continuation medication.

- a. **Hollon, S. D.**, Stewart, M. O., & Strunk, D. (2006). Cognitive behavior therapy has enduring effects in the treatment of depression and anxiety. *Annual Review of Psychology*, 57, 285-315.
- b. Kovacs, M., Rush, A. J., Beck, A. T., & **Hollon, S. D.** (1981). Depressed outpatients treated with cognitive therapy or pharmacotherapy: A one-year follow-up. *Archives of General Psychiatry*, 38, 33-39.
- c. Evans, M. D., **Hollon, S. D.**, DeRubeis, R. J., Piasecki, J. M., Grove, W. M., Garvey, M. J., & Tuason, V. B. (1992). Differential relapse following cognitive therapy and pharmacotherapy for depression. *Archives of General Psychiatry*, 49, 802-808.
- d. **Hollon, S. D.**, DeRubeis, R. J., Shelton, R. C., Amsterdam, J. D., Salomon, R. M., O'Reardon, J. P., ...Gallop, R. (2005). Prevention of relapse following cognitive therapy versus medications in moderate to severe depression. *Archives of General Psychiatry*, 62, 417-423.

3. **Moderation of Treatment Effects:** Given that both cognitive behavior therapy and antidepressant medications are efficacious in the treatment of depression (including patients who are more severe), the question becomes whether some patients respond better to one treatment than the other. We were instrumental in drawing a distinction between prognostic indices (patient characteristics that predicted good response regardless of treatment type) versus prescriptive indices (patient characteristics that predicted differential response to different treatments). Whereas chronicity and intelligence were prognostic in nature, being married, unemployed, or having more prior precipitants all predicted better response to cognitive therapy than to medication treatment (Fournier et al., 2009). Patients with depressions superimposed on long-standing personality disorders did better in medication treatment than in cognitive therapy, whereas patients free from such disorders did better in cognitive therapy than in medication treatment (Fournier et al., 2008) and patients with more prior medication exposures do better in cognitive therapy than on medications (Leykin et al., 2007). In our most recent trial, we found that non-chronic patients with more severe depressions showed a 30% increment in recovery when cognitive therapy was added to medications (Hollon et al., 2014). My colleague Robert DeRubeis developed an approach to using machine learning to derive a personalized advantage index (PAI) that can improve

outcomes by as much as the drug-placebo difference. We plan to use this approach to generate optimal allocations for each individual patient and conduct a prospective test of the utility of treatment optimization.

- a. Fournier, J. C., DeRubeis, R. J., Shelton, R. C., **Hollon, S. D.**, Amsterdam, J. D., & Gallop, R. (2009). Prediction of response to medication and cognitive therapy in the treatment of moderate to severe depression. *Journal of Consulting and Clinical Psychology, 77*, 775-787.
- b. Fournier, J. C., DeRubeis, R. J., Shelton, R. C., Gallop, R., Amsterdam, J. D., & **Hollon, S. D.** (2008). Antidepressant medications versus cognitive therapy in depressed patients with or without personality disorder. *British Journal of Psychiatry, 192*, 124-129.
- c. Leykin, Y., Amsterdam, J. D., DeRubeis, R. J., Gallop, R., Shelton, R. C., & **Hollon, S. D.** (2007). Progressive resistance to selective serotonin reuptake inhibitor but not to cognitive therapy in the treatment of major depression. *Journal of Consulting and Clinical Psychology, 75*, 267-276.
- d. **Hollon, S. D.**, DeRubeis, R. J., Fawcett, J., Amsterdam, J. D., MD, Shelton, R. C., Zajecka, J., ... Gallop, R. (2014). Effect of cognitive therapy with antidepressant medications vs antidepressants alone on the rate of recovery in major depressive disorder: A randomized clinical trial. *JAMA Psychiatry, 71*(10), 1157-1164.

4. **Mediation of Treatment Effects:** I have long been interested in the mechanisms that mediate the changes brought about by treatment, an interest dating back to my early work in Philadelphia (Rush, Beck, Kovacs, Weissenburger, & Hollon, et al., 1982). I was instrumental in laying out the logic that differentiated lack of specific response from lack of causal effect and showed that cognitive change was both a cause of change in depression in cognitive therapy and a consequence of change in depression in medication treatment (DeRubeis, Evans, Hollon, et al., 1990). In subsequent work, we showed that sudden gains in treatment response typically followed “insight” into the causal role of thinking in depression and that this recognition predicted greater stability of change following treatment termination (Tang, DeRubeis, Hollon, et al., 2007). We also showed that medication treatment had a larger “true” drug effect (relative to pill-placebo) on neuroticism than it did on depression, suggesting that medications may work through broader aspects of temperament to reduce affective distress (Tang, DeRubeis, Hollon, et al., 2009). Our colleague Daisy Singla tested for mediation in our recent comparison of HAP versus enhanced usual care and found that increased behavioral activation mediated the effects of HAP on the stability of treatment response. We plan to do the same with respect to our proposed comparison of HAP vs antidepressant medications.

- a. Rush, A. J., Beck, A. T., Kovacs, M., Weissenburger, J. & **Hollon, S. D.** (1982). Comparison of the effects of cognitive therapy and pharmacotherapy on hopelessness and self-concept. *American Journal of Psychiatry, 139*, 862-866.
- b. DeRubeis, R. J., Evans, M.D., **Hollon, S. D.**, Garvey, M. J., Grove, W. M., & Tuason, V. B. (1990). How does cognitive therapy work? Cognitive change and symptom change in cognitive therapy and pharmacotherapy for depression. *Journal of Consulting and Clinical Psychology, 58*, 862-869.
- c. Tang, T. Z., DeRubeis, R. J., **Hollon, S. D.**, Amsterdam, J. D., & Shelton, R. C. (2007). Sudden gains in cognitive therapy of depression and relapse/recurrence. *Journal of Consulting and Clinical Psychology, 75*, 404-408.
- d. Tang, T. Z., DeRubeis, R. J., **Hollon, S. D.**, Amsterdam, J., Shelton, R. C., & Schalet, B. (2009). Personality change during depression treatment: A placebo-controlled trial. *Archives of General Psychiatry, 66*, 1322-1330.

Complete List of Published Work in My Bibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/steven.d.hollon.1/bibliography/47428593/public/?sort=date&direction=ascending>

D. Research Support

Ongoing

5R01 MH100258-02
NIMH

Compas (PI)

03/01/14 - 02/28/19

1/2-Family cognitive behavioral prevention of depression in youth and parents

Depression in parents constitutes a substantial threat to the mental health of their children. The Institute of Medicine (2009) asserted that eliminating parental depression and its negative effects on children is a public health priority. Responding to the call by the American Association of Pediatrics for coordinated, family focused mental health services, this study will be the first test of an integrated intervention designed to simultaneously reduce the incidence of depression in both parents and their children.

Role: Co-Investigator

2T32 MH018921-26

Garber (PI)

07/01/15 - 06/30/20

NIMH

Development of psychopathology: From brain and behavioral science to intervention

This proposal seeks continuation funds to train research scientists studying the development, life course, and prevention of abnormal behavior. Funds are requested for 4 predoc and 2 postdoc slots.

Role: Co-Program Director

1R01 MH108657-01

Harvey (PI)

10/01/15 - 09/30/18

NIMH

Improving outcome for severe mental illness by enhancing memory for treatment

The aim of this proposal is to conduct a confirmatory efficacy trial to test whether the Memory Support Intervention improves illness course and functional outcomes. This research has the potential to enhance outcomes across a broad range of interventions and across mental disorders.

Role: Subaward PI

1R21 MH106748-01A1

Park/Sarkar (PIs)

10/01/15 - 09/30/20

NIMH

Physiology-based virtual reality training for social skills in schizophrenia

This project aims to develop an effective, low-burden and high compliance social skills intervention, using an innovative, adaptive virtual reality (VR) technology to target a specific social cognitive mechanism.

Role: Co-Investigator