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The Science of Addiction Recovery Mutual Aid: An Interview with John F. Kelly, PhD

Introduction

For past several years I have been interviewing pioneers who made significant contributions to the history of addiction treatment and recovery support in the United States. Most of these interviews have been made with individuals toward the end of a long career of such contributions. The following interview is something of an exception—an interview with someone at mid-career who has already made a deep mark on our scientific understanding of addiction recovery mutual aid in the United States. Dr. John Kelly is an Associate Professor in Psychiatry at Harvard Medical School, Associate Director of the Massachusetts General Hospital (MGH)-Harvard Center for Addiction Medicine, and Program Director of the MGH Addiction Recovery Management Service (ARMS). He serves as a Board Member on the Executive Committee of the American Psychological Association, Division on Addictions, and as an Associate Editor for the *Journal of Substance Abuse Treatment*, and the journal, *Addiction*. Dr. Kelly has served as a consultant to the White House Office of National Drug Control Policy (ONDCP), the Substance Abuse and Mental Health Services Administration (SAMHSA), the Center for Substance Abuse Treatment (CSAT), and the U.S Department of Education. He has published more than 70 scientific articles, reviews and book chapters in the field of addiction and together with William L. White, published the first text on the theory, science, and practice of addiction recovery management. His latest collaboration is the book, *Broadening the Base of Addiction Mutual Support Groups: Bringing Theory and Science to Contemporary Trend*, which explores the growing diversification of addiction recovery support in the United States. I had the opportunity in the fall of 2013 to interview Dr. Kelly about his clinical and research activities. Please join us in this engaging conversation.

Career Review

Bill White: What circumstances brought you to the United States and your decision to pursue research on addiction recovery?

Dr. Kelly: I was interested initially in becoming an addiction counselor and came over to Minnesota from England in 1991. From there I pursued further education including a bachelor's degree in psychology and a PhD in clinical psychology. During these education and training experiences I became interested in relapse prevention and theories of behavior change. I was particularly interested in how remission and recovery was maintained over time for individuals suffering from severe alcohol and other drug problems, what the mechanisms of such change were, and in strengthening clinical linkages to communities of recovery, such as mutual help organizations like AA, NA, and SMART Recovery to enhance long-term recovery.

Bill White: You have had the privilege of teaching at some of the premier medical schools in the country—Stanford, Harvard, Brown. How would you assess the current state of addiction education in U.S. medical schools?

Dr. Kelly: It's highly variable, but overall, vastly insufficient. When one considers that misuse of alcohol and other drugs constitutes our top public health problem and these problems pervade every area of medicine and psychiatry, there is too little emphasis on detecting, assessing, and treating substance-related conditions and problems. This needs to change. It's difficult as there are many competing needs in health, but it is clearer now than ever before that alcohol, tobacco, and illicit drug use are such major contributors to disability, disease, and premature death, that these should not only be taught, but should be a top priority.

Bill White: You currently serve as the Associate director of the Center for Addiction Medicine and the Director of Addiction Recovery Management Service (ARMS) at Massachusetts General Hospital. Could you describe these roles?

Dr. Kelly: I help administer our Center for Addiction Medicine which includes obtaining grant funding and training of junior faculty and post-doctoral fellows in clinical research and the ethical and responsible conduct of research. In 2007 I helped found and create ARMS which is a clinical treatment and recovery program for young people aged 15-25 years old. I help manage the program, staff, and conduct continuous evaluation of our clinical services.

Bill White: How has your sustained clinical work informed your research interests?

Dr. Kelly: I have always enjoyed working with individuals with addiction and related problems. My clinical work keeps me sensitized and tuned in on a daily basis to the real problems of substance use, related disorders, and recovery. I use a measurement-based approach to my clinical practice so that helps me also to examine change over time at the individual level, which I find naturally generates hypotheses regarding factors the influence and explain treatment effects, such as gender, age, primary substance of use, social contexts, and broader recovery capital.

Bill White: You have also recently taken assumed leadership of the Recovery Research Institute (RRI) at Mass General. Could you describe the work of RRI to date and your vision for its future?

Dr. Kelly: I founded the Recovery Research Institute about a year ago with the help of some seed donations, and we are about to launch it formally at the end of October, 2013. One major goal of the Institute and related website (www.recoveryanswers.org) is to be the “go to” place for the science on addiction recovery where people can get the facts from what we hope will be perceived as a credible source (i.e., Harvard Medical School and Massachusetts General Hospital Psychiatry). Specifically, we want to summarize, synthesize, and present the science of addiction recovery in such a way that it is understandable and usable by all types of stakeholders, from individuals in, and seeking, recovery, to administrators and policy makers. We hope that www.recoveryanswers.org will help instill hope and help destigmatize addiction also by

providing helpful facts and information as well as treatment and recovery links, opportunities to share your story and inspire others, and participate in research yourself so you can help inform our knowledge base on recovery. I'm very excited about this new initiative and I am hopeful it will do some good.

Recovery Research

Bill White: The aim of most addiction-related research has been to elucidate the nature of the problem, but your research distinctively focuses on addiction recovery. How did you come to develop this focus on researching the lived solution to these problems?

Dr. Kelly: Acute stabilization of individuals with addiction is important and can be life-saving, but this is the easy part. The real challenge is how to prevent relapse and enhance the chances of remission and stable long-term recovery. From my clinical observations and clinical research experience, I can see this happens through "extra-treatment" factors, such as through social networks of recovery support and family, although short-term treatment can play a critical role in making and strengthening those linkages. So, in answer to your question, this is the really interesting and intriguing part of recovery to me; what happens in the days, week, months, years, and decades following formal treatment intervention.

Bill White: You have conducted extensive studies of Alcoholics Anonymous. Early AA studies were criticized for their lack of methodological rigor. How would you characterize the quality of AA studies over the past decade?

Dr. Kelly: The quality and quantity of research on Alcoholics Anonymous has really changed since 1990. At that time the Institute of Medicine (IOM) of the National Academy of Sciences, published a volume called *Broadening the Base of Treatment for Alcohol Problems* that acknowledged the limitations of what formal treatment services could do to tackle the overall burden attributable to alcohol, and called for more research on mutual help organizations, specifically Alcoholics Anonymous (AA), which was large and influential but lacked rigorous evaluation. Emanating from this prestigious and highly respected entity and accompanied by funding from the National Institutes of Health, this call to action from the IOM really legitimized serious scientific investigation into the effects and mechanisms of AA. Since that time, the scientific rigor and quality of studies on AA and related mutual-help organizations has improved dramatically.

Bill White: What can be said about AA's relative effectiveness from the standpoint of science?

Dr. Kelly: Prior to 1990 clinical confidence in AA was low. Since 1990 the purported benefits and mechanisms of AA have been clarified and supported, and mechanisms through which AA confers its recovery benefits have been uncovered. AA has been shown to confer benefits that are on par with the effects of professional intervention and a new professional manualized treatment has been developed, known as "Twelve-Step Facilitation" or TSF, that attempts to engage addiction patients with AA and similar 12-step recovery organizations. TSF has been shown to be as effective or, in many cases, more effective, than the traditional evidence-based treatments

such as cognitive-behavior therapy for addiction, and TSF is now an evidence-based practice; this is quite a turnaround in a relatively short time. Importantly, in the age of health care reform and new accountable care organizations, TSF has also been shown to reduce reliance on professional services while still enhancing outcomes, thus lowering health care costs.

Bill White: Several of your studies have focused on the specific elements within AA that enhance recovery outcomes. What have you found about AA's "active ingredients"?

Dr. Kelly: I have conducted a lot of work in this area as theories and mechanisms of behavior change are a special interest of mine. We have found that AA confers recovery benefits through multiple mechanisms simultaneously and works in different ways for different people. Another way of saying this is that people make use of what AA has to offer in different ways and these ways change over time. We have found that AA really helps people make changes in their social networks and by boosting members' ability to withstand social pressures to use alcohol and drugs. It also helps members increase their ability to cope with negative affect, such as depression and anxiety, and by boosting and helping maintain motivation for recovery, and abstinence self-efficacy and coping skills. For some, in addition to these mechanisms, AA also aids recovery by boosting spiritual practices, which in turn, may help members re-conceptualize and reframe stressors and mobilize active coping (e.g., through the Serenity Prayer). Also, our research supports getting involved in AA; specifically, getting and using an AA sponsor, engagement with AA friends, active verbal participation during meetings, and reading AA literature. We also have just published a new study showing support for the achievement of AA's 12 Promises as an outcome in relation to greater AA participation, and also as a 12-step specific mechanism of behavior change. This is the first empirical evidence in support of the 12 Promises.

Bill White: What do we know about the rate and causes of drop-out from 12-step groups?

Dr. Kelly: We know that among treated samples, the dropout rate is roughly 40-60% within one year. When one compares this rate of dropout to dropout rates from professional continuing care interventions, it is actually similar or lower. This lower rate of dropout may be because of the strength of the social connections made in organizations, such as AA. Regarding causes of dropout, the typical predictors tend to be lower recovery motivation and lower addiction severity, as well as logistical barriers in accessing meetings, although the latter to a lesser degree.

Bill White: Several of your studies have focused on adolescent participation in 12-step groups. Let me ask you three questions related to these studies. First, will adolescents participate in 12-step groups? Second, how does such potential participation affect recovery outcomes? Third, is it safe for adolescents to participate in 12-step groups?

Dr. Kelly: I have conducted a large number of studies in this area. Similar to adults, adolescents with more severe addiction problems tend to use and benefit from groups like AA and NA. They need it more and it is more relevant to their needs and experience. Those with minor and less severe problems are less likely to attend AA and NA. Research consistently shows that using AA and NA is associated with better recovery outcomes following treatment. In an 8-year

longitudinal study we found that for every AA/NA meeting attended, youth gained an extra two days of abstinence, over and above the effects of other factors associated with good outcomes. That works out at about 2-3 meetings a week associated with complete abstinence over the follow-up. These are good returns on investment especially given that AA and NA are free. Related to that, a study examining the health care cost offset associated with AA/NA participation found that for every AA/NA meeting attended over a 7-year follow-up there was a saving of \$145 in health costs and participants had significantly better substance use outcomes. We have examined safety among youth participants as well. We have found that in general youth report few incidences that would make clinicians worried. In general, when one considers in what other risky situations these youth could be in, being at a 12-step meeting is low risk and confers a favorable benefit to risk ratio.

Bill White: One of the studies you helped conduct examined attitudes toward medications within AA. What did you find in that study?

Dr. Kelly: We found that, in general, patients in treatment with substance use disorders did not favor pharmacological approaches to recovery, and these generally negative views were unrelated to their degree of AA involvement. That said, there may be a vocal minority in 12-step meetings that oppose medication use. Thus, while not the majority opinion, it may be the opinion that is heard. It's a good idea to inform patients about what we now know empirically about the attitudes toward medications – that most 12-step members are in favor, that it should always be carefully considered, and should be an issue that is decided in consultation with informed medical professionals.

Bill White: Do we know the extent to which findings on AA can be applied to other 12-step groups or alternative secular and religious mutual aid groups?

Dr. Kelly: Not specifically, although I believe we can make an educated guess based on common mechanisms and research from the professional treatment arena. Specifically, in the last 20 years we have found that pretty much any “active” treatment for SUD confers similar short-term benefit for patients. This is because, in large part, although on the surface these interventions look very different, they mobilize the same kinds of mechanisms responsible for recovery-related change. Extrapolating from this research, and given the common mutual-help elements that most of these organizations possess, I would expect to see similar overall benefits from a variety of mutual-help organizations given the same levels of attendance and involvement. That said, AA, NA and other 12-step organizations tend to predominate the recovery landscape so these are more accessible; it may just not be possible to access other organizations to the same degree. From a societal perspective, given the diverse preferences and pathways to recovery, having a diversity of options is optimal, so I hope additional mutual aid societies continue to expand.

Bill White: I know that you have a great interest in AA alternatives and recently signed on to serve as the Research Director for Smart Recovery. What do you see as the central research questions related to these alternatives that need to be explored in coming years?

Dr. Kelly: The types of research questions facing other mutual help organizations, such as SMART Recovery, Life Ring, and others, are the same as those that AA faced. For instance, who uses these organizations, to what degree, for how long, and to what benefit? Also, who is likely/not likely to benefit and why? Additionally, can participation in these other organizations reduce health care costs while maintaining remission and enhancing recovery rates?

Bill White: Are their ethical or etiquette guidelines one should adhere to in working with addiction recovery mutual aid groups?

Dr. Kelly: First and foremost, ultimate respect is the order of the day and will go a long way to forming and maintaining good relations. Sensitivity to the traditions of anonymity and privacy are also key, and going through the proper channels to obtain approval to speak to members, or advertize a study and so on, are vital as well.

Language, Stigma and Policy Interests

Bill White: One of other issues you have written about is the role language plays in social and professional stigma attached to addiction. Could you provide us with some highlights of your thinking in this area?

Dr. Kelly: Bill, this is one of many recovery-related interests we share and one of the things I know we both feel strongly about. I have particular objection to the “abuse” and “abuser” terminology that is commonly used in our field. I’ve always felt that these terms can arouse more stigmatizing attitudes as they imply an individual is in control of their behavior and therefore *choosing* to use substances; also the “abuser” term is associated with even more socially stigmatized problems such as “child abuser”. I decided to investigate this scientifically to see whether describing someone as a “substance abuser” compared to describing someone as “having a substance use disorder” influenced people’s perceptions of personal blame and responsibility for their problem, how safe they were to be around, and whether they should be receive treatment or punishment.

I conducted an experiment where I randomized more than 500 doctoral-level clinicians to receive a vignette describing an individual involved in a drug court situation, who was supposed to maintain abstinence but had used alcohol/drugs and was caught and was about to face the judge again. The vignette was identical except in half of the vignettes, the individual in violation of the court mandate was described as a “substance abuser” and, in the other half, he was described as “having a substance use disorder”; otherwise no difference. These well educated clinicians, many of whom were addiction specialists, viewed the person described as a “substance abuser” significantly more punitively, as having greater personal responsibility and being more to blame for his problems, and as less deserving of treatment.

These results suggest that even unconsciously, the use of the “abuser” label may inadvertently activate a more punitive and stigmatizing cognitive schema that results in negative bias. The eating disorders field has done well in this regard, invariably referring to individuals with eating-related problems as “having an eating disorder” and never as a “food abuser”. We, in the addiction field, should take note.

Bill White: What steps might be taken to develop a lexicon to address alcohol and other drug problems and their resolution that could avoid such harmful side effects?

Dr. Kelly: I think we need to come to a consensus on agreed terminology. In mental health, we moved from “schizophrenics” to “people with/or suffering from schizophrenia”. This shift admittedly takes time. I think having federal agencies, such as the National Institute of Drug “Abuse” (NIDA) and the National Institute on Alcohol “Abuse” and Alcoholism (NIAAA), and the Substance “Abuse” and Mental Health Services Administration (SAMHSA), change their names and make formal statements (that you and I would write, Bill) based on what these studies have shown regarding the negative biasing effects of such terminology, would be a great start.

Bill White: Another area of policy interest for you has been the influence of the alcohol industry on the proliferation of views and methods of intervention that lack scientific foundation. Could you share your thoughts on this?

Dr. Kelly: The alcohol industry is a business concerned with profit and, as such, is not concerned with public health. Yet, the public health and economic burden attributable to alcohol is enormous and growing. Tax revenues from alcohol sales are about \$15 billion nationally annually, while the alcohol-related costs to society are about \$224 billion. The combined disease, disability, and mortality risks associated with alcohol use are higher than tobacco. Like the tobacco industry, the alcohol industry lobbies for the implementation of non evidence-based and ineffectual harm reduction policies and that is what is in place currently. We need stronger legislation and accountability from industry and the implementation of evidence-based policies, such as minimum pricing per unit of alcohol, higher alcohol taxes, and more effective, clearer, labeling of alcohol-related risks on alcohol containers.

Mid-Career Retrospective

Bill White: Who are some of the people to date whose work and/or personal encouragement have had the most influence on you?

Dr. Kelly: There are so many, Bill. I owe a debt of gratitude to my parents who have supported and encouraged me in my career and also my wife, Jeanne, who has supported and put up with my long work hours, occupation, and pre-occupation, with my work. I have been inspired and encouraged by training faculty at the Hazelden Foundation, such as Bruce Larson and Nikki Moyers, who encouraged and supported me early in my career; my advisors at Tufts University, such as Professors Mary Zelin and Joe Debold; my outstanding graduate school advisor, Dr. Mark Myers, and also Dr. Sandra Brown at UCSD who has helped me throughout my career. My colleagues at the Brown Center for Alcohol and Addiction Studies, such as Bob Stout and Christopher Kahler, and my colleagues at the VA Palo Alto and Stanford University, such as Keith Humphreys, John Finney, Rudolf Moos, and Christine Timko. There are many in the recovery field who have inspired me, and continue to do so, such as your good self, Bill, as well as Phil Valentine, Arthur Evans, Pat Taylor and so many others.

Bill White: Looking over the work you have done to date in the field, what do you feel best about?

Dr. Kelly: That's a tough one. I feel good about having contributed to the empirical evidence regarding the recovery benefits associated with mutual-help organization participation, particularly among young people, and having elucidated some of the mechanisms of behavior change through which groups like AA work. Also, I feel good about the work I've done regarding the potentially biasing and stigmatizing effects of terminology on perceptions of treatment need. Please ask me again in 20 years.

Bill White: What are the major challenges you have faced in your focus on recovery research?

Dr. Kelly: Like most researchers, it is getting the funding to do it! In the relatively short time I've been involved in research the funding streams have thinned and slowed. This makes it challenging. Still, I'm hopeful that this area of research will continue to receive robust funding.

Bill White: What advice would you give to younger researchers who are interested in addiction and recovery research?

Dr. Kelly: I would advise them to obtain the best training wherever you can. Try to work with the people you admire. Go out of your way to show your interest in their work –that will make them feel good and endear you to them. If you're serious about clinical research, you need to dedicate yourself full-time for a while to it to really establish yourself; in my experience it is really tough to continue to do clinical work as well as strong research activity, because both are so time-consuming and absorbing. Like I said, just for a while, to get your foot in the door, then you can continue to integrate clinical or other work aspects back into you're your career as you desire. There'll be tough times, especially early on, but it gets better and better. Don't give up when the going gets tough. Addiction treatment and recovery are very rewarding areas of pursuit and the field is filled with passionate and committed people.

Bill White: Dr. Kelly, thank you for taking this time to share your experience and your thoughts.

Dr. Kelly: Bill, thank you. It is always a pleasure to talk with you.

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Selected Publications of Dr. John Kelly

1. Kelly JF, White WL, editors. *Addiction recovery management: Theory, research, and practice*. New York: Humana Press; 2011.

2. Roth, J., White WL, Kelly JF, editors. *Broadening the Base of Addiction Mutual Support Groups: Bringing Theory and Science to Contemporary Trends*, New York: Taylor and Francis; in press.
3. Kelly JF, Myers MG, Brown SA. Do adolescents affiliate with 12-step groups? A multivariate process model of effects. *Journal of Studies on Alcohol* 2002; 63:293-304.
4. Kelly JF, Moos RH. Dropout from 12-step self-help groups: Prevalence, predictors and counteracting treatment influences. *Journal of Substance Abuse Treatment* 2003; 24:241-50.
5. Tonigan JS, Kelly JF. Beliefs about AA and the use of medications: A comparison of three groups of AA-exposed alcohol dependent persons. *Alcoholism Treatment Quarterly* 2004; 22:67-78.
6. Kelly JF, Finney JW, Moos RH. Substance use disorder patients who are mandated to treatment. Characteristics, treatment process, and 1- and 5-year outcomes. *Journal of Substance Abuse Treatment* 2005; 28:213-33.
7. Kelly JF, Myers MG, Brown SA. The effects of age composition of 12-step groups on adolescent 12-step participation and substance use outcome. *Journal of Child & Adolescent Substance Abuse* 2005; 15:67-76.
8. Kelly JF, Stout R, Zywiak W, Schneider R. A 3-year study of addiction mutual-help group participation following intensive outpatient treatment. *Alcoholism: Clinical and Experimental Research* 2006; 30:1381-92.
9. Kelly JF, Brown SA, Abrantes A, Kahler CW, Myers MG. Social Recovery Model: An 8-Year Investigation of Youth Treatment Outcome in Relation to 12-step Group Involvement. *Alcoholism: Clinical and Experimental Research* 2008; 32(8):1468-1478.
10. Kelly JF, Dow S, Westerhoff C. Does our choice of Substance-Related Terminology Influence Perceptions of Treatment need? An Empirical Investigation with Two Commonly Used Terms. *Journal of Drug Issues* 2010; 10(4).
11. Kelly JF, Dow S, Yeterian JD, Kahler CW. Can 12-step group participation strengthen and extend the benefits of adolescent addiction treatment? A Prospective Analysis. *Drug and Alcohol Dependence* 2010; 110(1-2):117-25.
12. Kelly JF, Kahler CW, Humphreys KN. Assessing Why Substance Use Disorder Patients Drop Out from or Refuse to Attend 12-Step Mutual-Help Groups: The "REASONS" Questionnaire. *Addiction Research and Theory* 2010; 18(3):316-325.
13. Kelly JF, Stout R, Magill M, Tonigan JS, Pagano M. Mechanisms of Behavior Change in Alcoholics Anonymous: Does AA improve alcohol outcomes by Reducing Depression symptoms? *Addiction* 2010; 105(4):626-636.
14. Kelly JF, Stout R, Tonigan JS, Magill M, Pagano M. Negative Affect, Relapse, and Alcoholics Anonymous: Does AA work by reducing anger? *Journal of Studies on Alcohol and Drugs* 2010; 71(3):434-444.
15. Kelly JF, Westerhoff C. Does it matter how we refer to individuals with substance-related problems? A Randomized study with two commonly used terms. *International Journal of Drug Policy* 2010; 21 (3):202-207.
16. Krentzman AR, Robinson EAR, Moore BC, Kelly JF, Laudet AB, White WL, Zemore SE, Kurts E, Strobbe S. How Alcoholics Anonymous (AA) and Narcotics Anonymous (NA) Work: Cross-Disciplinary Perspectives. *Alcohol Treatment Quarterly* 2010; 29(1):75-84.

17. Kelly JF, Dow SJ, Yeterian JD, Myers M. How safe are adolescents at AA and NA meetings? A prospective investigation with outpatient youth. *Journal of Substance Abuse Treatment* 2011; 40(4):419-25.
18. Kelly JF, Dow SJ, Yeterian JD, Myers M. How safe are adolescents at AA and NA meetings? A prospective investigation with outpatient youth. *Journal of Substance Abuse Treatment* 2011; 40(4):419-25.
19. Kelly JF, Hoepfner BB, Urbanoski KA, Slaymaker V. Predicting Relapse among Young Adults: Psychometric Validation of the Advanced Warning of Relapse (AWARE) Scale. *Addictive Behaviors* 2011; 36(10):987-93.
20. Kelly JF, Stout R, Magill M, Tonigan JS. The Role of Alcoholics Anonymous in Mobilizing Adaptive Social Network Changes: A Prospective Lagged Mediation Analysis. *Drug and Alcohol Dependence* 2011; 114(2-3):119-126.
21. Kelly JF, Stout R, Magill M, Tonigan JS, Pagano M. Spirituality in Recovery: A Lagged Mediation Analysis of AA's Chief Purported Mechanism of Behavior Change. *Alcoholism: Clinical and Experimental Research* 2011; 35(3):454-463.
22. Kelly JF, Urbanoski K, Hoepfner B, Slaymaker V. Facilitating comprehensive measurement of the 12-step experience. *Alcoholism Treatment Quarterly* 2011; 29(3).
23. Klein A, Slaymaker V, Kelly JF. The 12-Step Affiliation and Practices Scale: Development and initial validation of a measure assessing 12-step affiliation. *Addictive Behaviors* 2011; 36(11):1045-1051.
24. Kelly JF, Hoepfner B. Does Alcoholics Anonymous work differently for men and women? A moderated multiple-mediation analysis in a large clinical sample. *Drug and Alcohol Dependence* 2012. Epub ahead of print.
25. Kelly JF, Hoepfner B, Stout RL, Pagano M. Determining the relative influence of the mechanisms of behavior change within Alcoholics Anonymous. *Addiction* 2012; 107(2):289-99.
26. Kelly JF, Pagano M, Johnson S, Stout RL. The Influence of Religiosity on 12-Step Involvement and Treatment Response among Substance Dependent Adolescents. *Journal of Studies on Alcohol and Drugs* 2012; 72(6):1000-11.
27. Kelly JF, Stout RL, Slaymaker V. Emerging adult's treatment outcomes in relation to 12-step mutual-help group attendance and active involvement. *Drug and Alcohol Dependence* 2012; 129(1-2):151-157.
28. Kelly JF, Urbanoski K. Youth Recovery Contexts: the Incremental Effects of 12-step attendance and involvement on adolescent outpatient outcomes. *Alcoholism: Clinical and Experimental Research* 2012; 36(7):1219-1229.
29. White WL, Kelly JF, Roth JD. New Addiction Recovery Support Institutions: Mobilizing Support beyond Professional Addiction Treatment and Recovery Mutual Aid. *Journal of Groups in Addiction and Recovery* 2012; 7:297-317.
30. Pagano M, Johnson S, Kelly JF, Stout RL, Tonigan JS. The 10-Year Course of AA Participation and Long-Term Outcomes: A Follow-up Study of Outpatient Subjects in Project MATCH. *Substance Abuse* 2013; 34(1):51-9.
31. Pagano M, Kelly JF, Scur M, Ionescu R, Stout RL, Post S. Assessing Youth Participation in AA-Related Helping: Validity of the Service to Others in Sobriety (SOS) Questionnaire in an Adolescent Sample. *American Journal on Addictions* 2013; 22(1): 60-6.

32. Bergman B, Greene MC, Hoepner B, Slaymaker V, Kelly JF. A comparison of emerging adults with and without psychiatric comorbidity on 12-step mutual-help participation and derived benefits. *Alcoholism: Clinical and Experimental Research*. In press.
33. Kelly JF, Greene MC. The twelve promises of Alcoholics Anonymous: Psychometric validation and mediational testing as a 12-step specific mechanism of behavior change. *Drug and Alcohol Dependence*. Under review.
34. Labbe AK, Greene MC, Bergman B, Hoepner B, Kelly JF. The importance of age composition of 12-step groups as a moderator of the relation between young adult participation and abstinence. *Journal of Alcohol and Drugs*. Under review.
35. Yeterian JD, Hoepner B, Greene MC, Kelly JF. How do adolescents involved in the criminal justice system fare in outpatient addiction treatment. *Alcoholism Treatment Quarterly*. Under review.