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## Preface

This monograph provides an introduction and overview of the most common research methods currently being employed to study substance use- and abuse-related behaviors, primarily in regards to alcohol and/or illicit drugs, with a focus on their application in advancing understanding, prevention and treatment. Substance abuse research draws both its theories and methods from a variety of other fields, and we have tried to incorporate insights from these various perspectives here. We acknowledge up front some variation in the definitions of key concepts used in the field, particularly with regard as to what constitutes substance “use,” “misuse,” and “abuse.” Inconsistencies in terminology abound, with “misuse” and “abuse” even used interchangeably by researchers. Some even abandon these terms all together to focus on clinical diagnostic criteria indicative of use disorders, such as those found in the latest edition of The Diagnostic and Statistical Manual of Mental Disorders. While definitional issues are addressed in the text, due to lack of consensus in the field, some discretion is given to the chapter author(s) with regard to their preference. The monograph is divided into six parts. In the first of these, two overview chapters are provided. In Chap. 1, we chronicle how research in the field has advanced over the past fifty-plus years and how multiple waves of innovation contributed to current standards and best practices. In Chap. 2, Jennifer Reingle and Timothy Akers introduce the transdisciplinary research framework known as epidemiological criminology, which is now considered a promising approach for innovation in substance abuse research.

Part II covers quantitative approaches, including randomized controlled trials in Chap. 3 (by James Swartz), sampling strategies in Chap. 4 (by Joseph Gfroerer, Arthur Hughs and Jonaki Bose), methods of primary and secondary statistical data analysis in Chap. 5 (by Adam King, Libo Li and Yih-Ing Hser), and longitudinal methods in Chap. 6 (by Brent Teasdale and Jerreed Ivanich). Qualitative and mixed methods are examined in Part III. Paul Draus presents an overview of qualitative methods in Chap. 7, followed by Henry Browstein’s discussion of qualitative data analysis methods in Chap. 8. The use of geographic information systems in substance abuse research are presented by Jacqueline Curtis and Andrew Curtis in Chap. 9, and Sheryl Chatfield and Jeffrey Hallam investigate mixed methods research strategies for substance abuse research in Chap. 10.

Measurement issues are addressed in Part IV. A general overview of substance abuse assessment is provided by Timothy Grigsby, Steve Sussman, Chih-Ping Chou, and Susan Ames in Chap. 11. This is followed by Brian Perron, David Cordova, Christopher Salas-Wright and Michael Vaughn's consideration of measurement validity in Chap. 12. The use of surveys to measure substance use behaviors is reviewed by Timothy Johnson and Jonathan VanGeest in Chap. 13, and Michael Fendrich, Timothy Johnson and Jessica Becker provide an overview of the use of biological measures in Chap. 14. In Part V, challenges and special considerations in conducting substance abuse research with several subgroups of the general population are discussed. In Chap. 15, Dianne Kerr and Willie Oglesby consider issues in the conduct of adolescent substance abuse research. In Chap. 16, these same authors address substance abuse research in the LGBT Community. Sage Kim and Michael Puisis discuss the conduct of research with incarcerated populations in Chap. 17. Finally, Part IV examines policy analysis methods. John Carnevale outlines the role played by research in the formulation of substance abuse policy in Chap. 18. The economic evaluation of substance abuse and prevention programs is examined, in Chap. 19, by Willie Oglesby and Lauren Birmingham, and the general evaluation of substance abuse prevention and treatment programs is discussed by Peggy Stephens, Zili Sloboda, and Deric Kenne in Chap. 20.

As we acknowledged earlier, substance abuse research draws ideas, theories, and methods from a variety of other disciplines. As such, we found it necessary in organizing this volume to similarly reach out to experts across a variety of fields in an effort to provide a comprehensive overview of current knowledge and practices. We are sincerely grateful for the contributions of all authors whose contributions are presented in this monograph, and thank them for their patience in working through multiple drafts with us over the past several years. We are hopeful that you, the reader, will agree.

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