Final Examination of

Kimberly A. Bernosky-Smith
M.A., State University of New York at Buffalo
Buffalo, NY

For the Degree of

DOCTOR OF PHILOSOPHY

COMMITTEE IN CHARGE

Terry Blumenthal, Ph.D., Chairman
Neuroscience

Anthony Liguori, Ph.D., Advisor
Physiology and Pharmacology

Elizabeth M. Arnold, Ph.D.
Psychiatry and Behavioral Medicine

Linda J. Porrino, Ph.D.
Physiology and Pharmacology

Jeffrey L. Weiner, Ph.D.
Physiology and Pharmacology

Piedmont Triad Community Research Center Auditorium
July 20, 2011
1:00 p.m.
PROFESSOR IN CHARGE OF RESEARCH

Anthony Liguori, Ph.D.
Associate Professor
Physiology and Pharmacology
Wake Forest University School of Medicine

FIELDS OF GRADUATE STUDY
Major Subject: Physiology and Pharmacology

Cell and Molecular Pharmacology
Basic Physiology, Systems Pharmacology
Integrated Physiology and Pharmacology
Quantitative Methods in Behavioral Science
Skills in Biomedical teaching, Behavioral Pharmacology
Skills in College Level teaching

SUMMARY OF DISSERTATION

BEHAVIORAL RESPONSE TO ALCOHOL IN BINGE DRINKERS

Binge drinking is a hazardous behavior that is associated with a multitude of deleterious effects for the individual. Studies suggest that binge drinkers may be more likely than non-bingers to experience the deleterious consequences of alcohol consumption. The present series of studies was designed to examine the behavioral response to alcohol in binge drinkers. Furthermore, we sought to determine how within session drinking patterns contributed to subsequent behavior.

These studies determined how a laboratory-administered alcohol binge affected behavior in frequent versus infrequent binge drinkers. Alcohol impaired driving ability to the same degree in both groups of binge drinkers as compared to placebo. The infrequent binge drinkers reported feeling less confident in their ability to operate a vehicle after alcohol as compared to after placebo. The frequent binge drinkers, however, exhibited no significant difference in reported confidence between alcohol and placebo. These data suggest that frequent binge drinkers may be more likely to drive after drinking due to their inaccurate perception of driving ability.

We assessed differences in the pace of alcohol drinking between frequent and infrequent binge drinkers. Additionally, we sought to determine the influence of pace of drinking on subsequent behavior. A fast pace of drinking was associated with increased mean speed on the driving simulator, number of collisions, and reported confidence in driving. These data suggest that binge drinkers’ heightened risk for hazardous driving while intoxicated may be a product of their rapid drinking.

We determined the effect of a priming dose of alcohol on subsequent drinking and behavior in binge drinkers. Participants who received a priming dose of alcohol did not significantly differ from placebo in the dose of alcohol consumed within an ad libitum drinking session. These data suggest that binge drinkers may engage in excessive alcohol use as they may not limit additional alcohol drinking after pregaming.

Taken together, these studies show that reducing the deleterious effects of bingeing should target specific strategies to decrease the frequency of binge episodes, the fast drinking of alcohol and pre-gaming before drinking.
SCHOLASTIC VITAE

EDUCATION

Ph.D. Physiology and Pharmacology, 2011
Winston-Salem, North Carolina

M.A., Physiology, 2006
Winston-Salem, North Carolina

B.A., Psychology and Social Sciences Interdisciplinary
State University of New York at Buffalo, 2005

PROFESSIONAL MEMBERSHIPS

2009- present Research Society on Alcoholism
2009- present International Society for Research on Impulsivity
2005- present Society for Neuroscience

AWARDS

2006 Graduate Fellowship
Wake Forest University Graduate School

2011 Student Merit Meeting Award, Research Society on Alcoholism
Conference, Atlanta GA.

2011 Travel Stipend, Wake Forest University Graduate School of Arts
and Sciences for Lilly Conference.

2009 Student Merit Meeting Award, Research Society on Alcoholism
Conference, San Diego CA.

2006 Graduate Fellowship, Wake Forest University Graduate School of Arts and Sciences
PUBLICATIONS

Journals


Abstracts


