DRINK TOGETHER, STAY TOGETHER: ALCOHOL’S EFFECTS ON SOCIAL RELATIONSHIPS

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U.S. MARRIAGE STATISTICS

There are around 2,077,000 marriages in the U.S. per year.

The marriage rate is 6.8 per 1,000

The divorce rate is 3.4 per 1,000

1 in 15 marriages lasts more than 10 years.

The probability of marriage occurring after living with someone for 1 year is 1 in 47.

The chances raise after living with someone for 5 years to 1 in 17.

Source: www.statisticbrain.com/marriage-statistics/
Top 5 Reasons for Divorce

1. Infidelity (21.6%)
2. Incompatibility (19.2%)
3. Drinking or Drug Use (10.6%)
4. Grew Apart (9.6%)
5. Personality Problems (9.1%)
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The “Marriage Effect”
“At-Risk” Drinking and Marriage

- Heavy alcohol consumption – defined as 14 drinks per week or more for men and 10 drinks per week or more for women.

- In 4% of married couples both partners drink heavily, while in 79% of couples neither partner is a heavy drinker.

- 12% of couples have only the husband has a heavy drinker, while 5% of couples have only the wife as the heavy drinker.
Discrepancy Drinking in Marriages

One partner was a heavy drinker.

Neither partner was a heavy drinker.

Both partners were heavy drinkers.

Divorce Rates after 9 Years of Marriage

50% One partner was a heavy drinker

30% Neither partner was a heavy drinker

Alcohol Abuse can Split Up Couples...

50%

30%

Leonard et al. 2014
How do I study this in the lab?
Prairie Voles

• Highly Social
• Socially monogamous, but not sexually monogamous.
• Both parents take care of the offspring
• Young prairie voles stay in the nest for several weeks after weaning
Partner Preference Test

Nair and Young, 2006
Alcohol’s Effects on Pair Bond Formation

Partner Preference in Females

Time spent huddling (min)

Water

p=0.068

Partner

Stranger

Anacker et al. 2014
Scientists uncover why booze makes women touchy-feely and men unfaithful by observing drunken VOLES
Formation vs. Maintenance

Maintenance Behaviors:
- Partner Preference
- Selective Aggression
  - Successful Impregnation

Formation Behavior:
- Partner Preference

Resendez and Aragona, 2012
Does a Discrepancy in Alcohol Drinking Impact Pair Bond Maintenance?
Alcohol and Pair Bond Maintenance

What areas of the brain might be controlling this?
Anatomy and Neurochemistry of the Pair Bond
Periaqueductal Gray (PAG)

- Involved in the perception of pain.
- Involved in fear and anxiety.
- Involved in the production of sound.
- Involved in social attachment.
Alcohol and Pair Bond Maintenance

![Graph showing time spent huddling (min) for different conditions: Both EtOH, Male only EtOH, Control. The graph indicates significant differences with labels for Partner and Stranger groups.]
The PAG’s Role in the Interaction Between Alcohol and Pair Bonds

A

B

C

D

- FosB IR cells in PAG (Total)
- FosB IR cells in DMPAG
- FosB IR cells in DLPAG
- FosB IR cells in LPGAG

Both EtOH  Male only EtOH  Control
Alcohol and Social Bonds

- Discrepancy in alcohol consumption causes an increase in separations in humans.

- Alcohol consumption during pair bond formation causes facilitation in females and inhibition in males prairie voles.

- Discrepancy in alcohol consumption causes a decrease in pair bond maintenance in male prairie voles.

- The PAG is involved in the relationship between alcohol and long-term relationships in prairie voles.
Thank You!!

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