Alcohol Use and Predictors of Intimate Partner Violence: A framework for understanding moderation in the alcohol-aggression relationship.

Addressing intimate partner violence among substance misusers: advancing aetiologies and treatment approaches

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Goals of this talk

- Review key aspects of alcohol-violence relationship.
- Discuss the challenges of studying moderation.
Key aspects of the alcohol/domestic violence relationship.

• The relationship between excessive alcohol use and domestic violence
  – has been observed in many different cultural contexts
Netzahualcoyotl of Texcoco

• “It [alcohol] is like a tornado that destroys everything in its path. It is like a hellish tempest that brings with it all evils. Drunkenness … causes violence among kinfolks. Yelling and brawls are caused by *octli* and its accompanying drunkenness

(Soustelle, 1955 cited in Paredes, 1975)
THROUGH THE CONSTANT USE OF LIQUOR HE LOSES, AT TIMES, ALL CONTROL OF HIMSELF AND IN ONE OF THESE MOMENTS KILLS HIS WIFE.
Countries with at least one controlled study finding an association between partner drinking and domestic violence
Key aspects of the alcohol/domestic violence relationship.

- The relationship between excessive alcohol use and domestic violence
  - has been observed in many different cultural contexts
  - has been found across many different kinds of samples
Samples / representative studies supporting alcohol/ domestic Violence association.

- **Alcoholic/substance abuse samples**

- **Batterers**

- **Emergency Room**
Samples / representative studies supporting alcohol/ domestic Violence association.

• **Prenatal and Antenatal Clinics**

• **Primary Care Settings**

• **Community and representative samples**
Key aspects of the alcohol/domestic violence relationship.

- The relationship between excessive alcohol use and domestic violence
  - has been observed in many different cultural contexts
  - has been found across many different kinds of samples
  - represents an association of at least moderate strength
Meta-analyses across cross-sectional studies show that the relationship largely consistent.

Lipsey, Wilson, Cohen, and Derzon (1997)
Strength of cross-sectional associations

• Lipsey, Wilson, Cohen, and Derzon 1997
  – 34 studies of domestic violence including child abuse
  – Effect size .22

• Stith, Smith, Penn, Ward, & Tritt, 2004
  – 22 studies of partner violence and alcohol use
  – Effect size .24

• Foran and O’Leary, 2008
  – 50 studies of partner violence and alcohol
  – Effect size .23
Key aspects of the alcohol/domestic violence relationship.

- The relationship between excessive alcohol use and domestic violence
  - has been observed in many different cultural contexts
  - has been found across many different kinds of samples
  - represents an association of at least moderate strength
  - the *acute* effects of alcohol contribute to the violence, even in chronic heavy drinkers
Husband and wife alcohol use in conflict episodes

Comparing conflict episodes with and without violence

## Alcohol involvement in Police-Citizen Encounters

<table>
<thead>
<tr>
<th>Crime Type</th>
<th>Percent Alcohol involved</th>
<th>Odds Ratio</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violent crime/sexual assault</td>
<td>43.3</td>
<td>2.5</td>
<td>250</td>
</tr>
<tr>
<td>Spousal Assault</td>
<td>43.4</td>
<td>2.5</td>
<td>103</td>
</tr>
<tr>
<td>Robbery</td>
<td>39.1</td>
<td>2.1 ns</td>
<td>36</td>
</tr>
<tr>
<td>Public order, vandalism</td>
<td>46.1</td>
<td>2.8</td>
<td>250</td>
</tr>
<tr>
<td>Nonviolent crimes</td>
<td>23.4</td>
<td></td>
<td>597</td>
</tr>
</tbody>
</table>

McClelland & Teplin, Alcohol intoxication and violent crime: Implications for public health policy
The American journal on addictions, 10 (supplement), 70-85, 2001
Experimental Studies of Alcohol and Physical Aggression

• General Methodological Approach
  – Random Assignment to alcohol versus control, which is sometimes no alcohol, sometimes placebo, sometimes both.
  – Experimental Context is which mild aggressive behavior (usually shock or noise) is enabled.
  – Often the context includes manipulation of other variables.
You Won!
You Get to Give a Shock!

1 2 3 4 5 6 7 8 9 10

Low Medium High

Don't Touch!!
Meta-analyses of Experimental Studies of Alcohol and Physical Aggression

Effect sizes compared to no alcohol control

- Alc. w/out aware: -0.01
- Placebo: 0.1
- Alcohol: 0.43

Effect sizes of different alcohol levels compared to no alcohol controls.

- Low BAC: 0.35
- High BAC: 0.53

Bushman, 1997
Ito, Miller, & Pollock, 1996
Experimental Studies of Alcohol and Aversive Verbal Behavior

- Seen as more ecologically valid than other aggression paradigms
  - Less artificial than reaction time or teacher learner.
  - Verbal aggression more natural response than setting shock
  - Links between verbal aggression and physical aggression
  - Primarily has been used in studies of intimate partners.
Negativity as a function of alcohol condition and time

Key aspects of the alcohol/domestic violence relationship.

- Alcohol does not increase violence for everyone; there are numerous factors that moderate the relationship.
Challenges to understanding moderation

- Virtually unlimited number of moderators
Moderators of the alcohol/violence relationship

- Hostility (Leonard & Blane, 1992)
- Marital satisfaction (Leonard & Blane, 1992)
- Verbal aggression (Quigley and Leonard, 1999)
- Life stress (Margolin, John, & Foo, 1998)
- Negative affect (Leonard & Blane, 1992)
- Social Support (Caldeira and Woodin, 2012)
- Mindfulness (Gallagher, Hudepohl, & Parrott, 2010)
- Cognitive Reappraisal Ability (Stappenback & Fromme, 2013)
- Locus of Control (Gallagher & Parrott, 2010)
- Jealousy (Foran & O’Leary, 2008)
- Impulse Control (Watkins, Maldonado, & DiLillo, 2014)
- Trait Displaced Aggression (Denson, White, & Warburton, 2009)
Alcohol, Hostility, and Escape Coping

Schumacher, Homish, Leonard, Quigley & Kearns-Bodkin, Longitudinal Moderators of the Relationship Between Excessive Drinking and Intimate Partner Violence in the Early Years of Marriage, Journal of Family Psychology 2008, Vol. 22, No. 6, 894–904. Published by the American Psychological Association and adapted with permission
Alcohol should be most strongly associated with aggression when there are strong aggression facilitating and weak inhibitory factors.

Parrot and Giancola (2004) conducted an experimental study and found that alcohol led to the largest increase in aggression relative to placebo for participants who were high in trait anger and low in anger control.
Interaction of husband alcohol use and husband executive cognitive functioning predicting husband -> wife aggression
Interaction of male alcohol use and executive cognitive functioning predicting shock settings.

Interaction of husband alcohol use and husband perceived emotional support predicting husband -> wife aggression

Caldeira and Woodin, (2012) found that high alcohol use was associated with husband to wife aggression only among those in low perceived emotional support.
Alcohol should be most strongly associated with aggression when there are strong aggression facilitating and weak inhibitory factors.

Challenges to understanding moderation

- Virtually unlimited number of moderators
- The potential for interactions to involve two or more moderators.
Prediction of Marital Aggression from Marital Satisfaction, Hostility, and Alcohol Dependence scores

Challenges to understanding moderation

• Virtually unlimited number of moderators
• The potential for interactions to involve two or more moderators.
• Counterintuitive findings
Parolee to spouse violence by self reported criminal violence and current alcohol problems

Blane, Miller, Leonard, Nochajski, Bowers, & Gondoli, 1988
Interaction of Jealousy and Anger Control

Foran & O’Leary (2008)
Males with high jealousy and problems with anger control were aggressive irrespective of alcohol use.

Males who were low in jealousy were low in aggression irrespective of alcohol use.

Males who were jealous, but who had good anger control, were more aggressive if they were also problem drinkers.
Addressing these challenges

• A consideration of outcomes, occurrence vs severity vs frequency.
Husband and Wife Alcohol Dependence scores as predictors of occurrence vs frequency of H->W violence

Addressing these challenges

• A consideration of outcomes, occurrence vs severity vs frequency.
• A consideration of cognitive neuroscience observations into our approaches.
Conceptual linkage between cognitive processes and violence

- Empathy Attachment (Amygdala) → Instrumental aggression
- Poor Decision making
  - Poor Inhibitory control (PFC) → Under-regulated response to social provocation
- Threat sensitivity (Amygdala) → Threat-based reactive aggression

Some moderators are directly related to these systems, others are combinations of these systems, others may be outgrowths of these systems.

- Empathy Attachment (Amygdala)
- Poor Decision making
  Poor Inhibitory control (PFC)
- Threat sensitivity (Amygdala)
- Marital satisfaction
  History of Aggression
Some moderators are directly related to these systems, others are combinations of these systems, others may be outgrowths of these systems

(Blair, 2013)
Some moderators are directly related to these systems, others are combinations of these systems, others may be outgrowths of these systems.
Addressing these challenges

• A consideration of outcomes, occurrence vs severity vs frequency.
• A consideration of cognitive neuroscience observations into our approaches.
• A consideration of dyadic factors
Interaction of wife alcohol use and husband negative affect predicting husband -> wife aggression
Addressing these challenges

- A consideration of outcomes, occurrence vs severity vs frequency.
- A consideration of cognitive neuroscience observations into our approaches.
- A consideration of dyadic factors
- A consideration of the total load of instigatory and inhibitory factors
Multiple Thresholds Model

- Aggression occurs as a function of external provocations, aggressive motivations, and inhibitory processes.
- Provocation increases aggressive motivations and decreases aggressive inhibitions.
- The model assumes IPV occurs when an individual’s aggression threshold is exceeded; that is, when the strength of the aggressive motivations exceeds the strength of the inhibitions.
- There may be multiple thresholds, e.g. moderate and severe aggression, or a threshold and then a linear effect.
- Intoxication is hypothesized to lower these aggression thresholds by impairing inhibitions through its effect on cognitive functioning.
Aggression Curve For Individuals with Weak Aggressive Motivations and Strong Aggressive Inhibitions

- Aggressive Inhibitions
  - Inhibition reduced by drinking
  - One unit provocation

- Aggressive Motivations
  - Aggressive threshold
  - Two unit provocation

Provocation
Aggression Curve For Individuals with Moderate Aggressive Motivations and Moderate Inhibitions

- Aggressive Motivations
- Aggressive Inhibitions
- Aggressive threshold
- Inhibition reduced by drinking
- One unit provocation
- Two unit provocation

Provocation
Aggression Curve For Individuals with Strong Aggressive Motivations and Low Inhibitions

- Aggressive Inhibitions
- Aggressive Motivations
- Inhibition reduced by drinking
- One unit provocation
- Two unit provocation
Aggression Curve For Individuals with Strong Aggressive Motivations and Low Inhibitions for Severe Violence

- Aggressive Inhibitions
- Aggressive Motivations

Inhibition reduced by drinking

One unit provocation

Two unit provocation

Provocation
Clinical implications