SECON DHAND EXPOSURE TO PROBLEMATIC DRINKING: THE LINGERING EFFECTS OF FAMILY BEHAVIORS ON EMOTION

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SECONDHAND EXPOSURE TO PROBLEMATIC DRINKING:
THE LINGERING EFFECTS OF FAMILY BEHAVIORS ON EMOTION

A Thesis

Presented to

the Faculty of the Department of Psychology

Murray State University
Murray, Kentucky

In Partial Fulfillment

of the Requirements for the Degree

of Master of Arts in Clinical Psychology

by Lillie Holcomb
November, 2016
Abstract

Previous research regarding alcohol-related visual cues has focused on the effects of imagery on those affected by personal alcohol use and abuse. The viewing of such imagery among these individuals provokes a number of both emotional and physiological responses and provides important information about the multiple components of addiction. This area of research is important because alcohol use and abuse is a widespread problem. Personal users, however, are not the only people to experience the consequences of alcohol. Problematic drinking behaviors pose risk to both the users and those exposed to the users. More specifically, family members exposed to drinkers’ habits are at a greater risk of mood and/or anxiety-related symptomology than those not exposed. The current study examined the effects of alcohol-related visual cues and exposure on emotional affect. Results from this study concluded that imagery and exposure produce orthogonal effects of emotion. It was found that exposure to problematic drinking primarily effects enduring symptomology whereas imagery primarily impacts moment-to-moment emotional change.
Acknowledgements

My committee deserves special attention for helping me finalize this project. Each of your contributions has made this research possible. To be given the chance to make it this far in the first place, I would like to thank Dr. Laura Liljequist. Your guidance over the past two years has allowed me to better myself and help me lay foundation for the most promising of futures. Thank you, Dr. Michael Bordieri. I have learned a lot having worked with you throughout the thesis process and as your supervisee in the Clinic. Thank you, Dr. Rebecca Pender Baum, for offering your perspective. I will never underestimate the importance of working in collaboration with your field of study. For Dr. Amanda Joyce; I owe an enormous amount of gratitude to you for your unwavering encouragement. You have the patience of a saint and I am a better writer thanks to all of your help. I am privileged to learn from each of these educators, as well as those not mentioned. Influence of the entire psychology department faculty is embedded throughout this document.

Call me cliché, but I am certain that my academic experience would not have been successful without the support of my friends and family. Although they could never quite understand the reasoning behind a master thesis, they never doubted my ability to accomplish the difficult. Thanks for believing in me.

Finally, to the family I’ve created… Franklin, you may never know how much I appreciate you but I hope you trust that I couldn’t have done this without you. And to my beautiful Amelia; this page isn’t nearly long enough for me to express the amount of gratitude you deserve. This, and everything else, is all for you.
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Chapter I: Review of the Literature

Early exposure to alcohol in the context of parental or family drinking has been linked to various psychological outcomes. An abundance of self-report and behavioral observation studies have demonstrated that children from families in which drinking was a problem, relative to nondrinking families, experience higher risks of psychopathology (Balsa, Homer, & French, 2009; Cuijpers, Steunenberg, & van Straten, 2006; Grant, 2000; Williams & Corrigan, 1992). Though knowledge of familial drinking varies by family, families that consist of one or more members who routinely consume alcoholic beverages leave impressionable marks on the children involved. The environments in which consistent drinking behaviors are exhibited provide opportunities for children to develop experience-based beliefs concerning alcohol through the modeling of their caregivers (Ellis, Zucker, & Fitzgerald, 1997). Wolin and colleagues (1980) proposed that environments rich with alcohol use typically consist of a disruption of family routines. Environments consisting of heavy alcohol use are likely to interrupt consistent scheduling of family mealtimes or bedtime routines. Thus, children perceive lower quality family interactions as a result of problematic drinking behaviors (Wolin, Bennet, Noonan, & Teitelbaum, 1980). Such problematic drinking in the home is often associated with lower self-esteem, anxiety, depression and social avoidance in the exposed children (Williams & Corrigan, 1992). Furthermore, increased conflict among family members, a sense of instability, unpredictable behavior, and inconsistency in the home fosters an
environment that contributes to ongoing psychological distress of those exposed (Kashubeck, 1994).

Individual differences concerning the degree of distress resulting from exposure to heavy drinking at the hands of close, familial relationships have been determined by examining an array of childhood experiences. The unstable, unpredictable, and inconsistent atmosphere that is often associated with an environment saturated with heavy alcohol use has a tendency to leave the children reared from such environments susceptible to maladaptive outcomes (Johnson & Sher, 1991). The adverse effects of exposure to the drinking habits of others can be seen as early as infancy (Mennella & Garcia, 2000). Children are cognizant of their surroundings and many researchers have concluded that young children exposed to the drinking behaviors of close others possess well-developed cognitions concerning alcoholic beverages (Hahn et al., 2000; Mennella & Garcia, 2000; Torvik, Rognmo, Ask, Roysamb, & Tambs, 2011). When comparing participants exposed to heavy drinking patterns of their caregivers versus those not exposed, infants subjected to the odor of alcohol were more likely to display signs of aversion toward the smell (i.e. turning away from the sensory task or crying; Mennella & Garcia, 2000). Aversion toward alcohol-related stimuli at such a young age suggests that exposure impacts the development of perception concerning drinking behaviors as problematic and distressing. Though the classification of what constitutes problematic drinking varies by individual instances, exposure to heavy alcohol use and abuse is likely to result in distress for those exposed and this effect is well maintained into adulthood (Cuijpers et al., 2006; Mackrill & Hesse, 2011).
Negative effects of exposure to problem drinking present in early development and do not disappear as the children from these environments grow older (Vaught, Wittman, & O’Brien, 2013; Zucker, Kincaid, Fitzgerald, & Bingham, 1995). The psychological distress resulting from exposure is carried throughout the lives of those exposed and is manifested in various pathologies. An increased risk of lifetime mental health problems is more prevalent in adults who viewed the drinking behaviors within their environments as distressing (Cuijpers et al., 2006). Although the extent to which individuals find exposure to problem drinking as distressing is not clearly defined in past research, those who perceive the drinking behaviors within their environments as troubling demonstrate observable differences from those who were not exposed to heavy alcohol use (Balsa et al., 2009). Adult children of problem drinkers who perceive their exposure as distressing are more likely to experience traumatic symptomology than their counterparts (Hall & Webster, 2002). Anger, irritability, and maladaptive means of coping with stressors are common among college students identified as adult children of problem drinkers (Hall & Webster, 2002). The effects that persist suggest that exposure has a significant impact during early development.

Examining the ways in which individuals develop their perceptions is an important precursor for determining what factors influence the maintenance of their distress. One way to examine the continuance of distress into adulthood is to explore the immediate thoughts of the individual when subjected to alcohol-related stimuli. The perceptions developed by those exposed to problematic drinking are carried throughout the lifespan. If these perceptions are perceived as distressing, individuals should manifest negative emotional responses to alcohol-related stimuli that closely resemble problematic
exposure. Addressing the preservation of distressing perceptions could provide important implications for treating psychological disturbances resulting from early exposure to problematic drinking.

As previously mentioned, individuals subjected to problematic drinking environments develop alcohol-related schemas at an early age. The schemas are referred to as anticipatory cognitions (i.e. thoughts of expectation when a stimulus is presented) and are paired with associations made between past experiences with drinking behaviors and the feelings elicited following those behaviors (Wiers et al., 2002). These associations are known as alcohol expectancies and have been determined to be an important mediating factor between exposure to alcohol and risks for psychological distress (Wiers, Gunning, & Sergeant, 1998, 2002). Repetitive alcohol exposure activates automatic thoughts when related stimuli are presented. Further associations are then formed between drinking behaviors to which individuals are exposed and the anticipated outcomes of those behaviors. Past research on alcohol advertising suggests that marketing strategies aim to evoke positive responses to their products by pairing them with other positive stimuli. Just as the acquisition of associations is a result of repetitive experiences with a stimulus, the tactics used by alcohol advertising exemplify how some of the expectancies formed are a result of persistent media contact.

Advertisers enhance the appeal of a product to potential consumers by targeting the activation of positive emotional responses. Repeated mere exposure to a stimulus will increase the extent to which the exposed individual finds the stimulus appealing (Zajonc, 1968), and because advertisements for alcoholic beverages portray positive social consequences as a result of drinking behaviors, individuals exposed to such advertising
are more likely to anticipate positive outcomes associated with drinking (Dunn & Yniguez, 1999). Expenditures of alcohol advertising spanning magazines, newspapers, television, and radio reach up to two billion dollars each year in the United States alone (Jernigan, 2008). Given that most people are aware of at least one of the aforementioned sources early in life (Roberts & Foehr, 2008), such an amount of exposure would suggest an early development of positive associations between the alcoholic stimuli and its accompanying expectancies. While there exists an abundance of research on positive associations individuals form following exposure to alcohol advertisements, the lack of research regarding exposure to negative stimuli introduces a new question into the current literature. The present study seeks to address if repetitive exposure to problematic drinking behaviors also impacts alcohol expectancies.

In order to understand how exposure affects expectancies, the formation of visual cues needs to be addressed. An example of this formation includes the aforementioned television advertisements for alcohol. Incoming information from these advertisements is geared toward capturing the attention of viewers by using creative visual stimuli (Campbell, 1995). After attention is maintained, the stimuli processed upon retrieval are, in turn, associated with expectations regarding the presented product (Goodstein, 1993). Given that alcohol advertisements are generally paired with positive stimuli, the association between alcohol-related stimuli and corresponding expectation often prompts the viewer to react positively. Although this phenomenon leaves little to be questioned as to how an individual may respond to alcohol-related stimuli when presented through a positive lens, less is known about exposure to negatively presented stimuli. Similarly, although a considerable amount of research suggests that exposing alcohol dependent
individuals to alcohol cues can induce physiological symptoms of cravings (Kim et al., 2003; Litt, Cooney, & Morse, 2000; Sinha et al., 2009), little is to be said about the reaction to stimuli in those who are not dependent. There is even less research on how exposure affects the individuals subjected to problematic drinking environments. Addressing this caveat may provide implications for treating those that experience psychological distress as a result of exposure to problematic drinking behaviors throughout childhood.

Studies that address the extent to which early exposure to problematic drinking is reactive to reminders of those experiences is lacking in the literature. This area is important to explore if possibilities of restructuring perceptions that cause lingering distress are to be discovered. The current study attempts to explore the reactivity to alcohol-related stimuli in adults exposed to problematic drinking. Reactivity in the current study is indicated by a change in direction of reported positive or negative affect following the presentation of a stimulus. Emphasizing the environmental bases in visual stimuli (i.e., cues that portray drinking within a domestic, family setting) is of notable importance for this study in order simulate the possible experiences most closely related to the individual’s past. When cues are presented in this fashion, it is expected that greater exposure precedes greater reactivity to alcohol-related stimuli and that individuals exposed to a great deal of problematic drinking will have a strong negative reaction when presented with alcohol cues negative in nature. More specifically, the hypotheses are as follows:

**Hypothesis 1.** Participants who are exposed to the condition consisting of stimuli that depict the presence of alcohol in a negative manner (i.e. the negative alcohol cue
condition) will experience a greater increase in negative affect than those exposed to any other condition, as measured by the Positive and Negative Affect Schedule (PANAS).

Hypothesis 2. There will be a baseline difference in negative symptomology between those with high and low family alcohol exposure. In other words, participants who report greater alcohol exposure on the Family Tree Questionnaire (FTQ) will also report more negative symptomology on the Depression Anxiety Stress Scales (DASS-21).

Hypothesis 3. There will be an interaction between condition and previous exposure. In other words, participants exposed to the negative alcohol cue condition who also report higher alcohol exposure on the FTQ will experience the greatest increase in negative affect from the first to the second administrations of the PANAS.
Chapter II: Method

Participants

The present data was collected from a sample of 100 Murray State University students enrolled in an introductory psychology course. Ten of the participants were excluded from analyses due to uninterpretable data. The excluded participants failed to complete the required measures in their entirety, leaving a total of 90 participants used for analyses (26 males, 64 females). Participants in the sample used, as part of a course requirement for undergraduate psychology studies, were given the option of completing research studies of their choosing through SONA, an online recruitment and data collection system used by the university’s psychology department. Individuals who participate in studies through SONA are assigned a unique identification number and asked to provide demographic information. Demographic information for the current sample was collected from the details listed on SONA. Participants found this study within the online system entitled “Family Experiences and Perceptions.” Given that the focus of the research was geared toward longevity of outcome from exposure, students were required to be of 18 years or older to participate in the study. Participants were primarily between 18 and 20 years old. The sample included participants aged 18 years (\(N = 40\)), 19 years (\(N = 22\)), 20 years (\(N = 15\)), 21 years (\(N = 2\)), 22 years (\(N = 2\)), 23 years (\(N = 1\)), 24 years (\(N = 2\)), and 25+ years (\(N = 6\)). The majority of participants identified as of Caucasian ethnicity (\(N = 79\)), with African American/Black (\(N = 5\)),
Latino/Hispanic ($N = 1$), Asian/Asian American ($N = 1$), Biracial/Multiracial ($N = 1$), and Other ($N = 3$) classifications making up the remainder of the sample’s demographics.

**Materials**

**Family history.** Participants first completed the “Family Tree Questionnaire” (FTQ; Mann, Sobell, Sobell, & Pavan, 1985; Appendix A). This 14-item questionnaire was used to assess family history of alcohol use over three generations. The participants were instructed to complete the questionnaire by classifying their blood relatives into one of six categories, however the nature of this study was to assess drinking patterns in the family home, including primary caretakers. For this reason, the questionnaire instructions were altered to include both relatives by birth and non-blood relatives. Participants were asked to rate each of the listed family members as either a (1) non-drinker, (2) social drinker, (3) possible problem drinker, (4) definite problem drinker, (5) no such family member, or (6) do not know/do not remember. Higher scores on this measure indicate more exposure to problematic drinking behaviors of others, however in order to quantify exposure to family drinking behaviors, only those answers for which participants indicated knowledge of family members’ drinking patterns (i.e. answers indicating ‘never drank,’ ‘social drinker,’ ‘possible problem drinker,’ or ‘definite problem drinker’) were totaled and averaged for an overall exposure (FTQ) score. The test-retest reliability for this measure indicates the participants’ classification of individual relatives as problem drinkers versus non-problem drinkers provided kappa values ranging from 0.78 to 0.94 (Mann, et al., 1985). Kappa values are considered acceptable when the coefficients are 0.70 or higher (Cohen, 2008). The value ranges provided for the FTQ suggest that this measure is within the acceptable limits of reliability.
Depression, anxiety, and stress. In order to assess the presence or absence of symptoms typical of depression and anxiety before experimental manipulation, participants also completed the 21-item Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995; Appendix B). This measure is the short form of the DASS-42 originally developed by Lovibond and Lovibond (1995). The purpose of the DASS-21 is to measure an individual’s state of distress over a period of seven days. With this measure, participants were asked to rate the degree to which they have experienced negative emotional states commonly associated with depression and anxiety over the past week. Each item was given a rating of either (0) did not apply to me at all, (1) applied to me to some degree or some of the time, (2) applied to me to a considerable degree or a good part of time, or (3) applied to me very much or most of the time. Ratings on this measure are scored along three axes (i.e. depression, anxiety, and stress) with scores ranging from ‘normal’ to ‘extremely severe’ on each axis (Gomez, n.d.). Given that this measure is a short form of the DASS-42 (Lovibond & Lovibond, 1995), the summed symptom scores were multiplied by two to obtain a total symptomology score along each of the three axes. Analyses of internal consistency for total scale DASS-21 provided a Cronbach’s coefficient alpha of .93 (Henry & Crawford, 2005). Further, coefficients for each of the three axes (Depression scale $\alpha = .88$, Anxiety scale $\alpha = .82$, Stress scale $\alpha = .90$) suggests that the DASS-21 is a valid and reliable measure for screening proportions of depression, anxiety, and stress symptomologies (Henry & Crawford, 2005).

PANAS. The 20-item Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) was administered to each participant prior to viewing the cues
as well as after viewing the cues. This measure was constructed to determine positive and negative affect over periods of time ranging from the present moment to up to the past year depending on the researcher’s choice (Watson, et al., 1988). This measure was used to establish both the participants’ baseline affect as well as indicate any reactivity from viewing the cues using the “moment” time instructions to indicate how the participants rate the items based on how they feel in the present moment. Participants rated each of the 20 single-word items (10 represent positive affect and 10 represent negative affect) on a 5-point likert scale based on their present mood. Each item was given a rating of either (1) very slightly or not at all, (2) a little, (3) moderately, (4) quite a bit, or (5) extremely. This measurement has been shown to have adequate reliability in past samples with Cronbach’s coefficient alphas ranging from .86 to .90 for the positive affect (PA) items and .84 to .87 for the negative affect (NA) items (Watson, et al., 1988).

Cue. A total of four groups of participants viewed cues from four different sets of cues. Three groups of participants viewed five pictures depicting environments that involve either positive ($N = 25$), negative ($N = 24$) or neutral ($N = 19$) alcoholic scenes. The final group of participants viewed five pictures that are non-alcohol-related ($N = 22$; See Appendices D - G). Each picture was displayed to the participants for 20 seconds without pause.

It should be noted that, although there exist databases that contain standardized alcohol cues to determine emotional response to the images, most of the stimuli used for the current study were taken from online sources in order to meet the needs of the experiment. Images taken from The Geneva Appetitive Alcohol Pictures (GAAP) database contain alcohol-related pictures recently validated based on their levels of
elicited emotional valence, arousal, and dominance (See Appendix F; Billieux et al., 2011). These images were developed and designed to study substance-related cue activity in alcohol dependent populations (Billieux et al., 2011). Given that the database does not include the domestic or familial depictions needed to assess cue reactivity for individuals exposed to the drinking behaviors of others, much of the stimuli was retrieved from online searches (See Appendices D, E, and G).

**Procedure**

Based on a power analysis assuming a medium effect size, 100 participants were recruited from the SONA program through a study listed as “Family Experiences and Perceptions” (Faul, Erdfelder, Buchner, & Lang, 2009). Participants recruited through SONA are primarily students enrolled in a general psychology course. Individuals within the sample used ($N = 90$) were required to be at least 18 years of age to meet criteria for inclusion of this study.

Individuals who chose to participate in this study were asked to schedule a 30-minute appointment for an in-lab session. Prior to arrival, each participant was randomly assigned to one of the four conditions: positive domestic alcoholic scene (Appendix D), negative domestic alcoholic scene (Appendix E), neutral alcoholic scene (Appendix F) and non-alcohol related scene (Appendix G). Upon arriving to the appointment, the participants were given an informed consent document and reminded that their individual information would remain anonymous.

All participants in each condition were given the FTQ (Mann, et al., 1985) to complete (Appendix A). Each participant also received the DASS-21 (Lovibond & Lovibond, 1995) to complete (Appendix B). Following the completion of these measures,
each participant was asked to complete the PANAS (Watson, et al., 1988; Appendix C). After completing these measures, the experimenter presented a slideshow consisting of a series of five pictures for a total of 20 seconds each picture, whereby the images depicted environmental scenes related to alcohol or non-alcohol depending on the condition for which the participants were randomly assigned. When participants were finished viewing the appropriate photos for their condition, they were then asked to complete an additional PANAS to detect a change in their responses pre- and post-manipulation. Descriptive statistics for each of the measures mentioned above are listed in Table 1. Following completion, participants were given a receipt of participation, a debriefing statement regarding the nature of the study, and were dismissed from the experiment.
Table 1

Descriptive Statistics for Measures Used

<table>
<thead>
<tr>
<th>Measure</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTQ</td>
<td>1.98</td>
<td>.51</td>
<td>1</td>
<td>3.13</td>
</tr>
<tr>
<td>DASS-21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>9.51</td>
<td>10.12</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>Anxiety</td>
<td>9.78</td>
<td>8.86</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Stress</td>
<td>14.58</td>
<td>8.62</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>PANAS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre Positive</td>
<td>25.84</td>
<td>8.20</td>
<td>10</td>
<td>41</td>
</tr>
<tr>
<td>Pre Negative</td>
<td>15.27</td>
<td>5.28</td>
<td>10</td>
<td>32</td>
</tr>
<tr>
<td>Post Positive</td>
<td>23.32</td>
<td>7.91</td>
<td>10</td>
<td>44</td>
</tr>
<tr>
<td>Post Negative</td>
<td>15.98</td>
<td>7.51</td>
<td>10</td>
<td>48</td>
</tr>
</tbody>
</table>

Note. N = 90. The minimum and maximum scores listed here provide the recorded information within the current sample. Potential ranges for each measure: FTQ (1 – 4), DASS-D (0 – 21), DASS-A (0 – 21), DASS-S (0 – 21), PANAS Positive items (10 – 50), PANAS Negative items (10 – 50). Pre and Post indicators distinguish between first and second administrations of the PANAS.
Chapter III: Results

To assess the first hypothesis and to determine the effects of cue condition on emotional affect, a one-way between groups analysis of variance was conducted using the changes in PANAS scores for both positive and negative affect. In order to establish a change in PANAS for both positive and negative affect, the 10 items representing their respective emotional states were evaluated separately. As illustrated in Figures 1 and 2, results of each analysis demonstrated a significant change in both positive \( (F(3, 86) = 2.75, p = .047, \eta^2 = .09) \) and negative \( (F(3, 86) = 3.56, p = .018, \eta^2 = .11) \) emotional responses among conditions from the first to the second administration of the PANAS. Post hoc comparisons using the Tukey’s HSD test indicated that the mean change in PANAS scores for positive affect were greatest between the negative \( (M = 4.58, SD = 5.76) \) and non-related \( (M = .36, SD = 5.19) \) cue conditions. Similarly, the mean change in PANAS scores for negative affect were significantly different among the negative \( (M = -3.58, SD = 7.02) \) and non-related \( (M = 1.32, SD = 3.40) \) conditions. No other comparisons were significant.

Whereby a decrease in ratings for the 10 positive PANAS items indicates a change in positive affect and an increase in ratings for the 10 negative PANAS items indicates a change in negative affect, the results indicated from the analyses and in the figures below signify the impact of negatively-valenced imagery as expected. Independent sample t-tests conducted for each condition indicate significant change in
affect for participants within the negative condition. Significant change for those subjected to the negative cues was found for both positive ($t(46) = 1.97, p = .027, d = .57$) and negative ($t(46) = 1.68, p = .049, d = .49$) affect. Changes within the other conditions were found insignificant at the .05 level. In other words, results show that participants subjected to the negative cue condition were more likely to experience a reduction in positive emotion and an increase in negative emotion following manipulation.

*Figure 1.* Mean ratings for positive items as measured by the PANAS for each condition, pre- and post-manipulation.
A Pearson product-moment correlation was conducted to evaluate the relationship between exposure to familial drinking patterns and negative symptomology as measured by the FTQ and the DASS-21, respectively. A positive association between exposure and symptomology was found to be significant for each measure of depression, anxiety, and stress and is presented below in Table 2. As predicted, and in accordance with the previously explored literature, those individuals who were subjected to greater amounts of drinking within the family environment were also more likely to exhibit symptoms typical of depression, anxiety, and stress prior to manipulation.

Figure 2. Mean ratings for positive items as measured by the PANAS for each condition, pre- and post-manipulation.
Table 2

*Correlations between Exposure and Self-reported Symptomology*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FTQ</td>
<td>-</td>
<td>.335**</td>
<td>.271**</td>
<td>.313**</td>
</tr>
<tr>
<td>2. Depression</td>
<td>-</td>
<td>-</td>
<td>.708**</td>
<td>.786**</td>
</tr>
<tr>
<td>3. Anxiety</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.798**</td>
</tr>
<tr>
<td>4. Stress</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note. N = 90.*

** p < .001.

To assess my final hypothesis regarding the effect of the independent variable and covariate (i.e. cue condition and exposure, respectively) on change in mood, a one-way between groups analysis of covariance was conducted. Although there was a significant main effect of cue condition on a change in fluid positive and negative emotion as discovered when testing the first hypothesis, results of the present analysis indicated no significant main effect on affect change when adjusting for exposure to family drinking behaviors \((F(1, 85) = 3.52, p = .870)\). In other words, the results from this analysis provide that exposure to the drinking of close others does not directly impact cue reactivity as once expected.
Chapter IV: Discussion

Literature regarding the effects of alcohol-related visual cues are readily available to the interested reader. However, much of the research conducted focuses on the influence of imagery on emotions in individuals susceptible to alcohol use and abuse. The current study is unique in that it attempts to look beyond those affected by their own consumption by focusing on their family members. Specifically, the purpose of the study was to examine if individuals exposed to problematic drinking within their lineage are more reactive to such cues. It is from this perspective that exposure to problematic drinking behaviors are uniquely examined for those impacted secondhand. This research importantly addresses more than individual attitudes toward alcohol. Rather, components of psychological well-being, perceptions of problematic drinking patterns, and maintenance of distress are examined here in an attempt to explore potential remediation for those affected.

First, the present study aimed to address the effects of exposure to problematic drinking on individuals subjected to such patterns of alcohol use. To do so, the change in emotionality following the presentation of either positive, negative, or neutral visual cues was examined. A fourth, non-alcohol related condition was also included to serve as a control for the experiment. It was expected that the participants who viewed the cues containing negatively depicted familial environments would exhibit the greatest change in affect, specifically in an undesirable direction. The hypothesis predicted an increase in negativity following the presentation of a negative cue. Results supported this prediction.
Exposure to the negative cue condition was associated with an increase in negative affect, as well as a decrease in positive affect. This is to be expected, given previous research on the topic. Individuals are prone to processing emotional-laden imagery, specifically that which contains human faces (Royet, et al., 2000). The negative cue condition used here was both emotionally-laden and included human faces, so it fits within this understanding that those in this condition would experience the aforementioned changes in affect.

Furthermore, images containing emotional characteristics negative in nature, just as the ones used in this experiment, are seen to have a more prominent impact on viewers (Carretié, Mercado, Tapia, & Hinojosa, 2001). Previous literature regarding imagery offers likely explanation of the effect of condition on emotion as demonstrated in the current results. Where prominent impact in the current findings coincide with research on negative imagery, the absence of impact for those within the positive condition may be due to habituating to the countless encounters with positive alcohol advertisements that was mentioned earlier (Jernigan, 2008; Roberts & Foehr, 2008). Along with the previous literature, the findings here provide the importance of context-specific imagery in pliant emotionality.

The second hypothesis tested the more stable consequences of exposure to the problematic drinking behaviors. In testing the association between historical family drinking and enduring psychological distress, the findings confirmed the existing research on the mental health problems of those exposed to excessive alcohol use in the home (Cuijpers et al., 2006). Considering the nature of the current study in conjunction with that of previous literature, longevity of distress further signifies the burden of exposure. The most burdening of outcomes seems to present itself as depressive features.
Although the average of reported familial drinking patterns was identified as ‘social’ drinking patterns within this sample, the positive association between family drinking history and depressive symptomology reiterates the disconcerting data from previous work.

The final hypothesis was tested in an attempt to further examine the factors that may preserve the distress resulting from exposure to problematic drinking. It was expected that, individuals exposed to greater amounts of alcohol use would exhibit a greater, more negative response after viewing the negative cues. Analyses, however, concluded that family drinking history did not interact with cue condition in the present study. The evidence here suggests that images evaluated in the moment are more susceptible to fluid emotionality, rather than long-term exposure, as was originally predicted. Potential explanations of the results, although rendering a rejected hypothesis, are not so surprising. Visual images, as with the cues used in this study, are processed at a rate that supersedes visual awareness (Pessoa, 2005). Given the fast-paced nature of visual processing, the more automatic response following the presentation of a visual cue is more likely to rely on the fluid state of emotion. Where the PANAS used for this study instructed participants to rate the extent to which they were experiencing the items ‘at the present moment’ (see Appendix C), their responses were likely a product of a more transient affect. Arguably, affect is measured in both the PANAS and the DASS-21. However, as Watson and his colleagues (1988) point out, PANAS items can be sensitive to either trait-like stability or fluctuation in mood depending upon the defining instructions used during administration. The findings after testing this hypothesis seem to
naturally distinguish the transient state of emotionality affected by cue condition from the general affective tone affected by aversive childhood exposure to problematic drinking.

As with the beginning stages of most research exploration, this research presents some limitations to consider. Most notably, the potential effects of gender were left undiscovered. Although limited data regarding cue activity in the family members of problem drinkers exists, the breadth of literature on the influence of gender in adult children of problem drinkers suggests that alcohol expectancies may differ among males and females (Wiers, et al., 1998, 2002). To that accord, it may also be important to examine the gender of the family member since the consequences of maternal problem drinking are perceived as more distressing than paternal problem drinking (Balsal, et al., 2009).

Another limiting factor of the work presented here concerns the absence of assessment for emotional intelligence. Mayer, DiPaola, and Salovey (1990) found evidence to suggest that sensitivity to processing emotional material requires individualized skills such as empathy, introspection, and recognition of emotions in others. Where the present study relied heavily on the use of visual stimuli emotional in nature, participants lacking these skills may not have the ability to associate images with their own personal histories. It may be important to control for components of emotional intelligence in future research.

Future studies on the effects of secondhand alcohol exposure should include the assessment of both gender and emotional intelligence in order to better observe the possibilities of distress maintenance. Preservation of distress may also be determined with additional assessment of current alcohol use and personal alcohol expectancies.
Where validation of images used for this study is demonstrated by the results listed above, consideration of additional variables further provides future directions for the groundwork provided here. Although the current study did not find support for an interaction between family exposure and cue conditions, it did provide a great deal of important findings that have implications for both preventative means and clinical treatment. Marlatt and Witkiewitz (2002) determined that awareness programs working toward reducing positive outcome expectancies related to problematic drinking patterns are among the most successful prevention strategies for adolescent alcohol abuse. Promoting the extinction of alcohol expectancies by utilizing imagery similar to that of which was used here may further minimize alcohol use in at-risk youth. Of equal importance, combating the depressive features, maladaptive coping strategies, and stress intolerance that manifest as a result of adverse childhood experience may prove efficacious in treating the lingering effects of family behaviors on mental health.
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Appendix A

Family Tree Questionnaire (FTQ) (Revised)

For each relative listed below, we want you to categorize their drinking behavior into one of six categories. Please include both blood relatives as well as adopted, half, step and surrogate relatives.

CODE EACH RELATIVE USING ONE OF THE FOLLOWING 5 CODES:

1. **NEVER DRANK**: A person who (has) never consumed alcohol beverages (i.e., a lifelong abstainer; teetotaler).
2. **SOCIAL DRINKER**: A person who drinks moderately and is not known to have a drinking problem.
3. **POSSIBLE PROBLEM DRINKER**: A person who you believe or were told might have (had) a drinking problem, but whom you are not certain actually had a drinking problem.
4. **DEFINITE PROBLEM DRINKER**: Only include here persons who either are known to have received treatment for a drinking problem (including being a regular member of Alcoholics Anonymous), or who are known to have experienced several negative consequences of their drinking.
5. **NO RELATIVE**: Only applicable for brothers and sisters.
6. **DON'T KNOW/DON'T REMEMBER**

<table>
<thead>
<tr>
<th>Maternal Grandmother (Mother's mother)</th>
<th>Maternal Grandfather (Mother's father)</th>
<th>Paternal Grandmother (Father's mother)</th>
<th>Paternal Grandfather (Father's father)</th>
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<tbody>
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<td>(1)_______</td>
<td>(2)_______</td>
<td>(3)_______</td>
<td>(4)_______</td>
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<td>Mother</td>
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<td>(5)_______</td>
<td>(6)_______</td>
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<tr>
<td>Your Brothers</td>
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<td>Your Sisters</td>
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<tr>
<td>(7)<strong><strong>(8)</strong></strong>(9)<strong><strong>(10)</strong></strong></td>
<td>(11)<strong><strong>(12)</strong></strong>(13)<strong><strong>(14)</strong></strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix B
Depression Anxiety Stress Scales (DASS-21) (Short form)

Please read each statement and circle a number 0, 1, 2, or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:
0 Did not apply to me at all – NEVER
1 Applied to me to some degree, or some of the time – SOMETIMES
2 Applied to me to a considerable degree, or a good part of the time – OFTEN
3 Applied to me very much, or most of the time – ALMOST ALWAYS

<table>
<thead>
<tr>
<th>Statement</th>
<th>N</th>
<th>S</th>
<th>O</th>
<th>AA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I found it hard to wind down</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. I was aware of dryness of my mouth</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. I couldn’t seem to experience any positive feeling at all</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. I found it difficult to work up the initiative to do things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. I tended to over-react to situations</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>7. I experienced trembling (e.g., in the hands)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. I felt that I was using a lot of nervous energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. I was worried about situations in which I might panic and make a fool of myself</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. I felt that I had nothing to look forward to</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>11. I found myself getting agitated</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. I found it difficult to relax</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. I felt down-hearted and blue</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. I was intolerant of anything that kept me from getting on with what I was doing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. I felt I was close to panic</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>16. I was unable to become enthusiastic about anything</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. I felt I wasn’t worth much as a person</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. I felt that I was rather touchy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, skip a beat)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20. I felt scared without any good reason</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21. I felt that life was meaningless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTALS
Appendix C

Positive and Negative Affect Schedule (PANAS)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. **Indicate to what extent you feel this way right now, that is, at the present moment.** Use the following scale to record your answers.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>very slightly</td>
<td></td>
<td>a little</td>
<td>moderately</td>
<td></td>
<td>quite a bit</td>
</tr>
<tr>
<td>extremely</td>
<td></td>
<td>or not at all</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- ____ interested
- ____ distressed
- ____ excited
- ____ upset
- ____ strong
- ____ guilty
- ____ scared
- ____ hostile
- ____ enthusiastic
- ____ proud
- ____ irritable
- ____ alert
- ____ ashamed
- ____ inspired
- ____ nervous
- ____ determined
- ____ attentive
- ____ jittery
- ____ active
- ____ afraid
Appendix D

Positive Domestic Alcohol Cues


http://www.drinkaware.co.uk/understand-your-drinking/is-your-drinking-a-problem/does-my-drinking-affect-my-child


Appendix E

Negative Domestic Alcohol Cues

http://www.webmd.com/parenting/features/top-5-mistakes-divorced-parents-make


http://www.1umn.edu/humanrts/svaw/domestic/link/alcohol.htm

http://www.drugrehabfl.net/alcohol-abuse-starts-as-a-child/

Appendix F

Neutral Alcohol Cues

http://www.karger.com/ProdukteDB/miscArchiv/000/328/046/GAAP15.html

http://www.karger.com/ProdukteDB/miscArchiv/000/328/046/GAAP35.html

http://www.karger.com/ProdukteDB/miscArchiv/000/328/046/GAAP16.html

http://www.karger.com/ProdukteDB/miscArchiv/000/328/046/GAAP39.html

http://www.karger.com/ProdukteDB/miscArchiv/000/328/046/GAAP23.jpg
Appendix G

Non-alcohol-Related Cues

https://www.flickr.com/search/?text=clot
hes%20april%202009

https://www.flickr.com/search/?text=penc
il%20may%202012

https://www.flickr.com/search/?text=fan
%20august%202010

https://www.flickr.com/search/?text=te
lephone%20october%202009

https://www.flickr.com/photos/alisonde
mars/5935992343/in/album-
72157625756849616/
Appendix H

IRB Approval Letter

TO: Amanda Watson
    Department of Psychology

FROM: Institutional Review Board
    Sally Mateja, CIP, IRB Coordinator

DATE: May 18, 2016


On behalf of the IRB, I have completed my review of your student’s Level 1 protocol entitled “Family Experiences and Perceptions.” After review and consideration, I have determined that the research, as describe in the protocol form, will be conducted in compliance with Murray State University guidelines for the protection of human participants.

The cover letter and materials that are to be used in this research study are attached to the email containing this letter. These are the forms and materials that must be presented to the subjects. Use of any process or forms other than those approved by the IRB will be considered misconduct in research as stated in the MSU IRB Procedures and Guidelines section 20.3. If this research study is being conducted by a student, you, as the faculty mentor, are responsible for ensuring that the correct processes and forms are used by your student.

This Level 1 approval is valid until May 17, 2017. If data collection and analysis extends beyond this time period, the research project must be reviewed as a continuation project by the IRB prior to the end of the approval period, May 17, 2017. You must reapply for IRB approval by submitting a Project Update and Closure form (available on the Institutional Review Board web site). You must allow ample time for IRB processing and decision prior to your expiration date, or your research must stop until such time that IRB approval is received. If the research project is completed by the end of the approval period, then a Project Update and Closure form must be submitted for IRB review so that your protocol may be closed. It is your responsibility to submit the appropriate paperwork in a timely manner.

The protocol is approved. You may begin data collection now.