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The Role of Ineffective Emotion Regulation in Problem Drinking Varies by Emotional Disposition, Delinquency, and Gender of South Korean Adolescents

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This study examined the role of emotion regulation (ER) strategies and emotional disposition in problem drinking of adolescent offenders (n = 303) and non-offending peers (n = 287) from South Korea. The participants completed a questionnaire assessing problem drinking, positive and negative emotion, emotional intensity, and use of problem solving, support seeking, and avoidant ER strategies. Problem drinking was positively associated with negative emotion, emotional intensity, and support-seeking ER in both groups, and avoidant ER among offenders only. Support-seeking ER accounted for the association between positive emotion and drinking in both groups, and avoidant ER further accounted for the association between positive emotion and drinking among offenders. Only among female offenders was the association between emotional intensity and drinking explained by support-seeking ER. The results imply that intervention to improve ER effectiveness, taking into account emotional disposition, delinquency differences, and gender, may help lessen problem drinking among adolescents.
A growing body of research suggests that one of the major motivations for young people to drink alcohol is either to enhance positive emotion or reduce negative emotion (Kuntsche, Knibbe, Gmel, & Engels, 2006). Adolescents who seek excitement or suffer from anxiety are more likely to drink heavily (Loukas, Krull, Chassin, & Carle, 2000; Stewart & Zeitlin, 1995), suggesting that failure to regulate emotion is related to their alcohol use (Wills, Walker, Mendoza, & Ainette, 2006). The diverse dimensions of adolescent emotional experience have been neglected by a focus on negative emotion. Little is known about the role of emotion regulation (ER) in the association between emotions and problem drinking among adolescents or the influence of emotion on drinking patterns of adolescents with extreme delinquency as compared to others (Chassin, Hussong, & Beltran, 2009). To address this gap in the literature, we examined how different ER strategies are associated with problem drinking among delinquents and high school non-offending peers in the Republic of Korea (South Korea). We also examined the degree to which ER strategies accounted for the association between problematic drinking and negative, positive, and intense emotion.

According to the World Health Organization (WHO), adolescent drinking shows globally converging patterns (Jernigan, 2001). The prevalence of alcohol use in South Korea is similar to that of the United States in that 72% of twelfth-graders have used alcohol and 44% of them routinely drink alcohol (Kuntsche et al., 2006). Almost 69% of adolescents in South Korea report at least some experience with alcohol and 36% of them drink approximately once a week (National Youth Committee in Republic of Korea [NYCRK], 2006). Different from common forms of exploratory alcohol use in adolescence, problem drinking can be defined by not only excessive consumption of alcohol but alcohol drinking accompanied by frequent drunkenness and personal and social problems as a result of the alcohol use (Donovan & Jessor, 1983). Problem drinking has received a lot of empirical attention because it often co-occurs with other adolescent delinquent behaviors such as marijuana use, risky sexual activity, and norm-violating behaviors (Donovan, Jessor, & Costa, 1988). Approximately one-quarter of South Korean high school students were classified as problem drinkers in a national survey, compared to 60.5% of an adolescent offender sample in South Korea (Kim, Jung, & Song, 2005, 2007). Problematic drinking in adolescents appears to be associated with frequent negative emotion and impulsiveness (Colder & Chassin, 1997) and to serve as a stepping stone
Ineffective Emotion Regulation of South Koreans

for other delinquent behaviors (Donovan et al., 1988). Thus, emotion may play a particularly important role in the problem drinking of delinquent adolescents.

Effects of Negative, Positive, and Intense Emotion on Adolescent Problem Drinking

Previous research on the association between emotional dispositions and problem drinking in adolescents has focused on negative emotion, particularly depressed mood and anxiety. Negative emotion is strongly associated with greater adolescent drinking problems (Giancola & Parker, 2001; Hussong & Chassin, 1994), which implies that adolescents drink in response to negative emotion. However, depression and anxiety disorders are not always associated with problematic drinking among adolescents (Clark, Parker, & Lynch, 1999; Hussong, Curran, & Chassin, 1998). It is thus important to examine what factors induce adolescents with high negative emotion to drink.

In contrast to negative emotion, the influence of positive emotion on problem drinking has received less empirical attention. Positive emotions refer to pleasant feelings, such as joy, which are regarded as being on a separate dimension from negative emotions (Diener, Smith, & Fujita, 1995). Positive emotion is typically regarded as serving as a “buffer” against drinking problems (Cooper, Frone, Russell, & Mudar, 1995; Wills et al., 2006).

In addition to positive/negative valence, emotions can be further classified by their intensity (Larsen & Diener, 1987). Frequent extreme emotion is one of the characteristics of adolescent emotional experience (Berger, 2005). Emotional intensity appears to be a stable individual characteristic, with individuals varying in how strongly they experience emotions (Larsen & Diener, 1987). Higher levels of emotional intensity are associated with problem behaviors, such as aggression (Eigenberg et al., 2001) and with a greater empathy toward others (Okun, Sheperd, & Eisenberg, 2000), suggesting that both positive and negative directions of influence are possible.

Role of Emotion Regulation Strategies in Adolescent Problem Drinking

Overall, research on emotion and problem drinking reveals that emotion can either prevent or facilitate adolescent problem drinking, implying that emotion regulation may be a more critical factor than emotional experience itself involved in problem alcohol use. Emotional regulation (ER) strategies refer to a set of strategies to reduce or amplify positive and negative emotion to help achieve individual goals and social harmony (Gross & Thompson, 2007). Adolescents may fail to regulate their emotions either because they have not gained requisite ER strategies or because they utilize ineffective
ER strategies (Tice & Bratslavsky, 2000). Under-regulation of emotion has accounted for alcohol use among adolescents in previous research (Magar, Phillips, & Hosie, 2008; Mun, Eye, Bates, & Vaschillo, 2008; Wills et al., 2006). However, “misregulation” of emotion—or using a regulation strategy that is not appropriate in a particular context (Tice & Bratslavsky, 2000)—can also be problematic for adolescents, who as a group are not as adept as adults in choosing an effective strategy. Because both dispositions and sociocultural context are related to the selection of ER strategies (Gross, 2002), personal and social factors should be considered when evaluating the effects of misregulation of emotion on problem drinking.

One of the common methods for categorizing ER strategies includes the use of three categories: problem solving, avoidance, and support seeking (Conner-Smith & Flachsbart, 2007; Lazarus & Folkman, 1984). Previous studies have reported that each of these strategies can be effective under certain circumstances, but they can differ in how effectively they reduce negative emotion depending on available resources and individuals’ emotional dispositions (Tice & Bratslavsky, 2000). Problem solving generally works well to reduce negative feelings (Aspinwall & Taylor, 1997). Individuals who use problem-solving tend to confront their emotions and try to change stressful situations by taking action. In contrast, avoidant ER is characterized by ignoring negative feelings and tends to be less effective at reducing negative emotion (Tice & Bratslavsky, 2000). The support-seeking strategy can be defined as attempts to regulate emotion by interacting with family and peers (Conner-Smith & Flachsbart, 2007). Although often effective (Diamond & Aspinwall, 2003), support-seeking may not be adaptive for adolescents if they seek out support from peers who encourage delinquent behaviors.

The Present Investigation

In general, according to the limited resource model of self-regulation, using ineffective ER may contribute to problem drinking because it involves spending limited mental resources with unresolved emotional distress, which can make individuals less able to deal with a subsequent ER task due to the depletion of self-regulation resources (Tice & Bratslavsky, 2000). In the present study, we examined the role of three different ER strategies and emotional dispositions (positive/negative emotion and emotional intensity) on problem drinking of juvenile offenders and same-aged non-offending peers. As compared to non-offending peers, we expected that offenders would report a higher level of negative emotion, and that negative emotion would be associated with greater problem drinking for both groups. We expected that adolescents with higher emotional intensity would have more difficulty reducing their emotional distress and would be more likely to use alcohol. The relation between positive emotion and alcohol drinking was examined without specific expectations due to the lack of previous research. We theorized that problem-solving ER in the face of emotional distress would lead
to less alcohol use in both groups by facilitating constructive solutions. The offender group was expected to use avoidant ER more frequently because of negative emotion in combination with lack of resources; the avoidant strategy was thus expected to account for the association between negative emotion and alcohol drinking in this group. The use of support seeking was examined as a mediator of associations between emotion and drinking on a more exploratory basis, as it could have positive or negative associations with alcohol drinking. Moderation effects by gender were examined because gender differences in habitual use of emotion regulation have been reported among adults (Gross & John, 2003).

METHODS

Participants and Procedure

Participants were comprised of two groups: adolescent offenders \((N = 299;\) male 159, female 134) from male and female juvenile reformatory schools located in Seoul, the capital city of South Korea, and a comparison group \((N = 287;\) male 143, female 144) from a co-ed high school located in Incheon, a metropolitan city of South Korea. The offenders were residing in a reformatory school for six months to one year by a court order subsequent to repeated criminal behaviors. The most prevalent reasons for detention were theft and violence. Offenders were forbidden to leave their grounds but were given the same curriculum as regular non-offending peers, along with some skill-focused classes.

The average age was 17.8 \((SD = 1.78)\) for the offenders and 16.5 \((SD = 0.87)\) for the comparison group. Although the age range of both groups was similar, the age difference between the groups was significant \(t = 12.88, p < .001\). A comparable percentage in each group were female, 46% of the offenders and 50% of the controls, \(\chi^2(1, N = 580) = 1.15, p = .32\). Prior to entering the reformatory school, only 26.9% of the offender sample had lived with both parents, 22.4% of them had lived by themselves, and the remainder had lived with their divorced mother or father. In contrast, more than 90% of the controls were living with their birth parents. All participants resided in urban areas.

All participants completed a 20-minute questionnaire that included assessment of all study measures. After completing the questionnaire, participants were debriefed and received a set of colored pens in compensation for their effort. The study procedures were approved by the Research Review Committee of the Department of Psychology at Yonsei University. Data from six participants in the offender sample were excluded from respondents who appeared not to have taken the assessments seriously, as indicated by random missing data and responses that were in conflict with each other. Thus, data from 580 adolescents were used.
Measures

**POSITIVE AND NEGATIVE EMOTION**

Degree of positive and negative emotion was assessed using the Intensity Time Affect Scale (ITAS) (Diener et al., 1995). The ITAS uses 7-point scales, in which participants are asked to indicate the frequency of their emotional experience of 8 positive affect items and 10 negative affect items on a scale from 1 (never) to 5 (always). The ITAS exhibits an acceptable level of internal consistency, with Cronbach’s alpha from .80 to .91 among Korean and American samples (Lee, 2005; Suh, Diener, & Fujita, 1996).

**EMOTIONAL INTENSITY**

The Affect Intensity Measure (AIM; Larsen & Diener, 1987) was used to assess the strength of participants’ typical emotional arousal to common events with 40 items ($\alpha = .82$, $p < .01$) using 6-point scales (1 = never, 6 = always). The AIM obtains internal consistency (Cronbach’s alpha = .90) and test-retest correlation of .80 after one month. The scale was reported to have a construct validity that was examined by correlation between the AIM score and experience sampling method (ESM) measure of daily affect intensity, $r = .61$ (Larsen, 2009).

**EMOTION REGULATION STRATEGY**

The Emotion Regulation Strategy Index (Yoon, 1999) was administered to measure participants’ use of problem-solving, avoidant, and support-seeking ER strategies when they feel negative and positive emotion. Each strategy is measured by four items (e.g., try to set a plan to change the emotion and make it into action) using 4-point scales (1 = never use, 4 = very frequently use). Construct validity was examined by a factor analysis of the scale to classify the three different strategies (Yoon, 1999). The scale showed internal consistency (Cronbach’s alpha = .71).

**ADOLESCENT PROBLEMATIC ALCOHOL DRINKING**

The brief version of the Korean Adolescent Alcohol Problem Index (KAAPI; Kim, Jung, & Song, 2005) was used to assess the degree of problematic problem drinking among adolescents ($\alpha = .92$, $p < .01$). It comprises 10 items about experiences of the negative consequences of alcohol drinking ($\alpha = .92$, $p < .01$) on a 5-point scale (0 = never, 4 = very frequently). The KAAPI exhibits internal consistency (Cronbach’s alpha = .92), test-retest reliability ($r = .88$), and concurrent validity (with a correlation of .80 with a well-validated scale, the Problem Oriented Screening Instrument for Teenagers [POSIT]) (Knight, Goodman, Pulerwitz, & DuRant, 2001).
Data Analytic Strategy

All statistical analyses were performed using SPSS version 17.0 and AMOS 17.0. The first phase of analysis examined descriptive statistics, group differences, and correlations between emotional dispositions, ER strategy utilization, and problem drinking of each group. Next, the joint significant test (MacKinnon, Fairchild, & Fritz, 2007) was used to assess the degree to which each ER strategy mediated the association between emotional disposition and problem drinking in each sample, controlling for age and gender. The joint significant test has the most power and conservative type I error rates compared to several other mediation techniques (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). As presented in Figure 1, one of the emotional dispositions was regressed on the use of one of the three ER strategies (α path), and the ER strategy was regressed on problem drinking (β path) using path analysis in AMOS 17.0. If both the α and β paths are jointly significant at the .05 level, it can be concluded that there is a significant mediating relationship (MacKinnon et al., 2007). When there was evidence for mediation, a 95% confidence interval for each regression estimate was calculated using bootstrap analysis. The analysis provides bias-corrected confidence intervals for αβ regardless of whether the assumptions of normal distribution are met and, if the range of αβ does not contain 0, further provides evidence of mediation. Finally, gender moderation effects for each mediation model were examined by multi-group structural equation modeling technique using AMOS 17.0. After removing gender from the model, all of the paths of each mediation model were constrained to be equal for women and men and the model was then compared to an otherwise identical model in which all paths were not constrained to be equal. A $\chi^2$ difference test was then applied to determine if the fit of the constrained model became significantly worse than the one without constraints.

![FIGURE 1](Image) Emotional regulation strategies as mediators of emotional dispositions and problem drinking.
A small percentage of participants were missing data on a few items in various psychosocial scales used in the present analyses. We impute missing data to using the estimated mean (EM) method provided in SPSS 17.0 (Little & Rubin, 1987). No more than 5% of any given scale was replaced.

RESULTS

Descriptive Statistics and Correlation Analysis

As shown in Table 1, more than 80% of adolescents in both groups reported having used alcohol. However, almost 30% of offenders had tried drinking before the age of 11, as compared to 13% of non-offending peers. Among the offender drinkers, 74% used to drink alcohol every week before their incarceration compared to 12.5% of non-offending peers. Amount of drinking was reported as the number of glasses of beer or soju, a popular distilled beverage in South Korea with 15% alcohol content. The average amount per incident of drinking was 12.4 glasses of soju for offenders versus 4.8 glasses of soju for non-offending peers, amounts which are equivalent to 6 and 2.3 glasses of wine, respectively.

As expected, the offenders reported significantly more negative emotion, $t(532) = 5.07, p < .001$, and less positive emotion, $t(535) = -4.13, p < .001$. Contrary to expectations, however, they reported lower emotional intensity as compared to the non-offending peers, $t(479) = -7.42, p < .001$. The offenders reported using all three ER strategies less frequently than the non-offending peers (problem-solving ER, $t(562) = -17.16, p < .001$; avoidant ER, $t(573) = -4.63, p < .001$; support-seeking ER, $t(567) = -4.33, p < .001$). In both groups, support-seeking ER was the most frequently used strategy.

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Adolescent Offenders % (N)</th>
<th>Non-Offending Peers % (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience with alcohol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>85.5 (281)</td>
<td>80.8 (232)</td>
</tr>
<tr>
<td>No</td>
<td>4.1 (12)</td>
<td>18.5 (53)</td>
</tr>
<tr>
<td>Age of onset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before age 6</td>
<td>1.1 (3)</td>
<td>1.1 (2)</td>
</tr>
<tr>
<td>6–11 years</td>
<td>28.5 (81)</td>
<td>12.3 (22)</td>
</tr>
<tr>
<td>12–14 years</td>
<td>63.7 (181)</td>
<td>59.8 (107)</td>
</tr>
<tr>
<td>15–17 years</td>
<td>6.5 (19)</td>
<td>26.8 (48)</td>
</tr>
<tr>
<td>Frequency of drinking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 12 times per year</td>
<td>14 (40)</td>
<td>75.4 (153)</td>
</tr>
<tr>
<td>Once a month</td>
<td>11.2 (32)</td>
<td>11.3 (23)</td>
</tr>
<tr>
<td>2–3 times per month</td>
<td>27.3 (78)</td>
<td>8.9 (18)</td>
</tr>
<tr>
<td>Once a week</td>
<td>11.9 (34)</td>
<td>3.2 (6)</td>
</tr>
<tr>
<td>2–3 times per week</td>
<td>25.9 (78)</td>
<td>0.4 (1)</td>
</tr>
<tr>
<td>More than 4 times per week</td>
<td>9.8 (28)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Average amount of drinking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glasses of soju</td>
<td>12.4</td>
<td>4.8</td>
</tr>
</tbody>
</table>
For both groups, negative emotion was positively correlated with support-seeking ER (r\(_s\) between .13 and .25, \(p < .01\)) and problematic drinking (r\(_s\) between .15 and .19, \(p < .05\)). Negative emotion was associated with the use of avoidant ER (r = .27, \(p < .01\)) for offenders only. Positive emotion was positively correlated with the use of problem-solving ER in both groups (r\(_s\) between .18 and .30, \(p < .01\)) but was associated with the use of support-seeking ER in non-offending peers (r = .35, \(p < .01\)). Emotional intensity was associated with all three ER strategies (r\(_s\) between .13 and .47, \(p < .01\)) and problem drinking (r\(_s\) between .20 and .27, \(p < .01\)) in both groups.

Mediation Analysis

Overall, support-seeking ER accounted for the association between positive emotion and problem drinking in the mediation model for both groups (\(\alpha = .13, \beta = .15, p < .05\) for offenders; \(\alpha = .36, \beta = .22, p < .01\) for peers). The avoidant ER strategy accounted for the association between positive emotions and drinking only in the offender group (\(\alpha = .14, \beta = .14, p < .05\)). For the non-offending peers, support-seeking ER also accounted for the association between negative emotion and drinking (\(\alpha = .12, \beta = .18, p < .01\)), but it became not significant after bootstrap analysis corrections. Problem-solving ER strategy did not explain the association between emotional dispositions and problem drinking for either group. Table 2 presents the regression coefficients for other paths and the ranges of the confidence intervals.

Gender Moderation

Gender and support-seeking ER significantly interacted to predict problem drinking in offenders. The fit of the support-seeking ER mediation model with paths constrained to be equal between genders was a significantly worse fit than the non-constrained model, for the offenders (\(\Delta \chi^2(4) = 11.95, p < .05\)): Support-seeking ER fully accounted for the association between emotional intensity and drinking only among female offenders, whereas the same model with males did not show mediation. Specifically, the path between support-seeking ER and drinking was significant (\(\Delta \chi^2(1) = 8.97, p < .01\)) only in female offenders. It also appeared that support-seeking ER mediated the relation between positive emotion and drinking in the model with female offenders but not with males (\(\Delta \chi^2(4) = 11.74, p < .05\)). When each path in the mediation model was examined for the gender differences, the path between support-seeking ER and drinking was significant only among female offenders (\(\Delta \chi^2(1) = 9.59, p < .01\)). Similar patterns of gender difference were observed among non-delinquent peers but were not statistically significant.
<table>
<thead>
<tr>
<th>Mediating Regulation Strategy</th>
<th>(α) Emotion Effect on Mediator</th>
<th>(β) Mediator Effect on Outcome</th>
<th>(αβ) Indirect Effect</th>
<th>Upper 95% CI of Mediated Effect</th>
<th>Lower 95% CI of Mediated Effect</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adolescent Offenders</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-solving ER</td>
<td>PE</td>
<td>.168 (.016)**</td>
<td>.087 (.177)</td>
<td>.015</td>
<td>−.009</td>
<td>.011</td>
</tr>
<tr>
<td></td>
<td>NE</td>
<td>.053 (.007)</td>
<td>−.093 (.110)*</td>
<td>−.005</td>
<td>.002</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>EI</td>
<td>.292 (.008)***</td>
<td>.042 (.181)</td>
<td>.012</td>
<td>−.032</td>
<td>.067</td>
</tr>
<tr>
<td>Support-seeking ER</td>
<td>PE</td>
<td>.131 (.018)*</td>
<td>.149 (.157)†</td>
<td>.020</td>
<td>.001</td>
<td>.064</td>
</tr>
<tr>
<td></td>
<td>NE</td>
<td>.252 (.009)***</td>
<td>.109 (.159)</td>
<td>.027</td>
<td>−.002</td>
<td>.079</td>
</tr>
<tr>
<td></td>
<td>EI</td>
<td>.485 (.008)***</td>
<td>.094 (.177)</td>
<td>.046</td>
<td>−.020</td>
<td>.129</td>
</tr>
<tr>
<td>Avoidant ER</td>
<td>PE</td>
<td>.135 (.014)*</td>
<td>.136 (.199)†</td>
<td>.018</td>
<td>.0001</td>
<td>.065</td>
</tr>
<tr>
<td></td>
<td>NE</td>
<td>.308 (.007)***</td>
<td>.088 (.205)</td>
<td>.027</td>
<td>−.018</td>
<td>.085</td>
</tr>
<tr>
<td></td>
<td>EI</td>
<td>.364 (.007)***</td>
<td>.090 (.210)</td>
<td>.033</td>
<td>−.008</td>
<td>.046</td>
</tr>
<tr>
<td>Non-Offending Peers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-solving ER</td>
<td>PE</td>
<td>.297 (.017)***</td>
<td>−.042 (.093)</td>
<td>−.012</td>
<td>−.072</td>
<td>.032</td>
</tr>
<tr>
<td></td>
<td>NE</td>
<td>.090 (.010)</td>
<td>−.048 (.088)</td>
<td>−.004</td>
<td>.008</td>
<td>.015</td>
</tr>
<tr>
<td></td>
<td>EI</td>
<td>.194 (.008)***</td>
<td>−.080 (.088)</td>
<td>−.016</td>
<td>−.038</td>
<td>.015</td>
</tr>
<tr>
<td>Support-seeking ER</td>
<td>PE</td>
<td>.314 (.018)***</td>
<td>.214 (.086)***</td>
<td>.067</td>
<td>.007</td>
<td>.072</td>
</tr>
<tr>
<td></td>
<td>NE</td>
<td>.122 (.011)*</td>
<td>.176 (.081)†</td>
<td>.022</td>
<td>−.0005</td>
<td>.074</td>
</tr>
<tr>
<td></td>
<td>EI</td>
<td>.440 (.008)***</td>
<td>.113 (.090)</td>
<td>.050</td>
<td>−.013</td>
<td>.124</td>
</tr>
<tr>
<td>Avoidant ER</td>
<td>PE</td>
<td>.071 (.017)</td>
<td>.071 (.093)</td>
<td>.005</td>
<td>−.010</td>
<td>.034</td>
</tr>
<tr>
<td></td>
<td>NE</td>
<td>.090 (.010)</td>
<td>.048 (.088)</td>
<td>.004</td>
<td>−.038</td>
<td>.015</td>
</tr>
<tr>
<td></td>
<td>EI</td>
<td>.152 (.008)*</td>
<td>.040 (.092)</td>
<td>.006</td>
<td>−.015</td>
<td>.039</td>
</tr>
</tbody>
</table>

Notes. All analyses controlled for gender and age. PE = Positive emotion, NE = Negative emotion, and EI = Emotional intensity.
* p < .05. ** p < .01.
DISCUSSION

This research builds on previous research showing a strong association between emotional disposition and adolescent problem drinking. Whereas the majority of research in this area has focused on negative emotion, the present research suggests that the degree of positive emotion, emotional intensity, and choice of ER strategy are also important in the process by which emotion and problem drinking are linked. Most broadly, our findings suggest that adolescents are more likely to drink alcohol when they experience negative emotions, particularly emotions with great intensity, and that this pattern between emotional disposition and drinking can be differentiated by their choice of an ER strategy. Also, the group differences and gender moderation effect suggested that the use of the same emotion regulation strategy can have different consequences according to delinquency level and gender.

One of the strengths of the present research was a two-sample design, which allowed comparisons between adolescent offenders and non-offending peers to examine the different emotional pathways involved in problem drinking within different social contexts. Prior to incarceration, adolescent offenders reported drinking once a week in excessive amounts, and they started drinking at an earlier age than non-offending peers. As compared to non-offending peers, the adolescent offenders in the present research reported experiencing negative emotions more frequently but with lower intensity, and applying ER strategies less frequently.

Consistent with previous research (Giancola & Parker, 2001), problem drinking of both non-offending peers and offenders was associated with negative emotion. The results confirm that adolescents with high negative emotion are more likely to drink alcohol regardless of their history of delinquency or imprisonment.

Although it did not mediate the association between negative emotions and drinking, avoidant ER was directly associated with problem drinking only in the offenders and not in the non-offending peers. Avoidant ER strategy is generally known to cause physiological arousal and the exhaustion of self-regulation resources, which can result in failures in subsequent self-regulation against problem drinking (Gross, 2002). Adolescent offenders may be particularly vulnerable to self-regulation failure from using avoidant ER strategy for several reasons. First, adolescent delinquents are likely to have personality dispositions, such as impulsivity (Baron, 2003), that are linked with fewer regulation resources available than non-offending peers; thus the use of avoidant ER in offenders may induce more rapid exhaustion of mental resources than in non-offending peers. Second, adolescent offenders with conflicted family background and economic struggles may lack opportunities of modeling and reinforcement for diverse ER strategies (Fox & Calkins, 2003) such that they may tend to use avoidant ER regardless of situational context.
In both groups, positive emotion was not directly associated with problem drinking, which is consistent with previous research (Cooper et al., 1995; Windle & Windle, 1996). However, among offenders, high positive emotion tended to occur along with the utilization of avoidant ER, which in turn resulted in a higher level of problem drinking. This effect was unexpected but it is consistent with research showing that manipulated positive emotion can lead to greater drinking behavior among college students (Lang, Patrick, & Stritzke, 1999). Recent research suggests that some people have a tendency to make rash decisions when experiencing intense positive emotions, a phenomenon labeled positive urgency (Zapolski, Cyders, & Smith, 2009). Positive urgency was associated prospectively with risky sexual behaviors and illegal drug use of college students (Zapolski et al., 2009). The present results suggest that rash actions under positive emotions can be induced by the habitual use of avoidant ER strategy among adolescent delinquents.

Support-seeking ER has generally been regarded as adaptive, albeit with inconsistent findings with regard to the influence of peers and caregivers (Donovan, 2004). In the present research, support seeking was associated with alcohol drinking and explained relations between positive emotions and drinking for both groups. Adolescents try to validate and enhance their existing positive emotions in a social setting (Diamond & Aspinwall, 2003), and our results suggest that this may trigger problem drinking. Previous research suggests that students typically drink on days of celebration with their peers and intend to get intoxicated to enhance their mood (Cooper, Agocha, & Sheldon, 2000; Jernigan, 2001). The pattern is associated with drunk driving, unwanted sexual intercourse, increased physical violence, and alcohol-related injuries and deaths (Del Boca, Darkes, Greenbaum, & Goldman, 2004). Under certain circumstances, support seeking may be positively associated even when adolescents seek support from adults. In fact, within the cultural context of the current sample, parents are expected to introduce alcohol drinking to their children as a social skill, and people generally believe that alcohol aids communication and releases tension (Suh, 1999). A valuable topic for future research would be to compare the impact of sociocultural approval for alcohol drinking in different countries and how the level of approval affects the degree to which parental emotional support is linked with adolescent alcohol use.

Importantly, only females showed the adverse effect of support-seeking emotion regulation on problem drinking in the present research. As female adolescents tend to report more conformity motives for drinking than males (Chassin et al., 2009), this finding suggests that they may become vulnerable for drinking while regulating emotions with delinquent peers. The impact of peer delinquency on drinking is not a new finding. However, the current results indicate that peer pressure plays a particularly critical role for female delinquents in response to their positive or intense emotions. It may prove effective for prevention programs to specially target
the support-seeking ER process of female delinquents with intense and positive emotions.

Emotional intensity was strongly associated with problem drinking in both groups and for women and men, which is consistent with the majority of the literature on adolescents (Eigenberg et al., 2001; Larsen, 2009). Among female offenders in the present research, one of the reasons why emotional intensity was associated with drinking is that their intensity was related to support-seeking ER. The results also show that adolescents with high emotional intensity tend to better utilize all three different kinds of ER strategies, which is in contrast to the known association between emotional intensity and low emotional control among adults (Larsen, 2009). Future research is needed to better understand the connections between emotional intensity and alcohol use. For example, it is possible that the intense emotions of adolescents increase awareness of their emotional status and stimulate the long-term development of emotion regulation.

There are limitations in the present research. Our findings are obtained from self-report, thus relying on participants to be honest about complicated behaviors. However, a large literature has confirmed the validity of adolescent self-report under conditions of anonymity and privacy (Chassin et al., 2009). We were further limited by retrospective reports of alcohol drinking among the offender population, but the use of institutionalized youths ensured that we sampled the more extreme end of adolescent delinquency. Perhaps most importantly, we cannot conclude causal relationships from the present correlational data. Our proposal that emotion leads to ER strategy selection and that ER in turn leads to problem drinking has support from previous research based on a resource model of self-control (Baumeister & Vohs, 2004). Further longitudinal research is needed to establish clearer causal relationships between ER processes and adolescent alcohol drinking by collecting longitudinal data or by manipulating emotion regulation experimentally.

The present study was conducted with a Korean population, where the collectivistic culture and shared social rules of Asia are dominant. Further research with diverse samples will increase the generalizability of the literature in this area. Overall, the present research suggests that negative and intense emotion can put adolescents at risk of problem drinking regardless of their delinquency level and that adolescents are more likely to drink alcohol when they seek support for emotion regulation. Among more delinquent populations, as exemplified by the offender sample in this study, problem drinking may be triggered by an underutilization of ER and a tendency to rely on avoidance of both genders and support seeking of women. Emotion-focused intervention to improve ER effectiveness thus holds great promise as a technique to lessen problematic drinking among adolescents. In particular, interventions that train the appropriate applications of support-seeking ER and encourage the use of problem-solving ER strategy in the face of positive or intense emotion may be particularly effective at helping adolescents make healthy decisions.
REFERENCES


Ineffective Emotion Regulation of South Koreans


