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GAMBLING BEHAVIORS AMONG YOUTH INVOLVED IN JUVENILE AND FAMILY COURTS

by

ANGELA DEVI MOOSS

Under the Direction of Dr. Gabriel Kuperminc

ABSTRACT

Problem gambling currently affects between 5-7% of youth ages 12-18 (Hardooon & Derevensky, 2002); however, rates of problem gambling among youth who are involved with the Juvenile Justice System are more than twice that of school sample rates (Lieberman & Cuadrado, 2002). Furthermore, disordered gambling often co-occurs with substance use and criminal activity (Huang & Boyer, 2007), issues that are compounded in the Juvenile Justice population. The current study assessed gambling behaviors and risk factors of 145 youth involved in juvenile, juvenile drug, and family courts. Results indicated that nearly 13% of these youth are currently problem gamblers, and that males and African-Americans had higher problem gambling rates than female and Caucasian youth. Furthermore, gambling-related crime,

substance use, scope of gambling activities, and time in detention facilities were all predictive of problem gambling severity, while suicidal ideation, urban environment, and lottery sales per capita were not. Finally, having a parent with a gambling problem also emerged as a risk factor; however, the risk was greater for males than for females. These results present a distinct need for youth to be screened for gambling problems upon entering and exiting the Juvenile Justice System, and for prevention and intervention services to be offered within juvenile and family court settings. Furthermore, communities need to take an active role in preventing youth gambling problems through increasing public awareness and insuring that appropriate and accurate messages reflecting gambling opportunities and outcomes are presented.

INDEX WORDS: Problem gambling, Youth, Juvenile Justice System, South Oaks Gambling Screen-Revised for Adolescents, Substance use, Delinquency

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ANGELA DEVI MOOSS

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

in the College of Arts and Sciences

Georgia State University

2009

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Angela Devi Mooss
2009

GAMBLING BEHAVIORS AMONG YOUTH INVOLVED IN JUVENILE AND FAMILY COURTS

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1. INTRODUCTION

Problem gambling in the United States and Canada is becoming a serious public health issue for youth. Specifically, 60-90% of youth aged 13-19 years old report participating in some form of gambling activity, regardless of age restrictions (Korn, Murray, Morrison, Reynolds, & Skinner, 2006), and roughly 5% of these youth experience serious gambling-related problems (Hardoon & Derevensky, 2002). Adolescents and young adults (15-24 years old) engaging in gambling activities are more likely to drink alcohol and use other illegal substances, as well as have poorer school performances than those who do not gamble (Huang & Boyer, 2007; Daghestani, Elenz, & Crayton, 1996). Research indicates that the rates of problem gambling among youth in detention and psychiatric facilities, homeless youth, and school dropouts are much higher than those of their peer counterparts (Stinchfield, 2000; Cuadrado & Lieberman, 2002); however, the majority of youth gambling studies have focused on school samples (Huxley & Carroll, 1992), and none have involved youth from juvenile or family courts.

In an attempt to bridge this research gap, the current study assesses the gambling behaviors, risk factors, and co-occurrences of gambling among youth in juvenile and family courts. This study addresses the following research questions: 1) How serious an issue is problem gambling for this population?; 2) What are specific risk factors for problem gambling in these youth?; 3) What behaviors co-occur with problem gambling that courts are already addressing?; and 4) How do rates of problem gambling differ between youth who have spent time in a juvenile detention facility and those who have not?

Youth with gambling problems often experience behavioral, psychological, social, academic, and interpersonal problems including criminal acts, poor academic performance, school truancy, and even suicide (Hardoon & Derevensky, 2002). Youth gambling is also linked

to other addictive behaviors that impair youth development. Children and adolescent problem gamblers are more likely to drink alcohol, smoke cigarettes, and use drugs than their non-gambling peers (Gupta & Derevensky, 1998). Furthermore, gambling problems are rarely assessed, even among youth who are most at-risk to develop problem gambling (because they exhibit so many risky behaviors associated with gambling) and there are few prevention and intervention efforts that specifically target gambling among youth. For example, the United States Office of Juvenile Justice and Delinquency Prevention reported no current efforts towards problem gambling prevention or awareness (Jacobs, 2004).

Pathological and Problem Gambling

Pathological gambling was recognized in 1980 by the DSM-III and classified as an impulse-control disorder (American Psychiatric Association, 2000). It is characterized by a loss of control over gambling, deception about the extent of gambling to family and loved ones, and job disruption, theft, and chasing losses. The DSM-IV-MR-J (Adapted Multiple Response Format for Juveniles) uses a continuum to diagnose pathological gambling, allowing clinicians to make distinctions between individuals viewed as being at-risk for pathological gambling and those suffering from pathology (American Psychiatric Association, 2000). Although the items on the DSM-IV-MR-J are worded differently than the adult version, both comprise similar dimensions of pathological gambling (See Table 1). Many youth gambling assessments have adapted these criteria to diagnose and categorize gambling behaviors, including the Lie/bet screening tool (Johnson, Hamer, Nora, Tan, Einstein, & Engelhart, 1997) and the South Oaks Gambling Screen, Revised for Adolescents (SOGS-RA) (Winters, Stinchfield, & Fulkerson, 1993).

Table 1

DSM-IV-MR-J dimensions for pathological gambling diagnosis

*DSM-IV-MR-J Criteria for Pathological Gambling
• Progression and preoccupation
• Tolerance
• Withdrawal and loss of control
• Escape
• Chasing
• Lies and deception
• Illegal acts
• Family and Academic disruptions

*A juvenile must exhibit at least 4 of the criteria to warrant a formal diagnosis

Although the definition of problem gambling is very similar to that of pathological gambling, most researchers believe that problem gambling is the more appropriate nomenclature for adolescents because the negative life consequences associated with pathological gambling are generally not seen in youth populations (Hardoon, & Derevensky, 1997). The National Council on Problem Gambling (2006) defines problem gambling as "a progressive addiction characterized by increasing preoccupation with gambling, a need to bet more and more frequently, restlessness or irritability when attempting to stop, 'chasing' losses, and loss of control manifested by continuation of the gambling in spite of mounting, serious, negative consequences" (http://www.ncpgambling.org). Similarly, the APA defines it as an impulse control disorder, characterized by a psychological dependence on gambling and persistent and

recurrent maladaptive gambling behavior that results in significant deleterious psychosocial consequences for youth and adults (American Psychiatric Association, 2000).

Prevalence of Youth Gambling Behavior

In the United States, rates of problem gambling in children and adolescents are about 5%; however, it is estimated that 10-14% of youth exhibit behaviors that place them at increased risk for developing gambling problems (Nower & Blaszczynski, 2004; Hardoon & Deverensky, 2002; Jacobs, 2000). Gambling rates among middle and high school students (e.g. poker, sports pools) exceed alcohol use rates by this population even though alcohol use has received much more attention (Gupta & Derevensky, 1997). Based on the lower estimates of youth problem gambling rates, approximately 750,000 youth in the United States have gambling problems and could benefit from treatment (Cronce, Corbin, Steinberg, & Potenza, 2007). These studies, however, generally reflect the behaviors of youth in middle school and high school and not those who have dropped out, become incarcerated, or are otherwise missing from traditional research samples. To the extent that the prevalence of problem gambling is equivalent or higher in those populations, the estimates of youth who are in need of an intervention are also markedly higher.

The limited research that exists on youth involved in the Juvenile Justice System suggests that the prevalence of problem gambling may be substantially higher than in the general youth population. A study conducted with 569 youth ages 11-20 in Florida Detention Centers (Lieberman & Cuadrado, 2002) found that 91% had gambled at least once in their lifetimes, which is consistent with rates in community samples. However, authors also found that 46% of youth who reported gambling in the past year scored high enough on the SOGS-RA to indicate they are problem or pathological gamblers. Another study by Westphal, Rush, Stevens, and

Johnson (2000) asked 135 youth staying in residential treatment facilities and detention centers in Louisiana (ages 12-18 years old) about their gambling behaviors. Results indicated that 38% of these adolescents scored a 4 or higher on the SOGS-RA, indicating pathological gambling. These studies serve as examples that many youth have gambled during their lifetime, but that some specific youth populations are more likely to develop problem gambling. These results clearly indicate the need for more research, prevention, and intervention resources to be dedicated towards youth in non-school settings, especially youth involved in the Juvenile Justice System.

Additional research on youth involved in juvenile detention shows that they are at high risk for recidivism and that upon release, the same factors that influenced their deviant behavior are still present. Thus, failing to address issues such as gambling and substance abuse to adolescents who are incarcerated or otherwise involved with the criminal justice system maintains the status quo that keeps these youth in and out of jail (Brown, Killian, & Evans, 2003). The present study examined the gambling behaviors of youth involved in juvenile and family courts, 20% of whom have spent time in a detention facility. By separately identifying problem gambling rates and risk factors for this subset (youth who have spent time in detention), those working with youth can establish whether separate interventions should be designed and implemented for those in detention versus those involved in court only, and whether additional screenings should be done for these youth.

Theoretical Models of Problem Gambling

Gambling in the United States is a legal and socially acceptable activity for persons 18 years and older in nearly all fifty states. Most people can gamble recreationally and never

develop disordered gambling habits; however, for those people who do develop problem or pathological gambling, their lives and loved ones will be greatly affected. There are many theoretical conceptualizations of why problem and pathological gambling occur in youth. Blaszczynski and Nower (2002) have synthesized biological, cognitive, and behavioral theories into their Pathways Model, which asserts that there are general groupings/clusters of pathological gamblers with distinct clinical features and etiological processes, and these groups have been clinically validated (Dervensky & Gupta, 2005; Gupta & Derevensky, 1998). Although the goal of this study is not to categorize youth gamblers into one of these pathways, the framework provides a foundation for some of this study's hypotheses relating to suicidal ideation, criminal activity, substance use, and gambling behaviors.

The Pathways Model identifies youth who experience depression, low self-esteem, poor coping, and low social support as "emotionally vulnerable" gamblers. These youth often feel neglected by their parents and families, sometimes because of excessive parental gambling, and lack developmental skills to maintain control over their own gambling once they start. Consistent with the General Theory of Addictions (1986), Jacobs predicted gambling to occur most in depressed and under-aroused persons, suggesting that depression precedes the addiction, and that gambling may be used as a coping strategy for these feelings (Beaudoin & Cox, 1999). Suicidal ideation, a symptom of severe depression, is also linked with problem gambling (Stinchfield, 2004). This study examined the relationship between suicidal ideation and problem gambling severity to determine whether the two are correlated, and whether identification of one should inform screening for the other.

Antisocial impulsive gamblers are more likely to have a genetic predisposition towards addiction and characterize another pathway in Blaszczynski and Nower's model (2002). The

youth in this subgroup demonstrate extreme pathological symptoms prior to gambling, including attention deficits, antisocial personality traits, and impulsivity. Antisocial impulsive gamblers also tend to gamble in binge episodes and tend to be more involved with criminal activities and substance use (Blaszczynski & Nower, 2002), and may reflect youth involved in the Juvenile Justice System. Consistent with research on this type of gambler, this study examined whether the scope of gambling-related crime youth commit and substance use (alcohol, tobacco, and other drug use) predicts problem gambling severity.

Finally, although the Pathways Model recognizes the role of parental neglect on youth gambling behaviors, social learning theories reflecting parental and familial influences on youth gambling are largely omitted. Exposure to gambling behaviors in the home may especially influence children and youths' likelihood of gambling. If gambling behaviors are accepted in the home, there is a chance that children will consider the behaviors socially desirable, or will later adopt these same practices as coping mechanisms (Bandura, 1977). Research documenting the role of family influences on children's gambling behavior is largely consistent with social learning theory. Gupta and Derevensky (1997) found that children (9-14 years old) who reported gambling did so regularly with family members. Numerous studies have found that the vast majority of lottery tickets purchased for youth are made by relatives, and given on special occasions such as birthdays and Christmas (Skinner, Biscope, Murray, & Korn, 2004; Felsher, Dervensky & Gupta, 2003; Ladouceur, 2001; Wood & Griffiths, 1998). Consistent with this research, this study predicted that having a family member with a gambling problem would lead to greater problem gambling severity among these youth, and that the relationship would be stronger for males, which is consistent with alcoholism research that indicates a parent alcoholic

is more of a risk factor for male children than for female children (Hussong, Zucker, Wong, Fitzgerald, & Puttler, 2005).

Types of Gambling

Meta-analytic studies of youth gambling have revealed that youth engage in a wide variety of gambling activities, with some of the most popular being dice and board games; games of personal skill (e.g. poker); sports betting; and bingo (Jacobs, 2004). However, Jacobs also noted that in states where lotteries were introduced and pull-tabs and scratch tickets were available, these games became favored by adolescents. Felsher et al. (2003) concluded that in spite of age restrictions, youth under 18 actually reported purchasing lottery and scratch-off tickets themselves, without fear of being caught. Research by Kalicks, Suits, Dielma, and Hybels (1976) indicates that when a state promotes one form of gambling, other gambling activities (legal and illegal) become more prevalent. Some illegal forms of gambling that youth reported participating in are cock fights, dog fights, and gambling in non-regulated areas (i.e. streets, corner stores).

Gender differences also exist in the types of gambling activities in which youth participate. Research has shown that lottery tickets are more popular gambling activities with high school males than females (Derevensky & Gupta, 2005) and Fabiansson (2006) found that males prefer games of strategy (poker, sports betting) and females prefer games of luck (slot machines, bingo). Again, these studies have assessed gender differences in gambling activities among youth in school samples, and not for youth involved in a Juvenile Justice setting. The current study examined how the scope of gambling activities youth participated in predicted problem gambling severity, and how this relationship differed between males and females.

Gambling and Behavioral Problems

Long-term problem gambling behaviors can result in delinquency and criminal behavior, academic failure and early school withdrawal, disrupted peer and familial relationships, multiple mental health problems, and suicide attempts (Derevensky & Gupta, 2006). Additionally, because youth involved in the Juvenile Justice System may already be dealing with many of these issues, determining how gambling is related to these behavioral problems can lead to more effective prevention and assessment strategies for this population.

Delinquency. Adolescents who are involved in frequent gambling are often also engaged in other high risk behaviors including substance abuse and delinquency. Vitaro, Brendgen, Ladouceur, and Tremblay (2001) found that for 16 year-old youth, gambling activity was correlated with delinquency, including theft, vandalism, and physical violence. Huxley and Carroll (1992) conducted a study of youth gambling behaviors related to playing fruit machines (similar to video lottery terminals) in the United Kingdom. After surveying 1,332 youth, 11-15 years old, they found that, in order to gamble on these fruit machines, 14% reported being truant from school, 24% used school food money, 12% stole money from their parents, 5% stole from outside their family, and 6% sold other's possessions for money.

Westphal, Rush, Stevens, Horswell, and Johnson (1998) surveyed Louisiana students grades 6-12 and found that gambling frequency was also associated with a wide array of delinquent behaviors, including: stealing from family and outside of family for gambling money or to pay gambling debt, using bus money for gambling, skipping school to gamble, and gambling-related arrests. Yeoman and Griffiths (1996) studied juvenile profiles of youth who were arrested and found that 3.9% of juvenile cases were gambling-related offenses including burglary, criminal damage, and domestic disputes. Because youth who experience problem

gambling may resort to delinquent acts to fund their behavior, adolescents involved in the Juvenile Justice System represent a high risk population for gambling problems (Magoon, Gupta, & Derevensky, 2005). By analyzing how gambling-related crime contributes to problem gambling severity, this study can lend key insights about gambling and delinquency are related for youth involved in Georgia courts.

Substance use. Pathological gamblers are thought to be 5 to 10 times more likely than recreational gamblers to have a co-morbid addiction (drug, alcohol) (Daghestani, Elenz, & Crayton, 1996), and of those in treatment, rates of weekly drug use, lower grades, and clinical depression were 2-4 times higher (Blanco, Orestanz-Munoz, Blanco-Jerez, & Saiz-Ruiz, 1996). In fact, because problem gambling in youth is often accompanied by other disorders, some research has viewed it more as part of a cluster of disorders, including impulsivity, alcohol and drug abuse, depression, mental health disorders, and conduct disorders (Gupta & Derevensky, 1998, Derevensky & Gupta, 2002).

Jacobs (1990) indicates that gambling activities in youth may actually precede other risky behaviors, such as drinking, smoking tobacco, and other illicit drugs, most likely because of easier access to gambling opportunities. This notion has led some researchers to view gambling as a gateway behavior to other risky behaviors in adolescence (Magoon, Gupta, & Derevensky, 2005). Westphal and colleagues (1998) found that, among 6-12 grade Louisiana students, the mean age of onset for gambling was 11.2 years and 13.2 years for marijuana. Additionally, Stinchfield and Winters (1998) identified the following variables as risk factors for both problem gambling and drug abuse: depression or suicidal ideation, poor school performance, low self-esteem, victim of sexual or physical abuse, male, parent history of gambling, and community and family norms that promote the behavior.

In gambling prevalence studies by Jacobs (1989, 1990) results indicated that youth with serious gambling problems reported rates of tobacco and weekly alcohol use twice those of their peers, and reported the use of marijuana at rates 4 times that of non-problem gambling groups. Other studies have found that those who gambled in the past month drank alcohol, used cannabis or other illegal drugs more often than did less frequent gambling groups (Moodie & Finnegan, 2006; Nower, Gupta, & Deverensky, 2004). A main reason that youth are involved with the Juvenile Justice Systems is substance use and possession. Because problem gambling often co-occurs with substance use and abuse, this studies examination of the relationship between these two variables can help determine whether professionals screening for substance abuse in these youth should also screen for gambling problems and vice versa.

Suicide. Problem gamblers often exhibit heightened psychological and mental health problems including increased anxiety, depression, attention deficits, conduct disorders, and suicidal ideation (Derevensky & Gupta, 2004, Hardoon & Derevensky, 2002; Stinchfield, 2004). Furthermore, depressive symptoms, poor mental health, and affect regulation deficits are all related to higher rates of problem gambling (Rainone & Galloti, 2006; Parker, Taylor, Eastabrook, Schell, & Wood, 2007). Gupta and Deverensky (1998) found that probable pathological gamblers had greater suicide proneness (ideations and attempts) than other gambling groups, indicating that depression and gambling-related problems can lead to serious consequences. Those working in juvenile court settings generally already screen youth for mental health issues, including depression and suicidal ideation; therefore results of this study can be used to further the understanding of how problem gambling severity is related to suicidal ideation, and whether indication of one should warrant screening of another.

Demographic Differences in Youth Gambling

Gender. Gender differences in gambling behaviors are evident among youth populations, and many researchers believe that males are more at-risk to develop a gambling problem than females. For example, one study found that, although 79.1% of 9-14 year-olds were taking part in gambling activities, male rates were 90% and female rates were 72% (Gupta, Derevensky, & Marget, 2004). Similarly, in their prevalence study among Canadian youth and adults ages 15-24, Huang and Boyer (2007) found that males were more likely than females to report gambling behaviors. Similarly, results from New York high school youth reveal that males were four times as likely as females to have experienced gambling-related problems (Rainone & Gallati, 2007).

Few studies have focused exclusively on female problem gamblers because males are thought to have higher rates; however, Gerstein, Hoffman, Larison, Engelman, Murphy, and Palmer (1999) found that gender differences in gambling behaviors were actually diminishing because there is an increase in the number of women over age 65 who gamble, and because gambling as a whole is becoming more culturally acceptable. Although women begin gambling later on in life, they appear to develop gambling problems more rapidly (Grant & Kim, 2002). Furthermore, Derevensky and Gupta (1998) found no gender differences in the amount of money wagered on gambling among incarcerated youth. More research needs to focus on gender differences and gender trends in gambling, as well as whether these differences currently exist for youth involved with the Juvenile Justice System. This study examined gender differences in problem gambling rates, as well as in the relationships between gambling activities and problem gambling severity and parental history of problem gambling and problem gambling severity.

Race or ethnicity. While gender differences in youth gambling behaviors are the most widely cited group difference by researchers, racial/ethnic group differences have also been

found. For example, in comparison to Caucasian participants, members of ethnic minority groups are at greater risk for developing a gambling problem (Warbdman, el Guebaly, & Hodgins, 2001; Byrne, Dickson, Dervensky, Gupta, & Lussier, 2005). Wallisch (1996) observed that members of ethnic minority groups, specifically Hispanics, were more likely to be problem gamblers. Other research suggests elevated prevalence rates of problem gambling among Native American youth (Zitzow, 1996; Welte, et. al, 2008) and African Americans (Winters, Stinchfield, Fulkerson, 1993; Cunningham-Williams, Cottler, Compton, Spitznagel, 1998; Martins, Storr, Ialongo, & Chilcoat, 2007; Welte, et. al, 2008). Currently, no studies regarding racial/ethnic differences in gambling behaviors exist among court involved youth. Because of the racial/ethnic breakdown and sampling of these youth, this study looked at differences in gambling rates between African American and Caucasian youth.

Urban areas. Research from a meta-analysis of 26 youth gambling studies across the United States and Canada revealed that regional differences in gambling behaviors exist among youth (Jacobs, 2004). Youth (aged 12-17) who reported serious gambling-related problems were more likely to live in a metropolitan area, rather than a suburban or rural area, with the exception of Native Americans living on reservation land. Additional research by Welte, Wieczorek, Barnes, Tidwell and Hoffman (2004) revealed that gambling venues, specifically lottery outlets, are more common in disadvantaged, urban neighborhoods. Furthermore, a study of Video Lottery Terminals (VLT) in Montreal revealed that high schools in urban neighborhoods had more video lottery opportunities within a short walk (500m or less) than high schools located in suburban neighborhoods (Wilson, Gilliland, Ross, Derevensky, & Gupta, 2006). The current study examined whether youth residing in urban counties had higher rates of problem gambling

than their peers living in suburban and rural Georgia counties, and whether lottery sales per capita for each county predicted problem gambling severity for these youth.

The Current Study

Meta-analyses have revealed that youth populations (ages 12-24) have higher prevalence rates of problem gambling than adults (Jacobs, 2004; Schaffer & Hall, 1996). Although all youth are potentially at-risk for developing problem gambling, certain segments may be more susceptible. The current study assesses gambling behaviors and related risk factors of youth involved in the Juvenile Justice System (Juvenile Court, Juvenile Drug Court, and Family Dependency/Drug Court). Because these youth are often removed from traditional school settings, yet still reside at home, they are likely to be overlooked in prevalence assessments (both school samples and incarcerated samples), thus less likely to receive prevention and intervention resources. By examining gambling behaviors of this unique and under-studied population, court and detention staff working directly with youth (Judges, treatment professionals, public defenders) can have a better understanding of how problem gambling affects their youth, how it is related to other issues they are already dealing with, and what steps to take towards addressing and alleviating gambling problems. Based on the aforementioned youth gambling literature and the goals of the study, hypotheses regarding differences in problem gambling rates, risk factors for problem gambling, issues co-occurring with problem gambling, and youth who have spent time in detention centers are described in detail below.

Hypotheses

Gender and racial/ethnic group differences. In accordance with past research, males and African-American youth were expected to have higher rates of problem gambling than their female and Caucasian counterparts.

Suicidal ideation. It was hypothesized that participants that have ever thought about committing suicide will have higher problem gambling scores than their peers.

Lottery sales and county type. It was hypothesized that both living in an urban county (as opposed to a suburban or rural county) and higher per capita lottery sales for each county would predict problem gambling severity in these youth.

Scope of gambling activities. Based on past research, it was predicted that youth who engage in multiple types of gambling (lottery, video lottery terminals, etc.) will have higher problem gambling scores, and that this effect will be stronger for females.

Parent with gambling problem. It was hypothesized that youth who report having a parent with a gambling problem will have higher problem gambling scores, and that this effect will be stronger for males than females.

Gambling and Other Behaviors

Gambling-related crime and substance use. Consistent with past research, it was hypothesized that the scope of gambling-related crimes youth commit and frequency of their substance use will predict higher problem gambling severity.

Time in Detention

Youth who have spent time in a detention facility were a unique subset of the Georgia court-involved youth population. Based on past research regarding gambling rates of incarcerated youth, youth who had been to detention were expected to have higher rates of problem gambling than their peers who had not been to detention. Furthermore, qualitative data was used to explore what gambling activities these youth engaged in while incarcerated, what prompted their gambling, perceptions of problem gambling treatment availability in detention, and help-seeking behaviors of these youth.

2. METHOD

Participants

Participants included 145 youth (ages 12-18 years) currently involved in Juvenile, Juvenile Drug, or Family Drug/Dependency Courts in Georgia. Juvenile Drug Courts are courts that offer an alternative to imprisonment through a mandatory, structured program which consists of accountability, community service, and rehabilitation to break the addiction-crime cycle. Youth involved with Family Drug/Dependency Courts generally have suffered abuse and neglect at the hands of parents who are using and/or manufacturing illegal substances. There are currently 10 Juvenile Drug Courts and 11 Family Drug/Dependency Courts in Georgia (Judicial Standing Committee on Drug Courts, 2008). Additionally, there are eight Juvenile Courts listed in the Georgia.gov directory (Administrative Office of the Courts of Georgia, 2008). A total of 9 courts participated, including 1 Juvenile Court, 7 Juvenile Drug Courts, and 2 Family Drug/Dependency Courts and represented 10 different Georgia counties. Courts were identified by counties they served and were labeled as suburban, urban, or rural growth (University of Georgia College of Family and Consumer Sciences, Housing and Demographic Research Center; 2008). Not represented in the sample were courts located in "urbanizing" regions of the state, meaning an area with an expanding population due to the growth of viable job opportunities and infrastructure improvements (there were 2 juvenile courts in these types of communities).

Individual participants (N = 145) were between the ages of 12 and 18 years old and were mostly male (69%) (See Table 2). The majority of participants identified as being Caucasian (44.8%), with other racial/ethnic groups represented including African American (32.4%), Multi-racial (9.7%), Hispanic/Latino (7.6%), and Native American (1.4%). Four percent of youth did not report their race/ethnicity. The majority of youth was involved in a juvenile or juvenile drug

court (78%) as opposed to a family court, and most lived with someone they identified as either their mother or father (85.5%). Youth mainly reported that receiving a high school diploma was their next educational goal (70.3%), although receiving a general equivalency diploma (8.3%), trade or technical certificate (4.1%), and joining the military (5.5%) were also endorsed. Finally, youth reported varying reasons for court involvement. The most common reasons included drugs (40%), fighting (12.3%) and truancy (11.6%). Other reasons listed included theft, gang involvement, weapon possession, ungovernable/unruly, runaway, and unsure.

Table 2

Participant demographics

		Frequency (N)	Percentage
Region	Urban	55	38%
	Suburban/Rural	90	62%
Gender	Males	100	69%
Age	12-15 years	67	46.2%
	16-18 years	78	53.8%
Race/Ethnicity	Caucasian	65	44.8%
	African American	47	32.4%
	Multi-racial	14	9.7%
	Hispanic/Latino	11	7.6%

Measures

Youth completed the Juvenile Justice Gambling Survey (JJGS), a composite measure including questions related to problem gambling behaviors and risk factors, substance use, delinquency, and consequences of problem gambling (See Appendix). Measures included are listed individually below.

Demographics. The first section of the JJGS included demographic questions. These included: age, gender, race/ethnicity, education, living situation, and reason for court involvement.

South Oaks Gambling Screen, Revised for Adolescents (SOGS-RA). The SOGS-RA (Winters, Stinchfield, & Fulkerson, 1993) is the most widely used assessment tool, specifically on youth in non-school samples (Lieberman & Cuadrado, 2002; Westphal, et al., 2000). Examples of the 12 SOGS-RA items include: *Have you ever gambled more than you planned to?* and *Have you ever skipped or been absent from school or work due to betting activities?* Responses to this measure are either affirmative ("1") or negative ("0"). Scores are summed to create a total score, and respondents are placed into categories based on the DSM-IV criteria as outlined by the American Psychiatric Association (1994). On the SOGS-RA a score of 4 is indicative of problem gambling and a score of 2-3 indicates a person at-risk for developing a gambling problem (Winters, Stinchfield, & Fulkerson, 1993). Reliability for this study ($\alpha = .85$) as well as validity in other studies for the SOGS-RA have been documented (Winters, et al., 1993). Specifically, Winters, Stinchfield, and Kim (1995) found that SOGS-RA scores were significantly related to measures of gambling frequency and the amount of money gambled (construct validity), and scores significantly discriminated between regular and non-regular gambling status (discriminant validity).

The Denver Youth Survey. A selection of 19 items pertaining to delinquency and crime were selected from the Denver Youth Survey (DYS) (Huizinga & Esbensen, 1990). Youth were asked which behaviors they engaged in to pay gambling-related debt or to get money to gamble with ($\alpha = .92$). Items were summed to create a total "scope of gambling-related crime" variable.

Items from these measures included: *Have you ever taken something from a store without paying for it?* and *Have you ever gone into or tried to go into a building to steal something?*

Additional items. Finally, additional questions were also developed by the researchers to inquire about suicidal ideation, substance use, types of gambling activities, and gambling behavior while incarcerated. These items reflected risk factors and correlates of youth gambling found in the literature, but that were rarely formally assessed for in youth gambling studies, specifically in a criminal justice population. Suicidal ideation was measured as a continuous variable with "0" reflecting never had thoughts about suicide and "4" representing suicidal thoughts almost every day. Furthermore, substance use was also measured as a continuous variable with "0" indicating no use and "4" indicating use almost every day. Values for tobacco, alcohol, and drugs were summed to create the total substance use score. Similar to the gambling-related crime scale, the gambling activities scale ($\alpha = .73$) was summed to create a total "scope of gambling activities" variable.

Open-ended questions were also included to gather qualitative information on gambling-related crime, gambling activities and motivation to gamble in juvenile detention. Questions included: *How were these illegal activities related to your gambling? , What types of gambling activities did you participate in while in juvenile detention?, What prompted your gambling while in juvenile detention?,* and *Is there anything else you would like to share regarding your experiences gambling?*

Procedure

Courts were initially recruited to participate in the study by two Georgia State University researchers at the Georgia Annual Drug Court Conference held in May 2008. After the

conference, email and phone call follow-ups were made to all 29 juvenile and family courts in Georgia. Of these courts, 10 courts declined participation, and 9 remained unreachable after ten unreturned contacts. Reasons given by court personnel for declining participation included reports of no problem with gambling; too busy to accommodate; and new court staff wanted to build rapport prior to asking youth to engage in research. Some Family Dependency Courts also did not work directly with youth, and thus chose not to participate. Finally, three courts initially agreed to participate, but did not cooperate in setting specific data collection dates.

Data collection occurred from October 2008 - March 2009. Courts that agreed to participate worked with the two researchers to set a specific date in which both youth and their parents would be present in some court-affiliated setting. Once a date was set, recruitment flyers were sent to the court for staff to post in general locations so that parents and children would be aware of the study prior to the set date.

Judges and court coordinators decided on convenient dates; specifically those in which youth and parents had to see a judge for progress updates, or when youth and their parents had to attend mandatory group treatment. The researchers met at a courthouse or treatment center and the presiding judge or researcher announced the research study, including the survey's confidentiality and compensation[1]. Following the announcements, researchers approached families in a waiting area or classroom where parents and youth who volunteered to participate were given the parent consent and child assent forms. Following the consent process, youth were given the JJGS measure either in a separate room or the courthouse waiting room. The survey took approximately 20 minutes to complete. When youth had completed the survey, they were thanked and given a $10 Target gift card for their time and participation.

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[1] This study was funded by the Georgia Department of Behavioral Health and Developmental Disabilities from 2007-2009 and is part of a much larger initiative to address problem gambling in Georgia through research, public awareness, outreach, and workforce development.

Data Analysis

Risk factors and co-occurrences. To assess for gender and racial/ethnic differences in problem gambling severity, two separate independent samples t-tests were utilized. Regression analyses were used to examine the relationship between suicidal ideation and problem gambling severity and to explore whether lottery sales per capita and county type (urban or suburban/rural) predicted youth problem gambling severity, while controlling for age, race, and gender. Data on lottery sales per capita data were obtained for each county using the 2008 Georgia County Guide and were translated into a ranking of 1-10 with "1" indicating the lowest sales and "10" indicating the highest sales out of the counties represented in the study (University of Georgia College of Family and Consumer Sciences, 2008). A linear regression was used to examine whether substance use and the scope of gambling related crime predicted SOGS-RA score, controlling for age, gender, and race. Additionally, qualitative data were compiled from responses to the question "*How were these illegal activities related to your gambling.*" These responses were then divided into two groups (non-problem/non-gambler and at-risk/problem gambler) based on SOGS-RA scores. The researcher examined differences in responses based on these groups according to content analysis. The responses were grouped into emerging themes, including substance use, equating gambling and crime, obtaining money, and other and categories were not mutually exclusive.

Gender as moderator. A multiple regression was also run to assess whether gender moderated the relationship between scope of gambling activities youth participated in and problem gambling scores. Because scope of gambling activities was a continuous variable, it was centered around its mean prior to being entered into the model. Finally, because both independent variable and moderator were dichotomous, an Analysis of Covariance (ANCOVA)

was utilized to explore whether having a parent with a gambling problem was related to problem gambling scores as a function of gender.

Time in detention. An independent samples t-test was also used to establish whether significant mean differences in problem gambling severity existed between youth who had spent time in a detention facility and those who had not. Furthermore, qualitative data were compiled for responses about gambling activities these youth in detention engaged in and their motivations for gambling. Again, these data were analyzed using content analysis, and answers were separated according to the question they addressed.

3. RESULTS

Preliminary Analyses

All data were screened for outliers, missing data, and normal distributions. Descriptive statistics for variables of interest can be found in Table 3. Because of the limited range for most variables on the JJGS measure, 2 outliers (values greater than three standard deviations from the mean) only existed in age (M = 15.45, SD = 1.11) whereas two youth were 12 years old. They were kept in the data set. A missing values analysis was run using Little's MCAR test with all variables in the data set and results indicated that data were missing completely at random, Chi-square $\chi^2(5672, N = 145) = 5425.54$, $p = .99$. Furthermore, no cases were missing data on more than 10 variables (<7%). The Expectation Maximization (EM) algorithm was used for data imputation by assuming the shape of a normal distribution and making inferences for missing values based on that shape (Tabachnik & Fiddell, 2007).

Assumptions for regression analysis and analysis of covariance were all met with the exception of normality. The distribution of SOGS-RA scores and scope of gambling-related crime were negatively skewed and had a positive kurtosis values. The negative skew was expected for these variables given that small percentages of youth are problem gamblers and commit gambling-related crimes in the general population. Tabachnik and Fiddell (2007) note that, as sample size increases, the impact of non-normal skew and kurtosis disappears. Specifically, underestimates of variance associated with positive kurtosis diminish with samples of 100 or more cases, thus no transformations were conducted. Residual plots for all regression models revealed the error variance was distributed equally across independent variables, thus homoskedasticity was not a problem, and that error terms were not correlated with one another.

Additionally, regression tables in SPSS indicated that tolerance values were above .90 for all analyses.

Table 3

Descriptive and normality statistics for variables

	Mean	Standard Deviation	Skew	Kurtosis
Suicidal ideation	0.17	0.37	1.79	1.23
SOGS-RA score	1.05	2.00	2.26	4.86
Scope of gambling activities	1.26	1.89	1.64	2.38
Scope of gambling related crime	1.62	3.35	2.29	4.83
Parent gambling problem	0.19	0.39	1.63	0.66
Substance Use	3.93	4.23	0.72	-0.93

Correlations

Bivariate correlations were examined among variables of interest (See Table 4). Significant correlations were found between a number of variables of interest, however no correlations were considered to be in the mutlticollinearity range (r = .90) (Tabachnik & Fidell, 2007). The correlation between county type and lottery sales was high (.73), however, these independent variables were not significantly correlated with problem gambling severity and were

run in the same regression analysis. Specifically, time in detention, problem gambling severity, scope of gambling activities, scope of gambling-related crime, and substance use were all significantly positively correlated to one another. Additionally, having a parent with a gambling problem was significantly positively correlated with SOGS-RA score, scope of gambling-related crime, and scope of gambling-activities.

Gambling Prevalence

The first hypothesis tested that youth involved in Georgia courts have higher rates of problem gambling than those found in school samples was supported in this study. Of 145 youth participants, about two-thirds (n = 92) scored a 0 on the SOGS-RA, indicating that they have never or currently do not gamble. However, nearly one-fourth (n = 33) of participants reported scores on the SOGS-RA that placed them in the at-risk or problem gambler categories. Table 5 summarizes prevalence statistics by gender, race/ethnicity, and youth who have gambled in detention centers.

Risk Factors Related to Gambling

Gender/racial differences. Hypotheses regarding gender differences and racial/ethnic differences were examined using independent samples t-tests. As hypothesized, males had significantly higher SOGS-RA scores (M = 1.25, SD = 2.03) than females (M = .62, SD = 1.89),

Table 4
Correlations between variables of interest

	Urban versus suburban/rural	Lottery sales	Age	gender	Suicidal ideation	Time in detention	SOGS-RA score	Scope of gambling-related crime	Scope of gambling activities	Substance use	Parent gambling problem	race
urban versus suburban/rural	-											
Lottery sales	.73**	-										
Age	-.16	-.17	-									
Gender	-.29**	-.12	.16*	-								
Suicidal ideation	.29**	-.06	-.10	-.02	-							
Time in detention	.09	.01	.11	.05	.03	-						
SOGS-RA score	.07	-.02	.24*	.15	.10	.37**	-					
Scope of gambling-related crime	-.04	-.07	.13	.06	.06	.26**	.26**	-				
Scope of gambling activities	-.01	-.08	.24*	.20*	-.02	.36**	.57**	.50**	-			
Substance use	-.02	-.10	.30**	.20*	.06	.19*	.30**	.39**	.23**	-		
Parent gambling problem	-.01	.06	-.02	.05	.19*	.17	.22**	.30**	.28**	-.05	-	
Race	-.21*	-.11	.06	.12	.21*	-.15*	-.02	.18*	.09	-.18*	.03	-

Two-tailed correlations where *=p<.05 and **=p<.01

t (143) = 1.77, p = .038. Additionally, African American youth had significantly higher SOGS-RA scores (M = 1.38, SD = 1.89) than Caucasian youth (M = .64, SD = 1.59), t (111) = 2.30, p = .015.

Table 5

Problem gambling classifications among youth involved in courts.

	No problem SOGS-RA = 0 or 1		At-risk SOGS-RA = 2 0r 3		Problem gambler SOGS-RA >3	
	N	%	N	%	N	%
Males	73	73%	11	11%	16	16%
Females	40	88.9%	3	6.7%	2	4.4%
African American	33	70.2%	6	12.8%	8	17.0%
Caucasian	57	87.7%	3	4.6%	5	7.7%
Time in detention (n = 29)	15	51.7%	3	10.4%	11	37.9%
Parent with gambling problem (n = 27)	16	59.3%	4	14.8%	7	25.9%

Suicidal ideation. Results of a linear regression revealed that, controlling for age, gender, and race, suicidal ideation was unrelated to problem gambling severity, F(4, 140) = 1.72, p = .15. Suicidal ideation accounted for just 1.1% of unique variance in problem gambling scores, r^2 =

.01, β = .11. Thus, the hypothesis that suicide ideation would be related to gambling severity was not supported.

Lottery sales and county type. Two linear regressions were used to examine whether youth from urban counties and youth residing in counties with higher per capita lottery sales would have higher problem gambling scores than those youth participants from suburban and rural counties, and from counties with lower per capita lottery sales. Controlling for age, gender, and race, results of the regression model revealed that neither county type, F (4, 140) = 1.60, p = .18, β = .38, nor lottery sales, F (4, 140) = 1.31, p = .27, β = .01 predicted problem gambling scores among these youth (See Table 6). Additionally, each independent variable accounted for less than 1% of the variance in problem gambling scores.

Table 6

Regression coefficients for suicidal ideation, lottery sales, and county type

	Model 1				Model 2			
Variable	*B*	*SE B*	*B*	R^2	*B*	*SE B*	β	R^2
Age	.23	.15	.13		-.23	.15	.13	
Ethnicity	-.04	.25	-.02		-.04	.25	-.01	
Gender	-.56	.36	-.13		-.51	.37	-.12	
Suicidal ideation	.58	.46	.11	.01				
County type					.74	.51	.18	.01
Lottery sales					-.48	.50	-.12	.02

Gender as Moderator

Scope of gambling activities. It was hypothesized that a larger scope of gambling activities would predict problem gambling severity, and that the relationship would be stronger for females than for males. A regression model was used to test gender as the moderator in the relationship between scope of gambling activities and problem gambling severity, controlling for age and race. Results indicated a main effect for scope of activities, $\beta = .56$, $p<.001$, and a significant interaction between gender and scope of activities, $\beta = -.42$, $p<.001$ (See Table 7). Although the slopes for males and females were significantly different from each other, simple slopes analysis revealed that only the slope for females was significantly different from zero, $B = 1.72$, $p<.001$. For females, each additional standard deviation for gambling activity endorsed increased their SOGS-RA score by .56 standard deviations, whereas each additional standard deviation in activity endorsed by males led to only a .14 standard deviation increase in SOGS-RA score (See Figure 1).

Table 7

Hierarchical Regression Analysis: Gender as a Moderating Variable

Variable	*B*	*SE B*	*β*	*t*	Sig.
Age	.10	.12	.06	1.46	.15
Ethnicity	-.13	.20	-.05	-.70	.49
Gender	-.06	.32	-.02	1.64	.10
Activities	.98	.19	.95	-.69	.49
Gender*activities	.47	.21	-.42	2.44	.02

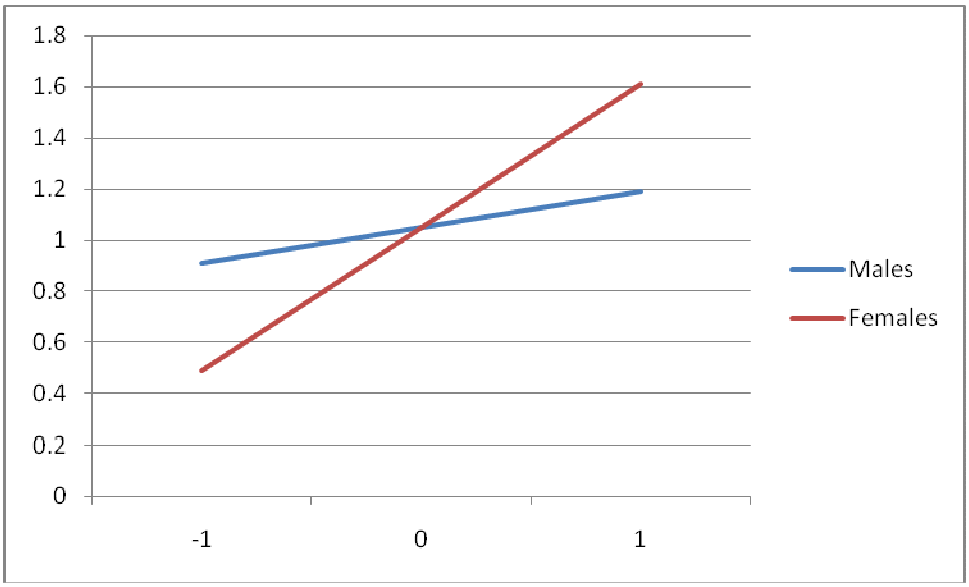

Figure 1. Gender predicting problem gambling severity at low and high levels of scope of gambling activities

Parent with gambling problem. Twenty-seven youth reported having a family member with a serious gambling problem, and it was hypothesized that having a parent with a gambling problem would predict greater problem gambling severity, and that the association would be stronger among males. An Analysis of Covariance (ANCOVA) model was used to explore this relationship. Controlling for age and race, the ANCOVA analysis indicated a significant interaction between gender and having a parent with problem, F (1, 144) = 5.96, p = .02 (See Figure 2). Simple slopes analysis of main effects indicated that neither the male slope nor female slope was significantly different from zero. For females, mean SOGS-RA scores of those who have a parent with a gambling problem (M = .14) were lower than scores for females with no parent with a gambling problem (M = .70). However, for males, average SOGS-RA scores were higher among those who reported having a parent with a gambling problem (M = 2.60) than those males who did not (M = .91).

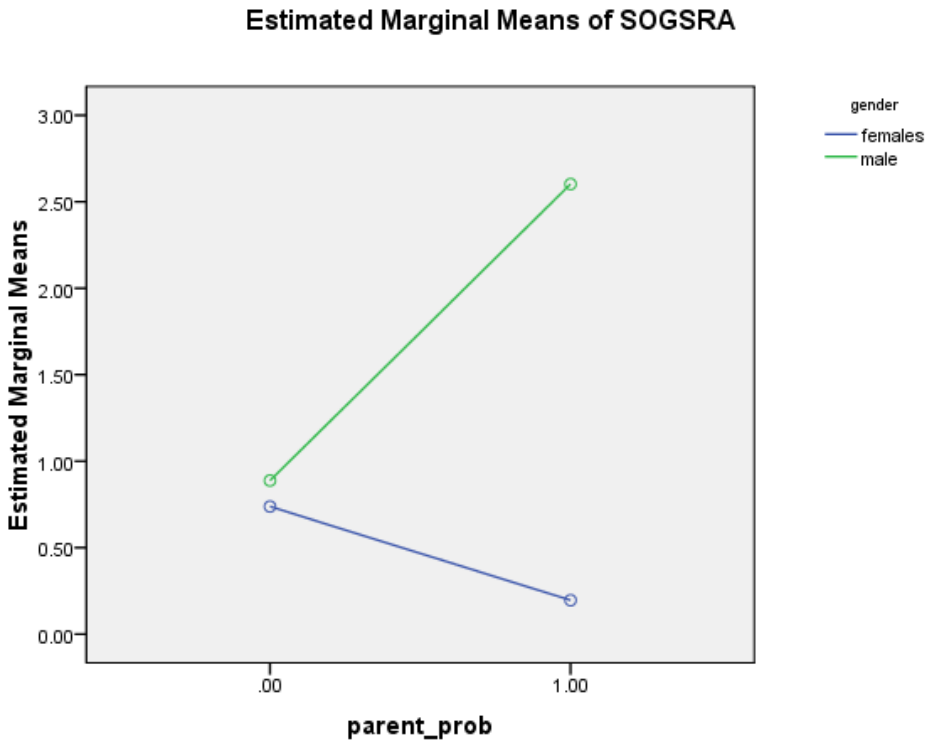

Figure 2. Predicted problem gambling severity for youth with and without a parent with gambling problem

Gambling and Other Behaviors

Gambling-related crime. Youth were asked about whether they had committed any crimes related to their gambling, and whether they had been hurt or threatened or had hurt or threatened another over gambling or gambling-related debt. Approximately 14% of youth reported having been hurt or threatened or having hurt or threatened another person over gambling or gambling-related debt. Furthermore, 42 youth (29%) reporting having committed gambling-related crime. Most frequent crimes endorsed included shoplifting (n = 26, 18%), sold or traded drugs (n = 21, 14%), and hustled at cards, dice, or another sport (n = 20, 13.8%). Nine youth (6%) reported that they had engaged in pimping or prostitution related to gambling. The

scope of gambling-related crimes that youth committed predicted gambling severity, controlling for age, gender, and race. Scope of gambling-related crime accounted for 24% of the unique variance (R^2 *change)* in gambling scores, and for each standard deviation increase in scope of crimes, SOGS-RA scores increased by .50 standard deviations, $\beta = .50$, $p < .001$ (See Table 8).

Table 8

Regression coefficients for gambling-related crime and substance use

	Model 1				Model 2			
Variable	*B*	*SE B*	*β*	R^2	*B*	*SE B*	*β*	R^2
Age	.09	.13	.05		.08	.15	.04	
Ethnicity	.15	.21	.05		.03	.24	.01	
Gender	.43	.32	.10		.13	.04	.27	
Gambling-related crime	.30	.04	.50	.27				
Substance use					.13	.04	.27	.07

Qualitative data were also collected about gambling-related crime. The response rate for this item was 32%, and included youth representing all categories of SOGS-RA scores. When asked how any crimes they had committed were related to gambling or gambling debt, 34 youth wrote that crimes they had committed were not-gambling related or that they had never gambled. Some of these youth's responses seemed to equate gambling and crime, and typical responses included: "crime is a way for people to make money and gamble" and "you win money from doing crimes". Seventy percent of youth who answered this qualitative item were lower risk or

non problem gamblers; however, 12 youth who answered were classified as at-risk or problem gamblers and had markedly different answers. For example, these youth generally discussed the relationship between gambling, money, and substance use. Specifically, typical responses included the following: “needed to do whatever to get money for gambling and drugs”, “gamble to smoke weed”, and “I was young and stupid and just wanted to drink so I broke into a house on a dare. I was lame”. Additional answers reflected gambling as an easy way to make money: “hustling someone was easy and getting him to pay me when I was actually good at something and won” and “I used the money I got to gamble and get more money”.

Substance use. To examine the hypothesis that substance use predicts problem gambling severity, a linear regression model was used. Results revealed that, after controlling for age, gender, and race, substance use predicted problem gambling severity, F (4, 140) = 3.87, p =.005. Substance use accounted for 6.4% of the unique variance in problem gambling severity, and for each standard deviation increase in substance use, problem gambling scores increased by .27 standard deviations, r^2 = .06, β = .27. Qualitative data mentioned above also linked substance use among these youth to both gambling and delinquency.

Time in Detention

Twenty-nine youth reported that they had spent time in a youth detention facility. These youth represent a unique subset of this population and had significantly higher SOGS-RA scores than youth who had never spent time in a detention center, (M = 2.54, SD = 3.05), t (28) = 4.80, p =.001. Youth were also asked about their experiences gambling while spending time in juvenile detention facilities, if applicable. Twenty-nine youth reported that they had spent time in youth detention centers in Georgia, and 69% of those (n = 20) reported that they gambled while

in detention. The following results come from answers those 20 gave to additional questions. When asked about how often they gambled while incarcerated, 30% responded "very frequently". Youth (35%) also reported that they gambled more while in detention than not, and 40% indicated that they gambled at similar rates since being out of detention. Three of these youth reported that they currently owe someone a gambling-related debt from detention gambling. Finally, although four youth cited hearing about gambling treatment opportunities while in detention, only one participant reported wanting and seeking out help with their gambling behavior.

Youth who had served time in a detention facility and gambled while there were asked about their gambling activities and motivations. Of 20 youth, ten responded to these qualitative items, and activities included in responses were sports (n = 2), card games (n = 7), and dice (n = 3). Youth further cited that their reason for gambling were snacks (n = 6), boredom (n = 5), respect (n = 2), and fun (n = 1). Two youth responded to an item asking whether there was anything else about gambling in detention they would like to share. These participants both responded by writing "it is so cool, especially when the jco's do it" [2].

[2] JCO is an acronym that means Juvenile Correctional Officer. This acronym was explained to me via an email conversation with a Clayton County Court Officer on May 13, 2009.

4. DISCUSSION

The major goals of this study were to document the rate of problem gambling for a juvenile court involved population, examine the risk factors for problem gambling specific to these youth, examine the co-occurrence of problem gambling with criminal activity and substance abuse, and to explore gambling behaviors of youth who have spent time in detention facilities. The results indicate that gambling is a salient and problematic issue for many youth involved in Georgia courts. Not only are the rates of problem and at-risk for problem gambling two to three times higher for these youth compared to school samples, problem gambling also co-occurs with many of the issues courts are already dealing with, such as substance use and crime. Finally, youth who have spent time in a detention facility reported the highest rates of problem gambling within this study, indicating the need for interventions to target this population.

The findings can lend insight to professionals working within the Juvenile Justice System on how to prevent and treat this potentially detrimental problem in this population. Furthermore, the costs of problem gambling are estimated to be about 5 billion dollars per year in the United States, making it one of the most resource intensive yet preventable and treatable addictions (Zorland, Mooss, Perkins, & Emshoff, 2008). Because problem gambling is a public health issue that affects people from all walks of society, addressing it at all ecological levels is necessary to reduce the social and economic costs associated.

Gambling Prevalence

As predicted, the problem gambling rates for youth involved with Georgia juvenile, juvenile drug, and family courts were more than twice the rates found in school samples

(Derevensky & Gupta, 2004; Jacobs, 2000). Furthermore, the number of youth who were classified as problem gamblers was greater than the number of youth who fell into the "at-risk" category identified by the SOGS-RA. This is not consistent with past research that has found youth with no problem and youth "at-risk" for problem gambling are both more common categories than youth who are identified as problem gamblers (Derevensky & Gupta, 2004). This may indicate that court-involved youth are less likely to remain social or leisure gamblers without becoming problem gamblers. These youth need to be educated on problem gambling behaviors and signs and responsible gaming to keep them from developing addictive or dangerous gambling habits.

Risk Factors Related to Gambling

Another goal of this study was to examine the role of several explanatory factors that could increase understanding about problem gambling for youth involved in Georgia courts. Furthermore, factors related to youth's social environment and opportunities for gambling (urban versus suburban/rural areas, lottery sales per county) were also examined.

Gender/racial differences. Consistent with study hypotheses, males and African American youth had higher problem gambling scores than their female and Caucasian counterparts, respectively. These group differences are consistent with findings from studies on youth from community and school samples (Huang & Boyer, 2007; Welte, et. al, 2008), and can lend courts insight about the potential risk for problem gambling among their youth based on their court's demographic breakdown. However, too much weight should not be placed on these differences, as some research has found that gambling rates among all youth are increasing

(Messerlian, Derevensky & Gupta, 2004), as well as rates specific to females (Gerstein, et. al, 1999).

Suicidal ideation. This study did not find suicidal ideation to predict problem gambling severity. Past research regarding the nature of this relationship has been mixed, with some research finding a significant correlation between suicide ideation and problem gambling (Hardoon & Derevensky, 2002; Ladouceur, et. al, 1999) and others finding no association (Cunnigham-Williams, et al., 2000). The youth in this study who are dealing with feelings or thoughts about suicide may cope in different ways not pertaining to gambling, such as using substances or committing crimes. Future research should focus on suicidal ideation and other mental health issues as they pertain to risky behaviors in general (problem gambling, substance use, and crime).

Lottery sales and county type. Neither county type nor per capita lottery sales predicted youth problem gambling severity. This finding was inconsistent with past research that has found that gambling opportunities and rates of gambling are higher for youth living in urban counties (Jacobs, 2004). The lack of a significant difference for urban vs. rural youth might reflect the fact that Georgia's legal gambling opportunities are similar for both urban and rural areas (e.g., no casino gaming opportunities exist). Youth gambling may not be influenced by lottery sales because, for the majority of the sample, playing the lottery is illegal, and most youth reported gambling in unregulated activities (cards, sports pools, etc.). Additionally, this finding may also indicate that legal adult gambling (playing the lottery) has little or no effect on youth problem gambling. In sum, the findings indicate that urban and rural youth share similar levels of risk for problem gambling, and point to the need for juvenile and family court systems to screen all youth for gambling problems, regardless of what circuit/jurisdiction the court serves.

Gender as Moderator

As hypothesized, scope of gambling activities predicted problem gambling severity for both males and females; however the effect was stronger for females. This indicates that females who engage in multiple gambling activities may be at greater risk for developing problem gambling than both females who limit the type of gambling they engage in and males who gamble. Scope of gambling activities can be used as an indicator of potential problem gambling for both females and males, and those working with these youth should stay attuned to any mention of gambling activities these youth discuss. Furthermore, the notion of responsible gaming and the dangers of gambling must be addressed with these youth to prevent them from developing serious and debilitating gambling habits.

Parent with gambling problem. Having a parent with a gambling problem has been shown in previous research to be a risk factor for problem gambling among youth (Blaszczynski & Nower, 2002). This study found that the impact of having a parent with problem gambling was significantly different for males and females, and the impact was more negative for males. These results are consistent with research on children of alcoholics, which found that having a parent who is an alcoholic is a bigger risk factor for male children than for female children (Hussong, Zucker, Wong, Fitzgerald, & Puttler, 2005). Group discussions and treatment meetings may need to be different for males and females when gambling problems within the family unit are discussed. Furthermore, court staff should be aware that parental history of problem gambling can be a risk factor for all youth, although may be a larger risk factor for males. To better attend to these youth and their families, information packets should be sent home to all parents regarding the signs and dangers of problem gambling for youth and adults. Future research in

this area should examine whether these gender differences hold up when youth report that other family members, friends, and significant others have gambling problems.

Gambling and Other Behaviors

Because both delinquency and substance use have been documented as risk factors for problem gambling in community and school samples (Derevensky & Gupta, 2006; Westphal, et. al, 2000), another goal of this study was to examine how these behaviors are related in a sample of youth where these risk factors are all compounded (youth involved in the Juvenile Justice System).

Gambling-related crime. As predicted, the scope of gambling-related crimes youth committed predicted the severity of gambling problems. The proportion of youth (29%) engaging in any gambling-related crime found in this study was higher than rates of gambling-related crime reported by school samples (Huxley & Carroll, 1992). Furthermore, the scope of crimes reported ranged from petty crimes such as shoplifting, to far more serious crimes of prostitution and pimping. This finding is also distinct from other studies that have asked only about truancy, stealing from and outside of the home, and gambling-related arrests, which may not capture all of the gambling-related crime youth commit (Westphal, et. al, 1998).These findings indicate that problem gambling and crime co-occur and that problem gambling may exacerbate the delinquency issues courts are already addressing.

Substance use. Although many studies have examined the relationship between substance use and gambling, none have looked at how these behaviors are related for youth involved in juvenile and family courts. Findings indicate that substance use accounts for a significant amount of the variance in problem gambling severity scores among these youth. Past research has found

that gambling behaviors in youth actually precede substance use, even if only by a short time (Stinchfield, et. al, 2004). This could indicate that if youth are appropriately screened, educated about, and treated for problem gambling (if necessary) the cycle of gambling, gambling-related crime, and substance use could be disrupted, even if substance use was not altogether prevented. Furthermore, in juvenile drug courts and family courts a main reason for youth involvement is possession or use of drugs or alcohol. Gambling and substance use co-occur often for these youth and they should be addressed together to conserve limited resources allotted to courts, as well as educate youth on the dangers of both.

Gambling, crime, and substance use. Although there was a limited response rate, qualitative data from this study seems to demonstrate the relationship between gambling, substance use, and crime, as many youth reported engaging in crimes to get money to gamble or use substances, or committed crimes while under the influence to get quick money for gambling. Interventions should be implemented because, for some youth, decreasing problem gambling may lead to a decrease in the delinquent acts they commit, specifically, those related to gambling. This decrease may, in turn, lead to a decrease in substance use within this population, given the cyclical nature of the three behaviors as reported in the qualitative data.

Finally, substantial differences existed in the nature of qualitative responses to these items between problem/at-risk gamblers and no problem gamblers. Youth without gambling problems equated gambling and crime while youth who were at-risk or problem gamblers remarked that gambling was a quick way to make money and buy alcohol or drugs. The desire for youth to obtain money was a dominant theme in these data and suggests that interventions focused on skill building, job searching, and financial planning may give these youth a better

understanding about how legitimate money can be made without the risk of such dire consequences

Time in Detention

A final goal of this study was to explore how spending time in a juvenile detention center might affect gambling behavior. Because these youth represent a unique subset of youth involved in the Criminal Justice System, findings can provide added insight into the co-occurrence of gambling behaviors and delinquency. As predicted, youth who had spent time in a juvenile detention facility had higher SOGS-RA scores than their peers. Furthermore, 70% of youth who had spent any time in detention centers gambled while there, indicating that gambling is a typical, socially accepted part of being in detention. Qualitative response to items about gambling in detention further explicated these findings. Because youth indicated that they gambled out of boredom and for snacks, more structure needs to be implemented into detention center facilities so that youth have healthy activities to engage them.

The problem gambling among these youth was 40%, eight times the rate found in school and community samples. The rate found in this study is consistent with other studies of youth in detained settings with Lieberman and Cuadrado (2002) reporting 46% of youth gambling in detention were problem gamblers, and Westphal and colleagues (2000) finding that 38% of youth in residential treatment programs were problem gamblers. It is notable that previously detained youth reported gambling at similar rates after they left detention, indicating that being sentenced to serve time in a youth detention facility may be a risk factor for problem gambling. This suggests that not only should youth be screened for problem gambling upon exiting detention centers, but also that appropriate treatment for youth in detention needs to be provided

and advertised to youth and their families. Furthermore, the only two female problem gamblers in the study had spent time in detention. Although the sample of youth who spent time in detention centers was quite small (n = 29), this finding may indicate that experiences in detention centers may be a serious risk for developing problem gambling in females; however, more research is needed on this topic.

Youth also reported having gambled with juvenile correctional officers, detention center staff. Detention centers need to have strict policies about gambling within their facilities and should implement these policies with consequences for youth and staff. Finally, only one participant reported seeking out help for problem gambling while in detention. Though based on a limited number of participants who reported spending time in detention, these findings suggest that treatment options for problem gambling may not be widely advertised by detention centers or even available. Again, youth in detention need to be made aware that treatment for any addiction or problem is available to them, and staff must be trained to handle these problems.

Conclusions

There is a dearth of research on problem gambling behaviors of youth outside school samples. Specifically, youth involved in juvenile and family courts are a unique and relevant population in which many risk factors for problem gambling are compounded (criminal activity, substance use). Although adolescence is a period of experimentation with risky behaviors, including gambling, the rates of problem gambling for this population are extremely high and worrisome. Presumably, problem gambling behaviors are just a “phase” for some of these youth and they will return to gambling without indication of a problem as they mature into adults. However, for those youth who are involved in the criminal justice system, risk factors for

developing a gambling problem are compounded, thus making prevention and interventions crucial for this population.

By educating court staff on relevant risk factors for problem gambling among youth they work with, such as spending time in detention facilities, gambling in a wide range of activities, being a male and ethnic minority, and having a parent with a gambling problem, early screening and intervention can get these youth the help and attention they need. By recognizing that crime, substance, use and problem gambling all go together, court systems can work towards addressing them in a holistic manner to save resources and time. Although youth problem gambling is an important issue in itself, affecting thousands of adolescents and young adults nationwide, brief curricula and interventions have been developed that can be incorporated into existing programs targeting substance use and other issues because they address over-arching concepts, such as life and coping skills in addition to specifics on safe gambling. Communities must share the burden of problem gambling with the juvenile justice system by increasing public awareness that gambling problems do affect youth and through getting youth involved in social marketing strategies themselves. The National Council for Problem Gambling (http://www.ncpgambling.org/) provides tools for parents, youth, treatment providers, and community members to get involved.

Limitations

There are several limitations in this study, and results should be interpreted and generalized with caution. First, although all juvenile and family courts in Georgia were contacted, they self-selected into the study; therefore, systematic differences may exist between courts that chose to be in the study and courts who refused participation. The same selection bias

is true of the individual youth who chose to participate with their parent's permission. Because of the lack of a representative sample, the problem gambling rates and results found in this study may not be generalizable to other states and other courts. The cross-sectional design also is a limitation as it is able only to capture information at a single time point; it was not possible to assess how problem gambling rates and risk factors for these youth change and evolve over time. Furthermore, the sample size of 145 lent sufficient statistical power for detecting even relatively modest main effects in multiple regression analyses, but power for moderation analyses was limited (Borenstein, Rothstein, & Cohen, 2001); therefore, the results of the gender and scope of gambling activities interaction needs to be interpreted with caution. Issues with measurement also include limitations. For example, the SOGS-RA gambling assessment provides a cut-off score categorizing youth into a mutually exclusive category; however, the nature of problem gambling like other addictions is dynamic, thus pinpointing youth into one category fails to describe the progression of the disorder. Finally, the JJGS is a self-report measure, meaning that youth may be biased in how they answered the questions and may have been reluctant to divulge about their gambling behaviors, especially given the court/legal setting data collection took place in. Furthermore, the JJGS was also the only method of collecting data on both the independent and dependent variables in the study, thus effects might be inflated due to shared method variance.

Future Directions

An ecological approach to addressing problem gambling both for youth involved in the juvenile justice system and persons in the general community can work towards alleviating the negative outcomes that problem and pathological gamblers often face. At an individual level,

youth who enter juvenile and family courts should be screened for problem gambling using the two-item Lie-bet measure during the initial intake and referred to appropriate treatment if necessary (Johnson, Hamer, Nora, Tan, Einstein, & Engelhart, 1988). Unfortunately, screening youth and discovering they may have a gambling problem remains irrelevant unless proper treatment and interventions can be provided. For those states in which there are currently no professionals who have been trained to treat problem gambling, training sessions need to be developed, and the Juvenile Justice System should require that at least one representative per court participate in such a training to develop a competent workforce to treat youth problem gambling.

Because court systems already address substance use and delinquency, and given the co-occurrence of these problems with problem gambling, it should not be resource intensive to include weekly sessions on identifying signs of problem gambling and how to remain a responsible gambler, as well as education on gambling probabilities and odds of winning. Such resources can be found at the National Council for Problem Gambling as previously mentioned; however, there are a number of brief interventions that have been developed and can be found online. Although they have not been proven evidence-based practices as of yet, they are available and can be used to begin the discussion about gambling with these youth. Examples include the Facing the Odds program (Harvard Medical School Division on Addictions, 2006), Clean Break (The McGill Youth Gambling Research and Treatment Clinic in Quebec, 2006) and The life skills, mathematical reasoning, and critical thinking curriculum (Turner, Macdonald, & Somerset, 2008).Those courts that are proactive about dealing with gambling problems will no doubt serve as models for other courts.

In spite of the fact that many youth experience risk factors for problem gambling, most do not go on to develop a problem. Increasing awareness of gambling risks and problems associated with gambling can serve to change societal norms about problem gambling in youth. For example, in a focus group study by Skinner and colleagues, youth saw a connection between the government getting money when people lose it gambling, and some even see a connection between social problems, such as poverty and gambling. Allowing youth to voice these thoughts and opinions can lead to youth-led initiatives against problem gambling and industries that are supported by disordered gambling. Additionally, such campaigns involving youth and community members can allow youth to make their own decisions about gambling.

Individual and group diagnoses and gambling interventions remain only a small part of the solution to such a widespread issue, and viewing problem behaviors among impressionable and vulnerable populations, such as children and youth, from a deficit and risk based perspective may be damaging and stigmatizing (Cowen, 1996). Because gambling is a legal form of entertainment and provides a wealth of income for many communities, community-level approaches to raising public awareness about problem gambling are also necessary. Through decreasing lottery and gambling advertisements which are often skewed (e.g. billboards showing winners only) and encouraging youth to become involved in social marketing campaigns against false advertising and marketing discrimination (gambling opportunities have been found to be targeted towards less advantaged, minority neighborhoods) public education and involvement can become a part of the fight against irresponsible gambling practices for the industry and individual (Welte, Wieczorek, Barnes, Tidwell & Hoffman, 2004).

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APPENDIX: JUVENILE JUSTICE GAMBLING SURVEY

Juvenile Justice Gambling Survey
[JJGS]

Date:_____

Please indicate the following:

1. Age: _____

2. Gender Male Female

3. Are you Hispanic or Latino/Latina?

   a. Yes
   b. No
   c. I prefer not to answer

4. How do you describe yourself? (Pick all that apply)

   a. American Indian or Alaskan Native
   b. Asian
   c. Black or African American
   d. Native Hawaiian or Other Pacific Islander
   e. White
   f. I prefer not to answer

5. What is the next educational/professional goal?

   a. High school diploma
   b. General equivalency diploma
   c. Trade/technical certificate
   d. Associates degree
   e. Military
   f. Other (please specify) _____

6. Who do you currently live with?

   a. Mother or Father
   b. Foster parent
   c. Grandparent
   d. Sibling
   e. Aunt, uncle, or other relative
   f. Group home
   g. Guardian
   h. Other (please specify) _____

7a. Are you in Family Court or Juvenile Court? (Please circle one)

7b. For what reason are you currently involved in court?

_____

8a. Have you ever been diagnosed with a mental health condition? _____Yes _____No

8b. If yes, what were you diagnosed with? _____

9. How often have you thought about committing suicide?

a. never
b. once or twice
c. sometimes
d. often
e. almost every day

10. Have you ever felt the need to bet more and more?

a. Yes
b. No

11. Have you ever had to lie to people important to you about how much you gamble?

a. Yes
b. No

12a. Do you currently think you have trouble controlling your gambling behaviors?

a. Yes
b. No

12b. If answered *Yes* to question 12, would you be interested in receiving help to control your gambling?

a. Yes
b. No

13. How often have you gone back another day to try and win back money you lost gambling?

a. Every time
b. Most of the time
c. Some of the time
d. Never

14. When you were betting, have you ever told others you were winning money when you weren't?

a. Yes
b. No

15. Has your betting money ever caused any problems for you such as arguments with family and friends, or problems at school or work?

a. Yes
b. No

16. Have you ever gambled more than you had planned to?

a. Yes
b. No

17. Has anyone criticized your betting, or told you that you had a gambling problem whether you thought it true or not?

a. Yes
b. No

18. Have you ever felt bad about the amount of money you bet, or about what happens when you bet money?

a. Yes
b. No

19. Have you ever felt like you would like to stop betting, but didn't think you could?

a. Yes
b. No

20. Have you ever hidden from family or friends any betting slips, IOUs, lottery tickets, money that you won, or any signs of gambling?

a. Yes
b. No

21. Have you had money arguments with family or friends that centered on gambling?

    a. Yes
    b. No

22. Have you borrowed money to bet and not paid it back?

    a. Yes
    b. No

23. Have you ever skipped or been absent from school or work due to betting activities?

    a. Yes
    b. No

24. Have you borrowed money or stolen something in order to bet or to cover gambling activities?

    a. Yes
    b. No

25. How often have you done the following:

    ____ drink alcohol
    ____ use tobacco (smoking or chewing)
    ____ use drugs

    a. never
    b. once or twice
    c. sometimes
    d. often
    e. almost every day

Please Continue to the next page

26. Please indicate which of the following types of gambling you have done in the past 12 months. For each type, mark one answer: **"Not at All," "Less than Once a Week,"** or **"Once a Week or More."**

PLEASE "√" ONE ANSWER FOR EACH STATEMENT:	NOT AT ALL	LESS THAN ONCE A WEEK	ONCE A WEEK OR MORE
a) Bet on card games			
b) Bet on horses, dogs, or other animals			
c) Bet on sports games			
d) Bet on dice games			
e) Bet on lotteries			
f) Bet on bingo			
g) Played slot machines, poker machines, or other gambling machines (video lottery terminals)			
h) Played pull tabs or scratch off tickets			
i) Some form of gambling not listed above (please specify): _____			

27. During the past 12 months, what is the largest amount of money you have gambled in a single day?

_____ I did not gamble during the past 12 months
_____ $1 or less
_____ $2 to $9
_____ $10 to $19
_____$20 up to $49
_____ $50 up to $99
_____ $100 to $199
_____ $200 or more

28. During the past 12 months, what is the dollar amount of the most valuable thing you gambled with on a single day?

_____ I did not gamble during the past 12 months
_____ $1 or less
_____ $2 to $9
_____ $10 to $19
_____$20 up to $49
_____ $50 up to $99
_____ $100 to $199
_____ $200 or more

29. Check which of the following people in your life has (or had) a gambling problem. (Check ALL that apply)

_____ Father

_____ Mother

_____ Brother/Sister

_____ Girlfriend/Boyfriend

_____ A Friend or Someone Important in My Life

_____ Another Relative

_____ No one in my life has a gambling problem

30. How many of your friends gamble? (Circle one)

a. All
b. Most
c. Some
d. A few
e. None

31. Who have you ever gambled with? (Check ALL that apply)

a. ____Friends/peers
b. ____Girlfriend/boyfriend
c. ____Parents
d. ____Siblings
e. ____Grandparents
f. ____Aunt, uncle, other family member
g. ____Guardian/foster parent
h. ____Teacher/school staff
i. ____People at church/religious institution
j. ____Detention/jail staff
k. ____Alone (internet or over phone)
l. ____Other (please specify) _____
m. ____Never gambled

32. Where have you ever gambled (Check ALL that apply)

a. ____Home
b. ____School
c. ____Work
d. ____The street
e. ____Church/religious institution
f. ____Detention center/jail
g. ____Neighborhood store
h. ____Local restaurant/bar
i. ____Internet
j. ____Casino
k. ____Racetrack
l. ____Dog or cock fight
m. ____Never gambled

33. Do you feel you have had a problem with betting money or gambling?

_____ No _____ Yes _____ Yes, in the past, but not now

34. If you borrowed money to gamble or to pay gambling debts, who or where did you borrow from (check "Yes" or "No" for each):

a. From friends or neighbors _____Yes _____No

b. From your girlfriend/boyfriend _____Yes _____No

c. From other relatives _____Yes _____No

d. From loan sharks _____Yes _____No

e. You sold personal or family property _____Yes _____No

35. The following is a list of things other people have done to pay gambling debts or to get money in order to be able to gamble. Which of these have you done for those reasons? (check "Yes" or "No" for each):

a. Taken something from a store without paying for it _____Yes _____No

b. Stolen or tried to steal a car, motorcycle, or other vehicle _____Yes _____No

c. Stolen or tried to steal money or things worth less than $5 _____Yes _____No

d. Stolen or tried to steal money or things worth between $5 and $100 _____Yes _____No

e. Stolen or tried to steal money or things worth more than $100 _____Yes _____No

f. Used checks illegally or used fake money to pay for something _____Yes _____No

g. Used or tried to use credit cards or bank cards without the owner's permission _____Yes _____No

h. Participated in identity theft _____Yes _____No

i. Stole money or items from work _____Yes _____No

j. Gone into or tried to go into a building to steal something _____Yes _____No

k. Snatched someone's purse or wallet or picked someone's pocket _____Yes _____No

l. Taken something from a car that did not belong to you _____Yes _____No

m. Knowingly bought, sold, or held stolen goods or tried to do something with these goods _____Yes _____No

n. Sold or traded drugs _____Yes _____No

o. Hustled at cards, dice or some other game/sport (i.e. pool) _____Yes _____No

p. Ran another type of con game _____Yes _____No

q. Had sex/engaged in prostitution or pimping _____Yes _____No

r. Hustled in some other way (or in a way already mentioned), but you don't want to say _____Yes _____No

36. How were these illegal activities related to gambling or paying gambling debts?

_____

_____

_____

_____

_____

_____

_____

_____

37. About how much of the money you got illegally was used for gambling or to pay gambling debts?

a. All
b. Most
c. Some
d. A little
e. None

38a. Have you ever been arrested? _____Yes _____No

38b. (If yes to 38a) How many times have you been:

a. Arrested? _____

b. Sentenced to spend time in juvenile detention _____

c. Convicted of a felony? _____

d. Convicted of a misdemeanor _____

39. *(If you have been arrested/sentenced to detention)* How many times, if any, of these were due to gambling or paying gambling debts?

_____

40. Have you ever hurt or threatened someone due to gambling or gambling –related debt?

_____Yes _____No

41. Have you ever been hurt or threatened by someone due to gambling or gambling-related debt?

_____Yes _____No

42. Have you ever gambled while in juvenile detention or jail?

_____Yes _____No _____N/A

43. *(If you answered "Yes" to question 42),* what type(s) of gambling activity(ies) were they? *(If you answered "No", skip to question 54)*

_____

_____

_____

_____

44. *(If you answered "Yes" to question 42),* How frequently do you gamble while in juvenile detention/jail?

a. Very frequently
b. Frequently
c. Sometimes
d. Rarely
e. Never

45. *(If you answered "Yes" to question 42),* What prompted your gambling while in juvenile detention/jail (ie: cause, benefits, etc.)?

_____

_____

_____

_____

_____

_____

46. *(If you answered "Yes" to question 42),* Which best describes how often you gamble when in jail/detention as opposed to when you are not?

a. Gamble more frequently when in jail/detention than when not

b. Gamble about the same amount when in jail/detention than when not

c. Gamble less frequently when in jail/detention than when not

47. *(If you answered "Yes" to question 42),* Which best describes how often you gamble now, since gambling in detention/jail?

a. Gamble more frequently since being in jail/detention than before

b. Gamble about the same amount since being in jail/detention than before

c. Gamble less frequently since being in jail/detention than before

48. *(If you answered "Yes" to question 42),* Do you owe anything as a result of gambling while in jail/detention (accrue gambling debt)?

_____Yes _____No

49. *(If you answered "Yes" to question 42),* Is there anything else you would like to share about your gambling experiences while in jail/detention?

_____

_____

_____

_____

50. Have you ever wanted to get help with your gambling while in jail/detention?

_____Yes _____No

51. Did you ever seek out help with your gambling while in jail/detention?

_____Yes _____No

52. Did you ever get help with your gambling problem while in jail/detention?

_____Yes _____No

53. Did you ever hear about gambling treatment that was provided by or offered in the detention center?

_____Yes _____No

54. Have you ever been to a Gamblers Anonymous meeting or to a therapist for help dealing with a gambling problem?

_____Yes _____No

55. Have you ever asked someone else for help with a gambling problem?

_____Yes _____No

56. If you are in debt, how much debt do you currently have?

a. None
b. Less than $100
c. $100 up to $250
d. $250 up to $500
e. $500 up to $750
f. $750 up to $1,000
g. More than $1,000

57. Of this debt, how much, if any of it is related to gambling (to gamble with or to pay gambling debt)?

a. All
b. Most
c. Some
d. A little
e. None

58. Is there anything else you would like to share regarding your experiences gambling or gambling debts (while in jail/detention or not)?

_____

_____

_____

_____

_____

_____

_____