

## Codebook for Meta-analytic Prevalence Estimates of Disordered Gambling Behavior in the United States and Canada

This codebook provides information about the meta-analytic dataset used by Shaffer and Hall to update and refine the prevalence estimates of disordered gambling in the United States and Canada (Shaffer & Hall, 2001). This dataset updates and extends the first comprehensive gambling related epidemiological meta-analysis published in the American Journal of Public Health in 1999 (Shaffer, Hall, & Vander Bilt, 1999). This dataset employed an empirical strategy to synthesize estimates of gambling-related disorders across an array of differing estimation methodologies and population samples. This dataset provides the opportunity to evaluate and integrate the range of assumptions and strategies used by the various scientists who have estimated the prevalence of disordered gambling. To identify studies about the prevalence of disordered gambling, the authors searched Medline, PsycINFO, the Harvard OnLine Library Information System, and the *Journal of Gambling Studies* and requested unpublished studies from colleagues. This search strategy identified 193 prevalence studies. Of the 193 studies, 160 satisfied the following inclusion criteria: (1) it was conducted either in the United States or Canada; (2) it was written in English; (3) it specified the size of the sample; (4) it reported the prevalence estimate; (5) it specified the measurement criteria; (6) it was available to the authors for review by June 30, 1999. Fourteen studies used the same data as other included studies and were removed from the analysis. A total of 146 studies were included for analyses in this meta-analysis study. Weighting studies for the use of multiple instruments resulted in a total of 180 distinct prevalence estimates of disordered gambling (e.g., 2 past year estimates from a single study sample would be weighted 0.5 each, 3 past year estimates would be weighted 0.33 each). Given the wide array of taxonomical systems to identify and organize levels of disordered gambling, the authors reported prevalence estimates using a previously established public health classification system consisting of three generic levels of gambling problem severity. The first of these three levels, **level 1**, represents gamblers who do not experience gambling problems. The second level, **level 2**, represents gamblers with sub-clinical levels of gambling problems (e.g., “problem,” “at-risk,” “in-transition”). The third level, **level 3**, represents the most severe category of disordered gambling (e.g., “pathological”). In many studies, level 3 gamblers are those who meet established diagnostic criteria for pathological gambling (e.g., DSM-IV criteria).

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**Related publication(s):**

- Shaffer, H. J., & Hall, M. N. (2001). Updating and Refining Prevalence Estimates of Disordered Gambling Behaviour in the United States and Canada. *Canadian Journal of Public Health, 92*(3), 168-172.
- Shaffer, H. J., Hall, M. N., & Vander Bilt, J. (1999). Estimating the Prevalence of Disordered Gambling Behavior in the United States and Canada: A Research Synthesis. *American Journal of Public Health, 89*(9), 1369-1376.

## Analytic Dataset - Meta-analytic Prevalence Estimates of Disordered Gambling Behavior in the United States and Canada

Variable Name	Variable Type	Description	Note
StudyID	Numeric	Study ID	Each study was assigned a StudyID. Prevalence studies (N=193) are listed by StudyID in Appendix 1.
Weight1	Numeric	Weight for multiple instruments	
Weight2	Numeric	Weight for identical studies	
Weight3	Numeric	Product of weight 1 and weight 2	
Weight4	Numeric	Integer weight equivalent of weight3 (factor of 12)	
Weight5	Numeric	Integer weight equivalent of weight2 (factor of 4)	
Filter	Numeric	Paper/report selected for meta-analysis?	0 = "Not Selected" (N=47), 1 = "Selected" (N=146)
Type	Numeric	Study type	0.0 = "Ineligible" 1.0 = "Adult general population" 1.5 = "Adult & adolescent general population" 2.0 = "Adolescent general population" 3.0 = "School (grades k-12)", 4.0 = "College" 5.0 = "Treatment, adult" 6.0 = "Prison" 6.5 = "Treatment, adult & adolescent" 7.0 = "Treatment, adolescent" 8.0 = "Other (special populations)" 9.0 = "Incarcerated adolescent" 10.0 = "Community drug users" 11.0 = "Homeless"

Variable Name	Variable Type	Description	Note
Typecat	Numeric	Study type category	0 = "Ineligible" 1 = "Adult general population" 2 = "Adolescents" 3 = "College" 4 = "Adult treatment/prison" 5 = "Adolescent treatment/incarcerated" 6 = "Other (special populations)" 7 = "Community drug users" 8 = "Homeless"
English	Numeric	Is report written in English?	0 = "No", 1 = "Yes"
Uscon	Numeric	Conducted in US/Canada?	0 = "No", 1 = "Yes"
Prevest	Numeric	Prevalence estimate reported?	0 = "No", 1 = "Yes"
Criteria	Numeric	Measurement criteria reported?	0 = "No", 1 = "Yes"
N	Numeric	Sample size reported?	0 = "No", 1 = "Yes"
Timespan	Numeric	Conducted within appropriate time span?	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Cutoff	Numeric	Available for review by specified date?	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Yrcond	Numeric	Year study conducted	
Yrrel	Numeric	Year study released	
Peerrev	Numeric	Peer reviewed	0 = "No", 1 = "Yes"
Pubtype	Numeric	Publication type	1 = "Journal article" 2 = "Book or book chapter" 3 = "Organizational report" 4 = "Conference presentation" 5 = "Doctoral dissertation" 6 = "Thesis" 7 = "Other"

Variable Name	Variable Type	Description	Note
Funding	Numeric	Funding source	1 = "Not funded" 2 = "Federal/national" 3 = "Private foundation" 4 = "State/provincial-sponsored gaming organization" 5 = "Other state/providence funding" 6 = "Private industry" 7 = "Council on CG" 8 = "Lobbying group" 9 = "Combination" 10 = "Other" 11 = "University" 99 = "Report does not specify"
Studtype	Numeric	Study type	1 = "Primary" 2 = "Replication" 3 = "Follow-up" 4 = "Other"
Intent	Numeric	Intended as a prevalence study?	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Country	Numeric	Country of study	0 = "Canada" 1 = "U.S."

Variable Name	Variable Type	Description	Note
Region	Numeric	Region of study	1 = "New England" 2 = "Middle Atlantic" 3 = "Southeastern" 4 = "North Central" 5 = "South Central" 6 = "Northwestern" 7 = "Southwestern" 8 = "Alaska" 9 = "Hawaii" 10 = "British Columbia" 11 = "Prairie Provinces" 12 = "Ontario" 13 = "Quebec" 14 = "Atlantic Provinces" 15 = "Canadian Territory" 16 = "Combined regions" 17 = "National" 18 = "U.S. Territory or Commonwealth" 99 = "Report does not specify"
Statprov	Numeric	State/Province of study	1 = "Alabama" 2 = "Alaska" 3 = "Arizona" 4 = "Arkansas" 5 = "California" 6 = "Colorado" 7 = "Connecticut" 8 = "Delaware" 9 = "D.C." 10 = "Florida" 11 = "Georgia" 12 = "Hawaii" 13 = "Idaho" 14 = "Illinois" 15 = "Indiana"

Variable Name	Variable Type	Description	Note
Statprov (continued)	Numeric	State/Province of study	16 = "Iowa" 17 = "Kansas" 18 = "Kentucky" 19 = "Louisiana" 20 = "Maine" 21 = "Maryland" 22 = "Massachusetts" 23 = "Michigan" 24 = "Minnesota" 25 = "Mississippi" 26 = "Missouri" 27 = "Montana" 28 = "Nebraska" 29 = "Nevada" 30 = "New Hampshire" 31 = "New Jersey" 32 = "New Mexico" 33 = "New York" 34 = "North Carolina" 35 = "North Dakota" 36 = "Ohio" 37 = "Oklahoma" 38 = "Oregon" 39 = "Pennsylvania" 40 = "Rhode Island" 41 = "South Carolina" 42 = "South Dakota" 43 = "Tennessee" 44 = "Texas" 45 = "Utah" 46 = "Vermont" 47 = "Virginia" 48 = "Washington" 49 = "West Virginia" 50 = "Wisconsin"

Variable Name	Variable Type	Description	Note
Statprov (continued)	Numeric	State/Province of study	51 = "Wyoming" 52 = "British Columbia" 53 = "Alberta" 54 = "Saskatchewan" 55 = "Manitoba" 56 = "Ontario" 57 = "Quebec" 58 = "New Brunswick" 59 = "Nova Scotia" 60 = "Prince Edward Island" 61 = "Newfoundland" 62 = "Canadian Territory" 63 = "Combination" 64 = "National" 65 = "U.S. Territory or Commonwealth" 99 = "Report does not specify"
Setting	Numeric	Setting	1 = "Urban" 2 = "Mix urban/suburb" 3 = "Suburban" 4 = "Mix suburban/rural" 5 = "Rural" 6 = "Other combination" 7 = "Entire state/province represented" 8 = "Other" 99 = "Report does not specify"



Variable Name	Variable Type	Description	Note
Agecat	Numeric	Age category	1 = "Child (primary school)" 2 = "Mix child/adolescent" 3 = "Adolescent (secondary school)" 4 = "Mix adolescent/college" 5 = "College" 6 = "Mix college/adult" 7 = "Adult" 8 = "Mix adult/senior citizen" 9 = "Senior citizen" 10 = "Other combination" 99 = "Report does not specify"
Grades	Numeric	Grades included in sample	1 = "All primary (K-5)" 2 = "Mix primary/middle" 3 = "All middle (6-8)" 4 = "Mix middle/high" 5 = "All high school (9-12)" 6 = "Mix high school/college" 7 = "All college" 8 = "Other combination" 88 = "Not applicable" 99 = "Report does not specify"
Agemin	Numeric	Minimum age in sample	
Agemax	Numeric	Maximum age in sample	
Agemean	Numeric	Mean age of sample	
Agemed	Numeric	Median age of sample	
Female	Numeric	% Female	
White	Numeric	% White	
Black	Numeric	% Black	
Hispan	Numeric	% Hispanic	
Asian	Numeric	% Asian	
Native	Numeric	% Native American	
Raceothr	Numeric	% Other race/ethnicity	

Variable Name	Variable Type	Description	Note
Langresp	Numeric	Primary language of respondents	1 = "English" 2 = "Spanish" 3 = "French" 4 = "Chinese" 5 = "Portuguese" 6 = "Other" 7 = "Assumed English" 99 = "Report does not specify"
Noinst	Numeric	# of instruments used	
Instr	Numeric	Instrument	1 = "SOGS" 2 = "MAGS" 3 = "DSM-III" 4 = "DSM-III modified" 5 = "DSM-III-R" 6 = "DSM-III-R modified" 7 = "DSM-IV" 8 = "DSM-IV modified" 9 = "SOGS-RA" 10 = "Multi-factor method" 11 = "Other modified SOGS for adolescents" 12 = "DIS" 13 = "Self assessment" 14 = "Uncorroborated 3rd party assessment" 15 = "Other"
Instothr	Character	Other instrument specified	

Variable Name	Variable Type	Description	Note
Instr2	Numeric	Instrument recoded - fewer categories	1 = "SOGS" 2 = "MAGS" 3 = "DSM" 4 = "SOGS-RA narrow" 5 = "SOGS-RA broad" 6 = "SOGS-RA other" 7 = "Multifactor" 8 = "Other adolescent SOGS" 9 = "DIS" 10 = "Other"
Instrcat	Numeric	Instrument - narrow categories	1 = "SOGS-based" 2 = "MAGS-based" 3 = "DSM-based" 4 = "SOGS for adolescents" 5 = "DIS" 6 = "Other"
Prodtype	Numeric	How is problem level calculated?	1 = "SOGS 3-4, no info on 1-2" 2 = "SOGS 3-4, info on 1-2 provided" 3 = "SOGS 1-4, no info on 3-4" 4 = "SOGS 1-4, info on 3-4 provided" 7 = "2 of 6 dimensions" 8 = "2 of 7 dimensions" 9 = "Unknown" 10 = "SOGS-RA narrow" 11 = "SOGS-RA broad" 12 = "SOGS-RA other" 13 = "Non SOGS" 14 = "No problem level" 15 = "Multifactor" 16 = "Other"

Variable Name	Variable Type	Description	Note
Instr3	Numeric	Instr2 with method of calculating problem level specified	1 = "SOGS 3-4" 2 = "SOGS 1-4" 3 = "SOGS plus (2 of 6 dimensions)" 4 = "SOGS unknown" 5 = "MAGS" 6 = "DSM" 7 = "SOGS-RA narrow" 8 = "SOGS-RA broad" 9 = "SOGS-RA other" 10 = "Multifactor" 11 = "DIS" 12 = "Other" 13 = "No level 2"
Langinst	Numeric	Language of instrument	1 = "English" 2 = "Spanish" 3 = "French" 4 = "Chinese" 5 = "Portuguese" 6 = "Other" 7 = "Assumed English" 8 = "Multiple versions" 99 = "Report does not specify"
Validity	Numeric	Investigated instrument validity	0 = "No", 1 = "Yes"
Datacoll	Numeric	Data collection method	1 = "Face-to-face" 2 = "Telephone" 3 = "Paper & pencil w/monitor present" 4 = "Paper & pencil w/o monitor present" 5 = "Computer" 6 = "Combination" 7 = "Other" 8 = "Paper & pencil, presence of survey monitor not specified" 99 = "Report does not specify"

Variable Name	Variable Type	Description	Note
Third	Numeric	Third party present	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Noskips	Numeric	Respondents asked to respond to all gambling items	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Relcoll	Numeric	Assessed data collection reliability	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Relentry	Numeric	Assessed data entry reliability	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Embedded	Numeric	Gambling items embedded in survey of another content area	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Battery	Numeric	Gambling part of a larger battery	0 = "No, gambling items only ones presented" 1 = "Yes, gambling items part of larger battery" 99 = "Report does not specify"
Anon	Numeric	Was the survey anonymous?	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Volunt	Numeric	Was the survey voluntary?	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Intake	Numeric	Part of required intake process for tx program	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Conting	Numeric	Tx admission contingent on survey score	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Txprog	Numeric	Survey part of respondents' tx?	0 = "No" 1 = "Yes" 99 = "Report does not specify"

Variable Name	Variable Type	Description	Note
Incentv	Numeric	Incentives for participation	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Sitesel	Numeric	Site selection	1 = "Opportunistic" 2 = "Random selection of sites" 3 = "Other" 4 = "all eligible sites" 99 = "Report does not specify"
Respsel	Numeric	Respondent selection	1 = "Opportunistic" 2 = "Random selection of sites" 3 = "Other" 4 = "all eligible sites" 99 = "Report does not specify"
Seldesc	Character	Description of sampling strategy	
Samedata	Numeric	Study use same data as another study	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Varytime	Numeric	Vary times of data collection	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Resprate	Numeric	Response rate	
Allpool	Numeric	Response rate based on entire pool	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Homeless	Numeric	Homeless represented	0 = "No" 1 = "Yes" 99 = " Report does not specify or not applicable"
Prison	Numeric	Incarcerated populations represented	0 = "No" 1 = "Yes" 99 = " Report does not specify or not applicable"
Military	Numeric	Military represented	0 = "No" 1 = "Yes" 99 = " Report does not specify or not applicable"

Variable Name	Variable Type	Description	Note
Instit	Numeric	Residents in institutional facilities represented	0 = "No" 1 = "Yes" 99 = " Report does not specify or not applicable"
Dropout	Numeric	School dropouts represented	0 = "No" 1 = "Yes" 99 = " Report does not specify or not applicable"
Absent	Numeric	School absentees represented	0 = "No" 1 = "Yes" 99 = " Report does not specify or not applicable"
Grouphm	Numeric	Residents in group homes represented	0 = "No" 1 = "Yes" 99 = " Report does not specify or not applicable"
Gay	Numeric	Does study address representation of gay men/lesbians?	0 = "No" 1 = "Yes" 99 = "Report does not specify"
Totaln	Numeric	Total # respondents in sample	
osex	Numeric	Mean age of gambling onset/entire sample	
osexmd	Numeric	Median age of gambling onset/entire sample	
ospgx	Numeric	Mean age of gambling onset/pathological gamblers	
ospgmd	Numeric	Median age of gambling onset/pathological gamblers	
osnpgx	Numeric	Mean age of gambling onset/non-pathological gamblers	
osnpgmd	Numeric	Median age of gambling onset/non-pathological gamblers	
casinolt	Numeric	%casino games lifetime	
lottlt	Numeric	%lottery lifetime	
vlttl	Numeric	%video lottery terminals lifetime	
bingolt	Numeric	%bingo lifetime	
charlt	Numeric	%charitable games lifetime	
sportlt	Numeric	%sports lifetime	
sslt	Numeric	%sports select lifetime	
parilt	Numeric	%pari-mutuel lifetime	
finanlt	Numeric	%financial markets lifetime	

Variable Name	Variable Type	Description	Note
cardslt	Numeric	%cards lifetime	
skilllt	Numeric	%skill lifetime	
internlt	Numeric	%gambled on internet lifetime	
otherlt	Numeric	%other lifetime	
othltyp	Character	Other lifetime type	
casinopy	Numeric	%casino past year	
lottpy	Numeric	%lottery past year	
vltpy	Numeric	%video lottery terminals past year	
bingopy	Numeric	%bingo past year	
charpy	Numeric	%charitable games past year	
sportpy	Numeric	%sports past year	
sspy	Numeric	%sports select past year	
paripy	Numeric	%pari-mutuel past year	
finanpy	Numeric	%financial markets past year	
cardspy	Numeric	%cards past year	
skillpy	Numeric	%skill past year	
internpy	Numeric	%gambled on internet past year	
otherpy	Numeric	%other past year	
othpytyp	Character	Other past year type	
casinopm	Numeric	%casino past month	
lottpm	Numeric	%lottery past month	
vltpm	Numeric	%video lottery terminals past month	
bingopm	Numeric	%bingo past month	
charpm	Numeric	%charitable past month	
sportpm	Numeric	%sports past month	
sspm	Numeric	%sports select past month	
paripm	Numeric	%pari-mutuel past month	
finanpm	Numeric	%financial markets past month	
cardspm	Numeric	%cards past month	
skillpm	Numeric	%skill past month	
internpm	Numeric	%gambled on internet past month	
otherpm	Numeric	%other past month	
othpmtyp	Character	Other past month type	
casinocr	Numeric	%casino current	



Variable Name	Variable Type	Description	Note
lottcr	Numeric	%lottery current	
vltr	Numeric	%video lottery terminals current	
bingocr	Numeric	%bingo current	
charcr	Numeric	%charitable current	
sportcr	Numeric	%sports current	
sscr	Numeric	%sports select current	
paricr	Numeric	%pari-mutuel current	
financr	Numeric	%financial markets current	
cardscr	Numeric	%cards current	
skillcr	Numeric	%skill current	
interncr	Numeric	%gambled on internet current	
othercr	Numeric	%other current	
othcrtyp	Character	Other current type	
casinono	Numeric	%casinos no time frame	
lottno	Numeric	%lottery no time frame	
vltno	Numeric	%video lottery terminals no time frame	
bingono	Numeric	%bingo no time frame	
charno	Numeric	%charitable no time frame	
sportno	Numeric	%sports no time frame	
ssno	Numeric	%sports select no time frame	
parino	Numeric	%pari-mutuel no time frame	
finanno	Numeric	%financial markets no time frame	
cardsno	Numeric	%cards no time frame	
skillno	Numeric	%skill no time frame	
internno	Numeric	%gambled on internet no time frame	
otherno	Numeric	%other no time frame	
othnotyp	Character	Other no time frame type	
casmonthly	Numeric	%casino monthly	
lotmonthly	Numeric	%lottery monthly	
vltnmonthly	Numeric	%video lottery terminals monthly	
bngmonthly	Numeric	%bingo monthly	
chrmonthly	Numeric	%charitable monthly	
sprmonthly	Numeric	%sports monthly	
ssmonthly	Numeric	%sports select monthly	

Variable Name	Variable Type	Description	Note
parmthly	Numeric	%pari-mutuel monthly	
finmthly	Numeric	%financial markets monthly	
crdmthly	Numeric	%cards monthly	
sklmthly	Numeric	%games of skill monthly	
intmthly	Numeric	%gambled on internet monthly	
othmthly	Numeric	%other monthly	
othmnty	Character	Other monthly type	
casweek	Numeric	%casinos weekly	
lotweek	Numeric	%lottery weekly	
vltweek	Numeric	%video lottery terminals weekly	
bingweek	Numeric	%bingo weekly	
charweek	Numeric	%charitable weekly	
sportwk	Numeric	%sports weekly	
ssweek	Numeric	%sports select weekly	
pariweek	Numeric	%pari-mutuel weekly	
finanwk	Numeric	%financial markets weekly	
cardswk	Numeric	%cards weekly	
skillwk	Numeric	%skill weekly	
internwk	Numeric	%gambled on internet weekly	
otherwk	Numeric	%other weekly	
othwkty	Character	Other weekly type	
illicit	Numeric	Illicit rate reported	0 = "No", 1= "Yes"
illt	Numeric	Illicit lifetime rate	
illpy	Numeric	Illicit past year rate	
illpm	Numeric	Illicit past month rate	
illcr	Numeric	Illicit current rate	
illno	Numeric	Illicit no time frame rate	
illmthly	Numeric	Illicit monthly	
illweek	Numeric	Illicit weekly	
pastyear	Numeric	%gambled past year	
lifetime	Numeric	%gambled lifetime	
tmframe	Numeric	Time frame of prevalence rates specified	0 = "No", 1= "Yes"
w1ltl3	Numeric	Weight1 for lifetime level 3	
w2ltl3	Numeric	Weight2 for lifetime level 3	

Variable Name	Variable Type	Description	Note
w1ltl2	Numeric	Weight1 for lifetime level 2	
w2ltl2	Numeric	Weight2 for lifetime level 2	
w1ltcomb	Numeric	Weight1 for lifetime levels 2 and 3 combined	
w2ltcomb	Numeric	Weight2 for lifetime levels 2 and 3 combined	
w1pyl3	Numeric	Weight1 for past-year level 3	
w2pyl3	Numeric	Weight2 for past-year level 3	
w1pyl2	Numeric	Weight1 for past-year level 2	
w2pyl2	Numeric	Weight2 for past-year level 2	
w1pycomb	Numeric	Weight1 for past-year levels 2 and 3 combined	
w2pycomb	Numeric	Weight2 for past-year levels 2 and 3 combined	
pathlt	Numeric	Lifetime level 3	
problt	Numeric	Lifetime level 2	
comblt	Numeric	Lifetime levels 2 and 3 combined	
pathpy	Numeric	Past-year level 3	
probpy	Numeric	Past-year level 2	
combp	Numeric	Past-year levels 2 and 3 combined	
pathpm	Numeric	Past month level 3	
probpm	Numeric	Past month level 2	
pathcr	Numeric	Current level 3	
probc	Numeric	Current level 2	
pathno	Numeric	No time frame level 3	
probno	Numeric	No time frame level 2	
combno	Numeric	No time frame levels 2 and 3 combined	
lvl2def	Character	Level 2 definition	
lvl3def	Character	Level 3 definition	
conint	Numeric	Report confidence intervals	0 = "No", 1= "Yes"
hppathlt	Numeric	Pathological gamblers who sought help lifetime	
hpeslt	Numeric	%entire sample sought help lifetime	
hppathpy	Numeric	%pathological gamblers sought help past year	
hpespy	Numeric	%entire sample sought help past year	
hppathpm	Numeric	%pathological gamblers sought help past month	
hpespm	Numeric	%entire sample sought help past month	
hppathcr	Numeric	%pathological gamblers sought help current	
hpescr	Numeric	%entire sample sought help current	

Variable Name	Variable Type	Description	Note
hppathno	Numeric	%pathological gamblers sought help no time frame	
hpesno	Numeric	%entire sample sought help no time frame	
gpathlt	Numeric	Lifetime level 3 gamblers	
gproblt	Numeric	Lifetime level 2 gamblers	
gnonlt	Numeric	Lifetime non gamblers	
gpathpy	Numeric	Past year level 3 gamblers	
gprobpy	Numeric	Past year level 2 gamblers	
gnonpy	Numeric	Past year non gamblers	
gpathpm	Numeric	Past month level 3 gamblers	
gprobpm	Numeric	Past month level 2 gamblers	
gnonpm	Numeric	Past month non gamblers	
gpathcr	Numeric	Current level 3 gamblers	
gprobcr	Numeric	Current level 2 gamblers	
gnoncr	Numeric	Current non gamblers	
gpathno	Numeric	No time frame level 3 gamblers	
gprobno	Numeric	No time frame level 2 gamblers	
gnonno	Numeric	No time frame non gamblers	
stratify	Numeric	Stratified data	0 = "No", 1= "Yes"
stsexlt	Numeric	Stratified by sex - lifetime	0 = "No", 1= "Yes"
stagelt	Numeric	Stratified by age - lifetime	0 = "No", 1= "Yes"
stracelt	Numeric	Stratified by race/ethnicity - lifetime	0 = "No", 1= "Yes"
stseslt	Numeric	Stratified by socio-economic status - lifetime	0 = "No", 1= "Yes"
steduclt	Numeric	Stratified by education - lifetime	0 = "No", 1= "Yes"
stlanglt	Numeric	Stratified by language - lifetime	0 = "No", 1= "Yes"
stfamlt	Numeric	Stratified by family member gambling problem - lifetime	0 = "No", 1= "Yes"
stactvlt	Numeric	Stratified by specific gambling activity - lifetime	0 = "No", 1= "Yes"
stmarlt	Numeric	Stratified by marital status - lifetime	0 = "No", 1= "Yes"
stothrlt	Numeric	Stratified by other category - lifetime	0 = "No", 1= "Yes"
stsexpy	Numeric	Stratified by sex - past year	0 = "No", 1= "Yes"
stagepy	Numeric	Stratified by age - past year	0 = "No", 1= "Yes"
stracepy	Numeric	Stratified by race/ethnicity - past year	0 = "No", 1= "Yes"
stsespy	Numeric	Stratified by socio-economic status- past year	0 = "No", 1= "Yes"
steducpy	Numeric	Stratified by education - past year	0 = "No", 1= "Yes"

Variable Name	Variable Type	Description	Note
stlangpy	Numeric	Stratified by language - past year	0 = "No", 1= "Yes"
stfampy	Numeric	Stratified by family member gambling problem - past year	0 = "No", 1= "Yes"
stactvpy	Numeric	Stratified by specific gambling activity - past year	0 = "No", 1= "Yes"
stmarpy	Numeric	Stratified by marital status - past year	0 = "No", 1= "Yes"
stothrpy	Numeric	Stratified by other category - past year	0 = "No", 1= "Yes"
stsexcr	Numeric	Stratified by sex - current	0 = "No", 1= "Yes"
stagecr	Numeric	Stratified by age - current	0 = "No", 1= "Yes"
stracecr	Numeric	Stratified by race/ethnicity - current	0 = "No", 1= "Yes"
stsescr	Numeric	Stratified by socio-economic status- current	0 = "No", 1= "Yes"
steduccr	Numeric	Stratified by education - current	0 = "No", 1= "Yes"
stlangcr	Numeric	Stratified by language - current	0 = "No", 1= "Yes"
stfamcr	Numeric	Stratified by family member gambling problem - current	0 = "No", 1= "Yes"
stactvcr	Numeric	Stratified by specific gambling activity – current	0 = "No", 1= "Yes"
stmarcr	Numeric	Stratified by marital status - current	0 = "No", 1= "Yes"
stothrcr	Numeric	Stratified by other category - current	0 = "No", 1= "Yes"
stsexno	Numeric	Stratified by sex - no time frame	0 = "No", 1= "Yes"
stageno	Numeric	Stratified by age - no time frame	0 = "No", 1= "Yes"
straceno	Numeric	Stratified by race/ethnicity - no time frame	0 = "No", 1= "Yes"
stsesno	Numeric	Stratified by socio-economic status - no time frame	0 = "No", 1= "Yes"
steduno	Numeric	Stratified by education - no time frame	0 = "No", 1= "Yes"
stlangno	Numeric	Stratified by language - no time frame	0 = "No", 1= "Yes"
stfamno	Numeric	Stratified by family member gambling problem - no time frame	0 = "No", 1= "Yes"
stactvno	Numeric	Stratified by specific gambling activity – no time frame	0 = "No", 1= "Yes"
stmarno	Numeric	Stratified by marital status - no time frame	0 = "No", 1= "Yes"
stothrno	Numeric	Stratified by other category - no time frame	0 = "No", 1= "Yes"
Interval	Numeric	Type of confidence interval reported	1 = "90%" 2 = "95%" 3 = "99%" 4 = "Other"
lbpathlt	Numeric	Lowerbound pathological lifetime rate	
ubpathlt	Numeric	Upperbound pathological lifetime rate	

Variable Name	Variable Type	Description	Note
lbproblt	Numeric	Lowerbound problem lifetime rate	
ubproblt	Numeric	Upperbound problem lifetime rate	
lbnonlt	Numeric	Lowerbound non-problem lifetime rate	
ubnonlt	Numeric	Upperbound non-problem lifetime rate	
lbpathpy	Numeric	Lowerbound pathological past year rate	
ubpathpy	Numeric	Upperbound pathological past year rate	
lbproppy	Numeric	Lowerbound problem past year rate	
ubproppy	Numeric	Upperbound problem past year rate	
lbnonpy	Numeric	Lowerbound non-problem past year rate	
ubnonpy	Numeric	Upperbound non-problem past year rate	
lbpathpm	Numeric	Lowerbound pathological past month rate	
ubpathpm	Numeric	Upperbound pathological past month rate	
lbprobpm	Numeric	Lowerbound problem past month rate	
ubprobpm	Numeric	Upperbound problem past month rate	
lbnonpm	Numeric	Lowerbound non-problem past month rate	
ubnonpm	Numeric	Upperbound non-problem past month rate	
lbpathcr	Numeric	Lowerbound pathological current rate	
ubpathcr	Numeric	Upperbound pathological current rate	
lbprobcr	Numeric	Lowerbound problem current rate	
ubprobcr	Numeric	Upperbound problem current rate	
lbnoncr	Numeric	Lowerbound non-problem current rate	
ubnoncr	Numeric	Upperbound non-problem current rate	
lbpathno	Numeric	Lowerbound pathological no time frame rate	
ubpathno	Numeric	Upperbound pathological no time frame rate	
lbprobno	Numeric	Lowerbound problem no time frame rate	
ubprobno	Numeric	Upperbound problem no time frame rate	
lbnonno	Numeric	Lowerbound non-problem no time frame rate	
ubnonno	Numeric	Upperbound non-problem no time frame rate	
lag	Numeric	Difference between year released and year conducted	
w3ltl3	Numeric	Weight3 for lifetime level 3	
w3ltl2	Numeric	Weight3 for lifetime level 2	
w3ltcomb	Numeric	Weight3 for lifetime levels 2 and 3 combined	
w3pyl3	Numeric	Weight3 for past-year level 3	
w3pyl2	Numeric	Weight3 for past-year level 2	

Variable Name	Variable Type	Description	Note
w3pycomb	Numeric	Weight3 for past-year levels 2 and 3 combined	
w4ltl3	Numeric	Weight4 for lifetime level 3	
w4ltl2	Numeric	Weight4 for lifetime level 2	
w4ltcomb	Numeric	Weight4 for lifetime levels 2 and 3 combined	
w4pyl3	Numeric	Weight4 for past-year level 3	
w4pyl2	Numeric	Weight4 for past-year level 2	
w4pycomb	Numeric	Weight4 for past-year levels 2 and 3 combined	
zpathlt	Numeric	Z score: lifetime level 3	
zproblt	Numeric	Z score: lifetime level 2	
zcomblt	Numeric	Z score: lifetime levels 2 and 3 combined	
zpathpy	Numeric	Z score: past-year level 3	
zprobpy	Numeric	Z score: past-year level 2	
zcombp	Numeric	Z score: past-year levels 2 and 3 combined	

## Appendix 1: Prevalence Studies for Meta-analytic Prevalence Estimates of Disordered Gambling Behavior in the United States and Canada

Shaffer H. J. and Hall M. N. (2001). Updating and Refining Prevalence Estimates of Disordered Gambling Behaviour in the United States and Canada. *Canadian Journal of Public Health*, 92, 3, 168-172.

Studies that did not meet inclusion criteria or that used the same data as other included studies are marked with an asterisk (\*). These studies were not included in analyses.

Study ID	Reference Study
1*	Abbott, D. A., & Cramer, S. L. (1993). Gambling attitudes and participation: A Midwestern study. <i>Journal of Gambling Studies</i> , 9(3), 247-263.
2	Angus Reid Group. (1996). <i>Problem gambling survey 1996</i> . Vancouver: British Columbia Lottery Corporation.
3	Baseline Market Research Ltd. (1992). <i>Final report: Prevalence study: Problem gambling</i> (Prepared for Department of Finance, Province of New Brunswick). New Brunswick.
4	Bland, R. C., Newman, S. C., Orn, H., & Stebelsky, G. (1993). Epidemiology of pathological gambling in Edmonton. <i>Canadian Journal of Psychiatry</i> , 38, 108-112.
5	Bray, R. M., Kroutil L. A., Luckey, J. W., Wheelless S. C, & Ianacchione V. G. (1992). <i>1992 worldwide survey of substance abuse and health behaviors among military personnel</i> : US Dept of Commerce, technology administration, national technical information service.
6*	Briggs, J. R., Goodin, B. J., & Nelson, T. (1996). Pathological gamblers and alcoholics: Do they share the same addictions? <i>Addictive Behaviors</i> , 21(4), 515-519.
7*	Browne, B. A., & Brown, D. J. (1994). Predictors of lottery gambling among American college students. <i>Journal of Social Psychology</i> , 134(3), 339-347.
8*	Buchta, R. M. (1995). Gambling among adolescents. <i>Clinical Pediatrics</i> , 34, 346-348.
9	Cardi, N. A. (1996). <i>A study of adolescent gambling patterns October 1995 - May 1996</i> . Department of Counseling and



	Educational Psychology, School of Graduate Studies, Rhode Island College.
10	Christiansen/Cummings Associates Inc. (1992). <i>Legal gambling in Connecticut: Assessment of current status and options for the future (volume one)</i> (Report to the State of Connecticut Division of Special Revenue). New York.
11	Ciarrocchi, J. W. (1993). Rates of pathological gambling in publicly funded outpatient substance abuse treatment. <i>Journal of Gambling Studies, 9</i> (3), 289-293.
12	Cook, D. R. (1987). Self-identified addictions and emotional disturbances in a sample of college students. <i>Psychology of Addictive Behaviors, 1</i> (1), 55-61.
13	Criterion Research Corporation. (1993). <i>Problem gambling study: Final report</i> (Report to the Manitoba Lotteries Foundation). Winnipeg, Manitoba.
14	Criterion Research Corporation. (1995). <i>Problem gambling study: Final report</i> (Report prepared for the Manitoba Lotteries Corporation). Winnipeg, Manitoba.
15	Culleton, R. P., & Lang, M. H. (1985). <i>The prevalence rate of pathological gambling in the Delaware Valley in 1984</i> (Report to People Acting To Help, Philadelphia PA). Camden, NJ: Forum for Policy Research and Public Service, Rutgers University.
16	Cunningham-Williams R. M., Cottler L. B., Compton W. M., & Spitznagel E.L. (1998). Taking chances: Problem gamblers and mental health disorders--results from the St. Louis Epidemiologic Catchment Area Study. <i>American Journal of Public Health, 88</i> :1093-1096.
17	Daghestani, A. N., Elenz, E., & Crayton, J. W. (1996). Pathological gambling in hospitalized substance abusing veterans. <i>Journal of Clinical Psychiatry, 57</i> (8), 360-363.
18*	Derevensky, J. L., Gupta, R., & Cioppa, G. D. (1996). A developmental perspective of gambling behavior in children and adolescents. <i>Journal of Gambling Studies, 12</i> (1), 49-66.
19	Devlin, A. S., & Peppard, D. M. (1996). Casino use by college students. <i>Psychological Reports, 78</i> , 899-906.
20	Donwood Problem Gambling Program. (1996). <i>Pilot project: Final Report</i> . Toronto, Ontario.
21*	Dragonetti, R., & Faveri, A. (1995). <i>A province wide needs assessment of service providers: A summary report on compulsive gambling in Ontario</i> . Addiction Research Foundation.
22	Elia, C., & Jacobs, D. F. (1993). The incidence of pathological gambling among Native Americans treated for alcohol dependence. <i>International Journal of the Addictions, 28</i> (7), 659-666.
23*	Emerson, M. O., & Laudergeran, J. C. (1996). Gambling and problem gambling among adult Minnesotans: Changes 1990 to 1994. <i>Journal of Gambling Studies, 12</i> (3), 291-304.
24	Emerson, M. O., Laudergeran, J. C., & Schaefer, J. M. (1994). <i>Adult survey of Minnesota problem gambling behavior; a</i>

	<i>needs assessment: Changes 1990 to 1994</i> (Report to the Minnesota Department of Human Services, Mental Health Division). Duluth: University of Minnesota Center for Addiction Studies.
25	Feigelman W., Kleinman P. H., Lesieur H. R., Millman R. B., & Lesser M. L. (1995). Pathological gambling among methadone patients. <i>Drug and Alcohol Dependence</i> , 39:75-81.
26	Ferris, J., & Stirpe, T. (1995). <i>Gambling in Ontario: A report from a general population survey on gambling-related problems and opinions</i> . Toronto: Addiction Research Foundation, Problem and Compulsive Gambling Project.
27*	Frank, M. L. (1988, May 19-20). <i>Casino gambling and college students: Three sequential years of data</i> . Paper presented at the Third National Conference on Gambling Behavior, New York, NY.
28	Frank, M. L. (1990). Underage gambling in Atlantic City casinos. <i>Psychological Reports</i> , 67, 907-912.
29*	Frank, M. L. (1993). Underage gambling in New Jersey. In W. R. Eadington & J. A. Cornelius (Eds.), <i>Gambling behavior and problem gambling</i> (pp. 387-394). Reno, NV: Institute for the Study of Gambling and Commercial Gaming.
30	Gaboury, A., & Ladouceur, R. (1993). Evaluation of a prevention program for pathological gambling among adolescents. <i>Journal of Primary Prevention</i> , 14(1), 21-28.
31	Gambino, B., Fitzgerald, R., Shaffer, H., Renner, J., & Courtnage, P. (1993). Perceived family history of problem gambling and scores on SOGS. <i>Journal of Gambling Studies</i> , 9(2), 169-184.
32	Gemini Research, & Angus Reid Group. (1994). <i>Social gaming and problem gambling in British Columbia</i> (Report to the British Columbia Lottery Corporation). Roaring Spring, PA: Gemini Research.
33	Gfellner, B. M. (1994). <i>A profile of VLT gamblers in Brandon, Manitoba</i> . Brandon, Manitoba: Brandon Crime Prevention Committee.
34	Govoni R, Frisch G. R., Rucpich N, & Getty H. (1998). First year impacts of casino gambling in a community. <i>Journal of Gambling Studies</i> , 14:347-358.
35	Govoni, R., Rucpich, N., & Frisch, G. R. (1996). Gambling behavior of adolescent gamblers. <i>Journal of Gambling Studies</i> , 12(3), 305-317.
36*	Hraba, J. (1989). <i>Report to the Iowa Department of Human Services: Research on the Iowa Lottery and gambling</i> . Ames, IA: Department of Sociology, Iowa State University.
37*	Hraba, J., & Lee, G. (1996). Gender, gambling and problem gambling. <i>Journal of Gambling Studies</i> , 12(1), 83-101.
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39	Insight Canada Research. (1993). <i>Prevalence of problem &amp; pathological gambling in Ontario using the South Oaks gambling screen</i> . Toronto.
40	Insight Canada Research. (1994). <i>An exploration of the prevalence of pathological gambling behaviour among</i>

	<i>adolescents in Ontario</i> . Willowdale, Ontario: Canadian Foundation on Compulsive Gambling.
41*	Jacobs, D. F. (1989). Illegal and undocumented: A review of teenage gambling and the plight of children of problem gamblers in America. In H. J. Shaffer, S. A. Stein, B. Gambino, & T. N. Cummings (Eds.), <i>Compulsive gambling: Theory, research, and practice</i> (pp. 249-292). Lexington, MA: Lexington Books.
42	Jacobs, D. F., Marston, A. R., Singer, R. D., Widaman, K., Little, T., & Veizades, J. (1989). Children of problem gamblers. <i>Journal of Gambling Behavior</i> , 5(4), 261-268.
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45*	Kennedy, H. G., & Grubin, D. H. (1990). Hot-headed or impulsive? <i>British Journal of Addiction</i> , 85, 639-643.
46	Ladouceur, R. (1991). Prevalence estimates of pathological gambling in Quebec. <i>Canadian Journal of Psychiatry</i> , 36, 732-734.
47*	Ladouceur, R. (1993). Prevalence estimates of pathological gamblers in Quebec, Canada. In W. R. Eadington & J. A. Cornelius (Eds.), <i>Gambling behavior and problem gambling</i> (pp. 379-384). Reno: University of Nevada Press.
48*	Ladouceur, R. (1996). The prevalence of pathological gambling in Canada. <i>Journal of Gambling Studies</i> , 12(2), 129-142.
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50	Ladouceur, R., & Dubé, D. (1995). Prevalence of pathological gambling and associated problems in individuals who visit non-gambling video arcades. <i>Journal of Gambling Studies</i> , 11(4), 361-365.
51*	Ladouceur, R., Dubé, D., & Bujold, A. (1994). Gambling among primary school students. <i>Journal of Gambling Studies</i> , 10(4), 363-370.
52	Ladouceur, R., Dubé, D., & Bujold, A. (1994). Prevalence of pathological gambling and related problems among college students in the Quebec metropolitan area. <i>Canadian Journal of Psychiatry</i> , 39, 289-293.
53	Ladouceur, R., & Mireault, C. (1988). Gambling behaviors among high school students in the Quebec area. <i>Journal of Gambling Behavior</i> , 4(1), 3-12.
54	Laundergan, J. C., Schaefer, J. M., Eckhoff, K. F., & Pirie, P. L. (1990). <i>Adult survey of Minnesota gambling behavior: A benchmark, 1990</i> . St. Paul, MN: State of Minnesota Department of Human Services, Mental Health Division.
55	Laventhol & Horwath. (1990). <i>A study of problem and pathological gambling among citizens of Indiana associated with</i>

	<i>participation in the Indiana state lottery.</i>
56	Laventhol & Horwath, & David Cwi & Associates. (1986). <i>The effects of legalized gambling on the citizens of the state of Connecticut.</i> Newington: State of Connecticut Division of Special Revenue.
57	Lesieur, H. R. (1988). Altering the DSM-III criteria for pathological gambling. <i>Journal of Gambling Behavior</i> , 4(1), 38-47.
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60	Lesieur, H. R., Cross, J., Frank, M., Welch, M., White, C. M., Rubenstein, G., Mosely, K., & Mark, M. (1991). Gambling and pathological gambling among university students. <i>Addictive Behaviors</i> , 16, 517-527.
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65*	Lorenz, V. C. (1983). <i>An annotated bibliography on pathological gambling with a profile of gambling behavior of students from the University of Nevada at Las Vegas and Georgia State University in Atlanta</i> (Doctoral dissertation, University of Pennsylvania ). Ann Arbor, MI: University Microforms International.
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67	Nechi Training and Research & Health Promotions Institute. (1994). <i>Spirit of Bingoland: A study of problem gambling among Alberta native people.</i> Edmonton, Alberta.
68	Nechi Training Research & Health Promotions Institute. (1995). <i>Firewatch on aboriginal adolescent gambling.</i> Edmonton, Alberta.
69	Omnifacts Research Limited. (1993). <i>An examination of the prevalence of gambling in Nova Scotia</i> (Report #93090). Halifax: Nova Scotia Department of Health, Drug Dependency Services.

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74	Shaffer, H. J., & Hall, M. N. (1994). <i>The emergence of youthful addiction: The prevalence of pathological gambling among adolescents at Agawam high school</i> (Massachusetts Council on Compulsive Gambling: Technical Report Series031594-HS100). Boston: Massachusetts Council on Compulsive Gambling.
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81*	Steinberg, M. A., Kosten, T. A., & Rounsaville, B. J. (1992). Cocaine abuse and pathological gambling. <i>American Journal on Addictions, 1</i> , 121-132.
82*	Stinchfield R, Cassuto N, Winters K, & Latimer W. (1997). Prevalence of gambling among Minnesota public school students in 1992 and 1995. <i>Journal of Gambling Studies, 13</i> :25-48.
83*	Task Force on Gambling Addiction in Maryland. (1990). <i>Final report: Task force on gambling addiction in Maryland</i> . Baltimore, MD: Maryland Department of Health and Mental Hygiene, Alcohol and Drug Abuse Administration.
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89	Volberg, R. A. (1992). <i>Gambling involvement and problem gambling in Montana</i> . Albany, NY: Gemini Research.
90*	Volberg, R. A. (1992). <i>Treatment of pathological gamblers in Montana: Past, present and future</i> . Albany, NY: Gemini Research.
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92	Volberg, R. A. (1993). <i>Gambling and problem gambling in Washington state</i> (Report to the Washington state lottery). Albany, NY: Gemini Research.
93	Volberg, R. A. (1994). <i>Gambling and problem gambling in Saskatchewan</i> (Report to the Minister's Advisory Committee on Social Impacts of Gaming). Northampton, MA: Gemini Research.
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95	Volberg, R. A. (1995). <i>Gambling and problem gambling in Iowa: A replication study</i> (Report to the Iowa Department of Human Services). Roaring Spring, PA: Gemini Research.
96	Volberg, R. A. (1995). <i>Wagering and problem wagering in Louisiana</i> (Report to the Louisiana Economic Development & Gaming Corporation). Roaring Spring, PA: Gemini Research.
97	Volberg, R. A. (1996). <i>Gambling and problem gambling in New York: A 10-year replication survey, 1986 to 1996</i> (Report to the New York Council on Problem Gambling). Roaring Spring, PA: Gemini Research.
98	Volberg, R. A. (1997). <i>Gambling and problem gambling in Mississippi: A report to the Mississippi Council on Compulsive Gambling</i> . Social Science Research Center, Mississippi State University.
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101	Volberg, R. A., & Precision Marketing Inc. (1993). <i>Gambling and problem gambling among Native Americans in North Dakota</i> (Report to the North Dakota Department of Human Services, Division of Mental Health ). Albany, NY: Gemini Research.
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104	Volberg, R. A., & Steadman, H. J. (1989). Prevalence estimates of pathological gambling in New Jersey and Maryland. <i>American Journal of Psychiatry</i> , 146(12), 1618-1619.
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106	Volberg, R. A., & Stuefen, R. M. (1994). <i>Gambling and problem gambling in South Dakota: A follow-up survey</i> . Vermillion: Business Research Bureau, University of South Dakota.
107	Volberg, R. A., Stuefen, R. M., & Madden, M. K. (1991). <i>Gaming in South Dakota: A study of gambling participation and problem gambling and a statistical description and analysis of its socioeconomic impacts</i> . Vermillion: Business Research Bureau, University of South Dakota.
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110	Wallisch, L. S. (1996). <i>Gambling in Texas: 1995 surveys of adult and adolescent gambling behavior</i> . Austin, TX: Texas Commission on Alcohol and Drug Abuse.
111	Walters G. D. (1997). Problem gambling in a federal prison population: Results from the South Oaks gambling screen. <i>Journal of Gambling Studies</i> . 13:7-24.
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	Human Services Gambling Program, Mental Health Division). Minneapolis, MN: University of Minnesota Center for Adolescent Substance Abuse.
115*	Winters, K. C., Stinchfield, R., & Fulkerson, J. (1990). <i>Adolescent survey of gambling behavior in Minnesota: A benchmark</i> . Minneapolis: Center for Adolescent Substance Abuse, University of Minnesota.
116	Winters, K. C., Stinchfield, R., & Fulkerson, J. (1993). Patterns and characteristics of adolescent gambling. <i>Journal of Gambling Studies</i> , 9(4), 371-386.
117*	Winters, K. C., & Stinchfield, R. D. (1993). <i>Gambling behavior among Minnesota youth: Monitoring change from 1990 to 1991/1992</i> . Minneapolis: Center for Adolescent Substance Abuse, University of Minnesota.
118*	Winters, K. C., Stinchfield, R. D., & Fulkerson, J. (1993). Toward the development of an adolescent gambling severity scale. <i>Journal of Gambling Studies</i> , 9(1), 63-84.
119	Winters, K. C., Stinchfield, R. D., & Kim, L. G. (1995). Monitoring adolescent gambling in Minnesota. <i>Journal of Gambling Studies</i> , 11(2), 165-183.
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