SOCIAL ASPECTS OF GAMBLING

An Interactive Qualifying Project Report:

submitted to the Faculty
of the

WORCESTER POLYTECHNIC INSTITUTE

in partial fulfillment of the requirements for the

Degree of Bachelor of Science

by

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Date: May 2, 2000

Approved:

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1. Gambling
2. Casinos
3. Blackjack

Abstract

The primary goal of this project was to explore the social aspects of gambling. The topics that are covered include the benefits and drawbacks associated with gambling, in particular casinos, and gambling behaviors. The casino industry has the biggest impact on all three of these topics, and their influence is also discussed. The secondary goal of this project was to provide a learning tool for the card game blackjack, which is the prevalent table game within American casinos.

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Chapter 1: Introduction

Playing a game of chance for money, or other stakes is the definition of gambling given by Webster's College Dictionary (1996). The Minnesota Gambling Enforcement Division enhances upon this definition by breaking it down into three components. First, the game in consideration must cost money to play. Second, the game must be predominately based on the element of chance. Third, the player must be able to obtain something worth value if he wins.[1]

"Gambling has been moving from a public stance of moral condemnation to one of moral ambiguity."[2] Currently, 46 States allow some for of gambling, ranging from bingo games to casinos. Studies have shown that more than two-thirds of the population participates in some form of gambling, and the percentage is rising.[3]

Casinos generate the largest revenues among all legal gambling activities. In 1996, casinos generated over $19 billion in revenue.[4] The entire gambling industry generated over $47 billion, while the film box office only generated $5.9 billion and spectator sports generated $6.3 billion in revenue.[5] Gambling clearly has a major impact on the United States economy.

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[1] Minnesota Department of Public Safety, *Gambling Enforcement Division* (URL: http://www.dps.state.mn.us/alcgamb/gamenf/gamenf.html, 1999)
[2] James H. Frey (ed.), et al, The Annals of The American Academy of Political and Social Science, Vol. 474 (Beverly Hills, California: Sage Publications, 1984), p. 9
[3] Ibid.
[4] James H. Frey (ed.), The Annals of The American Academy of Political and Social Science, Vol. 556 (Thousand Oaks, California: Sage Periodicals Press, 1998), p. 41
[5] Ibid., p. 46

The gambling industry has major economic benefits, but it also has social drawbacks as well. Pathological gambling afflicts between 1.7 and 7.3 percent of North American populations.[6] It is estimated that each pathological gambler directly affects an additional 10 –15 persons, such as family and friends.[7]

1.1 IQP Goal Statement

The goal of this project is to provide the reader with additional information regarding the social aspects of gambling, the casino industry, to provide a tool for developing skills for the predominant casino game, blackjack. To achieve these goals, the following tasks will be accomplished for this project:

- Examine the social benefits, such as the economy, and the social drawbacks, such as pathological gambling, of the gambling industry.

- Examine the predominant gambling activity, casino gambling, and look at its history and growth.

- Provide a tool that helps a gambler develop the necessary skills required to become successful at the casino game, blackjack.

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[6] Ibid., p. 51
[7] James H. Frey (ed.), et al, The Annals of The American Academy of Political and Social Science, Vol. 474 (Beverly Hills, California: Sage Publications, 1984), p. 148

Chapter 2: Methodology

The literature review brings to the forefront both the socially acceptable aspects of gambling, such as its economic benefits, as well as the less desirable side affects, such as crime and pathological gambling. The casino industry provides the community in which it resides the prevalent economic benefits. The community also has to deal with the higher incidence of "people traffic", crime, and problem gambling.

Casinos primarily provide patrons with slot machines and table games as the main form of entertainment. In American casinos, the card game blackjack is the dominating game at the tables. The rules of blackjack are easy to understand, but unbeknownst to some gamblers, there are strategies that the player can learn to increase their chance of winning. One such strategy will be implemented into a java applet, which the player will be able to use in a simulated environment.

2.1 Discussion of Literature Review

The topics that are covered in Chapter three pertain to the social aspects of gambling. The topic relating to the nature of gambling is covered first. Then, the benefits and drawbacks associated with gambling activities are discussed in detail. Gambling behaviors and their characteristics, along with pathological gambling are covered in detail, which completes the discussion within Chapter three.

Chapter four's topics cover the relevant aspects of casinos. First, the history and growth of the American casino industry is covered from the initial introduction to the most recent inaugurations. The persuasion techniques employed by casinos to maximize

their profits are presented. Finally, American and European casinos are then compared to uncover the major societal differences between the cultures view for the objective of the industry.

Chapter five's topic specifically deals with the card game blackjack. The basic rules, strategies, and countermeasures employed by casinos are presented to the reader in that order. The motivation behind this ordering is that the reader must understand the basic rules before the strategies are offered. The reader must then understand the strategies in order to establish the reasoning behind the casinos employing the countermeasures. The strategies presented in this chapter are incorporated into the java applet in order to obtain a simulated environment.

The topic of Chapter six deals with the development of the java applet to teach the player the basic strategies of blackjack. The specific rules and decisions that were made in developing the applet are discussed. The options that were incorporated into the applet are thoroughly discussed. Finally, the instillation of the proper java environment is shown.

Chapter 3: Social Aspects of Gambling

The social aspects of gambling encompass a wide area of social influences. There are both positive and negative aspects that accompany gambling, along with its underlying nature. The positive aspects revolve around the economic benefits that gambling provides to the community, while the negative aspects revolve around crime and problem gambling.

3.1 Nature of Gambling

The nature of gambling is difficult to encapsulate. It has to be broken down into several characteristics. Each characteristic has to be thoroughly investigated in order to locate the underlying cause. Each characteristic is unique, and a different approach must be taken to investigate each trait.

Gambling is a Fundamental Human Activity

The question "Is Gambling a Fundamental Human Activity?" is the first of three inquiries investigated by David D. Allen.[8] Anthropological and historical evidence are examined thoroughly to determine a solution to this question. Anthropological evidence can be found in ancient Egyptian ruins, and ruins in Pompeii.[9] "Gambling implements and paintings depicting gambling scenes were found in the tombs of various Pharaohs."[10]

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[8] David D. Allen, *The Nature of Gambling* (New York: Coward-McCann, (1952), p. 47
[9] Ibid., p. 38
[10] Ibid.

Ivory Astragal, the earliest know form of dice, had also been discovered in Queen Hatasu's tomb.[11]

Historical evidence relating to gambling activity can be traced back to the ancient Jewish, and European societies. "The ancient Jews gambled by drawing or casting lots. The casting of lots presupposes the use of dice."[12] Ancient Germans elevated the consequences of gambling to not only included the potential loss of one's own wealth, but the loss of their liberty as well: "And he who loses submits to servitude, though younger and stronger than his antagonist, and patiently permits himself to be bound and sold in the market; and this 'madness' they dignify by the name of 'honor.'" [13]

The evidence presented confirms that gambling is a fundamental human activity and it occurred within different societies, which were a considerable distance apart.[14] Gambling activities have also been persistent throughout time.[15] Gambling exists today, as it existed in ancient time, although in today's world it is more readily available.[16]

Gambling is Harmful

The question "Is Gambling Harmful?" is the second inquiry investigated by David D. Allen. A macrocosmic and microcosmic view of societies reaction to gambling is covered to support this proposition. The macrocosmic view encompasses governmental

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[11] Ibid.
[12] Ibid., p. 39
[13] Ibid., p. 40
[14] Ibid., p. 47, 123
[15] Ibid.
[16] Ibid., p. 123

reactions to gambling, while the microcosmic view focuses on specific occurrences where gambling has caused physical harm.[17]

"Perhaps the best evidence as to the harmful nature of gambling is to be found in the fact that nowhere does gambling appear in European, Asian, and American society without a corresponding action on the part of the community to either eliminate it or submit it to rigorous control."[18]   Legislation to suppress gambling can be found in England as early as 1388 and in Germany as early as 1207.[19]   In 1933, Congress amended section 213 of the bill know as "An Act of Excluding gambling information from the mails."   Section 213 of the act declares:

> "No letter, package, postal card, or circular, concerning any lottery, gift, enterprise, or scheme of any kind offering prizes dependent in part or in whole on chance, or concerning any article, device, or thing devised or intended for the conduct of such lottery, … shall be deposited in or carried by the mails of the United States or be delivered by any postmaster or carrier."[20]

The connection between organized crime and gambling has had a deep history in the city of Chicago.[21]   The crack down of gambling activities by other big cities had caused the migration of some gamblers to Chicago.[22]   "As in most frontier settlements, prostitutes and pimps followed gamblers to Chicago, causing crime of every description to steadily increased."[23]   Furthermore, Chicago's most notorious crime boss, Al Capone, was able to rig election polls in 1934, and his candidate was elected into office.   The

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[17] Ibid., p. 48 – 9
[18] Ibid.
[19] Ibid., p. 50 – 1
[20] Ibid., p. 52 – 3
[21] Ibid., p. 72 – 3
[22] Ibid.
[23] Ibid., p. 74

newly elected official prevented a crackdown by authorities on gambling, which lead to an increase in the number of crimes and homicides in Chicago.[24]

The evidence provided is sufficient to conclude that gambling is harmful. The prominent governments in Western society have found it necessary to suppress gambling activities.[25] Chicago's bloody past offers enough evidence in itself to conclude that gambling is harmful.

Gambling is Suppressible

The question "Is Gambling Suppressible?" is the final inquiry that David D. Allen investigates. "We know through general sociological knowledge that some control of gambling exist by virtue of the fact that every activity in a social complex is limited by every other activity."[26] Both successful and unsuccessful attempts to control or suppress gambling by legislation have been pursued.

Attempts to control legalized gambling in Arizona and New Mexico were successful. An attempt was made to control gambling prior to Arizona and New Mexico's entrance into the Union in 1907.[27] Gambling houses were required to pay the State $500 for each gambling device within the establishment.[28] However, this control was not sufficient. Between 1900 and 1907, over seven hundred gambling parlors existed within these territories.[29] Then in 1907, efforts were made by both New Mexico

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[24] Ibid.
[25] Ibid., p. 124
[26] Ibid., p. 84
[27] Ibid., p. 95
[28] Ibid.
[29] Ibid.

and Arizona to suppress gambling activities altogether.[30] Both Arizona and New Mexico enacted strict anti-gambling laws, which successfully suppressed gambling activities.[31]

In contrast to legislative attempts by Arizona and New Mexico, Louisiana's attempts to either control or suppress gambling did not completely work. After the United States purchased the Louisiana Territory, gamblers headed west so they could gamble without fear of being prosecuted.[32] When Louisiana began to legislate gambling in 1835, the gamblers were not pleased and were forced to leave, though many did not.[33] In 1869, gambling was legalized again due to popular demand from the gambling population.[34]

The evidence provided suggests that gambling can be suppressed. In a democratic society, the support of the public and an effective police department is required to successfully suppress gambling activities.[35] Otherwise, as seen in Louisiana, gambling cannot be completely suppressed if the public's view on gambling shifts from a negative opinion to a positive opinion.

Motivations and Propensity to Gamble

The urge, or motivation to gamble, "to risk a little in hopes of gaining a good deal, the desire to get something for nothing, seems to be one of the most fundamental traits of human nature."[36] This trait coincides with another trait, the belief in luck. "The belief seems to be a trait carried over in substance from an earlier phase into barbarian

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[30] Ibid.
[31] Ibid.
[32] Ibid., p. 90
[33] Ibid., p. 90 – 1
[34] Ibid., p. 93
[35] Ibid., p. 120
[36] William R. Eadington (ed.), *Gambling and Society* (Springfield, Illinois: Charles C Thomas, 1976), p.189

culture, and transmuted and transmitted through that culture to a later stage of human development under a specific form imposed by the predatory discipline."[37]

Gambling motivation is also associated with play. "Roger Caillois defines play as a free and voluntary activity, a source of joy and amusement that is essentially a separate occupation, carefully isolated from the rest of life and bounded by precise limits of time and place."[38] On the other hand, "Johan Huizinga has noted that play is "pointless" – by definition it is make believe – and it is also significant, part of the process by which human beings become socialized into their culture."[39] In any case, it is evident that human beings are inclined to participate in games.

Furthermore, the principles that characterize the rules of games have some of the same characteristics of human interaction. Among these are:

- The need to prove one's superiority;

- The desire to challenge or overcome an obstacle;

- The hope for and the pursuit of the favor of destiny – the belief in luck;

- The desire to test one's strength, skill, endurance, or ingenuity;

- Conformity to rules and laws, the duty to respect them, and the temptation to circumvent them.[40]

The propensity of an individual's choice to participate in a game, whether it is a game of skill, chance, or a combination of both, can be derived from one or several of these characteristics.

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[37] Robert D. Herman (ed.), *Gambling* (New York: Harper & Row, 1967), p.107
[38] James H. Frey (ed.), et al, The Annals of The American Academy of Political and Social Science, Vol.474 (Beverly Hills, California: Sage Publications, 1984), p.123
[39] Ibid.
[40] Ibid., p. 124 – 5

Moreover, the greatest motivation for participating in a game of chance or skill is the pleasure derived from winning.[41]   There is greater chance of winning when an individual uses skill, as opposed to relying on luck in a game of chance. In a game of chance, it is mathematically improbable to beat the house[42], while in a game of skill, the team or individual with a greater skill level will theoretically win.

3.2 Benefits to Society

Gambling provides entertainment to the adult population, taxes to the State government, and revenue to private firms and organizations. All of these provisions benefit society in one form or another. The economic benefits resulting from gambling are however, the most beneficial to society.

Gambling Taxes

Table 3-1 lists the taxes paid to the Government for gambling privileges. Taxes from lotteries generate the highest tax revenues, although casinos generate the highest revenue.[43] Lotteries produce more tax revenue than casinos because the lotteries are run by the State. These taxes are used for building and maintaining infrastructure, education, helping senior citizens, and repaying State debts.[44]

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[41] David Newman (ed.), et al, *Esquire's Book of Gambling*, (New York: Harper & Row, 1962), p. 13
[42] Ibid., p. 21
[43] James H. Frey (ed.), The Annals of The American Academy of Political and Social Science, Vol. 556 (Thousand Oaks, California: Sage Periodicals Press, 1998), p. 41
[44] James H. Frey (ed.), et al, The Annals of The American Academy of Political and Social Science, Vol. 474 (Beverly Hills, California: Sage Publications, 1984), p. 95-7

Table 3-1: Estimated Gambling Privilege Tax[45]

	Government Revenues (in millions)
Pari-mutuels	
Horse racing	$389.90
Greyhound racing	118.30
Jai alai	8.60
Total pari-mutuels	516.80
Lotteries	13,779.60
Casinos	
Slot machines (Nevada and New Jersey)	510.40
Table games (Nevada and New Jersey)	264.30
Riverboats	940.00
Other land-based casinos	50.40
Other commercial gambling	3.20
Noncasino devices	239.50
Total casinos	2,007.80
Total bookmaking	5.40
Card rooms	67.90
Charitable bingo	95.20
Charitable games	147.50
Indian Reservations	166.90
Total	$16,787.20

Positive Economic Impacts

       Casinos have the most positive impact on the local economy than any other form of gambling. Table 3-2 illustrates the positive impacts on the community resulting from the casino and the non-local visitors. Mainly, casinos provide a boost to local businesses and provide local residents with more job opportunities with a steady income. Non-local visitors bring additional money into the local economy.

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[45] James H. Frey (ed.), The Annals of The American Academy of Political and Social Science, Vol. 556 (Thousand Oaks, California: Sage Periodicals Press, 1998), p.43 (Table 3)

Table 3-2: Direct Positive Economic Impacts[46]

Source		Type of Expenditure
1. Casino	1.1	Wages and salaries of local employees
	1.2	Purchases of goods and services from local suppliers
	1.3	Local advertisement
	1.4	Utilities
	1.5	Insurance from local providers or brokers
	1.6	New construction
	1.7	Maintenance
	1.8	Local taxes
	1.9	Share of profits staying within the local economy
	1.10	Other direct expenditures within the local economy
2. Nonlocal visitors	2.1	Lodging outside casino
	2.2	Food and beverages outside casino
	2.3	Shopping outside casino
	2.4	Entertainment outside casino
	2.5	Local transportation
	2.6	Tour bus if provided by local companies
	2.7	Other direct expenditures in the local economy

Impacts on other Industries

Gambling revenue and taxes filter through the economy, which affects other industries. The connection between gambling and other affected industries can be seen in Figure 3-1. Taxes collected from gambling mainly helps urban redevelopment. The other industries affected by gambling are the result of non-local visitors. Non-local visitors spend money on airline tickets, hotel reservations, and other items, which helps other local industries.

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[46] Ibid., p. 70 (Table 1)

Urban Redevelopment | In-Home Interactivity | Retail Shopping

Cruise Ships — Gambling — Hotels

Theme Parks | Airlines | Leisure Travel
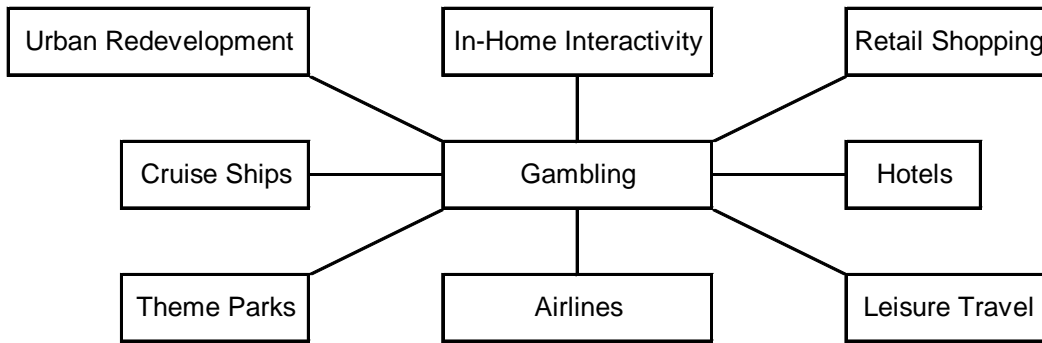
Figure 3-1: Links Between Gambling and Industry[47]

3.3 Drawbacks to Society

Casinos provide a boost to the local economy and have a positive affect on other industries, but casinos and gambling in general have their drawbacks. There are negative economic aspects as well, which involve gambling expenditures by local residents, along with negative social behavior, such as crime and pathological gambling. Also, political contributions from casinos influence decisions regarding the industry.[48]

Negative Economic Impacts

Table 3-3 illustrates the negative economic impacts on the local economy caused by casinos. Cannibalization refers to the gambling expenditures associated with local gambler's losses. These gambling losses would have otherwise been spent on other items. Casinos also attract more visitors to the vicinity, which leads to a higher volume of traffic. The accumulation of traffic creates unpleasant road conditions that will have to be repaired by the Government.

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[47] Ibid., p. 46 (Figure 1)
[48] Ibid., p. 87

Table 3-3: Direct Negative Economic Impacts[49]

Type of Impact	Source	Type of Expenditure
Cannibalization	1. Local Gambler	1.1 Share of casino wins due to local gamblers' losses 1.2 Expenditures on food and beverages within the casino 1.3 Shopping within the casino 1.4 Other expenditures within the casino
	2. Noncasino visitor	2.1 Share of casino wins due to noncasino visitors' losses 2.2 Expenditures on food and beverages within the casino 2.3 Shopping within the casino 2.4 Other expenditures within the casino
Additional public sector expenditures	3. Government	3.1 Regulation and supervision of casino 3.2 Additional police force * 3.3 Additional fire protection 3.4 Infrastructure (new roads and maintenance, etc.) 3.5 Other expenditures due to the presence of casino
Negative externalities	4. Higher crime rates**	4.1 Additional public expenditures on police, prosecution, and court costs 4.2 Additional corrections costs 4.3 Additional private costs or protection such as s alarms, guards 4.4 Additional costs of crime against persons and property
	5. Gambling addiction	5.1 Additional costs due to increased incidence of problem and compulsive gambling

* Excludes costs associated with higher crime rates.
** Excludes costs associated with problem and compulsive gambling

Political Contributions

Table 3-4 shows the total amount of money donated to the Democratic and Republican Parties. The total contribution has increased dramatically over the past decade. These contributions help maintain the security of the gambling industry.[50]

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[49] Ibid., p. 72 (Table 2)
[50] Ibid.., p. 87

Table 3-4: Soft-Money Contributions From the Gambling Industry[51]

Summary	
Total to Republicans:	$1,687,445
Total to Democrats	$1,968,575
Total to both: 1995-96	$3,656,020
1993-94	$1,642,200
1991-92	$457,600
Total by commercial gambling companies:	$2,224,945
Total by tribal gambling interests:	$1,431,075
Total to Republicans by commercial gambling:	$1,474,195
Total to Republicans by tribal gambling:	$213,250
Total to Democrats by commercial gambling:	$750,750
Total to Democrats by tribal gambling:	$1,217,825

Negative Social Behavior

Increasing rates in crime and problem gambling are some of the negative side affects linked with the introduction of casinos. Some of the additional crime can be attributed to the increase in "people traffic", but it has been shown that crime is higher in areas where casinos reside.[52] The increase in the pathological gambling rate is also linked to the introduction of casinos. In Iowa, the pathological gambling rate increased from 1.7 percent, in 1989, to 5.4 percent, in 1995, after casinos opened.[53]

3.4 Gambling Behaviors

Gambling behavior are varied and complex, and cannot be explained psychologically, with the exception of compulsive gambling.[54] "Gambling behavior is determined by the gambling game itself, by the context in which that game is conducted, by the personality of the gambler, and, in most cases, by the interaction of the gambler

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[51] Ibid., p. 89 (Table 2)
[52] Ibid., p. 128
[53] Ibid., p. 91
[54] Vicki Abt, et al, *The Business of Risk* (Kansas: University of Kansas, 1985), p. 116

with the characteristics of that particular game."[55]   Therefore, we can extract three motivational categories in which gambling behaviors can be classified; gambler-generated, interactional, and game-generated behaviors.[56]

Game-generated behaviors arise from the acquisition of skill and knowledge about a particular game, such as horseracing.[57] Gambler-generated behavior involves the manifestation of the gambler's personality traits, and this can be seen in individuals who suffer from compulsive gambling.[58] "Interactional behaviors are midway between game-generated behaviors and personality-generated gambling."[59]   Professional gamblers exhibit interactional behavior. They strive to learn their game of choice, which is a game-generated behavior, and their choice of game is derived from a personality trait, which is gambler-generated behavior.

Casual and Occasional Gamblers

Casual and occasional gamblers both exhibit gambler-generated behavior.[60] The amount of time, money, and energy exerted by the casual and occasional gambler is minimal compared to that of the compulsive gambler, who also exhibits gambler-generated behavior.[61] Casual and occasional gambling usually occurs within a specific social context, but is not limited to that environment.

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[55] Ibid.
[56] Ibid.
[57] Ibid., p. 117
[58] Ibid.
[59] Ibid.
[60] Ibid., p. 118
[61] Ibid.

Curiosity and social factors are the common motivations of casual gambling.[62] Casual gamblers are, in most cases, uninformed about the games in which they are participating.[63] Casual gamblers do not care about the odds of winning, nor do they care about the payoffs.[64] A casual gambler may do something unordinary while gambling, such as betting on a horse based on its name, or hitting a blackjack hand of eighteen, while the dealer must take another card.[65]

Temporary escape or special occasions, such as a birthday, holiday, or celebration, are the common motivations behind occasional gambling.[66] An occasional gambler may spend his vacation in Las Vegas, where most of the time and money is spent on gambling activities. In this situation, occasional gambling is analogous to non-gambling behavior; the gambler could have taken a trip to Disney World, which also requires a proportional amount of time and money.[67] "A less common, but significant motivation is hope."[68] An occasional gambler may take an unusual risk for an enormous payoff, such as purchasing a lottery ticket when there is a large jackpot up for grabs.

Habitual Gamblers

Habitual gambling is interactional in nature, and it is normally integrated into the gambler's "real" life.[69] "For most habitual gamblers, gambling is incidental to other activities and is not a focused behavior."[70] Thus, a habitual gambler spends minimal

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[62] Ibid.
[63] Ibid.
[64] Ibid.
[65] Ibid.
[66] Ibid., p. 119
[67] Ibid.
[68] Ibid.
[69] Ibid., p. 121.
[70] Ibid.

time, money, and effort gambling. In most cases, habitual gamblers do not consider themselves as gamblers because it is so intertwined with their everyday life.[71]

Serious Gamblers

Serious gamblers are in search of a hobby, and have a considerable intrinsic interest in the game of choice.[72] Serious gamblers are usually interested in games of mixed chance and skill, in which they have a theoretical chance of winning.[73] Other games with similar odds and payoffs will not suffice because of the gamblers desire to learn the game. Serious gambling is a controlled behavior, but may entail significant losses based on a particular game, but the serious gambler will not wager more than the limits he had set for himself.[74] Serious gambling will eventually stabilize once the gambler has reached the level of gratification. Most serious gamblers place bets on sporting events, especially those that the gambler can view on television.[75]

Professional Gamblers

Professional gamblers use their skill and knowledge of a particular game for financial gain. Professional gamblers are not likely to make their living from games of pure chance, such as craps, keno, lotteries, roulette and slot machines.[76] Therefore, professional gamblers will participate in games that involve the use of cards.

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[71] Ibid.
[72] Ibid.
[73] Ibid.
[74] Ibid.
[75] Ibid., p. 121 – 2
[76] James H. Frey (ed.), et al, The Annals of The American Academy of Political and Social Science, Vol. 474 (Beverly Hills, California: Sage Publications, 1984), p. 161

Professional gamblers are cognizant of the precise odds for playing and winning on particular combinations of cards.[77]

There are four sub-types that are associated with professional gambling; the worker-professional, the outside-supported professional, the subsistence professional, and the career professional.[78] These four sub-types, and their more salient characteristics are summarized in Table 3-5.[79]

Table 3-5: Subtypes and Characteristics of Professional Gamblers[80]					
Subtype	Estimated Male/Female Ration	Non Gambling Income	Degree of Career Commitment	Usual Game Stakes	Desire for Upward Mobility
Worker-professional	15-20:1	Yes	None	All stakes	Moderate
Outside-supported professional	15-20:1	Yes	None to moderate	All stakes	Moderate
Subsistence professional	30-40:1	Usually no	Little to moderate	Small to medium	None or little
Career professional	40-50:1	Usually no	Moderate to high	Medium to high	Moderate to high

The worker-professional spends a large portion of their time gambling, however they are not completely dedicated to a full-time gambling career. The worker-professional, as the name suggests, maintains a job outside the realm of gambling.[81] The outside-supported professional is supplied with money to gamble from outside sources, such as a retirement fund or other investments. Retired persons, housewives, and

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[77] Ibid., p. 159.
[78] Ibid.
[79] Ibid., p. 160.
[80] Ibid. (Table 1)
[81] Ibid., p. 159.

students generally fit into this category.[82] A subsistence professional consistently wins, but in small proportions. It is this gambler's goal to win enough money to pay for his living expenses and have enough left over to play the next day.[83] The career professional is completely dedicated to gambling. Even in the event that the gambler is totally broke, the gambler will not seek work, but will borrow money in order to return to gambling.[84]

Obsessive Compulsive Gamblers

"The essential features of Obsessive-Compulsive Disorder are recurrent obsessions or compulsions that are severe enough to be time consuming or cause marked distress or significant impairment."[85] The American Psychiatric Associations (APA) diagnostic criteria for obsessions and compulsions are as follows:[86]

Obsessions as defined by (1), (2), (3), and (4):
(1) recurrent and persistent thoughts, impulses, or images that are experienced, at some time during the disturbance, as intrusive and inappropriate and that cause marked anxiety or distress
(2) the thoughts, impulses, or images are not simply excessive worries about real-life problems
(3) the person attempts to ignore or suppress such thoughts, impulses, or images, or to neutralize them with some other thought or action
(4) the person recognizes that the obsessional thoughts, impulses, or images are a product of his or her own mind (not imposed form without as in thought insertion)

Compulsions as defined by (1), (2):
(1) repetitive behaviors (e.g., hand washing, ordering, checking) or mental acts (e.g., praying, counting, repeating words silently) that the person feels driven to perform in response to an obsession, or according to rules that must be applied rigidly
(2) the behaviors or mental acts are aimed at preventing or reducing distress or preventing some dreaded event or situation; however, these behaviors

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[82] Ibid.
[83] Ibid.
[84] Ibid.
[85] American Psychiatric Association. *Dsm-IV (4th Ed)*. June 1994, p. 417
[86] Ibid., p. 422 – 3

or mental acts either are not connected in a realistic way with what they are designed to neutralize or prevent or are clearly excessive

Obsessive gambling behavior varies slightly from the APA's diagnostic criteria for obsessions. Obsessive gambling is an escape from the real world, which the gambler finds unsatisfactory or intolerable.[87] An individual with an obsession will try to neutralize the obsession by constantly addressing it, but an obsessive gambler will resort to gambling to get away from a socially unstable environment.

"Obsessive gambling behavior is very unevenly distributed among the different commercial games."[88] There are four characteristics that are required for a gambler to become obsessed about a particular game, or groups of games: "first, it is world-building – that is, capable of generating the rituals and rules of an internally consistent subculture; second, it is conveniently available; third, it constitutes a separate alternative reality complete with satisfying gambler roles; and fourth, as a game, it possesses intrinsic play interest and complexity."[89] Casinos encompass these four characteristics, while lotteries do not. Therefore, gambling activities, such as the lottery, will not become an obsession, but casino gambling could. Also, obsessive gamblers are able to stop before losing everything. Losing everything would deny them access to their obsession.[90]

Compulsive gambling can exhibit all three gambling behaviors and the compulsion delves into personality disorder. A compulsive gambler, like the obsessive gambler wants to keep playing.[91] Unlike the obsessive gambler however, the compulsive gambler cannot stop and is incoherent to the possibility of unaffordable losses. Casinos

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[87] Vicki Abt, et al, *The Business of Risk* (Kansas: University of Kansas, 1985), p. 122
[88] Ibid.
[89] Ibid.
[90] Ibid., p. 124
[91] Ibid.

are the only forms of commercial gambling that encourage compulsive gambling.[92] The gambler is sealed off from the real world in a place opened twenty-four hours a day, and in the worst case, the gambler may have unlimited credit.

Moreover, the compulsive gambler has an uncontrollable manifestation for playing the game.[93] Therefore, the four characteristics that are associated with obsessive gambling are the same characteristics associated with compulsive gambling.[94] A compulsive gambler becomes self-absorbed in playing the game that the game can no longer be played rationally. A compulsive gambler loses control, sacrifices personal relationships, and the distinction between work and reality disappear.[95]

3.5 Pathological Gambling

"The essential feature of Pathological Gambling is persistent and recurrent maladaptive gambling behavior that disrupts personal, family, or vocational pursuits."[96] The APA's diagnostic criterion for Pathological Gambling is listed under the category of "Impulse-Control Disorder Not Elsewhere Classified". The criteria consists of: [97]

> A. Persistent and recurrent maladaptive gambling behavior as indicated by five (or more) of the following.
>
> (1) is preoccupied with gambling (e.g., preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble)
> (2) needs to gamble with increasing amounts of money in order to achieve the desired excitement.
> (3) has repeated unsuccessful efforts to control, cut back, or stop gambling
> (4) is restless or irritable when attempting to cut down or stop gambling

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[92] Ibid., p. 126
[93] Ibid.
[94] Ibid.
[95] Ibid., p. 125.
[96] American Psychiatric Association. *Dsm-IV (4th Ed)*. June 1994, p. 615
[97] Ibid., p. 618

(5)   gambles as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)

(6)   after loosing money gambling, often returns another day to get even ("chasing" one's losses)

(7)   lies to family members, therapist, or others to conceal the extent of involvement with gambling

(8)   has committed illegal acts such as forgery, fraud, theft, or embezzlement to finance gambling

(9)   has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling

(10)   relies on others to provide money to relieve a desperate financial situation cause by gambling

Notice that there are no medical criteria listed within the pathological gambling criteria. Only references are made to the frequency of wagering and its social, financial, and legal consequences.[98]   "There is no credible evidence whatsoever of any neurochemical or neuropsychological status causally linked to heavy gambling, only changes such as increased adrenaline or palpitations caused by the excitement of the action."[99]   The obsessive-compulsive gambler, described in the previous section, will most likely meet these criteria.

There are several screening tests a gambler can take to determine if he or she has a potential problem with gambling. Appendix A contains the questions that are on the South Oaks Gambling Screen (SOGS), which was developed by Harry Lesieur Ph.D., and Sheila Blume M.D. The SOGS is a valid, reliable measure of pathological gambling that has been used in a wide variety of settings.[100]

The other screening test a gambler can take is Gamblers Anonymous 20 questions. These questions can be found in Appendix B. Gamblers Anonymous (GA or

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[98] Andrew Riconda (ed.), *Gambling*, (New York: The H. W. Wilson Company, 1995), p. 168

[99] Ibid.

[100] James H. Frey (ed.), The Annals of The American Academy of Political and Social Science, Vol. 556 (Thousand Oaks, California: Sage Periodicals Press, 1998), p. 159

Gam – Anon) is the current form of treatment that pathological gamblers can use to control their urge to gamble. GA uses the same basic 12-step program that is used for Alcoholics Anonymous, which can also be found in Appendix B. Also, GA is based up group therapy, in which former pathological gamblers, who have gone through the process of recovery, will help guide new members to recovery.[101]

3.6 Summary

Gambling is a fundamental human activity that can be suppressed if that is what the public desires. Gambling has positive and negative benefits, which greatly affects the community. Economically, gambling provides many benefits to the community, such as taxes for public use. Finally, crime and pathological gambling are found with higher incidence in communities with casino gambling than in communities without it.

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[101] Gambler Anonymous [WWW Document]: URL: http://www.gamblersanonymous.org/

Chapter 4: Casinos

Casinos represent the largest portion of revenues for the entire gambling industry, which can be seen from Table 4-1. Private organizations and Indian Tribes operate casinos, and offer predominately two types of gambling activities; slot machines and table games. Slot machines vary, but the general idea is the same for each machine. The player pulls the lever, and waits for the spinning reels to stop, which indicates whether the player wins or loses. Table games are offered in different types and variations. Each tables minimum and maximum bet also differ from table to table.

Table 4-1: Gross Gambling Revenues, 1996, by Industry[102]

Industry	Totals (in millions)
Pari-mutuels	3,710.0
Lotteries	16,219.8
Casinos	19,140.9
Legal bookmaking	86.5
Card rooms	679.3
Charitable bingo	952.2
Charitable games	1,475.3
Indian Reservations	5,358.5
Grand total	**$47,622.7**

4.1 History and Growth of Casinos

"Demand for commercial gaming remained largely unsatisfied, a latent, potentially powerful economic force."[103]   In 1931, Nevada legalized all forms of gambling, except lotteries, to alleviate the devastated mining economy. Other States

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[102] James H. Frey (ed.), The Annals of The American Academy of Political and Social Science, Vol. 556 (Thousand Oaks, California: Sage Periodicals Press, 1998), p.39 (Table 1)
[103] Ibid., p. 38

followed pursuit during the depression, but none of them legalized casino gambling.[104]
In 1978, New Jersey became the second State to legalize commercial casinos. The
legalization was an effort to rebuild Atlantic City and the surrounding communities.[105]

During the 1980's, the sluggish economy slowed the growth of many industries,
but not the gambling industry. In 1982, 126 billion dollars was wagered legally in the
United States. Within a decade, legal wagering grew by over 150 percent to 330 billion
dollars in revenue. The exponential growth of the gambling industry has given casino
operators the ability to expand their infrastructure to entice more families to spend their
leisure time at casinos rather than at traditional vacation spots, such as Orlando, Florida.
Casinos in Nevada and Atlantic City have built amusement parks in the general vicinity
of the casino to attract more families. Casinos have also added gaming rooms where
children can play video games while the parents are in the casino gambling.[106]

The gambling industry received a critical boost in 1988 when a federal law
allowed Native Americans to open up casino style games on their land. Between 1991
and 1992, Native American casinos gross revenue grew by 240 percent.[107] Furthermore,
riverboat gambling experienced a 566 percent increase in gross revenue during the same
time period.[108] Video gambling also caught in on the gambling craze; its gross revenue
jumped 274 percent.[109]

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[104] Ibid.
[105] New Jersey Casino Control Commission, *Casino Tax Dollars at Work* (URL:
http://www.state.nj.us/casinos/seniors/ppframe.htm)
[106] Andrew Riconda (ed.), *Gambling*, (New York: The H. W. Wilson Company, 1995), p. 10
[107] Ibid.
[108] Ibid.
[109] Ibid., p. 10-11

In recent years, the casino industry has continued to grow and is showing no signs of slowing down. Nevada and New Jersey, by far the leading States in gross gambling revenue, are leading the industry into the twenty-first century. The figures in Table 4-2 indicate that the Nevada casinos gross gambling revenues for January of 2000 is 7.2 percent higher than the same period of time in 1999. The total gross revenue to date for the Fiscal Year of 2000 is 11.79 percent higher than the 1999 Fiscal Year at the same point in time. Altogether, there is only one section of Nevada that has not had a larger profit margin this year than last year.

Table 4-2: Nevada Casino Revenues[110]

for the 2000 Fiscal Year (through January)

Area	Current Period			Fiscal Year-to-date		
	1/1/00 to 1/31/00	1/1/99 to 1/31/99	%change	7/1/99 to 1/31/00	7/1/98 to 1/31/99	%change
Statewide	866,454,509.00	807,319,974.00	7.32%	5,534,667,143.00	4,951,161,610.00	11.79%
Clark	720,579,277.00	670,381,200.00	7.49%	4,431,148,906.00	3,904,941,027.00	13.48%
L.V. Strip	465,880,325.00	432,477,134.00	7.72%	2,817,827,604.00	2,414,431,934.00	16.71%
Downtown	60,107,765.00	63,090,069.00	-4.73%	387,383,192.00	392,423,755.00	-1.28%
North Las Vegas	22,374,121.00	18,070,605.00	23.82%	134,526,732.00	112,504,188.00	19.57%
Laughlin	49,733,438.00	48,334,309.00	2.89%	306,754,867.00	283,835,365.00	8.07%
Boulder Strip	52,371,764.00	47,194,590.00	10.97%	334,469,965.00	304,521,207.00	9.83%
Mesquite	8,937,653.00	8,330,710.00	7.29%	54,501,605.00	48,520,708.00	12.33%
Balance of County	61,174,210.00	52,883,783.00	15.68%	395,684,941.00	348,703,870.00	13.47%
Washoe	84,716,809.00	78,821,375.00	7.48%	652,253,478.00	611,617,498.00	6.64%
Reno	63,684,341.00	59,306,170.00	7.38%	488,807,358.00	460,147,112.00	6.23%
Sparks	12,353,519.00	12,428,542.00	-0.60%	96,253,651.00	92,820,383.00	3.70%
North Lake Tahoe	3,894,193.00	3,236,763.00	20.31%	27,788,472.00	25,846,742.00	7.51%
Balance of County	4,784,756.00	3,849,900.00	24.28%	39,403,996.00	32,803,262.00	20.12%
South Lake Tahoe	24,797,695.00	25,876,283.00	-4.17%	203,388,416.00	203,076,868.00	0.15%
Elko County	19,986,007.00	17,567,586.00	13.77%	131,355,625.00	124,762,070.00	5.28%
Wendover	11,808,167.00	9,582,814.00	23.22%	70,209,198.00	67,680,439.00	3.74%
Balance of County	8,177,841.00	7,984,772.00	2.42%	61,146,427.00	57,081,631.00	7.12%
Carson Valley Area *	7,238,479.00	6,741,521.00	7.37%	53,702,122.00	49,837,222.00	7.76%
Other	9,136,243.00	7,932,009.00	15.18%	62,818,597.00	56,926,924.00	10.35%

* Carson Valley Area includes Carson City, Gardnerville, Minden and all
all other areas of Douglas County except South Lake Tahoe

[110] Nevada Gaming Commission and State Gaming Control Board, *Abbreviated RevenueRelease Index* (URL: http://www.state.nv.us/gaming/mrrindex.htm, 2000)

New Jersey's casinos, located in Atlantic City, have also seen an increase in gross revenue since its doors opened in 1978. Figure 4-1 shows the consistent increase in gross revenue since the launch of casino industry in 1978. Tables 4-3 and 4-4 show the 1999 and 2000 Fiscal Year figures respectively. During the 1999 Fiscal Year, the total gross revenues increased by 3.25 percent over the 1998 Fiscal Year revenues. So far to date in the Fiscal Year of 2000, the total gross revenue has increased by 6.79 percent.
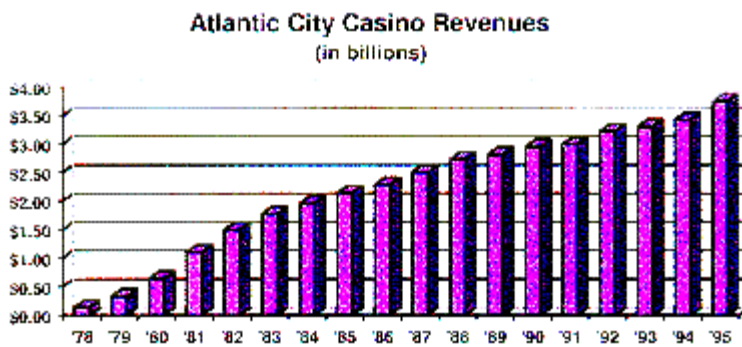
Figure 4-1: Atlantic City Casino Revenue Growth[111]

Table 4-3: Atlantic City Casino Revenue[112]

for the 1999 Fiscal Year

Casino	Current Period			Fiscal Year-to-date		
	12/1/99 to 12/31/99	12/1/98 to 12/31/98	%change	1/1/99 to 12/31/99	1/1/98 to 12/31/98	%change
Total	303,458,763.00	288,432,661.00	5.21%	4,164,197,574.00	4,033,012,315.00	3.25%
AC Hilton	23,311,803.00	18,512,041.00	25.93%	291,979,776.00	256,703,171.00	13.74%
Bally's Park Place	35,745,149.00	33,522,060.00	6.63%	494,763,769.00	466,867,252.00	5.98%
Caesars	33,433,676.00	27,928,366.00	19.71%	461,357,075.00	424,695,024.00	8.63%
Claridge	10,198,375.00	11,750,427.00	-13.21%	165,912,885.00	164,705,372.00	0.73%
Harrah's	27,757,337.00	25,422,147.00	9.19%	382,825,582.00	349,223,651.00	9.62%
Resorts	14,224,690.00	15,829,623.00	-10.14%	222,123,292.00	235,493,228.00	-5.68%
Sands	16,177,738.00	15,530,815.00	4.17%	230,056,681.00	221,901,100.00	3.68%
Showboat	24,657,508.00	23,243,031.00	6.09%	359,973,703.00	357,063,666.00	0.81%
Tropicana	31,605,493.00	27,998,841.00	12.88%	398,486,891.00	388,582,701.00	2.55%
Trump Marina	19,356,390.00	19,010,929.00	1.82%	272,809,295.00	264,825,064.00	3.01%
Trump Plaza	21,603,821.00	25,416,114.00	-15.00%	358,828,254.00	379,604,347.00	-5.47%
Trump Taj Mahal	45,386,783.00	44,268,267.00	2.53%	525,080,371.00	523,347,739.00	0.33%

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[111] New Jersey Casino Control Commission, *Revenue Statistics* (URL: http://www.state.nj.us/casinos/revenue.htm, 2000)
[112] Ibid.

<div align="center">

Table 4-4: Atlantic City Casino Revenue[113]

for the 1999 Fiscal Year

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Casino	Current Period			Fiscal Year-to-date		
	12/1/99 to 12/31/99	12/1/98 to 12/31/98	%change	1/1/99 to 12/31/99	1/1/98 to 12/31/98	%change
Total	303,458,763.00	288,432,661.00	5.21%	4,164,197,574.00	4,033,012,315.00	3.25%
AC Hilton	23,311,803.00	18,512,041.00	25.93%	291,979,776.00	256,703,171.00	13.74%
Bally's Park Place	35,745,149.00	33,522,060.00	6.63%	494,763,769.00	466,867,252.00	5.98%
Caesars	33,433,676.00	27,928,366.00	19.71%	461,357,075.00	424,695,024.00	8.63%
Claridge	10,198,375.00	11,750,427.00	-13.21%	165,912,885.00	164,705,372.00	0.73%
Harrah's	27,757,337.00	25,422,147.00	9.19%	382,825,582.00	349,223,651.00	9.62%
Resorts	14,224,690.00	15,829,623.00	-10.14%	222,123,292.00	235,493,228.00	-5.68%
Sands	16,177,738.00	15,530,815.00	4.17%	230,056,681.00	221,901,100.00	3.68%
Showboat	24,657,508.00	23,243,031.00	6.09%	359,973,703.00	357,063,666.00	0.81%
Tropicana	31,605,493.00	27,998,841.00	12.88%	398,486,891.00	388,582,701.00	2.55%
Trump Marina	19,356,390.00	19,010,929.00	1.82%	272,809,295.00	264,825,064.00	3.01%
Trump Plaza	21,603,821.00	25,416,114.00	-15.00%	358,828,254.00	379,604,347.00	-5.47%
Trump Taj Mahal	45,386,783.00	44,268,267.00	2.53%	525,080,371.00	523,347,739.00	0.33%

Furthermore, Colorado casinos, which opened their doors in October of 1991, have also had enormous growth in the few short years of operation. Table 4-5 shows the total revenues for the Colorado casinos since their inauguration. In their first Fiscal Year, the casinos accumulated $155,635,678 in total revenue. In the following six years, the Colorado casinos gross revenue has grown over 250 percent.

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[113] Ibid.

<div align="center">**Table 4-5: Colorado Casino Revenues[114]**</div>

Fiscal Year	Casino Areas				%change
	Black Hawk	Central City	Cripple Creek	Totals	
Oct '91 - Sept '92	44,330,793.42	65,735,828.16	44,694,213.28	154,760,834.86	
Oct '92 - Sept '93	100,008,117.44	77,872,949.78	66,382,133.31	244,263,200.53	57.83%
Oct '93 - Sept '94	160,969,455.40	68,549,445.47	78,064,543.17	307,583,444.04	25.92%
Oct '94 - Sept '95	188,886,826.31	91,662,850.79	90,895,257.98	371,444,935.08	20.76%
Oct '95 - Sept '96	217,394,329.24	90,549,757.66	102,205,295.17	410,149,382.07	10.42%
Oct '96 - Sept '97	231,763,269.99	87,861,151.49	108,404,071.46	428,028,492.94	4.36%
Oct '97 - June '98 *	**182,822,647.16**	**68,331,256.49**	**77,571,226.83**	**328,725,130.48**	**-23.20%**
July '98 - June '99	315,758,346.85	81,835,067.61	116,472,694.33	514,066,108.79	56.38%
July '99 - Feb '00	251,632,625.01	48,576,632.57	86,875,222.93	387,084,480.51	

Note: * Colorado changed it's fiscal year, thus the totals for that year appear to go down, but they do not.

4.2 Persuasion Techniques Employed by Casinos

Perpetrators who are caught physically manipulating casino game equipment face serious consequences, such as a hefty fine and the possibility of jail time. Some of the illegal activities that are attempted include shaving dice, or rigging the roulette wheel. A casino will pay hefty fines and could even be forced to shutdown if they are caught participating in such illegal activities. Instead of manipulating the equipment, casinos now use persuasion techniques to keep the gambler gambling. These techniques can raise a casino's gross revenue by millions of dollars.[115]

Slot machines have been one of the major focal points for persuasion techniques. Alan Hirsch, a Chicago neurologist, was invited to the Las Vegas Hilton in Las Vegas, Nevada by manager Lee Skelley to test his homemade contraption. His contraption

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[114] Colorado Division of Gaming, *Colorado Gaming Statistics* (URL: http://www.gaming.state.co.us/dogstats.htm, 1998)
[115] Andrew Riconda (ed.), *Gambling*, (New York: The H. W. Wilson Company, 1995), p. 70

pumped a very pleasant-smelling odor into a nearby slot machine area. During the weekend experiment in October of 1991, gamblers pumped 45 percent more quarters into the slot machines than on a normal October weekend.[116]

Additionally, most slot machines in the United States have a built-in change machine. Now the gambler does not have to leave the comfortable casino seats and wait in line to retrieve more quarters. This saves the gambler time and reduces unnecessary frustration from waiting in line. More importantly, it keeps the gamblers in their seats. Thus, casinos increase their total revenue because the gambler will keep pumping money into the slot machine until they are all drained.[117]

Furthermore, the concept "time is money" is taken very seriously by casinos. The Aladdin Casino in Las Vegas instructs their blackjack dealers to deal 75 – 80 hands per hour and the dealers are also required to shuffle six decks of cards in less than 80 seconds. The Aladdin Casino projects that shuffling eats up eight rounds of blackjack per hour. If the dealers did not have to shuffle the cards, it is estimated that the casino could earn an extra 1.2 million dollars per year. In addition to these requirements, dealers are also instructed to give gamblers the lowest possible denomination. A gambler is more likely to use chips with lower denominations than with higher denominations. Thus, making it easier for the casino to obtain the gambler's money.[118]

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[116] Ibid., p. 71
[117] Ibid., p. 72
[118] Ibid., p. 73

4.3 American Casinos versus European Casinos

Table 4-6 illustrates the differences between American and European casinos. Overall, American casinos are used as a revenue-generating tool for private organizations, while the European casinos are used for community enhancement. Only a small portion of American casinos revenue is forfeited to taxes. American casinos are open all night long, they give credit to patrons, and the freely distribute alcohol. European casinos operate with the opposite philosophy. They forfeit a lot of their revenue to taxes, they have limited hours of operation, they do not give credit to patrons, nor do they freely distribute alcohol.

Table 4-6: American and European Casinos: Prototypical Comparisons[119]

	American	European
1. Bottom Line	Revenue for private enterprise; job creation; tourism as a goal	Community enhancement; tourism as amenity
2. Ownership	Private	Mixed; typically government-owned
3. Location	Concentrated	Diffuse; typically small town; monopolies
4. Taxation	Minimal; consistent with need for private investment; 6-8 percent	High to excessive; 50-90 percent
5. Access	Open, free; no dress codes; no identification; minimal exclusion lists	Restricted; fee charged; dress codes; passport identification; no locals; restricted occupations; voluntary exclusion lists
6. Hours	Continuous	Limited; evenings; closed holidays
7. Clientele	National; international; high volume	Local and regional; low volume
8. Promotions	Many; advertisements; junket tours; complimentaries	Few; no advertisements; no junkets; few complimentaries
9. Credit	Credit operations; open check cashing	No credit; limited check cashing
10. Community involvement	Mixed	Essential
11. Décor	Loud; large; glitzy; bright; red; closed in (no windows)	Quiet; small; elegant; calm; blue; open (windows)
12. Alcohol	Free; open distribution	Limited; restricted distribution
13. Games	Slots and tables mixed; blackjack dominates; craps; poker; some baccarat; limited roulette	Tables dominate; slots nonexistent or separate; roulette dominates; baccarat; some blackjack
14. Labor	High turnover; trained outside; salaried plus large tip volume controlled by dealers individually and in small groups; nonunion	Career employment; all hired at entry level; promotions from within; no salaries; tips controlled by casino, shared with all employees; union
15 Compulsive gamblers	Not considered a factor or concern	Discouraged; excluded
16. Crime	Pervasive in atmosphere; ongoing problem in casino control	Not a factor or concern

4.4 Common Games Offered in Casinos

The following is a list of the most common games that you can find in almost all the casinos within the United States. There is also a brief description explaining the rules for each game.

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[119] James H. Frey (ed.), The Annals of The American Academy of Political and Social Science, Vol. 556 (Thousand Oaks, California: Sage Periodicals Press, 1998), p.14 (Table 2)

Baccarat

"Two hands of cards are dealt and you can wager on either the Player's hand or the Banker's hand. Whichever hand totals 9 or is closer to 9 wins. Picture cards and any combination of cards that adds up to 10 have no value, so a six and a five is only one and a seven and three would be zero. Winning hands are paid even money, but the house collects a commission on winning Banker hands that generally is 5 percent. You can also bet on a tie and get paid 8 to 1. Most casinos also offer mini-baccarat which is the same game just played on a blackjack-size table."[120]

Blackjack

"The object of the game is to draw cards that total 21 or come closer to 21 than the dealer's hand does. All cards count as face value except for picture cards that count as 10 and aces, which can be one or 11, depending on what you want. If your first two cards add up to 21, you have blackjack and you win $3 for every $2 that you bet. All other bets are paid at even money."[121]

Craps

"Craps is one of the most exciting games in a casino and there are a wide variety of wagers you can place. Many players start with a wager on the Pass or Don't Pass line. A pass line bet wins if the shooter's first roll is a 7 or 11, but it loses if the first roll is a

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[120] New Jersey Casino Control Commission, *What are some of the games in casinos?* (URL: http://www.state.nj.us/casinos/games.htm)
[121] Ibid.

2,3, or 12. A don't pass bet loses if the first roll is a 7 or 11 and it wins if the first roll is 2 or 3. If the first roll is a 12 it's a standoff and nobody wins."[122]

"If any other number is the first one rolled, then that number becomes the point. From then on, pass line betters will win if the shooter rolls the point again before rolling a 7. Don't pass betters will win if the shooter rolls a 7 before the point. In addition to those, there are Come and Don't Come bets, Field Bets, Hardways bets, Odds bets and others."[123]

Caribbean Stud Poker

"One of the fastest growing games in casinos around the world is Caribbean Stud Poker. Players ante up, just like in a poker game, and receive five cards. If, after seeing the dealer's first card, you don't like your hand, you can fold and lose your ante. To stay in the game, you put up twice the ante and see if your hand beats the dealers."[124]

"But the exciting part of Caribbean Stud Poker is that you can also make a separate $1 wager in a special slot in the table. That lets you vie for a progressive jackpot. Regardless of the outcome of the hand, if you have a flush, full house, four of a kind, straight flush or royal flush, you can win anywhere from $50 to the full amount on the meter."[125]

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[122] Ibid.
[123] Ibid.
[124] Ibid.
[125] Ibid.

Roulette

"There are dozens of different ways to place a bet at roulette. You can bet on a number from 1 to 36, or on 0 or 00. If the ball lands on your number, you win 35 times your original wager. You can also wager on various combinations of numbers, such as all red or black numbers, and even or odd numbers. The payoffs vary from even money to 17 to one, depending on how many numbers are in the group on which you placed your wager."[126]

4.5 Summary

Casinos are the most popular form of gambling and their total gross revenue has been steadily increasing over the past two decades. Casinos employ many persuasion techniques to keep gamblers gambling, thus maximizing their profit. Casinos offer slot machines and a varied assortment of table games. Finally, American casinos are used as a revenue-generating tool for private organizations, while the European casinos are used for community enhancement.

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[126] Ibid.

Chapter 5: Blackjack

Blackjack is the dominant table game in American casinos.[127] Blackjack, commonly referred to as twenty-one, is a card game in which there is one dealer and several players at a table. The object of the game is to beat the dealer, not the other players.

5.1 Basic Rules

The following is a short description of the basic rules pertaining to the card game blackjack. Anyone participating in a blackjack game should have a full understanding of these rules if they wish to succeed. The sections describing the basic strategy and the simple point-count system will refer to these definitions periodically, and assumes the reader understands these rules.

Number of Players

"A blackjack game consists of a dealer and from one-to-seven players."[128] The players sit around the outer perimeter of a half-circled table, while the dealer stands in what would be the middle area of a complete table. Any player sitting at the table may play multiple hands, but will take up a slot that could otherwise be used by another player.

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[127] James H. Frey (ed.), The Annals of The American Academy of Political and Social Science, Vol. 556 (Thousand Oaks, California: Sage Periodicals Press, 1998), p.14
[128] Edward O. Thorp Ph.D., *Beat the Dealer*, (New York: Vintage Books, 1966), p. 8

Betting

Before any cards are dealt, a player must place a bet in the designated area of the table. The bet must be greater than or equal to the minimum bet, and cannot exceed the maximum limit. "The minimum bet is usually between 25 cents and $5, and the maximum bet, between $100 and $500."[129]

The Deal

Prior to opening a new blackjack table, the dealer counts and inspects all the decks that are going to be used during the time frame in which the table is open. After the inspection, the cards are shuffled and placed into a chute (the holding container for multiple decks). The first card removed from the chute is burned (discarded), and is usually shown to the players at the table, although it is not required.

The cards are now dealt to the players. The dealer distributes the cards starting from the position to the immediate left, and proceeds in a clockwise direction. One card is distributed to each of the players and the dealer in both rounds of the initial deal. All the cards are dealt face up, with the exception of the dealer's first card, which is dealt face down. However, in some casinos, the cards may be dealt to the players face down.[130]

Numerical Value of Cards – Hard and Soft Hands

The numerical value of a face card is ten, and all the other cards (besides the ace) are simply their face value. An ace can be counted as either a one or an eleven. A soft

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[129] Ibid., 9 - 10
[130] Ibid., p. 9

hand is a hand in which the value of an ace is counted as eleven. Hard hands are hands that contain no aces, or the aces are counted as one.[131]

Naturals (blackjack)

A natural occurs when either the player or the dealer has an ace and a ten-value card (ten, jack, queen, or king). If the player has a natural and the dealer does not, the player is awarded 1.5 times the original bet.[132] In automated blackjack machines, a natural rewards the player with 2 times the original bet.[133] If the dealer has a natural, the round ends immediately after insurance bets are placed. Any player also holding a natural will retain the original bet, while the players who do not hold a natural will lose their bet.[134]

Splitting Pairs

If the two initial cards dealt to the player are identical, then the player has the option of splitting the hand. The player must place a bet equal to the original to accompany the split hand. The dealer then deals two cards, one on each hand, to the player. Both hands are now played as if they were ordinary hands, with the following exceptions. If two aces are split, then the player receives one, and only one card on each split ace. If the drawn card has a value of ten, then the hand is not considered a natural, but as an ordinary twenty-one. Similarly, if a player splits a pair of face cards or tens and then draws an ace, it will only count as an ordinary twenty-one. Furthermore, if the

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[131] Ibid., p. 10
[132] Ibid., p. 11
[133] Ibid., p. 137
[134] Ibid., p. 11

player splits a pair and receives another card identical to the pair, the player is not permitted to split the hand again.[135]

Doubling Down

A player who elects to double down will receive one, and only one additional card from the dealer. The player is required to double his bet, hence the term doubling down. The purpose of doubling down is to increase the profitability of the hand. For example, a player places a bet of ten dollars and receives two cards that total to a value of eleven on the initial deal. The player doubles down, now the bet is twenty dollars. The player receives a ten and the total of the hand increases to twenty-one. If the hand is won, the player receives an additional twenty dollars, thus doubling the original bet. However, if the dealer wins, then the player loses the entire bet. Furthermore, a player who splits a pair, with the exception of aces, may double down on either of the two hands.[136]

Insurance

If the dealer's up card is an ace, then the players at the table may wager an additional side bet. The bet may be at most half of their original bet. If the dealer has a natural, then the player wins twice the amount of the side bet, and the round will end immediately. If the dealer does not have a natural, then the player loses the side bet, and play continues on as normal.[137] "Many of the casinos in northern Nevada do not allow insurance, nor do the automatic blackjack machines."[138]

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[135] Ibid.
[136] Ibid. p. 13 – 4
[137] Ibid. p. 14
[138] Ibid.

The Settlement

After the initial deal, the player may elect to hit, stand, double down, or split. If the player busts the hand, exceeds the value of twenty-one, then the bet immediately goes to the house. If the player does not exceed twenty-one, then the bet is settled after the dealer has completed the houses turn, which ends the round. At most blackjack tables, the dealer draws with totals of sixteen or less, and stands with totals greater than or equal to seventeen. If the dealer busts the hand, then any players remaining in the game automatically win. Otherwise, the player wins the bet if the total of the hand is greater than the dealer's total. If the player's total and the dealer's total are equal, called a push, then no bets are exchanged.[139]

5.2 Basic Strategy

The Basic Strategy was derived from the probability tables located in Appendix C. Tables 5-1 through 5-4 illustrate how to play a blackjack hand for certain situations. Due to the random nature of probability, these tables are not guaranteed to work in every situation.

Standing Numbers

The first and most important table to memorize is the "Standing Numbers" table, which can be found in Table 5-1. The table advices the players on whether to draw or stand, depending upon the player's total and the dealer's up card. The far left column of Table 5-1 lists the players' possible totals, and the top row corresponds to all the dealer's potential up cards.

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[139] Ibid., p. 12

If the player has a total less than twelve, then the player should always draw and additional card because there are no cards that can bust the player's hand. The values on the far left column do not cover the values of twenty and twenty-one because under no situation will the player want to draw an additional card. When the player has a total value of twenty, the only card that will not cause the hand to bust is the ace.

The lightly shaded boxes in Table 5-1 represent the minimum standing values for hard hands. The darker shaded boxes correspond to the minimum standing values for soft hands. If the value of the hand is lower than the shaded box for a given column, the player should draw an additional card. However, if the value is equal to, or greater than the box, the player should stand.

Table 5-1: Standing Numbers[140]

You Have	Dealer Shows									
	2	3	4	5	6	7	8	9	10	A
19										
18										
17										
16									*	
15										
14									**	
13										
12										

▨ Soft Standing Numbers

▨ Hard Standing Numbers

* Holding hard 16, draw if you hold two cards, namely (10, 6) or (9, 7), and stand if you hold three or more cards, for example (6, 4, 4, 2).

** Stand holding (7, 7) against 10

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[140] Ibid., p. 49 (Table 4.2)

Pair Splitting

The second table that the player should memorize is the "Pair Splitting" table, which can be found in Table 5-2. The far left column of this table corresponds to all the possible pair combinations that can occur in blackjack. The top row corresponds to all the possible up cards the dealer may have. The shaded boxes within the table signify to the player that the hand ought to be split, and the empty boxes signify that the hand should not be split.

Table 5-2: Pair Splitting[141]

You Have	Dealer Shows									
	2	3	4	5	6	7	8	9	10	A
A, A	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
10, 10										
9, 9	Split	Split	Split	Split	Split		Split	Split		
8, 8	Split	Split	Split	Split	Split	Split	Split	Split	Split	Split
7, 7	Split	Split	Split	Split	Split	Split				
6, 6	Split	Split	Split	Split	Split					
5, 5										
4, 4				Split						
3, 3	Split	Split	Split	Split	Split	Split				
2, 2	Split	Split	Split	Split	Split	Split				

☐ (shaded) Split

☐ Do not split

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[141] Ibid.

Hard and Soft Doubling

The final two tables that the player should memorize deal with doubling down. Table 5-3 corresponds to hard doubling, while Table 5-4 corresponds to soft doubling. The far left column of the Table 5-3 lists only the players' values from eight through eleven. This range is short because doubling down will not statistically benefit the player for values less than eight, or greater than eleven. The probability tables in Appendix C clearly illustrate the reasoning.

The far left column of Table 5-4 lists the possible soft hands the player may receive up to and including (A, 7). Table 5-1 signifies that the player should stand with all soft totals of nineteen or above, which is the case for (A, 8). Therefore, Table 5-4 only covers up to soft totals of eighteen. The shaded boxes in both Tables 5-3 and 5-4 denote that the player should double down in these situations. Empty boxes denote that the player should not double down.

Table 5-3: Hard Doubling[142]

You Have	Dealer Shows									
	2	3	4	5	6	7	8	9	10	A
11	▓	▓	▓	▓	▓	▓	▓	▓	▓	▓
10	▓	▓	▓	▓	▓	▓	▓	▓		
9	▓	▓	▓	▓	▓					
8				*	*					

▓ Double down

☐ Do not double down

* Double down except with (6, 2).

[142] Ibid.

Table 5-4: Soft Doubling[143]

You Have	Dealer Shows				
	2	3	4	5	6
A, 7	☐	▨	▨	▨	▨
A, 6	▨	▨	▨	▨	▨
A, 5	☐	☐	▨	▨	▨
A, 4	☐	☐	▨	▨	▨
A, 3	☐	☐	▨	▨	▨
A, 2	☐	☐	▨	▨	▨
A, A *	☐	☐	☐	▨	▨

▨ Double down

☐ Do not double down

* Double down with (A, A) only if Aces cannot be Split

5.3 Simple Point-Count System

The simple point-count system is designed to help a player identify the maximal and minimal betting situations. Maximal betting situations occur when the deck contains many high cards, such as tens, face cards, and aces. Minimal betting situations occur when the deck contains many low cards, such as the two, three, four, five, and six cards. In maximal betting situations, the player should wager more, and in minimal betting situations, the player should wager less. A player is apt to win more frequently in maximal betting situation than in minimal betting situations.[144]

The simple point-count system requires the player to count the high cards and the low cards. This approach is fairly straightforward. When starting a fresh deck, the count begins at zero. As low cards are dealt, add one to the total count, and as high cards are dealt, subtract one from the total count. If the total count is below one, then the player

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[143] Ibid.

[144] Ibid., p. 75 – 6

should bet one unit, otherwise the player should bet as many units as the total count. In most situations, a unit's value is the minimum bet at the table, but that is left to the player's discretion.[145]

Many casinos use multiple decks to increase the number of rounds that can be played before the dealer has to reshuffle the decks. In addition to increasing the number of rounds that can be played before the dealer has to shuffle, multiple decks makes it harder for system players to count cards. In these situations, the player has to add a few refinements to the point-count system. First, the initial count no longer starts at zero, but as a negative number equal to the number of additional decks. If there are four decks being used, then the initial count should start at negative three. Secondly, the player must divide the current point-count total by the number of decks that remain in the chute. For example, if the current total is positive six and there are approximately two decks remaining in the chute, then the player should bet three units.[146]

If a player joins a blackjack game when a fresh deck is started, then the player can use the simple point-count system to increase the potential for profit. The initial count starts at zero. For example, in the first round of play, the cards are seen in the following order: ace, king, two, eight, four, nine, three, six, nine, ten, and five. The total count should be as follows:

[145] Ibid., p. 76 - 7
[146] Ibid., 77 – 8

Example 5-1: Using the Simple Point-Count System			
Card	Add or Subtract	One Deck	Two Decks
Start	-----	0	-1
Ace	-1	-1	-2
King	-1	-2	-3
Two	+1	-1	-2
Eight	-----	-1	-2
Four	+1	0	-1
Nine	-----	0	-1
Three	+1	+1	0
Six	+1	+2	+1
Nine	-----	+2	+1
Ten	-1	+1	0
Five	+1	+2	+1

In the second round, the player should bet two units if there is only one deck in play. If there are two decks in play, the player should only bet one unit.

5.4 Casino Countermeasures

The following is a short description of the countermeasures that casinos implement to combat the strategies in the aforementioned sections.

Shuffling Up

The process of shuffling up occurs when the dealer decides to reshuffle the cards in order to prevent system players from recognizing good and bad betting situation. Reshuffling cards forces system players to restart their count to zero.[147]   However, shuffling up when there are plenty of cards remaining in the chute will slow down game play, and may cause the players to look for another table.

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[147] Ibid., p. 124 – 6

Multiple Decks

Multiple decks are used for two reasons. One, shuffling cards takes time away from the game play. Thus, casinos do not want the decks to be exhausted after every round, which would occur often if the dealer is only using one deck, and there are several players are at the table. Secondly, multiple decks increase the level of difficulty for system players. System players have a harder time recognizing good and bad betting situations.[148] This is illustrated in example 5-1.

Counting Dealer

Counting dealers can give the house a considerable advantage. A counting dealer will be able to distinguish between good and bad decks. If the deck contains a lot of high cards, which favors the players, then the dealer can reshuffle the deck and start over. On the other hand, if the deck contains a lot of low cards, then the dealer will continue to use the deck until it is exhausted. Furthermore, a counting dealer may be able to spot system players, who wager large bets in good situations and low bets in less favorable situations.[149]

Rule Variations

Figure 5-5, extracted from page 131 of Beat the Dealer, contains a list of rule variations that casinos may implement to increase, or decrease the house odds. The left column of the figure shows the rule, and the right column displays the percentage lost or gain corresponding to the enactment of the rule.

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[148] Ibid., p. 127 – 8
[149] Ibid., p. 126

Table 5-5: Rule Variations[150]

Rule Variations	Player's loss or gain (in per cent)
forbid doubling down on	
hard 11	-0.89
hard 10	-0.56
hard 9	-0.14
hard 8	0.00
all soft totals	-0.14
all totals after pair splitting	-0.13
allow doubling down on any three cards	0.19
allow doubling down on any number of cards	0.20
two decks	-0.35
four decks	-0.51
dealer draws to soft 17	-0.2
dealer draws only to soft 17 with Ace up	-0.23
dealer drawing to soft 17 is optional	-(0.23+)
further splitting of pairs	
all pairs, one deck	0.053
all pairs, two decks	0.08
all pairs, four decks	0.11
all pairs except Aces, two decks	0.04
all pairs, one deck, and unlimited draw to split Aces	0.037
all pairs, two decks, and unlimited draw to split Aces	0.06
and double on hard 11 only	0.05
drawing any number of cards to split Aces	0.14
no splitting of Aces	-0.16
no splitting of Aces and no doubling down on soft 12	-0.16
forbid pair splitting	-0.46
two-to-one pay-off for blackjack	2.32

5.5 Summary

Blackjack is the predominant table game in American casinos. A person who wishes to participate in a blackjack game should understand the basic rules. If the player wants to perform well, then the player should become proficient with the basic strategy

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[150] Ibid., p. 131 (Table 9.2)

and the simple point-count system. Finally, blackjack players should be aware of the countermeasures that casinos implement to combat system players.

Chapter 6: Development of the Blackjack Trainer

The Blackjack Trainer was developed for the Windows™ 95/98 operating system. The Blackjack Trainer was programmed as a java applet, using the Symantec Visual Café™ development studio. The Blackjack Trainer incorporates some of the aspects discussed in Chapter 5 into the applet. The purpose for developing this applet was to improve the playing skills of a gambler.

6.1 Features

The features of Chapter 5 that were incorporated into the Blackjack Trainer are the Basic Strategy, the Simple Point-Count System, and some rule variations, which include the use of multiple decks. The Basic Strategy and the Simple Point-Count System are the most important features. They provide a solid foundation for learning how to play blackjack efficiently. The rule variations were incorporated into the program to allow the player to experience how these rules alter the overall advantage for the house.

6.2 Basic Tutorial

The Blackjack Trainer incorporates the use of buttons and checkboxes into the user interface for the benefit of the user. These options benefit the user because they are easy to visualize and this allows the player to concentrate on learning blackjack, rather than the applet. Figure 6-1 illustrates the final user interface of the Blackjack Trainer.

Figure 6-1: Screenshot of the Blackjack Trainer

Game Play Buttons

The five buttons at the bottom of Figure 6-1 are the five actions a user can perform. The buttons are:

- **Deal**: another round is started

- **Hit**: the player requests another card from the deck

- **Stand**: the player elects to stay with the current hand

- **Split**: the player splits the hand, which results in the acquisition of two new cards, one on each hand.

- **Double Down**: the player requests one, and only one card from the deck.

Card Layout

Figure 6-1 also illustrates the layout of the cards. The dealer's cards are located at the top-left of the screen, while the player's cards are located at the bottom-left of the screen. When the hand is split, the new hand is placed above the original hand, which is not show. The top-hand will always be played first, and the bottom-hand last.

Bank

The player's bank is located at the bottom-right of the Figure 6-1. The player starts with a bank role of $2000. The minimum bet for the table is $5 and the maximum bet is $200.

Advice Options

There are two types of advice the player may request, the Best Play, and the High/Low Count. The Best Play option is based on the Basic Strategy discussed is Section 5.2. The Basic Strategy helps the player learn what to do in different situations. The High/Low Count is based on the Simple Point-Count System discussed in Section 5.3. The High/Low Count helps the player determine the optimal bet for the next round. The player may turn off the advice at any time so that they may test their newly acquired knowledge.

Rule Variations

Due to lack of screen space, only a limited number of rule variations were implemented. The first three options in the top-right corner of Figure 6-1 forbid the user to double down, split, or split aces. The player may forbid these actions to observe how

these rule variations affect the overall advantage for the house. Multiple decks are commonly used in casinos, and the player should practice keeping track of the High/Low Count using the Simple Point-Count System with multiple decks.

6.3 Summary

The Blackjack Trainer adequately represents the game play that a player may find at a casino, assuming only one player is at the table. The Basic Strategy helps the player learn what to do in different situations. The Simple Point-Count System, or the high-low count, helps the player with determine the optimal bet. The rule variations help the player recognize which tables to avoid in casinos, if the tables have one or more of these restrictions.

Chapter 7: Conclusions and Recommendations

Gambling is both beneficial and detrimental to society. The gambling industry provides many positive economic benefits, such as taxes and revenues for State governments and private organizations respectively. Casinos provide the biggest economic boost to the local economy. Often, people overlook the negative affects of casinos because of the benefits they provide to the community.

Casino gambling is, however, a significant problem since it often leads to a higher incidence of pathological gambling and crime. Casinos, with their glittering lights and shimmering atmosphere, also attract crowds of people that can lead to other problems, such as traffic congestion on the local streets and highways.

Blackjack is the prevalent table game within American casinos. Professional and serious gamblers may entail significant loses from time to time, but overall, they know the game of blackjack very well. Casual and occasional gamblers do not know blackjack very well, and they are more likely to lose than the serious or professional gambler. Therefore, providing a learning tool for casual and occasional gamblers would be beneficial to these individuals. Learning how to play blackjack, or some other casino game, could increase their chances of maintaining their money and increase their enjoyment value as well.

1. Supply and Demand of the Gambling Industry

The gambling industry has been on a steady climb since the 1980's and continues today. A research group could study the supply and demand of the gambling industry and possibly determine where they will meet. This could provide beneficial information in determining a fair public policy regarding the future of gambling.

2. Benefits and Drawbacks of Casinos

The casino industry provides the local economy with many economic benefits and social drawbacks. Casinos provide taxes to the State government and attract tourists, which directly affects other industries. However, the incidence of crime and pathological gambling are higher in areas with casinos than without. A research group could look into these overall costs, and determine the areas where casinos would be beneficial and where they would be detrimental.

3. Effectiveness of Gamblers Anonymous

Gamblers Anonymous helps many pathological gamblers control their urge to gamble. A research group could study the treatment methods of Gamblers Anonymous, and could provide new methods based on their findings. These methods could then be studied to determine their effectiveness.

Appendix-A: The South Oaks Gambling Screen

The South Oaks Gambling Screen
   [WWW Document]: URL: http://www.addictionrecov.org/southoak.htm

1. Please indicate which of the following types of gambling you have done in your lifetime. For each type, mark one answer: "not at all," "less than once a week," or "once a week or more."

Not at all	Less than once a week	Once a week or more	
a. __	__	__	played cards for money
b. __	__	__	bet on horses, dogs, or other animals (in off-track betting, at the track, or with a bookie)
c. __	__	__	bet on sports (parlay cards, with a bookie, or at jail)
d. __	__	__	played dice games (including craps, over and under, or other dice games) for money
e. __	__	__	gambled in a casino (legal or otherwise)
f. __	__	__	played the numbers or bet on lotteries
g. __	__	__	played bingo for money
h. __	__	__	played the stock and/or commodities market
i. __	__	__	played slot machines, poker machines, or other gambling machines
j. __	__	__	bowled, shot pool, played golf, or played some other games of skill for money
k. __	__	__	played pull tabs or "paper" games other than lotteries
l. __	__	__	bet on some form of gambling not listed above

2. What is the largest amount of money you have ever gambled with on any one day?
   __ never have gambled
   __ $1 or less
   __ more than $1up to $10
   __ more than $10 up to $100
   __ more than up to $100 up to $100
   __ more than $1,000 up to $10,000
   __ more than $10,000
3. Do (did) your parents have a gambling problem?
   __ both my father and mother gamble (or gambled) too much
   __ my father gambles (or gambled) too much

__ my mother gambles (or gambled) too much
__ neither one gambles (or gambled) too much

4. When you gamble, how often do you go back another day to win back money you lost?
    __ never
    __ some of the time (less than half of the time) I lost
    __ most of the time I lost
    __ every time I lost

5. Have you ever claimed to be winning money gambling but weren't really? In fact, you lost?
    __ never (or never gamble)
    __ yes, less than half the time I lost
    __ yes, most of the time

6. Do you feel you have ever had a problem with gambling?
    __ no
    __ yes, in the past, but not now
    __ yes

7. Did you ever gamble more than you intended to?
    __ yes __ n o

8. Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?
    __ yes __ n o

9. Have you ever felt guilty about the way you gamble or what happens when you gamble?
    __ yes __ n o

10. Have you ever felt like you would like to stop betting money or gambling but didn't think you could?
    __ yes __ n o

11. Have you ever hidden betting slips, lottery tickets, gambling money, IOUs, or other signs of betting or gambling from your spouse, children, or other important people in your life?
    __ yes __ n o

12. Have you ever argued with people you live with over how you handle money?
    __ yes __ n o

13. (If you answered yes to question 12): Have money arguments ever centered on your gambling?
    __ yes __ n o

14. Have you ever borrowed from someone and not paid them back as a result of your gambling?

    __ yes __ n o

15. Have you ever lost time from work (or school) due to betting money or gambling?

    __ yes __ n o

16. 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 household money

      __ yes __ n o

    b. from your spouse

      __ yes __ n o

    c. from other relatives or in-laws

      __ yes __ n o

    d. from banks, loan companies, or credit unions

      __ yes __ n o

    e. from credit cards

      __ yes __ n o

    f. from loan sharks (Shylocks)

      __ yes __ n o

    g. you cashed in stocks, bonds, or other securities

      __ yes __ n o

    h. you sold personal or family property

      __ yes __ n o

    i. you borrowed on your checking account (passed bad checks)

      __ yes __ n o

    j. you have (had) a credit line with a bookie

      __ yes __ n o

    k. you have (had) a credit line with a casino

      __ yes __ n o

Scoring

Scores on the South Oaks Gambling Screen itself are determined by adding up the number of questions that show an "at risk" re-sponse:

Questions 1, 2, and 3 are not counted.

____ Question 4: most or every time I lost

____ Question 5: less than half or most of the time I lost

____ Question 6: yes, in the past or yes

____ Question 7–11: yes

Question 12 not counted

____ Question 13–16i: yes

Questions 16j and 16k not counted

Total = _____ (20 questions are counted)

0 = no problem

1–4 = some problem

5 or more = probable pathological gambler

Appendix-B: Gamblers Anonymous Information

Gamblers Anonymous 20 Questions
> http://www.gamblersanonymous.org/20questions.html

1. Did you ever lose time from work or school due to gambling?
2. Has gambling ever made your home life unhappy?
3. Did gambling affect your reputation?
4. Have you ever felt remorse after gambling?
5. Did you ever gamble to get money with which to pay debts or otherwise solve financial difficulties?
6. Did gambling cause a decrease in your ambition or efficiency?
7. After losing did you feel you must return as soon as possible and win back your losses?
8. After a win did you have a strong urge to return and win more?
9. Did you often gamble until your last dollar was gone?
10. Did you ever borrow to finance your gambling?
11. Have you ever sold anything to finance gambling?
12. Were you reluctant to use "gambling money" for normal expenditures?
13. Did gambling make you careless of the welfare of yourself or your family?
14. Did you ever gamble longer than you had planned?
15. Have you ever gambled to escape worry or trouble?
16. Have you ever committed, or considered committing, an illegal act to finance gambling?
17. Did gambling cause you to have difficulty in sleeping?
18. Do arguments, disappointments or frustrations create within you an urge to gamble?
19. Did you ever have an urge to celebrate any good fortune by a few hours of gambling?
20. Have you ever considered self-destruction or suicide as a result of your gambling?

Most compulsive gamblers will answer yes to at least seven of these questions.

12-Step Recovery Program
   http://www.gamblersanonymous.org/recovery.html

1. We admitted we were powerless over gambling - that our lives had become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to a normal way of thinking and living.
3. Made a decision to turn our will and our lives over to the care of this Power of our own understanding.
4. Made a searching and fearless moral and financial inventory of ourselves.
5. Admitted to ourselves and to another human being the exact nature of our wrongs.
6. Were entirely ready to have these defects of character removed.
7. Humbly asked God (of our understanding) to remove our shortcomings.
8. Made a list of all persons we had harmed and became willing to make amends to them all.
9. Make direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong, promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
12. Having made an effort to practice these principles in all our affairs, we tried to carry this message to other compulsive gamblers.

The **12 Step Program** is fundamentally based on ancient spiritual principles and rooted in sound medical therapy. The best recommendation for the program is the fact that "it works."

Gamblers Anonymous would like to indicate that we are not soliciting members. Our intention is to highlight that gambling for certain individuals is an illness called *"compulsive gambling."* **Gamblers Anonymous** provides the message that there is an alternative to the destruction of compulsive gambling and this alternative is the **Gamblers Anonymous** program.

Our ranks are filled with members who have recovered from the illness by stopping gambling and attaining a normal way of life. These members remain ready to help any individual who passes through the **Gamblers Anonymous** door.

The Unity Program
        http://www.gamblersanonymous.org/unity.html

1. Our common welfare should come first; personal recovery depends upon group unity.
2. Our leaders are but trusted servants; they do not govern.
3. The only requirement for Gamblers Anonymous membership is a desire to stop gambling.
4. Each group should be self-governing except in matters affecting other groups or Gamblers Anonymous as a whole.
5. Gamblers Anonymous has but one primary purpose - to carry its message to the compulsive gambler who still suffers.
6. Gamblers Anonymous ought never endorse, finance or lend the Gamblers Anonymous name to any related facility or outside enterprise, lest problems of money, property and prestige divert us from our primary purpose.
7. Every Gamblers Anonymous Group ought to be fully self-supporting, declining outside contributions.
8. Gamblers Anonymous should remain forever non-professional, but our service centers may employ special workers.
9. Gamblers Anonymous, as such, ought never be or organized; but we may create service boards or committees directly responsible to those they serve.
10. Gamblers Anonymous has no opinion on outside issues; hence the Gamblers Anonymous name ought never be drawn into public controversy.
11. Our public relations policy is based on attraction rather than promotion; we need always maintain personal anonymity at the level of press, radio, films and television.
12. Anonymity is the spiritual foundation of the Gamblers Anonymous program, ever reminding us to place principles before personalities.

Appendix-C: Probability Tables for a Complete Deck

The following figures are taken from pages 195 – 204 of <u>Beat the Dealer</u>. The probabilities were computed for one complete deck. Each figure lists the probabilities associated with drawing, standing, doubling down, and pair splitting given the dealer's up card. These tables form the basis of the basic strategy tables as seen in Tables 5-1 through 5-4.

Player's hole cards →		A	2	3	4	5	6	7	8	9	10
Drawing and standing	A	−0470									
	2	−0889	−2756				MH=16		MS=19		
	3	−1236	−3078†	−3436†			*MH=17		†MS=18		
	4	−1704	−3090	−3348	−2410		**MH=14				
	5	−2234	−3451	−2509	−1381	0378					
	6	−1887*	−2503*	−1411*	0344*	1133	−3866*				
	7	−1387	−1541	0296	1096	−3846	−4503*	−5097**			
	8	0643	0305*	1092	−3859	−4464	−4648*	−4748	−5118*		
	9	5546	1038	−3885	−3987	−4531	−5098*	−5120*	−3907	−1333	
	10	1.5000	−3466	−3931	−4458	−5011	−5069*	−4123	−1552	1025	5832
Doubling down	A	−4683									
	2	−4790	−1.0943								
	3	−4796	−1.0928	−1.0713							
	4	−4963	−1.0731	−9555	−7390						
	5	−5367	−9552	−7380	−4384	0180					
	6	−4328	−7452	−4446	0112	1707	−8038				
	7	−3213	−4355	0145	1710	−7906	−9083	−1.0347			
	8	−2244	0060	1623	−8059	−9096	−9363	−9496	−1.0235		
	9	−0520	1428	−8211	−8189	−9111	−1.0239	−1.0240	−1.1163	−1.2489	
	10	1391	−7391	−8111	−8993	−1.0022	−1.0139	−1.1134	−1.2456	−1.4201	−1.6739
Pair Splitting		1942	−499	−498	−552	−648	−647	−606	−447	−265	033

†† MH = Minimum hard standing total
MS = Minimum soft standing total

Figure A-1: Dealer's Up Card is Ten

Player's hole cards →	A	2	3	4	5	6	7	8	9	10
Drawing and standing										
A	−0027									
2	−0141	−2225				MH=17	MS=19			
3	−0600	−2625	−3100			*MH=16				
4	−1134*	−3046	−3039*	−2044*						
5	−1668	−2840*	−2171*	−0511*	1204*					
6	−1347	−2084	−0511	1174	1517	−3862				
7	−0870	−0524	1176	1495	−3896	−4185	−4746			
8	2880	1205	1392	−3949	−4134	−4372	−4432	−4871		
9	7656	1425	−3922	−3652	−4259	−4797	−4820	−4116	−1964	
10	1.5000	−3444	−3588	−4135	−4753	−4793	−4161	−1961	2643	7440
Doubling down										
A	−4206									
2	−3727	−1.0469								
3	−3935	−1.0659	−1.0653							
4	−4218	−1.0453	−9462	−7011						
5	−4520	−9263	−7029	−2790	1746					
6	−3452	−6916	−2897	1646	2399	−8174				
7	−2545	−2741	1537	2247	−8260	−8694	−9782			
8	−0602	1744	2152	−8337	−8476	−8879	−8936	−9742		
9	1105	2138	−8404	−7587	−8598	−9668	−9641	−1.0638	−1.1895	
10	2165	−7455	−7521	−8394	−9519	−9586	−1.0529	−1.1864	−1.3956	−1.6841
Pair Splitting	2898	−373	−395	−459	−560	−542	−535	−383	−093	172

Figure A-2: Dealer's Up Card is Nine

Player's hole cards →	A	2	3	4	5	6	7	8	9	10
Drawing and standing										
A	0930									
2	0391	−1410				MH=17	MS=18			
3	0350	−1808	−2311							
4	−0355	−2342	−2284	−0548						
5	−0843	−2178	−0570	1081	2075					
6	−0649	−0559	1175	2075	2297	−3217				
7	1209	1076	2171	2217	−3210	−3944	−4079			
8	6078	2073	2203	−3192	−3868	−3691	−3796	−4263		
9	7848	2153	−3161	−3389	−3701	−4207	−4278	−4149	0645	
10	1.5000	−2745	−3282	−3574	−4180	−4248	−3942	0955	5768	7832
Doubling down										
A	−2956									
2	−3124	−1.0298								
3	−2542	−1.0254	−9997							
4	−3141	−1.0231	−8486	−4471						
5	−3326	−8535	−4282	0007	3229					
6	−2297	−4371	0142	3172	3657	−7114				
7	−0153	0074	3269	3402	−7112	−8429	−8579			
8	1902	2945	3300	−7193	−8291	−7746	−7774	−8526		
9	2298	3277	−7037	−7241	−7619	−8556	−8556	−9506	−1.1325	
10	3327	−6259	−7056	−7393	−8442	−8496	−8497	−1.1303	−1.3947	−1.6854
Pair Splitting	4065	−192	−244	−291	−391	−374	−378	−059	207	345

Figure A-3: Dealer's Up Card is Eight

Figure A-4: Dealer's Up Card is Seven

Player's hole cards →

MH=17 MS=18

Drawing and standing

	A	2	3	4	5	6	7	8	9	10
A	1584									
2	1073	−0918								
3	0604	−1192	−1645							
4	0337	−1639	−0706	1106						
5	−0238	−0674	0926	2013	2786					
6	0596	0918	1977	2856	2974	−2077				
7	4120	1836	2772	2938	−2582	−3307	−3892			
8	6145	2676	2918	−2456	−3275	−3485	−3241	−3736		
9	7732	2889	−2471	−2741	−3480	−3632	−3750	−1229	4011	
10	1.5000	−2120	−2704	−3422	−3645	−3762	−1213	3887	6101	7647

Doubling down

	A	2	3	4	5	6	7	8	9	10
A	−1370									
2	−1572	−9421								
3	−1745	−9378	−8712							
4	−1409	−8703	−5426	−1084						
5	−1891	−5672	−1323	1905	4663					
6	0142	−1481	1757	4754	5005	−5985				
7	2402	1600	4447	4874	−5852	−7141	−8230			
8	3253	4166	4726	−5636	−7065	−7346	−6660	−7471		
9	3513	4554	−5788	−6001	−7276	−7446	−7499	−8976	−1.1321	
10	4676	−4958	−5830	−7068	−7363	−7524	−9039	−1.1345	−1.3971	−1.6860

| Pair Splitting | 5407 | −006 | −068 | −160 | −228 | −228 | −056 | 259 | 364 | 478 |

Figure A-4: Dealer's Up Card is Seven

Figure A-5: Dealer's Up Card is Six

Player's hole cards →

MH=12 MS=18

Drawing and standing

	A	2	3	4	5	6	7	8	9	10
A	1996									
2	1685	0320								
3	1472	0192	0139							
4	1203	0141	0592	1753						
5	1159	0696	1637	2633	3618					
6	1332	1321	2313	3316	3807	−1652				
7	2622	2097	3180	3657	−1435	−1697	−1742			
8	4824	3075	3561	−1473	−1460	−1723	−1770	−1782		
9	6942	3458	−1538	−1514	−1501	−1765	−1796	−0114	2652	
10	1.5000	−1604	−1578	−1554	−1542	−1790	−0113	2681	4841	6974

Doubling down

	A	2	3	4	5	6	7	8	9	10
A	2479									
2	2302	−2490								
3	2218	−2438	−2145							
4	2007	−2150	−0569	1932						
5	2167	−0610	1899	4433	7236					
6	2665	1242	3792	6633	7614	−3871				
7	3849	3574	6361	7315	−3577	−5613	−7339			
8	4826	6151	7122	−3682	−5352	−6465	−7242	−7934		
9	5598	6916	−3876	−4563	−6175	−8018	−7944	−9676	−1.1734	
10	6822	−3189	−4578	−6162	−7746	−7926	−9667	−1.1722	−1.4140	−1.6900

| Pair Splitting | 7583 | 240 | 220 | 183 | 131 | 151 | 220 | 356 | 437 | 543 |

Figure A-5: Dealer's Up Card is Six

Player's hole cards →		A	2	3	4	5	6	7	8	9	10
Drawing and standing	A	1820									
	2	1587	0359				MH=12	MS=18			
	3	1366	0215	0083							
	4	1078	0089	0490	1539						
	5	0821	0568	1411	2464	3473					
	6	1400	1306	2350	3388	3936	−1022				
	7	2223	1955	3075	3617	−1234	−1288	−1555			
	8	4608	2960	3495	−1308	−1283	−1338	−1605	−1654		
	9	6821	3398	−1368	−1339	−1314	−1369	−1636	−0444	2029	
	10	1.5000	−1440	−1412	−1382	−1357	−1412	−0432	2023	4478	6737
Doubling down	A	2157									
	2	2123	−2140								
	3	2036	−2085	−1840							
	4	1750	−1855	−0614	1623						
	5	1482	−0703	1550	4150	6947					
	6	2800	1306	3916	6776	7873	−3247				
	7	3491	3321	6150	7234	−3555	−5381	−7407			
	8	4530	5920	6991	−3732	−5400	−6344	−7462	−9058		
	9	5362	6796	−3932	−4641	−6277	−8041	−9041	−9852	−1.1806	
	10	6630	−3271	−4706	−6293	−7992	−8884	−9849	−1.1815	−1.4175	−1.6912
Pair Splitting		7322	239	228	197	133	172	200	312	415	521

Figure A-6: Dealer's Up Card is Five

Player's hole cards →		A	2	3	4	5	6	7	8	9	10
Drawing and standing	A	1421									
	2	1102	−0348				MH=12	MS=18			
	3	0908	−0410	−0474			*MH=13				
	4	0614	−0552	−0166	0978						
	5	0380	−0103	0866	1896	2949					
	6	0773	0811	1860	2928	3520	−1519				
	7	2040	1676	2852	3425	−1546	−1584	−1640			
	8	4155	2525	3126	−1829	−1813	−1841	−1896	−2153		
	9	6539	3000	−1913	−1885	−1859	−1886	−1942	−0844	1670	
	10	1.5000	−1940*	−1971	−1934	−1907	−1935	−0644	1642	4041	6448
Doubling down	A	1366									
	2	1151	−3840								
	3	1091	−3517	−3022							
	4	0849	−3237	−1777	0441						
	5	0626	−1946	0411	2970	5898					
	6	1545	0233	2896	5855	7039	−3802				
	7	3127	2718	5704	6851	−3836	−5541	−7376			
	8	3731	5049	6252	−4281	−5836	−6751	−7601	−9223		
	9	4592	6001	−4510	−5086	−6710	−8392	−9059	−1.0823	−1.1940	
	10	5951	−3879	−5159	−6729	−8360	−9091	−1.0702	−1.1946	−1.4234	−1.6926
Pair Splitting		6686	112	102	076	014	047	103	215	320	444

Figure A-7: Dealer's Up Card is Four

Figure A-8: Dealer's Up Card is Three

Player's hole cards →	A	2	3	4	5	6	7	8	9	10
Drawing and standing A	1203									
2	0705	−0818				MH=13	MS=18			
3	0442°	−0983	−1182			*MH=12				
4	0234*	−1062*	−0815*	0288*						
5	−0019*	−0615*	0194*	1411*	2548*					
6	0369*	0238*	1389*	2504	3147*	−2111*				
7	1668	1308	2461*	3056*	−2124*	−2148	−2194			
8	4198	2412*	2952*	−2202*	−2167	−2202	−2239	−2284		
9	6441	2690*	−2557	−2460	−2436	−2460	−2497	−1207	1225	
10	1.5000	−2193	−2657	−2509	−2474	−2499	−1190	1444	3835	6361
Doubling down A	0549									
2	0284	−5015								
3	0108	−4970	−4721							
4	0026	−4455	−3237	−0825						
5	−0192	−3107	−0832	1956	5096					
6	0739	−0783	1892	5009	6294	−4443				
7	1889	1946	4921	6111	−4439	−6081	−7765			
8	3460	4825	5904	−4595	−6112	−6939	−7626	−8999		
9	3922	5380	−5114	−5607	−7121	−8646	−9180	−1.0710	−1.2766	
10	5363	−4386	−5664	−7114	−8595	−9228	−1.0728	−1.2673	−1.4251	−1.6926
Pair Splitting	6128	024	−031	−048	−104	−069	−020	132	242	383

Figure A-8: Dealer's Up Card is Three

Figure A-9: Dealer's Up Card is Two

Player's hole cards →	A	2	3	4	5	6	7	8	9	10
Drawing and standing A	0948									
2	0392	−1132				MH=13	MS=18			
3	0169	−1314	−1530			*MH=14				
4	−0117	−1507	−1230	−0126						
5	−0317	−0994	−0165	0933	2238					
6	0071	−0130	0921	2175	2840	−2527				
7	1358	0835	2144	2723	−2526	−2651	−2684			
8	4016	2130	2682	−2598	−2650	−2679	−2721	−2749		
9	6559	2636	−2663	−2858	−2694	−2734	−2766	−1366	1370	
10	1.5000	−2434*	−3042*	−3102	−2948	−2977	−1582	1188	3848	6272
Doubling down A	−0193									
2	−0420	−5816								
3	−0468	−5866	−5675							
4	−0700	−5602	−4291	−1846						
5	−0819	−4018	−1678	1135	4464					
6	0133	−1628	1118	4322	5672	−5054				
7	1276	1174	4260	5417	−5053	−6639	−8128			
8	2372	4245	5336	−5197	−6626	−7252	−7808	−9082		
9	3798	5248	−5325	−5860	−7179	−8605	−9120	−1.0603	−1.2550	
10	4870	−4868	−6084	−7376	−8724	−9308	−1.0769	−1.2651	−1.4993	−1.6933
Pair Splitting	5657	−047	−116	−156	−193	−165	−105	064	188	331

Figure A-9: Dealer's Up Card is Two

Player's hole cards →	A	2	3	4	5	6	7	8	9	10
Drawing and standing A	−0307									
2	−0678	−2589				MH=17	MS=18			
3	−1006	−2916	−3340				*MS=19			
4	−1539	−3349	−3450	−2090						
5	−2061	−3311	−2171	−0702	0906					
6	−1999*	−2258	−0785	0815	1729	−3862				
7	−1010	−0828	0868	1713	−3768	−4434	−4947			
8	2897	0864	1709	−3749	−4330	−4534	−4557	−4949		
9	6807	1696	−3745	−3831	−4412	−4958	−4955	−4519	−0552	
10	1.5000	−3489	−3925	−4450	−4987	−5088	−4670	−0820	3077	6501
Doubling down A	−5988									
2	−5933	−1.3201								
3	−5958	−1.3188	−1.2982							
4	−6199	−1.2957	−1.1264	−1.2982						
5	−6561	−1.1252	−7940	−1.1264	0551					
6	−5272	−7991	−4013	0486	2402	−8346				
7	−3578	−4021	0402	2220	−8375	−9372	−1.0294			
8	−1921	0251	2057	−8467	−9309	−9418	−9280	−9898		
9	−0407	1889	−8582	−8380	−9206	−1.0084	−9910	−1.0892	−1.2497	
10	1452	−8109	−8590	−9316	−1.0129	−1.0175	−1.1116	−1.2664	−1.4853	−1.7664
Pair Splitting	2239	−422	−465	−527	−613	−617	−613	−363	−113	097

Figure A-10: Dealer's Up Card is an Ace

Appendix-D: CD-ROM with Project Information

The following information can be found on the CD-ROM that accompanies this project.

- The Blackjack Trainer applet

- The required files need to run the applet

- Directions on where to install these files and how to set up the Java CLASSPATH.

- The IQP report as a Word document.

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