The Nevada Problem Gambling Project: Follow-Up Research

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PROJECT ACKNOWLEDGMENTS, APPRECIATION, AND DISCLOSURES

First of all, this research team owes a tremendous debt of gratitude to those who have supported this Project through the Nevada Grants Management Unit. These devoted souls include, most prominently: Jodi Tyson and Laurie Olsen, who were always around to answer questions or to help out when participants needed a nudge. Behind them (and us) are the tireless and committed volunteers on the state's Advisory Committee on Problem Gambling. And of course, we are exceedingly grateful for the kind participation of both the clinics and their clientele.

Our intellectual debts are substantial, and allow us to thank an all-star cast of experts: Tim Christenson of the state of Arizona and the National Association of Problem Gambling Service Providers, Dr. Jeffery Marotta of Problem Gambling Solutions, Dr. Tim Fong and Adrienne Marco at the UCLA Medical School Center for Gambling Studies, Dr. Juan Ramirez at the University of Nebraska, Paul Potter at the state of Oregon, and Keith Whyte of the National Council on Problem Gambling. All, remarkably, share some ownership of this important academic and human exercise on measuring problem gambling approaches.

Next we thank our UNLV International Gaming Institute staff – starting with our Executive Director, Patricia Becker. The IGI housed our everyday administrative team, and it included, on a more or less daily basis: Eva Perez, Gina Agrellas, Ellen King-McDaniel, Nakia Jackson-Hale, Pat Merl, and most of all, the business manager of the hotel college, the incomparably competent Annette Kannenberg. At the Department of Sociology, Elizabeth Kahre and Catherine Moorhead also performed countless administrative tasks that kept this project running smoothly.

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And of course, at a more immediate and intimate level, our backbone is our research team. We are indeed a proud "research factory," as one of our astute team members put it, and our weekly meetings over the past two years ensured that research challenges both mild and moderate were attended to immediately. Their co-authorship status on the title page reflects their substantial academic input on all phases of this research.

Disclosures: during the course of this project, the principal investigator received funding and/or other support for research projects conducted on behalf of the Nevada Department of Health and Human Services, Techlink Entertainment, the Presidential Research Award program at the University of Nevada, Las Vegas, the Interactive Gaming Council, the Institute for Research on Gambling Disorders at the Division on Addictions, Global Cash Access, and the Las Vegas Sands Corporation. None of the other study authors have disclosures.

EXECUTIVE SUMMARY

"I feel like it saved my life, I really feel like they saved my life!"

The Nevada Problem Gambling Project's objective is to provide research-based insights on the effectiveness of Nevada's state-funded treatment programs. This research is informed by two primary resources: 1) the peer-reviewed literature on problem gambling treatment evaluation, and 2) a specific framework suggested by the leading experts in state-supported problem gambling treatment (including those on Nevada's Advisory Committee on Problem Gambling). Using the Mental Health Statistics Improvement Program (MHSIP) questionnaire, questions about previous and current gambling and other addictive behaviors, and open ended questions, we gathered information on problem gamblers' evaluation of their treatment services, the impact of those services on quality of life and functional well-being, and the relationship between service quality and reductions in gambling behaviors. It is important to note that over four-fifths of the respondents in this project came from the Las Vegas Problem Gambling Center (which contributed more than half – 54%), and the Reno Problem Gambling Center (27%). As such, these clinics should be commended for the scope of their clinical reach and their enthusiastic participation to this follow-up research.

Overall, the treatment participants we interviewed provided very positive assessments in an impressive variety of spheres -- including access to services, treatment quality and helpfulness, treatment effectiveness, and overall ratings of the quality of service. Over 80% of respondents provided positive ratings for almost every item on the survey. Based on our analysis of both quantitative and qualitative data, we found that respondents were most positive about the cost of treatment services, treatment access, individual and group counseling, the educational information provided, staff encouragement, relationships with counselors, and the bonds they shared with their peers in treatment.

Although participation in treatment appears to help addicts abstain from gambling during their actual time in treatment, just under half of respondents indicated that they had gambled again after completing treatment – an unsurprising rate in the addiction field. As gambling scholars move away from pure abstinence models, it is important to understand how gambling treatment can help to *reduce* levels of gambling and the harms associated with gambling. We found that almost all participants have reduced their levels of gambling since completing treatment. Importantly, these reductions were strongly associated with 1) their overall rating of the quality of services, 2) their ability to get all the services they thought they needed, 3) feeling a bond with their counselor, and 4) liking the services they received from their provider.

Ultimately, treatment program participants expressed feelings of self-awareness, acceptance, achievement, and hope after the completion of their treatment. Given these clients' desperate statuses when they arrived at these clinics, these pages reveal dramatic improvements. Participants indicated that these programs helped to increase their confidence, empower them, give them the strength to avoid gambling, and in many cases, saved their lives. These strong outcomes represent a genuine victory for those dedicated to helping problem gamblers turn their lives around in the state of Nevada – and super-emphasize how crucial continued support for these programs are, even during the current economic downturn.

INTRODUCTION

This component of the Nevada Problem Gambling Project seeks to provide research-based insights on the longer-term effectiveness of state-funded treatment programs. This research is informed by two primary resources: 1) the general scientific, peer-reviewed literature on evaluating problem gambling treatment outcomes, and 2) a specific framework suggested by the leading experts in state-supported problem gambling treatment evaluation (including those on the state's Advisory Committee on Problem Gambling).

In our view, both of these resources provide vital perspectives on this challenging endeavor. The former approach ensures that this research is grounded in the scientific literature, and the latter ensures that the project meets the unique needs associated with US-based government-supported treatment programs. This approach – one grounded in the best global science, but cognizant of local nuance – is particularly important when attempting to research a behavioral phenomenon as complex as pathological gambling and its treatment (Bernhard, 2007a, 2007b, Shaffer et al, 2005).

For years, one of the major challenges in the pathological gambling research area was a lack of consensus on the best method of evaluating the success of treatment programs. The past few years, however, have seen this oft-cited shortcoming addressed in an impressive fashion. For those interested in a detailed summary of this new literature – and how it informed our methodology – we have provided this information in appendices.

For our methodological purposes right now (see Appendix A for more details on methodology), we should point out the following:

- All clinics receiving funding from the state were asked to provide a list of contact phone numbers for all clients who graduated or dropped out of their programs – in other words, for all clients who at least participated in an intake interview (when clients were informed of this project and asked for contact information). The individual clinics were responsible for obtaining signatures from all clients indicating that they agreed to participate in confidential follow-up interviews. Clinics were then asked for follow-up information on a quarterly basis.
- The research team then attempted to contact every client a minimum of 12 times to conduct computer-assisted telephone interviews (at varying times of day and weekdays/weekends). If clients did not answer, generic, non-identifying messages were left indicating that they were being contacted for a compensated UNLV study, and that they could contact our office to let us know the best time to contact them.
- All clients who completed interviews were compensated with a $25 gift card to a leading retailer.
- Follow-up variables are compared below by clinic, and are separated into two categories: those clients out of treatment for 12 months or less (the "year or less" group) and for more than 12 months (the "more than one year" group). The research team attempted to contact clients at 3 month, 6 month, 12 month, 18 month, and 24 month intervals.
- All participants were read an informed consent statement describing the objectives of this research, informing them of their rights as a participant (including the right to refuse to

participate), and detailing the strict confidentiality procedures of the research. Throughout the interview, clients were repeatedly reassured that their names would never be associated with their answers. All participants then verbally consented to participate. All research processes were approved by the UNLV's human subjects committee (protocols 0612-2191, 0801-2603, and 0902-3022).

- The Ns (completed interviews) associated with the clinics varied widely, with some clinics contributing significantly fewer completed interviews. See Appendix B for a clinic-by-clinic comparison of results. Throughout this process, we invited each of the clinics to share with us any difficulties inherent in this research process, and we received the following feedback from clinical directors: 1) problem gamblers are unlikely to want to be "followed" for a variety of sound reasons, 2) some clinics' client bases are high risk and/or homeless (and hence without contact information), 3) some clinics have high numbers of clients in the criminal justice system, and 4) problem gamblers often leave the state and return to their "home" state or relocate.

RESPONDENT CHARACTERISTICS

We conducted a total of 599 follow-up interviews among 416 different respondents within 6 different gambling treatment programs: Bristlecone, Comprehensive Therapy Centers, Las Vegas Problem Gambling Center, New Frontier Treatment Center, Reno Problem Gambling Center, and Salvation Army. Sixty-six percent of respondents (N=274) received only one follow up interview. Twenty-one percent (N=88) of respondents were interviewed twice, 11% (N=44) were interviewed three times, and just over 2% (N=10) were interviewed four times. Just over half of the sample (52%) received their first (or only) follow-up a year or more after leaving treatment. The other 48% were interviewed less than a year after completing treatment. Demographically, 55% of respondents were female, and the average age was 47.

EVALUATION OF TREATMENT SERVICES

The tables and figures below summarize ratings of items from the Mental Health Statistics Improvement Program (MHSIP), as well as additional questions specific to problem gambling. To facilitate interpretation, we have broken the items down into four broad categories: access to treatment services ($\alpha = .726$), treatment quality and helpfulness ($\alpha = .803$), treatment effectiveness ($\alpha = .958$), and overall rating of treatment services ($\alpha = .853$). During the interviews, respondents were asked to rate their level of agreement with various statements on a five-point Likert scale ranging from Strongly Agree (1) to Strongly Disagree (5).

We also asked respondents open ended questions about the quality of their treatment services. These questions were as follows:

- What was the most helpful part of the program for you?
- What was the least helpful part of the program for you?
- Were there any services that were not provided by the problem gambling treatment program that you would have liked to see provided?
- Finally, we asked respondents if they would like to share any additional elements of their "story" with the research team.

Where appropriate, we provide quotations from treatment participants that represent themes common to the perspective of the survey respondents. These quotations elaborate on the quantitative data and provide a human voice to the experiences of those who completed the treatment program.

Access to Treatment Services

The ability to easily access treatment services is arguably one of the most important components of recovery from addiction. If problem gamblers experience cost, transportation, or other access barriers, the likelihood that they will participate in treatment, and thereby recover from their addiction, declines dramatically. The following comment by one of the treatment participants illustrates the importance of being able to speak with a counselor in a timely manner:

> *"I was suicidal and had a failed suicide attempt. My wife found this problem gambling center on the net. Prior to that I had gone to GA and had 90 days abstinent. But I fell back into gambling and my wife presented this new program to me, and I made the call. And the counselor was busy with group therapy, but I was told he would call ASAP. Within 20 minutes I got the call, and he had me come in the very next day for the interview. Just from that initial interview, I felt so much relief and had a sense that I might have a life without gambling."*

In the interviews, we asked program participants to evaluate five aspects of their access to treatment services. In Table 1 below, we display average scores for these five items, with results for the entire sample as well as results separated for individuals who ended their treatment less than one year prior to the interview vs. those who have been out of treatment for a year or more. Because items are measured on a scale of Strongly Agree (1) to Strongly Disagree (5), lower scores indicate stronger agreement with each statement (i.e. lower scores are better).

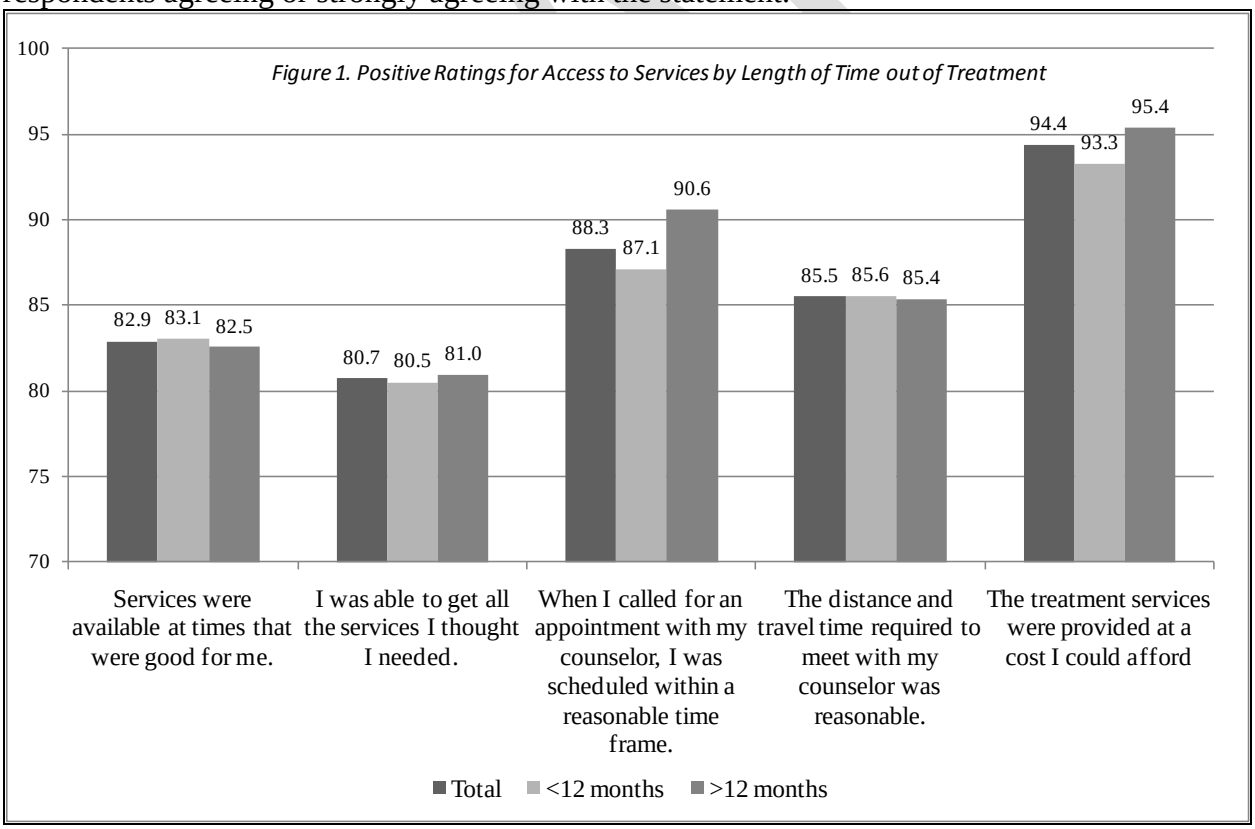
Overall, the mean scores are very low, indicating a strong level of agreement (average scores are between "strongly agree" and "agree") with each of the positively worded statements. Respondents were most positive about being scheduled for an appointment within a reasonable time frame (Item 3) and the affordability of their treatment services (Item 5). Although slight differences exist by length of time out of treatment, these differences are not at levels that are considered statistically significant. This indicates that individuals who have been out of treatment long-term (a year or more) are equally positive about their access to treatment services as individuals who recently completed their treatment (i.e. have been out less than a year).

Table 1. Average Ratings of Access to Services

ACCESS TO SERVICES	**Average Scores**		
(Cronbach's α = .726)	*Total*	*< 1 yr*	*≥ 1yr*
1. Services were available at times that were good for me.	1.68	1.64	1.75
2. I was able to get all the services I thought I needed.	1.72	1.69	1.78
3. When I called for an appointment with my counselor, I was scheduled within a reasonable time frame.	1.44	1.46	1.42
4. The distance and travel time required to meet with my counselor was reasonable.	1.65	1.64	1.66
5. The treatment services were provided at a cost I could afford	1.27	1.28	1.26

Note: None of the differences between the <1 year group and the ≥1 year group are statistically significant.

Figure 1 (below) presents the percentage of respondents who agreed or strongly agreed with each statement related to access to treatment services. Both treatment groups were overwhelmingly positive about their access to services. For example, ninety-four percent of all respondents (93.3% of <12 month group and 95.4% of year-plus group) agreed or strongly agreed that treatment services were provided at a cost they could afford. Even the lowest ranked item: "I was able to get all of the services I thought I needed," was exceedingly positive with over 80% of respondents agreeing or strongly agreeing with the statement.



Note: None of the differences between the <1 year group and the ≥1 year group are statistically significant.

Treatment Quality and Helpfulness

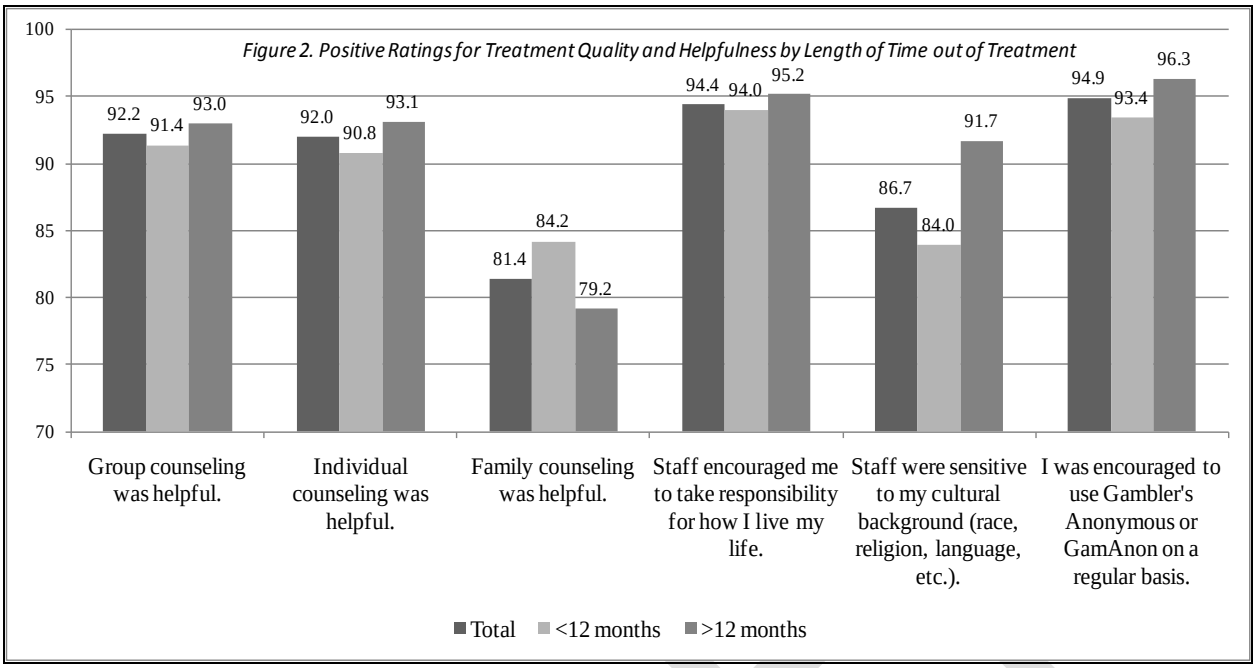
In Table 2 (below) we present average scores for the sample as a whole, as well as by length of time out of treatment, for items related to the quality of treatment and the helpfulness of treatment staff and services. Treatment participants responded most positively to items measuring staff encouragement. Overall, respondents strongly agreed that treatment staff encouraged them to take responsibility for how they lived their lives (Item 9) and to attend self-help groups, such as Gambler's Anonymous or GamAnon (Item 11). Of the three types of counseling services available, respondents who had been out of treatment for less than 12 months found group counseling to be the most helpful while respondents who had been out of treatment for a year or more found individual counseling to be the most helpful. Both groups found family counseling to be the least helpful (of course, this could include respondents who did not have family participating), but levels of support for family counseling were still extremely high for both groups. All average scores are below a 2, indicating an overall average between strongly agree and agree. In sum, these respondents provided extremely positive feedback about the quality and helpfulness of these treatment clinics.

Table 2. Average Ratings of Treatment Quality and Helpfulness

TREATMENT QUALITY and HELPFULNESS	**Average Score**		
(Cronbach's α = .818)	*Total*	*<1 yr*	*≥1 yr*
6. Group counseling was helpful.	1.38	1.32	1.43
7. Individual counseling was helpful.	1.41	1.42	1.40
8. Family counseling was helpful.	1.67	1.56	1.76
9. Staff encouraged me to take responsibility for how I live my life.	1.27	1.27	1.27
10. Staff were sensitive to my cultural background (race, etc.).	1.49	1.52	1.43
11. I was encouraged to use GA or GamAnon on a regular basis.	1.22	1.27	1.17

Note: None of the differences between the <1 year group and the ≥1 year group are statistically significant.

Figure 2 below represents the percentage of respondents who positively rated the quality and helpfulness of their treatment. Over 90% of respondents agreed or strongly agreed that group and individual counseling services were helpful, that staff encouraged them to take responsibility for how they lived their life, and that staff encouraged them to use self-help groups. Individuals who had been out of treatment for a year or longer were slightly more likely to feel as though staff were sensitive to their cultural backgrounds, but this difference is not at a level that is considered to be statistically significant.



Group Counseling

The importance of group counseling to the program participants came through more strongly in the answers they provided to the open-ended question asking them about the most helpful aspect of their treatment services ("What was the most helpful part of the program for you?") In fact, group counseling was the most praised component of program services among the participants.

This comment by one of the participants sums up similar responses provided by an overwhelming majority of respondents:

> *"The fact that I was talking to people that had experienced problems…you meet these people and feel like you've known them your whole life, and it's like you can talk to a family member or a friend about it, but in the end, these people are the only ones who will really know what's happening to you…felt like we were all in there together."*

Problem gambling research suggests that these feelings of emotional support improve self-efficacy, abstinence from gambling, and motivations for change (Gomes and Pascual-Leone 2009). The themes of shared experiences with other problem gamblers, not feeling alone, and feeling as though they could speak about their experiences and not be criticized came through very clearly during our interviews. The selection of quotations below represents only a very small handful of similar comments made by participants.

<u>Shared Experiences</u>

Feelings of camaraderie through shared experiences in group counseling clearly helped treatment participants open up about their addiction.

- *"Shared experiences by other having success in the groups"*
- *"Opening up and being able to share my feelings"*
- *"The group therapy. Being able to express your feelings about your situation and having feedback from others."*
- *"Being together with other addicts and having them share their stories and hearing how they improved. The camaraderie."*
- *"Bonding with my fellow classmates gave me something to lean on and something to believe in. And something to help me resist the temptations of gambling."*
- *"I think the group aspect of being able to have other experiences and strengths and hopes of having the people in the room with you and being able to identify or call you out on your excuses."*

<u>Not Feeling Alone</u>

The ability to share and bond in group counseling is related to the overwhelming sense among these problem gamblers that they were not alone in their experiences or on the journey through recovery. "Not feeling alone" was the most common and consistent theme throughout all of the participant comments:

- *"Listening to other people to know you're not alone."*
- *"Being able to sit around with a few other people and talk about the problems and to know that other people are in the same boat as I am."*
- *"Having a group setting, knowing you're not alone, feeling connected with others who are having similar experiences."*
- *"I liked being with others who were supportive and going through the same hard times that I was. It was good to feel like I wasn't alone."*
- *"Knowing that I'm not the only one with a problem like this, and being able to relate with other people that are going through the same thing."*
- *"Group therapy was the most helpful to learn that you are not alone with this problem. You got to hear other people's stories and begin to feel less helpless and not unique."*

<u>"I'm Not a Bad Person"</u>

Not feeling alone, the sense that "we're all in this together," and the ability to share their experiences without feeling as though they would be criticized had the remarkable effect of helping respondents understand that they were not "bad people":

- *"To know you're not alone, you're not a bad person just meant so much to me. I felt so much better about myself. I feel proud to have done it and be able to tell people I have done it. I feel accomplished."*
- *"Not being criticized and having people there that understand your problems and know what you're going through."*
- *"Knowing that I was not alone and that I wasn't the only bad person at the time."*

- *"Discussing the experiences we've all had in the past makes you feel a little less alienated, like you're not the only ignorant person with a problem."*
- *"Listening to others' experiences and realizing that I wasn't a bad person just because I had this problem."*
- *"Having other people that understand. Everyone was in the same situation, I'm not a freak or 'what's wrong with you?' No judgment. We could all help each other because we understood."*

The Client-Counselor Relationship

A slightly different aspect of treatment quality and helpfulness has to do more specifically with the participant's relationship with his or her counselor. Research suggests that a client's relationship with a counselor is the most important predictor of treatment effectiveness as it relates to improvement in problematic behaviors and personal well being (Horvath and Symonds 1991; Metcalf et al. 1996). It is essential that counselors understand clients' perceptions of what happens in counseling because this mutual understanding and agreement helps in establishing effective working alliances and creating and achieving treatment goals (Bowman and Fine 2000; Dill-Standiford et al. 1988).

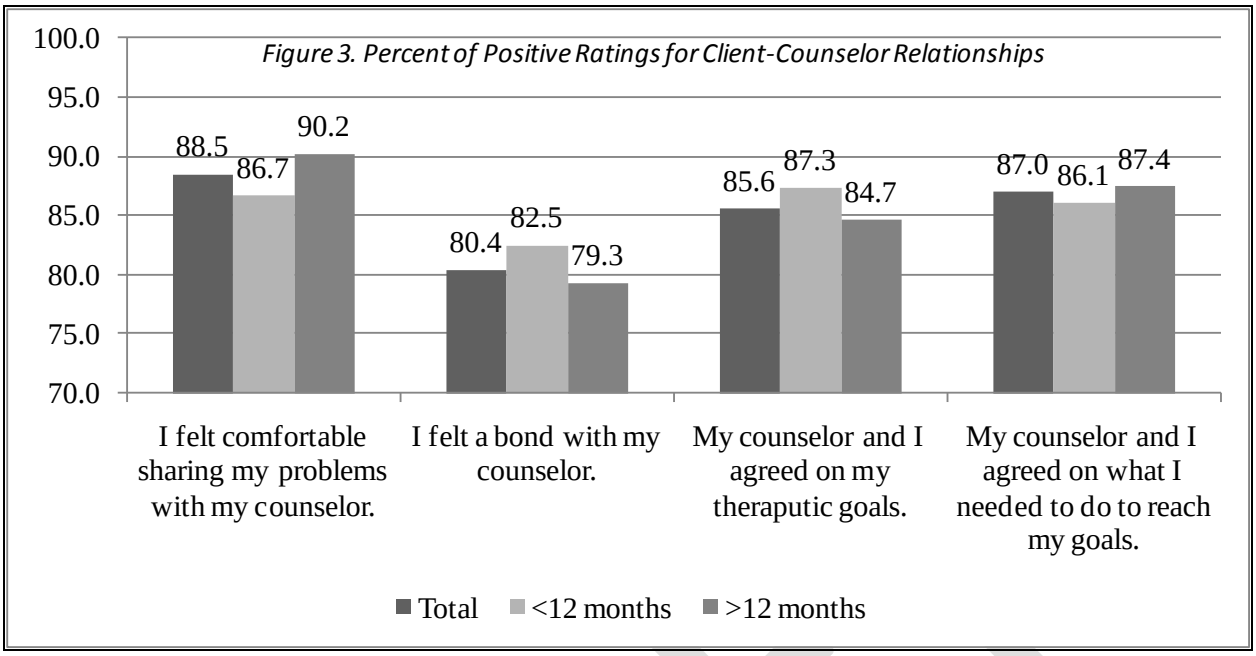
Table 3 below presents average scores on items measuring the client-counselor relationship. Respondents indicated a strong level of agreement with each of the items. Respondents were especially positive about sharing their problems with their counselors. A comment by one of the respondents is indicative of many similar comments by treatment program participants: *"The counselors were very considerate and extremely helpful. They helped ease you into the program. They let you speak in your own timing."*

Table 3. Average Ratings of Client-Counseling Relationships

COUNSELOR RELATIONS	**Average Scores**		
(Cronbach's α = .852)	*Total*	*<1 yr*	*≥1 yr*
12. I felt comfortable sharing my problems with my counselor.	1.44	1.45	1.48
13. I felt a bond with my counselor.	1.77	1.63	1.83
14. My counselor and I agreed on my therapeutic goals.	1.62	1.56	1.66
15. My counselor and I agreed on what I needed to do to reach my goals.	1.55	1.61	1.57

Note: None of the differences between the <1 year group and the ≥1 year group are statistically significant.

Figure 3 below similarly demonstrates that the overwhelming majority of respondents were positive about their relationships with the treatment counselors. In the open-ended responses, treatment participants indicated a great deal of trust in their counselors and how these relationships helped them to build self-esteem.



The belief among participants that they could trust their counselors, that their counselors cared about them, and that their counselors promoted personal responsibility and efficacy came through in respondents' open ended comments as well. A selection of these comments is provided below:

Counselor Trust

- *"Being taught how to express myself without feeling afraid. Knowing that I could trust the staff."*
- *"The trust they were able to help us develop so that we could feel comfortable enough to share."*
- *"They created a safe intimate environment to learn."*

Caring

- *"The counselor was very empathetic."*
- *"The guy in charge…he really cared. He wasn't doing it for the money."*
- *"Our counselors were affectionate and compassionate, and I shared childhood experiences of abuse that I never shared with anyone in my life before."*

Promoting Responsibility

- *"The counselors were great. They made us be responsible for ourselves."*
- *"Having the counselors look you in the face and make you be honest with yourself."*
- *"They made me stand up to my problems."*

- *"They'd see if you made excuses and just didn't accept them. It was tough love, and that was definitely the most valuable for me."*

Treatment Effectiveness

Participants' ratings of access to and the quality of their treatment services are important indirect indicators of treatment effectiveness, but more direct measures of treatment effectiveness come from participants' self-reports of improvement in daily life functioning. In Table 4 below, we present mean scores for items that evaluate the extent to which treatment services have resulted in measureable improvements in personal, family, financial, professional, and overall well being. For each of the positively worded statements below, respondents were asked whether they had observed improvements in their lives "as a direct result of services [they] received." As with ratings of treatment services, items measuring treatment effectiveness were categorized on a 5 item Likert Scale from Strongly Agree (1) to Strongly Disagree (5), such that lower means represent greater agreement with the statement.

Table 4. Average Ratings of Treatment Effectiveness

TREATMENT EFFECTIVENESS			
(Cronbach's α = .958)	*Total*	*<1 yr*	*≥1yr*
16. I deal more effectively with daily problems.	1.67	1.65	1.69
17. I am better able to control my life.	1.72	1.69	1.77
18. I am better able to deal with crisis.	1.73	1.65	1.79
19. I am getting along better with my family.	1.69	1.65	1.73
20. I do better in social situations.	1.85	1.82	1.88
21. I do better in school and/or work.	1.73	1.71	1.75
22. My housing situation has improved.	2.03	2.07	1.99
23. My symptoms are not bothering me as much.	1.91	1.88	1.95
24. My financial situation has improved.	1.95	1.97	1.94
25. I spend less time thinking about gambling.	1.85	1.88	1.82
26. I have minimized most of my problems related to gambling.	1.85	1.79	1.90

Note: None of the differences between the <1 year group and the ≥1 year group are statistically significant.

Overall, participants reported improvement in all categories of life functioning. The levels of observed improvement were highest for being able to deal more effectively with daily problems (Item 16), being able to better control one's life (Item 17), being able to better deal with crisis (Item 18), getting along better with one's family (Item 19), and doing better in work and/or school (Item 21). Observed improvement was lowest for participants' housing and financial situations (Items 22 and 24). These two particular items are arguably the most difficult to improve over the course of treatment since they are more reflective of the overall employment, cost of living, and housing conditions of the state than of the impact of treatment services themselves on participant well-being.

Figure 4 on the next page further illustrates that participants were least positive about improvements in their housing and financial situations and most positive about dealing with daily problems and crises, getting along with their families, and doing better in school and/or work.

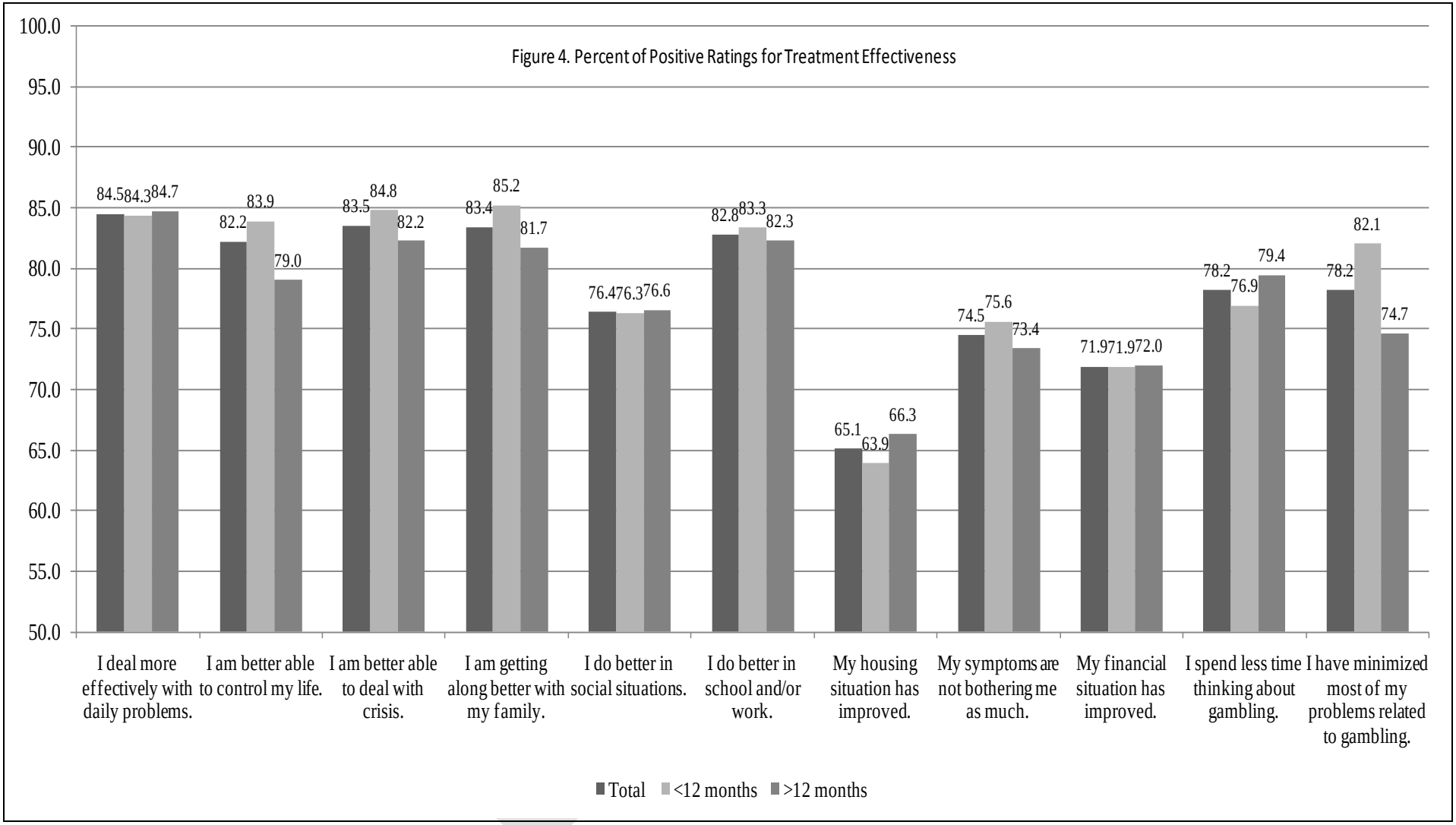


Figure 4. Percent of Positive Ratings for Treatment Effectiveness
100.0
95.0
90.0
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
84.5 84.3 84.7
82.2 83.9 79.0
83.5 84.8 82.2
83.4 85.2 81.7
76.4 76.3 76.6
82.8 83.3 82.3
65.1 63.9 66.3
74.5 75.6 73.4
71.9 71.9 72.0
78.2 76.9 79.4
78.2 82.1 74.7
I deal more effectively with daily problems.
I am better able to control my life.
I am better able to deal with crisis.
I am getting along better with my family.
I do better in social situations.
I do better in school and/or work.
My housing situation has improved.
My symptoms are not bothering me as much.
My financial situation has improved.
I spend less time thinking about gambling.
I have minimized most of my problems related to gambling.
Total
<12 months
>12 months

The effectiveness of treatment on reducing gambling behaviors and improving quality of life and well-being was also clear from the responses to the open-ended questions asked of participants. Respondents consistently spoke about how treatment helped them to become more self aware and accept themselves, gave them feelings of hope, and helped them reduce their gambling behaviors.

Self-Awareness and Acceptance

Recovery from addictions typically requires the addict to accept their history and experiences and deal with them as they move forward. This process requires a certain degree of emotional awareness in order for behavioral changes to reach beyond the superficial level. Previous addiction research has found an association between emotional awareness and greater restraint and impulse control (Salovey et al. 1995). Emotional awareness helps produce confidence and prepares gamblers for change (Gomes and Pascual-Leone 2009). The selection of comments below is representative of participants' feelings of improved self-awareness and personal acceptance:

- *"It was that you delved into yourself and learned how to deal with your problems."*
- *"The introspection and learning how to change myself and my thought processes."*
- *"For me, it was getting in touch with my emotions and feelings. In fact, I worked with my counselor and therapist on it because I did not know how to deal with my emotions."*
- *"Awareness. Becoming aware that I had a problem."*
- *"To be able to gain confidence and open the darkest part of my life, to get rid of the heavy load on my back I carried for a year. It helped me open my heart, my spirit, everything!"*

Improved Hope

Their participation in this program helped give these problem gamblers hope for the future. This theme is illustrated by the following quotes:

- *"There was hope at the end of the tunnel."*
- *"It gave me hope and strength that there is a solution for my problem and it really helped me prevent myself from committing suicide."*

Several respondents expressed the belief that this program saved their lives:

- *"It was really a great thing in my life. It saved my life."*
- *"I feel like it saved my life. I really feel like they saved my life."*
- *"I believe this program saved my life."*
- *"I am so grateful. They saved my life! I learned that it can be a better life because I was able to get help not only for my gambling addiction but also my mental issues. I would recommend this program to anyone that needs help and encouragement with gambling addictions."*

Overall Quality

The fourth domain of the treatment evaluation included questions on the overall quality of the treatment. Results in Table 5 suggest that respondents are overwhelmingly positive about the overall quality of the program. In fact, the item that asks respondents if they would recommend the agency to a friend or a family member was one of the most positive rated items on the questionnaire. Interestingly, although there were no significant differences between those who had been out of treatment for less than one year and those who had been out of treatment for a year or more on the items that measure the services received from the service provider and the likelihood of recommending the agency to a friend or family member, respondents who have been out of treatment for less than one year were significantly more positive ($p < .10$) on the item: "Overall, I am pleased with the results of my treatment program."

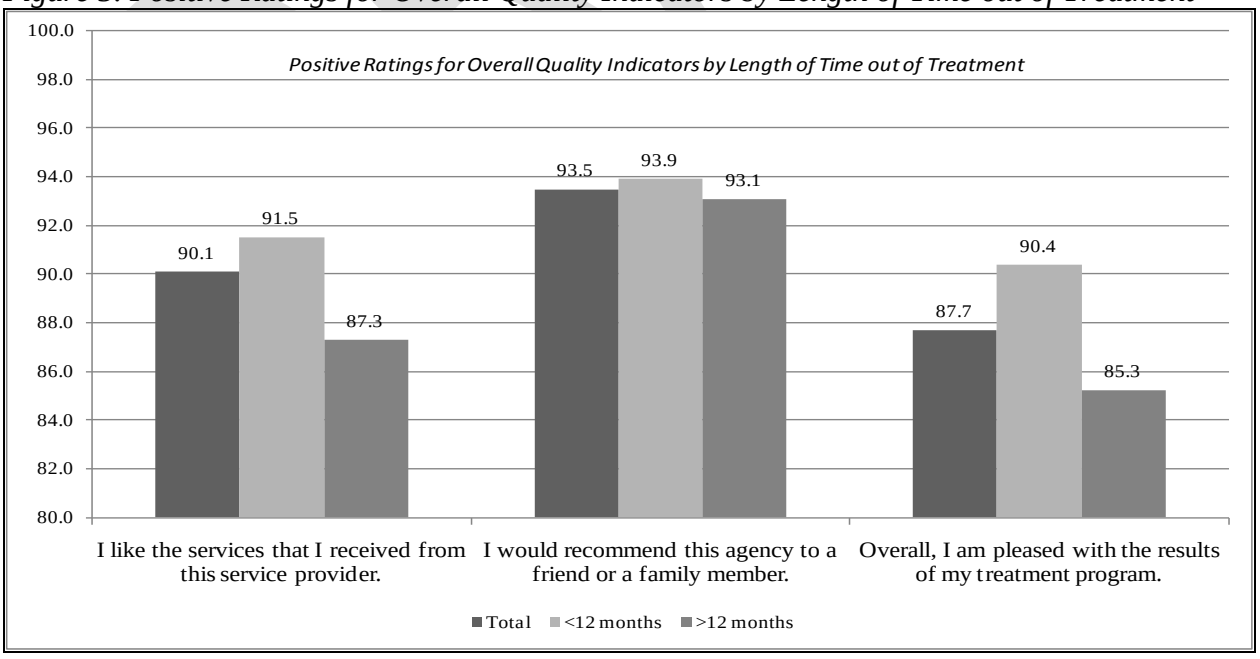
Table 5. Average Ratings Overall Quality Indicators

OVERALL QUALITY (Cronbach's α = .853)	**Average Scores** *Total*	*<1 yr*	*≥1 yr*
27. I like the services that I received from this service provider.	1.44	1.39	1.54
28. I would recommend this agency to a friend or a family member.	1.27	1.24	1.29
29. Overall, I am pleased with the results of my treatment program.	1.49	1.41*	1.57*

*Difference between two groups is statistically significant at the p<.10 level.

Figure 5 further demonstrates the strong level of agreement with statements asking respondents about their overall experiences with the treatment program. Over 90% of respondents agreed or strongly agreed that they liked the services they received and that they would recommend the agency to a friend or family member.

Figure 5. Positive Ratings for Overall Quality Indicators by Length of Time out of Treatment



When respondents were asked about the least helpful components of the treatment program or what they would change in the program, the most typical responses had to do with people talking about themselves too much in group settings, frustrations with people who "fell off the wagon," the desire for more individual counseling, and the requirement that they participate in Gamblers Anonymous meetings. Although several respondents were very positive about GA, other's expressed extreme negatively towards self-help programs. We will discuss this more in depth in the next section.

IMPACT OF SERVICES ON GAMBLING BEHAVIORS AND OTHER ADDICTIONS

We also asked respondents a series of questions related to their prior and current gambling behavior and problems with other types of addictions – a challenge with significant ramifications for several of the state's treatment clinics. In addition to basic descriptive statistics in this section, we present Pearson correlation coefficients to demonstrate the extent to which participants' ratings of their treatment services are significantly associated with improvements in gambling behaviors.

Gambling Behaviors

In regards to the impact of treatment services on gambling addictions, results are mixed. First, findings suggest that participating in treatment helps addicts abstain from gambling during their actual time in treatment. Only 28% of respondents reported engaging in any gambling activity while they were actively participating in the treatment program. However, about 48% of respondents indicated that they have gambled since the completion of their treatment. Among these individuals, the most common types of gambling included slot machines, video poker, and table card games.

According to the problem gambling literature, these "slips" should not come as a surprise (see the 1999 report by the National Research Council and the 1998 National Gambling Impact Study Commission). It is important to understand that a return to gambling behavior does not constitute a failure on the part of the treatment program or the individual participating in treatment. Addiction treatment is dynamic and ongoing. Although treatment programs and outcomes studies for pathological gambling historically viewed total abstinence as the only acceptable criteria for success (Ladouceur 2005; Rosecrance 1989), more recent problem gambling scholars, as well as scholars studying other addictions (Adamson and Sellman 2001), have been moving away from pure "abstinence" based models toward a broader spectrum of post-treatment maintenance, including an emphasis on *reducing* levels of gambling (Dowling et al. 2009; Robson et al. 2002) and minimizing the harms associated with gambling (Dickerson et al. 1997). This is important given our finding that 92% of respondents have reduced their gambling since the period of time when they gambled most heavily. Further *almost all* of the respondents who currently gamble reported that they now spend less money per gambling episode (94%), gamble fewer days per week (96%), and gamble fewer hours per episode (94%).

Responses to open-ended questions also reveal that, while some participants are now able to abstain from gambling, others are pleased with their progress toward reductions in gambling behaviors:

- *"I haven't really quit gambling, but there has been a significant slow down. I don't gamble as much."*
- *"I've been back to meetings since I lapsed, and people are very helpful. People know that I am a compulsive gambler. All I can change is how I respond."*
- *"This was a phenomenal program. I know there's a lot of recidivism, but I know for me, I know I wouldn't be where I am if it wasn't for the program."*
- *"I would say for me, if I didn't go through the program, I would be gambling."*

Tables 6 and 7 on the following pages demonstrate that there is a greater association between problem gambling treatment and reductions in harmful gambling behavior than there is between treatment and total abstinence. In order to assess abstinence from gambling, respondents were asked the following two (yes/no) questions:

- While you were actively participating in the treatment program, did you gamble at all?
- Since you completed the treatment program, have you gambled at all?

In order to assess reduction in gambling behaviors and harms from gambling, respondents were asked the following three questions:

- I spend less time thinking about gambling (5 pt Likert Scale)
- I have minimized most of my problems related to gambling (5 pt Likert Scale)
- Thinking back to the period of time when you gambled most heavily, have you reduced your gambling since this time? (Yes/No)

Although significant correlations exist between participants' ratings of treatment services and measures of abstinence (Table 6), the majority of these correlations are weak (i.e. <.300). Much stronger correlations exist for items that measure *reductions* in gambling behaviors and harms associated with gambling behavior (Table 7).

In terms of measures of abstinence (Table 6), the strongest correlations exist for items that measure respondents' overall ratings of the quality of their treatment services. These significant negative Pearson correlation coefficients suggest that the higher the level of agreement on each item, the lower the likelihood of gambling during (or after) treatment. As shown in Table 7, strong positive correlations also exist between the participants' overall ratings of treatment services and 1) spending less time thinking about gambling (r = .621) and 2) minimizing problems related to gambling (r = .639).

We further found that although involvement in self-help groups is only weakly associated with reductions in gambling harms, positive experiences in counseling and the ability to easily access services are more strongly associated with reductions in gambling behaviors. We provide additional detail about each of these areas in the pages following the tables.

Table 6: Correlations between Gambling During/After Treatment and Evaluation of Treatment Services

Did you gamble at all…	**During Treatment**	**Since Completing Treatment**
Overall, I am pleased with the results of my treatment program.	-.271***	-.401***
I like the services that I received from this service provider.	-.252***	-.355***
I was able to get all the services I thought I needed.	-.241***	-.354***
Group counseling was helpful.	-.206***	-.202***
I felt a bond with my counselor.	-.194**	-.244***
Services were available at times that were good for me.	-.178***	-.235***
I would recommend this agency to a friend or a family member.	-.178***	-.229***
My counselor and I agreed on what I needed to do to reach my goals.	-.176**	-.231***
My counselor and I agreed on my therapeutic goals.	-.166**	-.203***
I felt comfortable sharing my problems with my counselor.	-.145***	-.222***
Staff were sensitive to my cultural background (race, religion, language, etc.).	-.139*	-.079
The distance and travel time required to meet with my counselor was reasonable.	-.117**	-.167***
Staff encouraged me to take responsibility for how I live my life.	-.107	-.206***
Individual counseling was helpful.	-.086	-.176***
Family counseling was helpful.	-.038	-.205***
The treatment services were provided at a cost I could afford	-.034	-.118**
When I called for an appointment with my counselor, I was scheduled within a reasonable time frame.	-.014	-.120
I was encouraged to use Gamblers Anonymous or GamAnon on a regular basis.	.104	-.063
During my treatment, I attended Gamblers Anonymous or GamAnon on a regular basis.	-.122**	-.222***

Note: negative correlations indicate that as ratings of services increase, likelihood of gambling decreases.
***significant correlation at the p<.001 level; **significant correlation at the p<.01 level; *significant correlation at the p<.05 level

Table 7: Correlations between Reduction in Gambling Behaviors and Evaluation of Treatment Services

	I spend less time thinking about gambling	**I have minimized most of my problems related to gambling**	**Reduced Gambling since time when Gambled Most Heavily**
Overall, I am pleased with the results of my treatment program.	.621***	.639***	.351***
I was able to get all the services I thought I needed.	.574***	.624***	.402***
I like the services that I received from this service provider.	.568***	.632***	.294***
I felt a bond with my counselor.	.434***	.421***	.300***
I would recommend this agency to a friend or a family member.	.399***	.430***	.238***
Family counseling was helpful.	.399***	.449***	.052
My counselor and I agreed on what I needed to do to reach my goals.	.392***	.313***	.152*
Services were available at times that were good for me.	.390***	.408***	.167***
Individual counseling was helpful.	.376***	.384***	.120*
Group counseling was helpful.	.375***	.381***	.186***
My counselor and I agreed on my therapeutic goals.	.375***	.345***	.184**
When I called for an appt. with my counselor, I was scheduled within a reasonable time frame.	.373***	.431***	.294***
I felt comfortable sharing my problems with my counselor.	.345***	.355***	.176***
Staff encouraged me to take responsibility for how I live my life.	.313***	.447***	.121*
Staff were sensitive to my cultural background (race, religion, language, etc.).	.222***	.283***	.059
The treatment services were provided at a cost I could afford	.210***	.160***	.044
The distance and travel time required to meet with my counselor was reasonable.	.204***	.233***	.050
I was encouraged to use Gamblers Anonymous or GamAnon on a regular basis.	.134**	.105*	.085*
During my time in treatment, I attended Gamblers Anonymous or GamAnon on a regular basis	.272***	.298***	.109**

Note: positive correlations indicate that as ratings of services increase, agreement with the statement increases

***significant correlation at the p<.001 level; **significant correlation at the p<.01 level; *significant correlation at the p<.05 level

Involvement in Self-Help Groups

Step-based self-help programs modeled on Alcoholics Anonymous, such as Gamblers Anonymous (GA) and GamAnon, are currently the most popular and widespread treatments for problem gambling (Gomes and Pascual-Leone 2009). In these community-based programs, gamblers are able to provide and receive emotional support and build lasting social networks (Hogan et al. 2002). Although studies on the effectiveness of self-help programs on reductions in problem gambling behavior are limited, one study found that only 8% of those attending GA remained abstinent from gambling one year later (Stewart and Brown 1998), and another study found that participation in Gamblers Anonymous was no more effective in achieving abstinence than cognitive behavioral therapy (Toneatto and Dragonetti 2008).

The results from our analysis support these previous research findings. We found only minimal support for the effectiveness of self-help group attendance on abstinence from gambling. Just over 80% of our sample reported that they attended GA or GamAnon on a regular basis during their treatment. However, only 45% of respondents reported currently attending GA or GamAnon meetings. Although 76% of participants reported that GA/GamAnon meetings are helpful, we found weak correlations between attending GA or GamAnon and abstaining from gambling during treatment (r = -.122, p<.01) and since completing treatment (r = -.222, p<.001). The correlations between attending GA or GamAnon and spending less time thinking about gambling (r = .272, p<.001) and minimizing problems related to gambling (r = .298, p<.01) are slightly stronger but still statistically weak.

As mentioned earlier, treatment participants provided less than glowing recommendations for Gamblers Anonymous. As the quotations below indicate, several respondents felt that GA was "too spiritual," did not provide the same level of connection and camaraderie as their group counseling sessions, and was not as positive as they would have liked:

- *"Too spiritual. I'm not a religious guy, and I don't like them at all. If it helps some people, its good, but it's not good for me."*
- *"Too much politics in the meetings."*
- *"I'm not faith-based. I'm more scientific."*
- *"GA was the least helpful. I didn't get a lot out of it. It just didn't appeal to me. In the smaller group, I could manage that, but in the larger groups with nine million people always coming in and out at GA, it just wasn't the same. Maybe I just didn't want to share with so many different people."*
- *"GA was the least helpful part for me. I agreed with the 12 step program. However, it was too transient a group for my needs. It is hard for me to open up to strangers and would rather have a more stable group or the same people to move forward with."*
- *"I didn't like GA. Didn't feel comfortable there. Not a snob at all, but it didn't seem like my cup of tea. It wasn't upbeat, it wasn't like the program, and I just didn't feel as comfortable. It seemed that people who attended GA were people who kept going out and coming back and I didn't want to hear that. I guess I wanted to hear that once you stop, you don't go back. It seemed like a revolving door."*
- *"People would come down on you there for being happy. Every time I would go in, I'd feel good about not gambling and my life coming back together. So when I shared, it*

*would be positive. But then the next person would get up there to share and would just come down on you, saying 'Watch out! Your life is going to fall apart!' and so I would be like 'F***!' you know? It was too negative with GA."*

- *"I attended GA for 3-4 months after the program, and I gambled during that time. When I stopped going to GA, I stopped gambling."*

Counseling Support

The results of our analyses suggest that support received during counseling and the participants' relationships with their counselors are better predictors of abstinence and reduction in gambling behavior than involvement in self-help groups. Social, emotional, and instrumental support are thought to act as buffers during the treatment and recovery process, shielding treatment participants from risk factors that might impede or halt progress (Dobkin et al. 2002). Both verbal and non-verbal communication during counseling that conveys concern and respect has the potential to increase an individual's self-esteem and self-efficacy (Hogan et al. 2002). Positive relationships with counselors during individual counseling sessions, family members during family counseling, and peers during group counseling may facilitate recovery through improved confidence, self-awareness, self-discovery, and sense of control over one's life.

Although only weak correlations exist between participants' evaluation of their counseling services and gambling abstinence (Table 6), we found several statistically significant moderate correlations between participants' evaluation of counseling services and reductions in gambling behaviors (Table 7). First, *feeling a bond with one's counselor* and *feeling comfortable sharing problems with one's counselor* are related to reductions in thinking about gambling (r = .434 and r = .345) and minimizing problems related to gambling (r = .421 and r = .355). Second, *agreement on counseling goals* is positively associated with reductions in gambling harms. Previous research demonstrates that agreement between the counselor and client on what happens during counseling is one of the strongest predictors of success (Metcalf et al. 1996). We found moderately positive associations between the statement: "My counselor and I agreed on what I needed to do to reach my goals" and spending less time thinking about gambling (r = .392) and minimizing problems related to gambling (r = .313). We found similarly positive associations between these two outcomes and the statement: "My counselor and I agreed on my therapeutic goals" (r = .375 and r = .354 respectively). Third, *participation in family, individual, and group counseling* are all positively associated with spending less time thinking about gambling (family r = .399, individual r = .376, group r = .375) and minimizing problems related to gambling (family r = .449, individual r = .384, group r = .381).

Access to Treatment Services

Being able to access treatment services is an essential component to any sort of physical or mental health recovery. The range of services available, the times services are offered, and being scheduled for those services quickly are all significantly associated with reductions in problematic gambling behaviors among the participants in our sample. For example, as displayed in Table 7, we found strong to moderate positive correlations between *being able to get the services one though s/he needed* and spending less time thinking about gambling (r = .574),

minimizing problems related to gambling (r = .624), and reducing gambling since the time when s/he gambled most heavily (r = .402). Having *services available at times that were good for participants* is also positively associated with reductions in time spent thinking about gambling (r = .390) and problems related to gambling (r = .408). Finally, *being scheduled for appointments with counselors within a reasonable time frame* is significantly associated with reductions in time spent thinking about gambling (r = .373) and problems related to gambling (r = .431).

Information and Education

Although we did not ask about the quality of the information presented during the treatment program in the survey questionnaire, several participants commented on how the information and education they received during their time in treatment was the most helpful part of the program for them. The knowledge they gained about how addictions operate gave these individuals the confidence and empowerment they needed to reduce or quit their gambling. A selection of quotations illustrating this idea is presented below:

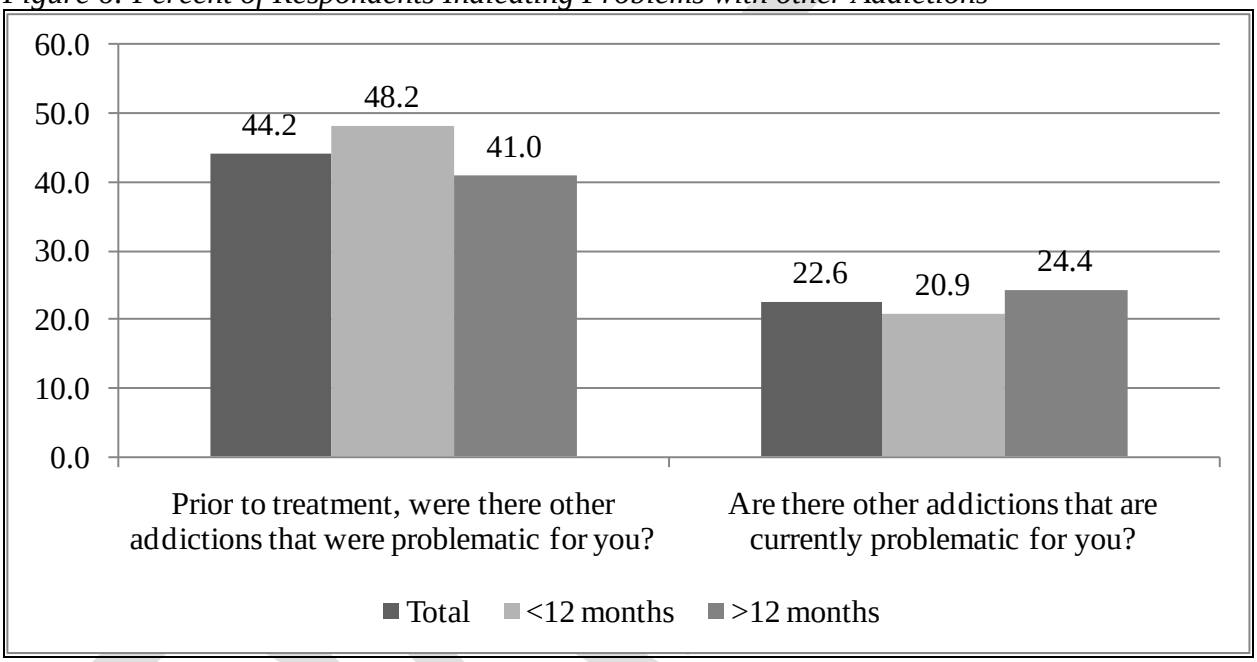
- *"Learning about the traits that compulsive gamblers have and how the mid-brain of one functions helps you deal with your problems knowing what is causing it."*
- *"The information – the actual education that taught about the brain and what happens as far as neurologically with the endorphins that are set off and such."*
- *"I liked the doctor explaining how the brain works which helped me thoroughly understand that it's not something you can do better next time. You just can't do it."*
- *"I think what I liked best was that it was affiliated with a doctor that was so knowledgeable and that he shared with us how it manifests your life and how it is a progressive type of disease."*
- *"Understanding the education on gambling and behaviors gave me the willpower and confidence and support I needed to get away from it."*
- *"The doctor helped me learn about the medical part and that there was some rhyme or reason as to why I was doing what I was doing."*

Other Addictions

We also examined the broader issue of other chemical and/or behavioral addictions by asking participants whether they had problems with other addictions prior to treatment and whether those problems persisted after treatment. The most commonly identified addiction prior to participation in treatment was alcohol. Over 20% of respondents indicated that they had a problematic alcohol addiction prior to attending the treatment program. Methamphetamines (11.5%) and nicotine (12.3%) were the other two most commonly cited pre-treatment addictions. Addictions to THC, cocaine, opiates, prescriptions drugs, sports enhancement drugs, shopping, sex, the internet, and food were also minimal, with fewer than 5% of respondents reporting pre-treatment addictions to each. After completing treatment, only 3.6% of respondents indicated that they continued to have a problem with alcohol addiction. Reported addictions to nicotine also decreased to 8.9%. Among the more striking findings was that NO respondents reported having a continuing addiction to methamphetamines during their follow-up interviews.

Results presented in Figure 6 suggest that participation in problem gambling treatment appears to help with these broader addictive problems. Both the "less than 12 month" group and the "12 month or longer" group reported sizeable and significant reductions in other addictions after treatment. Reductions for the "less than 12 month group" reached over 27 percentage points, while reductions for the "12 month or longer" group were over 16 percentage points. This suggests that those who have been out of treatment longer may revert back to previous addictions without the ongoing treatment maintenance. However, given the complexities and difficulties inherent in dealing with multiple addictions, these reductions are positive outcomes for the treatment clinics and participants.

Figure 6: Percent of Respondents Indicating Problems with other Addictions



CONCLUSION

To summarize, these direct and indirect measures of the evaluation of treatment services and improvements in quality of life and gambling behaviors provide strong evidence that problem gambling treatment works. Through the Mental Health Statistics Improvement Program (MHSIP) survey and additional questions about past and current gambling behaviors, we were able to assess participants' thoughts and feelings about their access to treatment services, the quality and helpfulness of those services, and the effectiveness of services on their daily lives.

Participants were overwhelmingly positive about their treatment services, especially as those services related to their relationships with their counselors and their experiences in group counseling. Almost all respondents indicated that they have reduced their gambling since completing treatment or discontinued gambling altogether. These strong outcomes represent a major victory for those dedicated to helping problem gamblers recover from their addiction and improve their overall quality of life. From a policy perspective, this research demonstrates the importance of continued support for these crucial services, even during difficult economic times.

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APPENDIX A: FOLLOW-UP METHODS AND QUESTIONNAIRE ITEMS

Methodological Discussion: Follow-up Research

For years, one of the major challenges in the pathological gambling research area was a lack of consensus on the best method of evaluating the success of treatment programs. Recently, however, we have seen this oft-cited shortcoming addressed in an impressive fashion. In particular, two major developments have helped push this research field forward.

The first development was the devotion of a special 2005 issue of the *Journal of Gambling Studies* to this very topic. This special issue included a number of review articles in addition to primary research pieces written by several of the leading experts in the problem gambling research field. The second development was the "Banff Consensus," which developed out of an academic research conference in Alberta that convened key experts in the area (many of whom also participated in the *JGS* special issue). Both of these pioneering contributions inform this research in important ways.

The special 2005 issue of *JGS* highlights a number of important methodological challenges associated with evaluating the success of problem gambling treatment interventions. In the following section, we highlight the key methodological issues discussed in this special issue, and then we describe how they were addressed in this research.

- As Blaszczynski (2005) notes, high rates of attrition are quite common when attempting to follow up with problem gamblers. ***In our research, we seek to increase our response rates by contacting individuals at various times of the day, following up unsuccessful contacts a minimum of 12 times, contacting individuals during weekdays and on weekends, and clearly identifying ourselves as independent researchers conducting a confidential study.***
- As is the case with most addictive disorders, abstinence is the most common goal for those administering and receiving treatment for pathological gambling (Echeburua & Baez, 1994). In fact, in their review article, Echeburua and Fernandez-Montalvo go so far as to claim that "currently, there is no empirical support for the idea that responsible gambling can be a goal in the treatment of pathological gamblers" (2005, p. 21). ***Hence, in our research, we ask questions that directly target the amount of abstinence that research subjects have achieved at the time of the interview.***
- Building upon the previous point, Gamblers Anonymous advocates an abstinence model. Petry (2005) also notes that preliminary evidence shows that Gamblers Anonymous (GA) attendance in conjunction with professional treatment is associated with higher success rates. ***Because of this preliminary evidence and the ubiquity of Gamblers Anonymous in Nevada, we seek to gather expanded data on the degree to which this was integrated into the treatment process.***
- As is always the case when researching pathological gambling, the complex contribution of co-morbid disorders needs to be addressed (National Research Council, 1999; Shaffer, Hall, & Vander Bilt 1999). As several researchers note (see., e.g., Blaszczynski, 2005; Nathan 2005), this issue is rarely engaged in problem gambling outcome research. ***To address this shortcoming, Blaszczynski suggests that studies include information on the co-morbid issues that the research subjects confront the socio-demographic***

backgrounds of the subjects, and the different forms of gambling that the subjects engaged in. All of these suggestions are integrated into this research.

- The research team also wishes to be sensitive to the reality that problem gamblers are often involved in a variety of different professional and nonprofessional interventions. For instance, over time a problem gambler may be prescribed an antidepressant, asked to attend Gamblers Anonymous meetings, urged by their children to give up gambling, forced by a spouse to participate in marital counseling, admitted to a hospital after a suicide attempt, referred to a homeless service provider upon getting kicked out of the home, and so on. As el-Guebaly (2005) points out, any of these could contribute to the improvement in the well-being of the problem gambler. ***In our study, we address this important consideration by asking about a variety of other interventions that a pathological gambler might have engaged, including housing aid, financial services, medical assistance, homeless assistance, Veterans' assistance, Gamblers Anonymous, and a handful of other resources.***
- A reasonable question arises whenever researchers rely upon self-reported information: can we trust the participants? This concern is perhaps especially important when examining gambling data, which can be plagued by poor recall (Blaszczynski et al. 1997). However, the research that has been conducted in this area indicates that self-reports from gamblers who participate in treatment studies tend to agree reasonably well with reports obtained from family, friends, or other "collateral" reports (Echeburua *et al.* 1996, Hodgins & Makarchuk 2003), a finding that is also noted in the Banff Consensus article. ***In our research, we rely upon self-report data, an approach that is supported by previous research findings.***

Further enhancing our research-based knowledge in the field of problem gambling treatment outcomes research, the 2006 "Banff Consensus" article (published in the prestigious academic journal *Addiction* by Walker, et al.*)* convened leading researchers to provide recommendations based upon the best and most current knowledge on pathological gambling treatment evaluation.

The recommendations laid out in this article are as follows:

The Banff Consensus recommends the measurement of three key elements in evaluating the effectiveness of treatment interventions with pathological gambling. These three elements are: 1) reduction in gambling behaviors, 2) reduction in the problems caused by gambling behaviors, and 3) a determination that changes observed are a direct result of the therapy's hypothesized mode of action.

Following this consensus, our research addresses all three of these important areas:

1) Reduction in Gambling Behaviors. As the Banff Consensus indicates, "any single measure of involvement is unlikely to capture all of the aspects of gambling relevant to gambling-related problems" (Walker *et al.*, 2006, p. 505). Hence, it is important to ask a series of questions about gambling behaviors to assess any changes that have taken place. ***In this research, we follow the recommendations of the Banff Consensus by measuring changes that pertain to both time and money. In addition, this research examines both types of time-oriented changes that are***

recommended by the Banff Consensus: changes in time spent gambling, and changes in time spent thinking about gambling.

2) Reduction in the Problems Caused by Gambling Behaviors. Research on the reduction of problems caused by gambling behaviors is relatively underdeveloped in the problem gambling field. As such, the Banff Consensus recommends that until the research literature arrives at a conclusion on a gold standard measure of the problems associated with gambling, researchers should "select an appropriate standardized measure from those currently available in reporting outcomes." ***The current research follows this recommendation, and after receiving input from the leading experts in state-sponsored problem gambling treatment evaluation, we have selected the MQR (short for Mental Health Statistics Improvement Program Quality Report) as a standardized measure.***

3) Determination that Changes Observed Are a Direct Result of the Therapy's Hypothesized Mode of Action. This somewhat wordy description can be simplified to a relatively straightforward research question: did the therapy work in the way that it claims to work? To illustrate, we would expect that therapies that target behavioral change should be able to demonstrate efficacy in that area as a direct result of the therapies offered. ***In our case, the research team will be careful to ask the research subjects whether certain behavioral and cognitive changes took place "as a direct result of services (they) received."***

In the next sections, we describe the sampling, questionnaire, data collection, and analytical elements of this study.

Sample. The sample of interviewees was taken from lists of clients given to the research team by the treatment providers themselves. Treatment providers were asked to provide the research team with lists of *all* individuals who received problem gambling services – including those who did not complete treatment. In addition, treatment providers were informed that they were to collect signed documents allowing for confidential follow-up research.

Questionnaire. For this project, we again partnered with Tim Christenson, chief treatment administrator for the state of Arizona's Office of Problem Gambling, and president of the Association of Problem Gambling Service Administrators (APGSA). Previous discussions with Mr. Christenson led the research team to implement an instrument developed by the Mental Health Statistics Improvement Program (MHSIP).

The MHSIP reflects the uniquely collaborative nature that is so often demanded in current-day research. This Program relied upon a coalition of an impressive array of stakeholder organizations tasked with improving existing performance measures, and developing a standardized series of questions that effectively measure mental health outcomes. The organizations that contributed to this instrument's development are listed below:

American Managed Behavioral Healthcare Association	American College of Mental Health Administration
National Alliance for the Mentally Ill	National Mental Health Association
Federation of Families	National Association of State Mental Health Program Directors
National Association of State Mental Health Program Directors Research Institute	National Council of Community Behavioral Healthcare
National Association of Consumer/Survivor Mental Health Administrators	National Association of Mental Health Planning and Advisory Councils
State Mental Health Planners	Center for Mental Health Services
Recovery Measurement Group	Outcomes Roundtable for Children and Families

In addition to these groups, an expert review and feedback panel included representatives from a variety of accreditation organizations, listed below.

National Committee on Quality Assurance	Joint Commission on Accreditation of Healthcare Organizations
Commission on Accreditation of Rehabilitation Facilities	Council on Accreditation
Council on Quality and Leadership	Federal Forum on Performance Measures
Experience of Care and Health Outcomes Survey	Human Services Research Institute

In sum, the instrument we propose to use in this project represents the cumulative and collaborative effort of an expert coalition of major mental health organizations whose expertise falls under the very sorts of areas that we seek to research in this project. Another important advantage of the MQR – one highlighted by the experts we consulted – is the fact that this instrument is publicly available and intended for the widest possible use in mental health settings. Already in use in Arizona (and Nebraska) for problem gambling program evaluation, it became clear to this research team that that the reasons for using questionnaire items were quite strong.

For more information on the overall purposes and design of the MQR, please visit:

http://www.mhsip.org/QualityRptandToolkit/MHSIPQualityReport2005.pdf

The final questionnaire used in this part of the project, then, represents a combination of items from the MQR, items reflecting the most recent suggestions from the peer-reviewed academic literature, items from the baseline data collection currently in use by all of the treatment providers in the study, and items suggested to the research team by members of the State of Nevada's Advisory Committee on Problem Gambling. All questionnaires were approved by the UNLV Office for the Protection of Human Subjects.

Data Collection. Research subjects were contacted at 3 month, 6 month, and/or 1-year intervals. To further enhance response rates and consistent with suggestions from the literature (Toneatto, 2005), we provided, for each completed interview, a $25 gift card (non-redeemable for cash) participation incentive from a major retail outlet.

Telephone interviews were conducted by trained interviewers who have successfully completed the CITI Course in the Protection of Human Research Subjects, as mandated by the UNLV Office for the Protection of Human Subjects. The questionnaire was programmed into a computer-assisted telephone interview program, which allows for immediate input of data into a password-protected database accessible only to the authors of this report. This kind of direct-entry approach is widely recognized as a best practice, as it ensures that data entry errors are avoided, and that privacy is respected.

Analysis. The principal analytic design is a two-dimensional analysis of the effects of time (i.e., changes observed between initial interviews and subsequent interviews). Non-parametric tests will be applied to categorical outcome variables of events and activities, and parametric tests will be applied to continuous measures of gambling behaviors. Analyses will allow for in-state comparisons of treatment approaches as well as bi-variate demographic cross-tabulations – helping determine, for instance, whether female subjects respond differently than male subjects to various treatment approaches.

As many have noted, a single treatment model may well neglect the varied characteristics that problem gamblers possess and present when showing up for treatment (Blaszczynski, 1999; Gonzalez-Ibanez et al., 2005; Toneatto, 2005). As such, we wish to note that results should be interpreted with a healthy respect for the diversity of treatment populations – as clinics that treat primarily homeless individuals, to cite but one illustration, might face different challenges than those who treat non-homeless populations.

Limitations. All research designs contain limitations that arise prior to, during, and/or after the (conducting) of the project, and this project is no exception. Even in the highly formulized and systematic world of pharmacological research on pathological gambling, methodological limitations abound (for overviews, see Hollander et al., 2005; Potenza 2005). In practice, thoughtful and thorough discussions of limitations help researchers build better projects in the future, and it is in this spirit that we discuss a handful of important issues that need to be considered when contemplating the meanings of this research.

For one thing, a limitation that plagues all evaluations of treatment seekers is the observation that "comparatively few pathological gamblers seek treatment… fewer still participate in treatment outcome studies" (Nathan, 2005). Because of this, it is important to point out that these data

should not be interpreted as necessarily representative of the broader population of pathological gamblers – some of whom choose not to seek treatment, and some of whom choose not to speak with researchers seeking to talk about their treatment.

As Shaffer et al. note in their study of treatment outcomes in an Iowa problem gambling treatment program, "examining statewide treatment programs is important because these clinical settings provide access to larger sample sizes and more diversity among treatment seekers. However, evaluating these systems is often a compromise between scientific rigor and clinical practicality" (2005, p. 71). Virtually all in the pathological gambling research field agree that the ideal format for this kind of research is one in which control groups (with individuals who do not receive any treatment at all) are examined and compared against those who do receive treatment (see, e.g., Blaszczynski, 2005; Walker, 2005). For many reasons (some of them ethical in nature), this ideal is not always achieved, but as Shaffer et al note, this does not mean that important lessons are impossible to learn in the absence of "pure science."

Appendix A: References and Relevant Readings

(Note: Final Report references are located at the end of this document)

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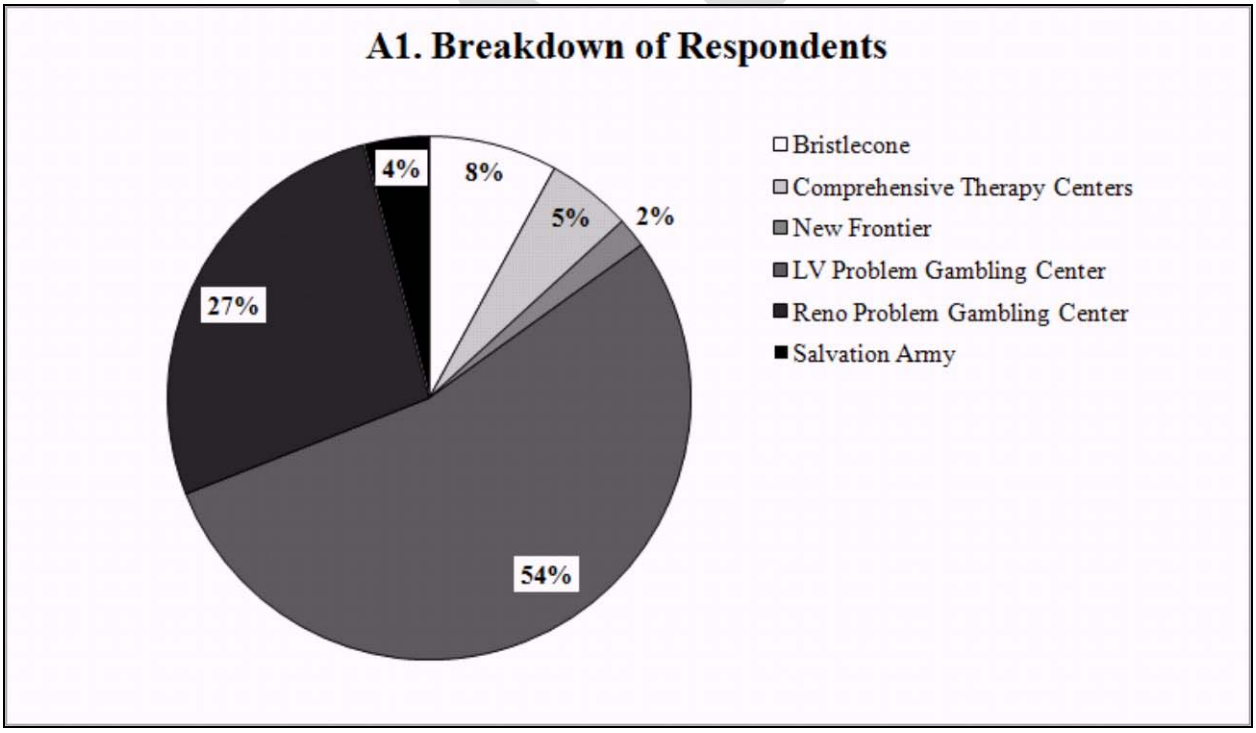
APPENDIX B: CLINIC-BY-CLINIC COMPARISONS

We interviewed treatment participants from six different state funded programs: Bristlecone, Comprehensive Therapy Centers, Las Vegas Problem Gambling Center, New Frontier Treatment Center, Reno Problem Gambling Center, and Salvation Army. In this section, we present a comparison of evaluation and outcomes results across the six programs. It is important to note that these comparisons are descriptive in nature only, and should not be construed as evidence of the quality or effectiveness of any given program. Geographic location, client demographics, and financial resources vary significantly across these programs. All of these factors should be taken into consideration when comparing results.

Figure A1 presents the breakdown of the sample by clinic. **Just over four-fifths of respondents were sampled from just two clinics – clinics that are to be commended for their commitment to research and to large numbers of clients. Over half of respondents (54%) came from the Las Vegas Problem Gambling Center. An additional 27% of respondents received treatment at the Reno Problem Gambling Center.** Bristlecone (8%), Comprehensive Therapy Centers (5%). Salvation Army (4%), and New Frontier (2%) comprised the remaining one-fifth of the sample.



In the next several pages, we present the mean respondent scores by clinic and indicate where there are statistically significant differences between a specific clinic and the rest of the sample. Consistent with the rest of the report, **lower scores indicate more positive ratings**.

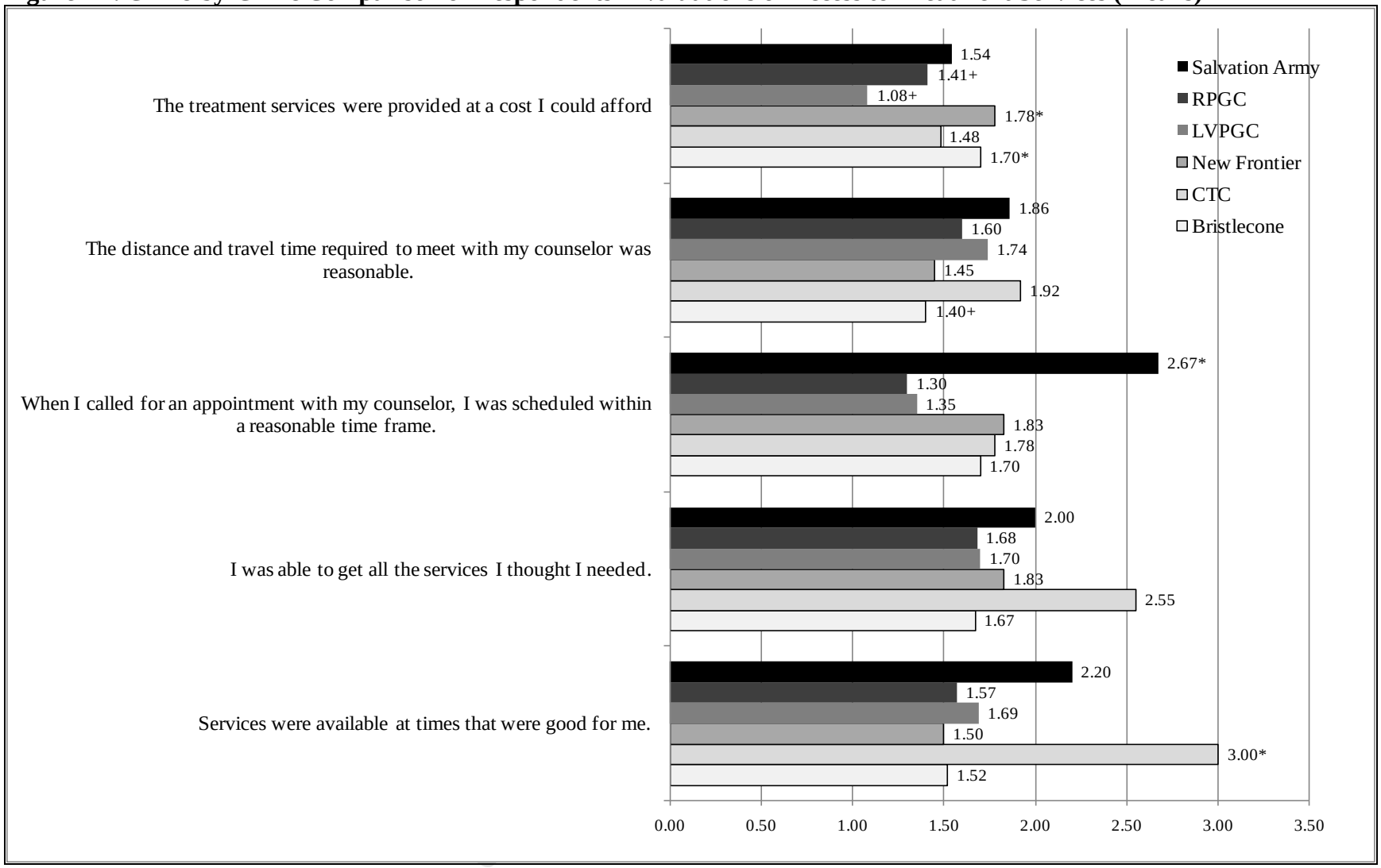
Access to Treatment Services. Figure A2 presents the clinic-by-clinic comparisons for respondents' evaluations of access to treatment services. Clients receiving services at the Reno Problem Gambling Center and the Las Vegas Problem Gambling Center were significantly more positive than respondents at the other clinics about being able to afford the treatment services, while participants at New Frontier and Bristlecone were significantly less positive about the affordability of services. However, respondents from Bristlecone were significantly more positive about the distance and travel time required to meet with counselors. When it comes to being able to schedule an appointment with their counselor within a reasonable time frame, clients receiving services from the Salvation Army are significantly and substantially less positive than clients are the other clinics. Finally, clients from Comprehensive Therapy Centers are significantly less positive about the time availability of services.

Treatment Quality and Helpfulness. Figure A3 presents comparisons for respondents' evaluations of items measuring treatment quality and helpfulness. Clients receiving services from the Las Vegas Problem Gambling Center were significantly more likely than other clients to agree that they were encouraged to use Gamblers Anonymous on a regular basis while clients at New Frontier were significantly less likely to agree that they were encouraged to use GA. Clients are both LVPGC and Bristlecone were significantly more likely to agree that staff encouraged them to take responsibility for how they lived their lives. When it came to counseling services, clients receiving services from the Salvation Army were significantly less positive than other clients about family counseling, while clients are Reno Problem Gambling Center were significantly more positive about the helpfulness of individual counseling, and clients are LVPGC were significantly more positive about the helpfulness of group counseling.

Counselor Relationships. Figure A4 presents comparisons for respondents' evaluations of their relationships with their counselors. Overall, clients were consistently positive about their experiences with their counselors. There was only one significant difference in mean ratings; clients at the Salvation Army were significantly less positive about the extent to which they and their counselors agreed on what the client needed to do to reach his/her goals. All other ratings averaged at the strongly agree/agree level (i.e. $\leq$ 2.00) for all clinics.

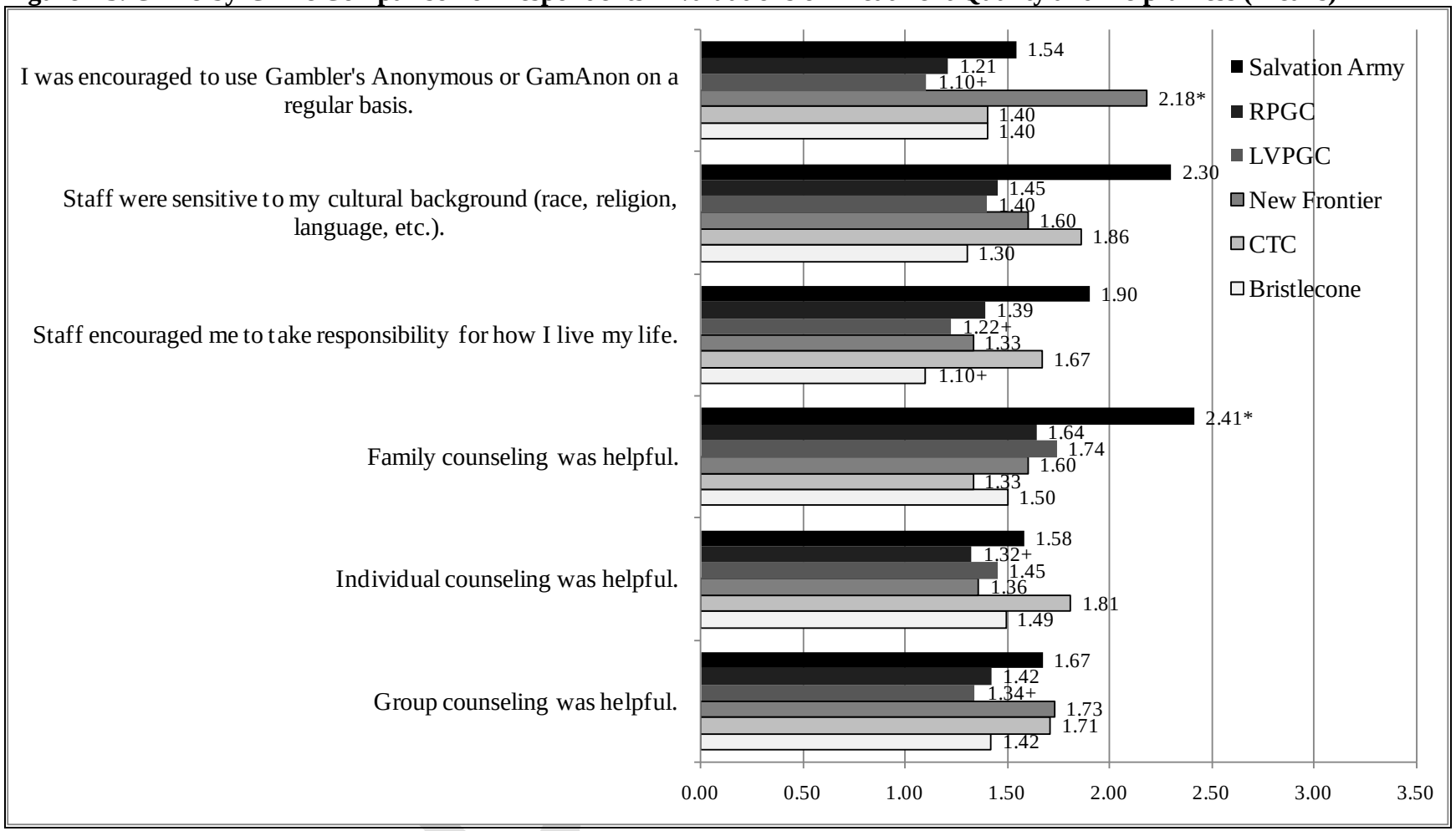
Treatment Effectiveness. Figure A5 presents respondents' evaluations of items measuring treatment effectiveness. Clients receiving services at Bristlecone were significantly more positive about a number of these outcomes, including improvements in their housing situations, getting along better with their families, being able to better deal with crises, being able to better control their lives, and dealing more effectively with daily problems. Indeed, clients at Bristlecone were the most positive overall about the extent to which treatment services helped improve their lives. Clients at New Frontier were significantly more positive than clients at other clinics about the extent to which treatment services helped them perform better in school and/or work.

Figure A2. Clinic-by-Clinic Comparison of Respondents' Evaluations of Access to Treatment Services (Means)



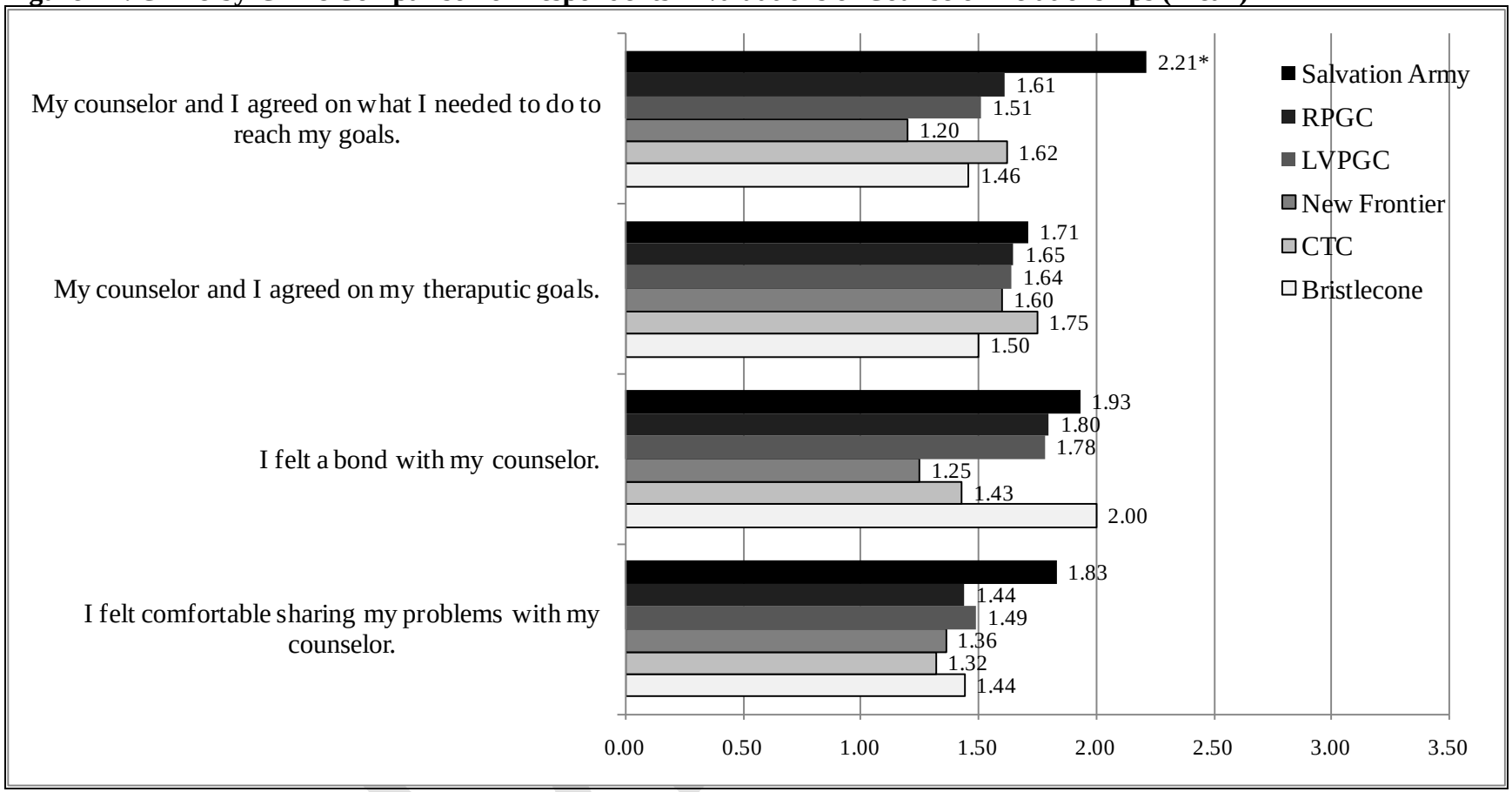
*Indicates a statistically significant less positive rating compared to rest of sample ($p<.05$)
+Indicates a statistically significant more positive rating compared to rest of sample ($p<.05$)

Figure A3. Clinic-by-Clinic Comparison of Respondents' Evaluations of Treatment Quality and Helpfulness (Means)



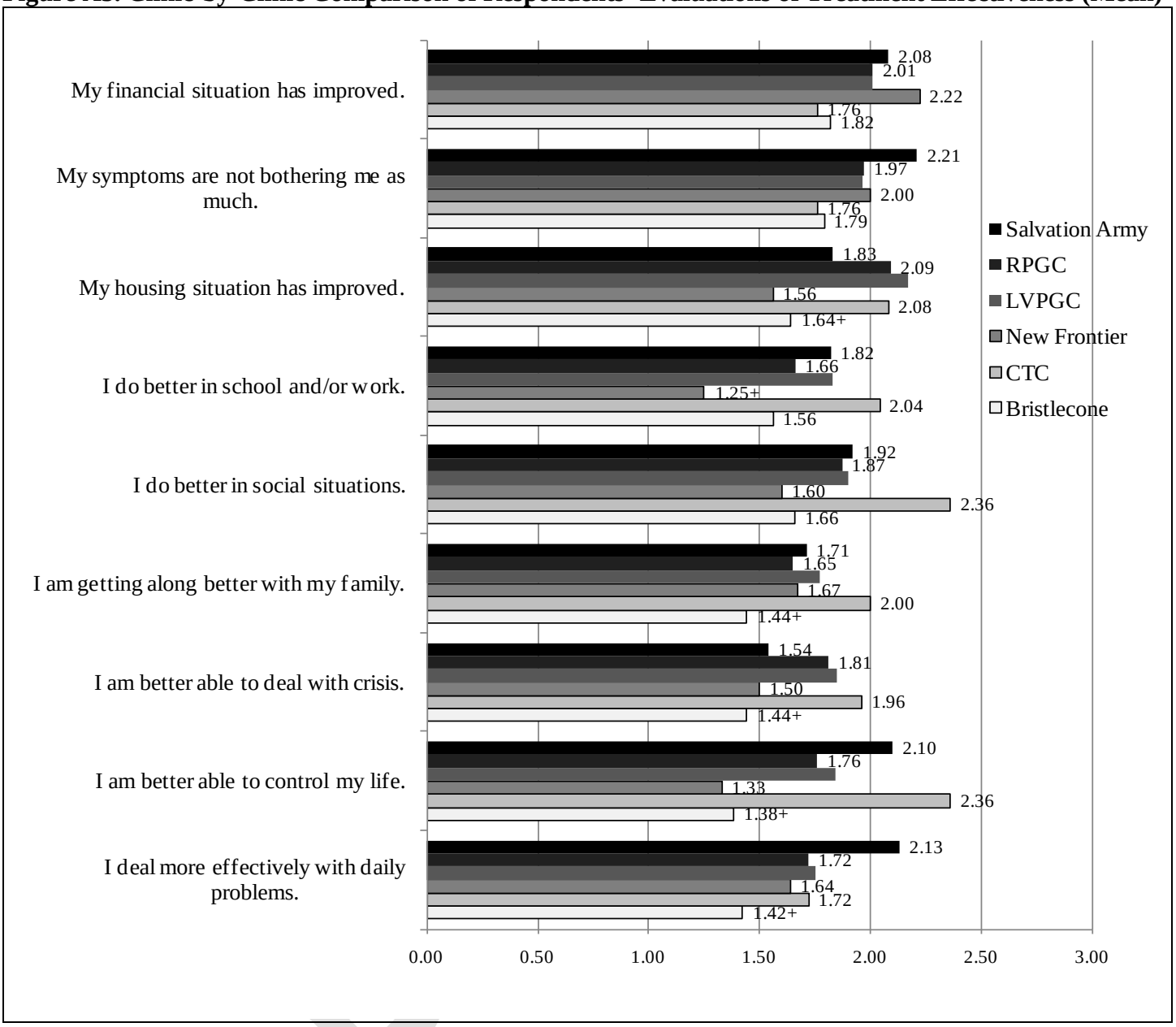
*Indicates a statistically significant less positive rating compared to rest of sample ($p<.05$)
+Indicates a statistically significant more positive rating compared to rest of sample ($p<.05$)

Figure A4. Clinic-by-Clinic Comparison of Respondents' Evaluations of Counselor Relationships (Mean)



*Indicates a statistically significant less positive rating compared to rest of sample ($p<.05$)

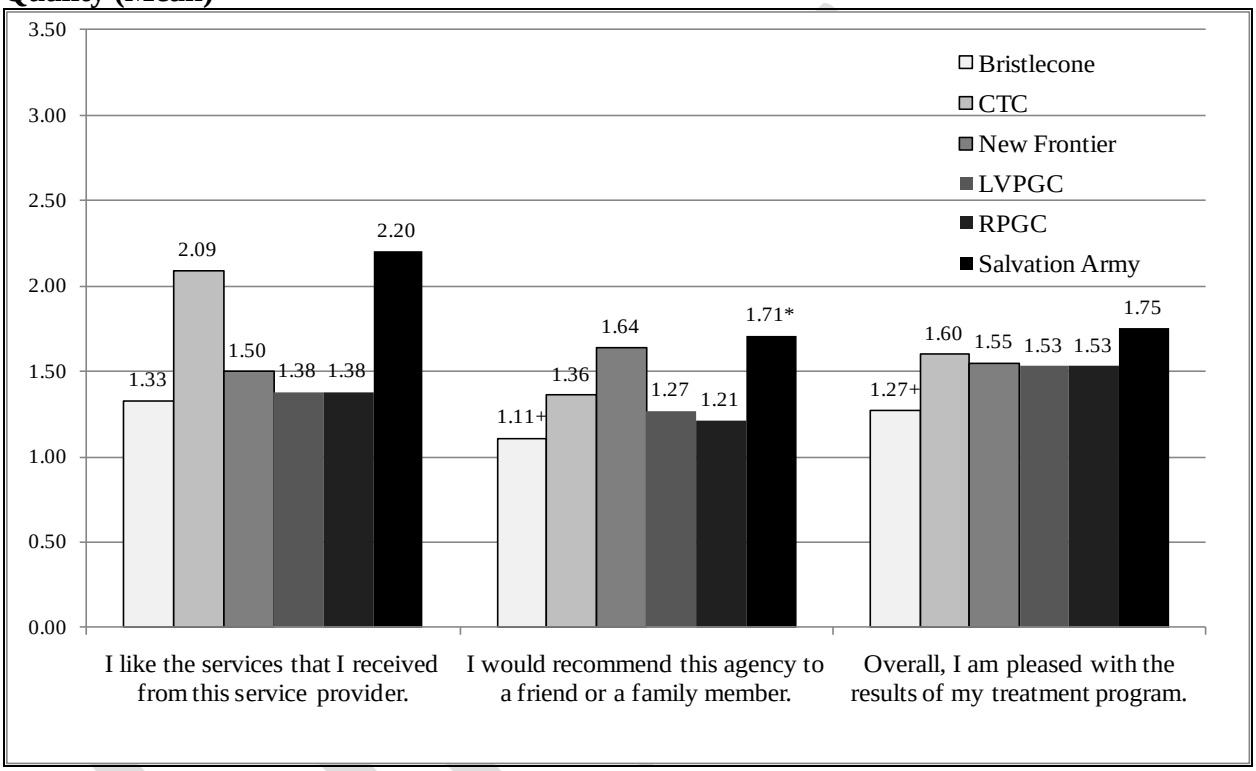
Figure A5. Clinic-by-Clinic Comparison of Respondents' Evaluations of Treatment Effectiveness (Mean)



+Indicates a statistically significant more positive rating compared to rest of sample ($p<.05$)

Overall Evaluation of Services. Figure A6 presents the comparison of mean ratings of items measuring overall service quality. While respondents at Bristlecone were significantly more likely to agree that they would recommend the clinic to a friend or family member and that they are pleased with the results of their treatment, clients receiving services at Salvation Army were significantly less likely to agree that they would recommend the agency to a friend or family member.

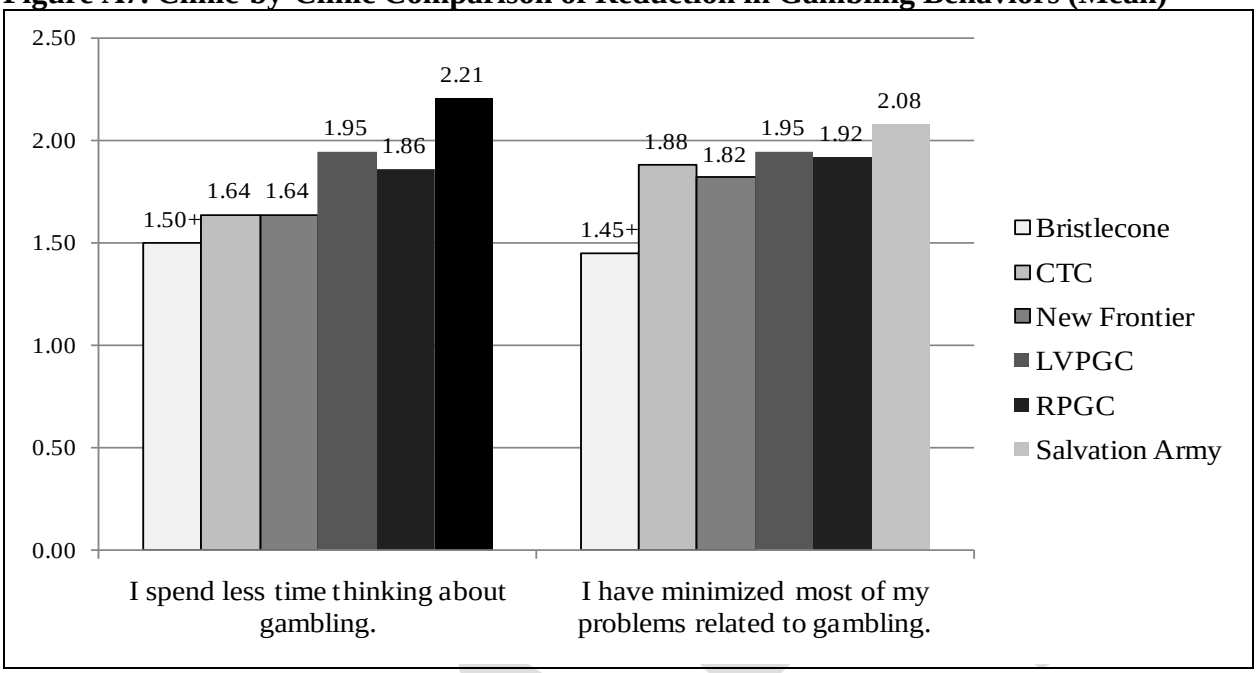
Figure A6. Clinic-by-Clinic Comparison of Respondents' Evaluations of Overall Service Quality (Mean)



*Indicates a statistically significant less positive rating compared to rest of sample (p<.05)
+Indicates a statistically significant more positive rating compared to rest of sample (p<.05)

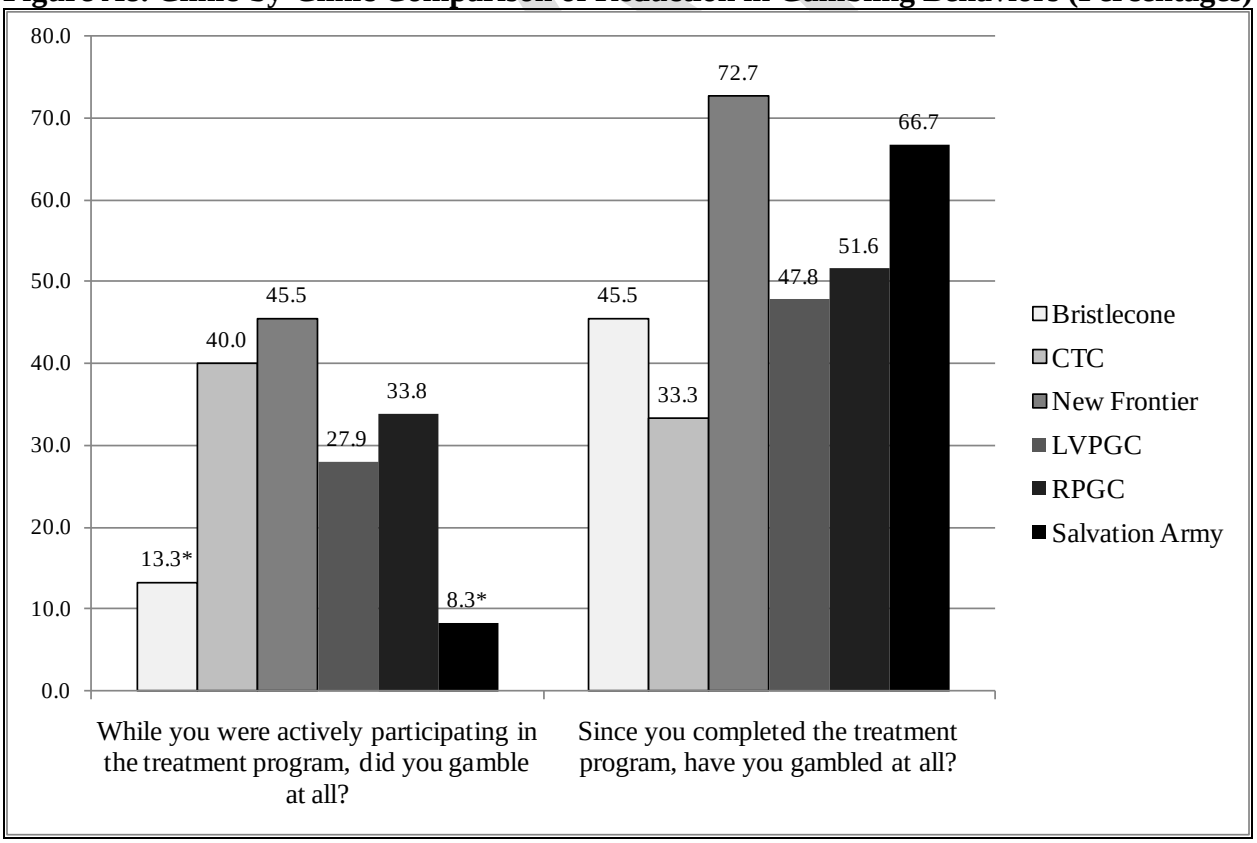
Reduction in Gambling Behaviors. Figure A7 below presents comparisons for mean ratings of items measuring reductions in gambling behaviors. Again, clients receiving services from Bristlecone demonstrated the most positive outcomes. Bristlecone clients were significantly more likely than clients from other programs to agree that they spend less time thinking about gambling and that they have minimized most of their problems related to gambling. Figure A8 further demonstrates that Bristlecone clients (as well as clients receiving services at the Salvation Army) were significantly less likely to gamble while actively participating in the treatment program.

Figure A7. Clinic-by-Clinic Comparison of Reduction in Gambling Behaviors (Mean)



+Indicates a statistically significant more positive rating compared to rest of sample (p<.05)

Figure A8. Clinic-by-Clinic Comparison of Reduction in Gambling Behaviors (Percentages)



*Indicates statistically significant lower percentage of participants gambled while in treatment (p<.05)