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**The Cohort Study: A Longitudinal
Evaluation of OCIP and Chill Out**



Safe Schools
Healthy Students

Pinellas County School District
Safe Schools/Healthy Students Initiative
Evaluation Report #207-8
Prepared by the Louis de la Parte Florida Mental Health Institute

**The Cohort Study:
A Longitudinal Evaluation of
OCIP and Chill Out**

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Executive Summary

The Cohort Study: A Longitudinal Evaluation of OCIP and Chill Out

Two in-school interventions were evaluated as part of the Safe Schools/ Healthy Students Initiative grant to Pinellas County Schools. OCIP is an alternative to suspension which essentially couples counseling with academic help for students with issues of defiance or other non-violent issues. Chill Out is a middle school program that utilizes the second step curriculum to reduce violence in middle schools.

Both programs were evaluated using a methodology that compared the program participants with a comparison group that was created using behavioral characteristics as well as demographic information. Disciplinary referrals were used as the outcome variable to measure change over time.

OCIP participants showed improvement overall, however, the comparison group showed improvement at a greater rate over the four semesters that were measured. Results from our analyses also showed that OCIP participants were less likely to drop out of school than those students that were selected as matched comparisons.

Chill Out had no difference in the average number of referrals when comparing the program participants with the comparison group. Study limitations are included.

The Cohort Study: A Longitudinal Evaluation of OCIP and ChillOut

Introduction

In recent years, violence in the nation's schools has become a central concern to society. Media reports imply that this is a growing problem that must be addressed. One strategy to combat youth violence in schools is intervention via programs to curb violence, reduce substance use and increase safety in the nation's schools.

The Safe Schools/Healthy Students Initiative (SS/HSI) is a U.S. government funded grant supported by three departments of the government. The Departments of Justice, Health and Human Services and Education have collaborated in awarding grant monies to local school districts in an effort to fund programs in cooperation with community partners and law enforcement agencies with the hope of improving school safety and making students healthier.

Pinellas County, Florida has approximately one million residents and a large urban school district with about 111,000 students. Pinellas is one of several districts in the state of Florida to be awarded a grant by the SS/HSI. Part of the Initiative requires a percentage of the funding to include an evaluation of program efforts. One purpose of the evaluation is to measure and report the success or shortcomings of programs funded by the grant.

One of the goals of the evaluation was to conduct a cohort study that would include five grant funded or "targeted" programs, and measure changes in referral trends via the inclusion of a comparison group of students who were not participants in the programs. The five targeted programs included in the cohort study were the On-Campus Intervention Program (OCIP), Chill Out, Anger Management, Families and Schools Together (FAST), and the Partnership program. The current report details the results of the cohort analysis for two of these targeted programs, OCIP and Chill Out.

Study 1: OCIP

The On-Campus Intervention Program (OCIP) is an alternative to the typical in-school suspension program because it has three outstanding features: 1) students admitted to the program are separated in the school from the rest of the student body for the duration of the period of a suspension (usually three days), 2) a teacher is present who works with students to complete academic work and stay current with their studies, and 3) a counselor is present to provide individual intervention for behavioral and emotional problems that students may be experiencing. Students may also be connected with peer counselors or adult mentors. The program's rationale suggests that while students are not relieved from the consequences of disruptive or rule-breaking behavior, they remain on the school grounds where they are supervised, have the opportunity to stay current with academic responsibilities, and may obtain needed counseling to correct the behavioral problem that led to the suspension. Proponents suggest that this program is effective in reducing out of school suspensions, decreasing disruptive behaviors of repeat offenders, and keeping students on track academically.

Method

Participants

This evaluation included participants that were enrolled in OCIP in the spring (Cohort 1) and the fall (Cohort 2) of 2000 and a matched comparison group of students not enrolled in the program. We will report results of the analyses of each cohort separately.

Cohort 1 was composed of 139 secondary school students with 51 program participants and 88 matched comparisons. The cohort included approximately 46% females and 54% males. Forty-eight percent of the group was African American and 47% Euro American. Hispanics comprised 2% of the group, while those self-identifying as 'multi-ethnic' comprised 3%. Fifty

percent of participants applied and were eligible for a free or reduced lunch, an indicator of poverty or lower socio-economic status.

Cohort 2 was composed of 307 students, with 96 program participants and 211 matched comparisons. This cohort included approximately 36% females and 64% males. Twenty-nine percent of the group was African American while 63% was Euro American. Hispanics accounted for 5%, Asians for 2% and 'multi-ethnic' for 1% of the total. Thirty-eight percent of the participants applied and were eligible for a free or reduced lunch.

Procedure

To obtain a matched comparison group of students, OCIP participants were matched with similar students using five criteria: (1) frequency of referrals, (2) severity of referrals, (3) sex, (4) race, and (5) socio-economic status. Students were selected for matching based on their characteristics in the semester prior to program participation. Thus for each cohort, the referral characteristics of program participants in the semester prior to program participation were used to identify and select a matched student comparison group. In an effort to match like students, we first used behavioral indicators rather than general demographics because it was hypothesized that confounding could best be controlled via matching on similarity in frequency and severity of referrals and then with regard to sex, race and socio-economic status.

In an effort to remain parsimonious, referral frequency was trichotomized as either 0 referrals, 1 referral, and 2 or more. Referral severity was dichotomized as severe, defined as the presence of either a violent or mandatory suspension referral, or as not severe, including referrals only for classroom behavior, campus/school rules violation or bus misconduct. After this behavior equity matching process, sex, race and SES, via inclusion in a free or reduced lunch plan, were matched. The result of this process was a matched comparison group that mirrored

the treatment group on important student characteristics. Once treatment and comparison groups were identified, members of either group who left the school system and were not present for the semesters of interest were dropped from the sample for purposes of analysis. The choice to exclude dropouts from the sample after creating the comparison group rather than before, was made to ensure that differential mortality did not confound differences in referral rates. In addition, this evaluation was conducted during, rather than after, the data collection process was completed. Therefore, students might have been present during data analysis in the beginning of the project and subsequently dropped out by the end of the study.

Results

Referral Frequency

Analysis for the OCIP program showed very different trends over time based on the cohort being analyzed. For Cohort 1, the treatment and comparison groups were similar in their average referral rates in the semester prior to the intervention. The average number of referrals for the treatment group was 3.69 and for the comparison group was 3.86. These preprogram averages were not significantly different.

During the following three semesters, which included one semester of treatment and two semesters of post treatment follow-up data, the mean differences were statistically significant for all semesters (see Figure 1).

Significant differences were found for the treatment semester as well as the two semesters post treatment. During the semester of treatment, average referrals for the treatment group were 8.5 while for the comparison group 2.97, $t=6.705$, $p<.001$. For the first semester post treatment, average referrals for the treatment group was 4.57 while 1.45 for the comparison group, $t=4.365$, $p<.001$. For the second semester post, the treatment group average was 2.90

while the comparison group was 1.28, $t=3.064$, $p<.01$. Overall, these findings illustrate a steady decline in referrals and much better improvement by the comparison group compared with the treatment group. It may also be noted that the treatment group does improve from the semester of treatment forward, and average referrals are lowest in the second semester post treatment compared to the previous three measurement periods.

For Cohort 2, treatment commenced in the fall of 2000. The mean referrals from the matching semester were 5.48 for the treatment group and 4.8 for the comparison group. The semester of treatment had average referrals of 5.94 for the treatment group and 2.8 for the comparison group, $t=6.158$, $p<.001$. For the first semester post treatment, averages were 4.78 for the treatment group and 2.73 for the comparison group, $t=3.311$, $p\leq.001$. The second semester post treatment showed averages of 3.78 for the treatment group and 1.97 for the comparison group, $t=3.256$, $p\leq.001$. Similar to Cohort 1 results, the comparison group improved more quickly than the treatment group, but overall, both groups improved significantly (see Figure 2).

Referral Severity

We next analyzed changes over time in the number of violent and mandatory suspension referrals for the treatment and comparison groups. For Cohort 1, the treatment group appeared to experience a surge in referrals during the semester of treatment, followed by a decline for the two semesters following treatment. In contrast, the comparison group experienced a steady decline in referral frequency across the four semesters measured. The overall trend was down for both groups. The total number of referrals and the number of violent/zero tolerance referrals for both groups was down from the semester of treatment forward (see Table 1). However, the

number of violent referrals as a proportion of all referrals dropped more dramatically for the comparison group than for the treatment group.

Table 1. *Cohort 1 Referral Frequency and Violent/Zero Tolerance Referrals*

	Matching Semester	Treatment	Post 1	Post 2
	ref freq (f violent)	ref freq (f violent)	ref freq (f violent)	ref freq (f violent)
Treatment Group N= 51	39 (4)	51 (4)	41 (3)	36 (4)
Comparison Group N= 88	70 (6)	59 (9)	41 (3)	35 (1)

For Cohort 2, we found similar results. The treatment group appears to have had a surge in referrals during the semester of treatment followed by two semesters of declining referrals, while the comparison group had a steady decrease in referrals across the span of four semesters (see Table 2.) The downward trend in referrals for the comparison groups in each cohort was consistent with trends in the district as a whole. An analysis of district wide referrals found that while the district census has gone up from 1998 to 2001, total referrals, the number of students being referred, and the number of violent referrals have decreased (Boroughs, Massey & Armstrong, 2002).

Table 2. *Cohort 2 Referral Frequency and Violent/Zero Tolerance Referrals*

	Matching Semester	Treatment	Post 1	Post 2
	ref freq (f violent)	ref freq (f violent)	ref freq (f violent)	ref freq (f violent)
Treatment Group N= 96	78 (16)	96 (22)	77 (14)	66 (15)
Comparison Group N= 211	170 (54)	124 (27)	123 (17)	99 (10)

School Dropout Rates

Finally, we compared the number of students in the treatment group and the comparison group who were present at the beginning of the study to the number of students present at the end of the study. We found that students participating in the OCIP program dropped out of the school system at roughly half the rate of matched comparisons who did not participate in OCIP (see Table 3). For Cohort 1, program participants accounted for 18.3% of the total cohort during the semester previous and by study's end, the program participants accounted for 36.7% of the total, $X^2=22.64$, $df=1$, $p<.001$.

For Cohort 2, program participants accounted for 25.4% of the group during the semester previous and 31.3% by the study's end, $X^2=5.50$, $df=1$, $p<.001$. These increases in the percentage of OCIP participants in the overall group demonstrate that students in OCIP have a greater likelihood of remaining in school than their non-participating student matches.

Table 3. *Retention Percentage of Treatment vs. Comparison Groups*

Cohort 1		
	Treatment	Comparison
Semester Previous N=350	18.3%	81.7%
Second Post Treatment N=139	36.7%	63.3%

Cohort 2		
	Treatment	Comparison
Semester Previous N=520	25.4%	74.6%
Second Post Treatment N=307	31.3%	68.7%

Discussion

The current evaluation suggests that OCIP did not reduce the incidence of disciplinary referrals for students at a rate greater than a group of non-participating students with similar histories of referrals for disciplinary problems. Both groups showed a decrease in both the total number of referrals and the number of violent and mandatory suspension referrals for the two semesters post treatment. In addition, the comparison group appeared to show a greater decrease over time, although results are complicated by a surge in referrals for students in the treatment group during the semester of program participation. However, as reflected in the differential mortality of students in the two groups, a more positive finding is that OCIP may succeed in helping to prevent students from dropping out of the school system. Without the benefit of OCIP, students with comparable numbers of referrals are lost to the school system at almost twice the rate as students participating in the program.

With regard to the surge in referrals in the semester of program participation, it is not clear if the surge in disciplinary referrals is a precursor to their referral to the program or some response by teachers to the student's program involvement. The pattern of disciplinary referrals may also reflect the rise and fall of the behavioral problems of a student in crisis. For example, a student in crisis may show a relatively stable premorbid functioning, and then exhibit increasing and uncharacteristic behavioral problems. These increasingly visible problems may lead school administrators to target the student for OCIP participation. As the crisis is resolved, perhaps because of OCIP involvement, the behavioral problems begin to dissipate until the child returns to roughly premorbid functioning.

There are several limitations to the study that must be noted. First, the use of random assignment of students to either OCIP or a non-treatment control group was not available in the

current implementation. As a next best alternative, a matched comparison group was identified based on demographic characteristics and referral history. The use of a matching process to identify a likely comparison group for purposes of analysis offers a reasonable opportunity to identify program effects, although possible selection bias and differential mortality served to make interpretation of the results difficult. A potential additional limitation of the study was the use of students matched based on previous disciplinary referrals. We cannot rule out the possibility that some precipitating event in the semester of treatment differentiates OCIP participants from their matched comparisons.

In summary, OCIP participants showed a decrease in disciplinary referrals over time, but at a lesser rate than did members of a matched comparison group. However, a surge in referrals during the semester of treatment, suggests that OCIP participants may represent an at-risk group with even greater needs than the sample available for comparison. Further, as OCIP students were lost from the school system at about half the rate of non-participants, OCIP might prove to be a protective factor with regard to dropping out of school. Such a finding is consistent with the curriculum set forth by OCIP as it emphasizes counseling coupled with scholastic assistance during the time a student would otherwise be suspended.

Study 2: Chill Out

Project Chill Out's curriculum provides a violence and substance abuse prevention program for high-risk students in selected middle schools. The program is designed to work with students, staff, parents and the community to reduce drug use and violence, and promote family preservation. Positive and pro-social decision making is the program's core value. The program has the following main components: the Second-Step violence prevention curriculum (Beland,

1989; Committee for Children, 1997); on-site intervention by a prevention specialist; structured group sessions, with emphasis on conflict resolution techniques; and teacher training.

Proponents suggest the program has shown to be effective at reducing in-school and out-of-school suspensions, and referrals for aggressive, antisocial and disruptive behaviors.

Method

Participants

This evaluation included participants that were enrolled in the Chill Out program in the spring (Cohort 1) and the fall (Cohort 2) of 2000 and a matched comparison group of students not enrolled in the program. We will report results of the analyses of each cohort separately.

Cohort 1 was composed of 383 middle school students with 76 program participants and 307 matched comparisons. The group included approximately 59% females and 41% males. Thirty-six percent of the group was African American and 64% Euro American; no other racial/ethnic groups were represented. Free or reduced lunch programs accounted for 74% of participants, which indicates poverty or lower socio-economic status.

Cohort 2 was composed of 449 students, with 71 program participants and 378 matched comparisons. The cohort included approximately 66% females and 34% males. Forty-one percent of the group was African American while 55% was Euro American. Hispanics accounted for 3% and Native Americans for 1% of the total. Sixty-one percent of the participants applied and were eligible for either a free or reduced lunch. Results will be provided for each cohort separately.

Procedure

To obtain the matched comparison group of students, Chill Out participants were matched with similar students using five criteria: (1) frequency of referrals, (2) severity of referrals, (3) sex, (4) race, and (5) socio-economic status. Students were selected for matching based on their characteristics in the semester prior to program participation. Thus for each cohort, the referral characteristics of program participants in the semester prior to program participation were used to identify and select a matched student comparison group. In an effort to match like students, we first used behavioral indicators rather than general demographics because it was hypothesized that confounding could best be controlled via matching on similarity in frequency and severity of referrals and then with regard to sex, race and socio-economic status.

For purposes of identifying a suitable matched comparison group, referral frequency was trichotomized as either 0 referrals, 1 referral, or 2 or more referrals. Referral severity was dichotomized as severe, defined as the presence of either violence or mandatory suspension referrals, or as not severe, including referrals only for classroom behavior, campus/school rules violations or bus misconduct. After this behavior equity matching process, sex, race and SES, via inclusion in a free or reduced lunch plan, were matched. The result of this process was a matched participant group that mirrored the treatment group on important student characteristics.

Once treatment and comparison groups were identified, members of either group who left the school system and were not present for the semesters of interest were dropped from the sample for purposes of analysis. The choice to exclude dropouts from the sample after creating the comparison group rather than before was made to ensure that differential mortality did not confound differences in referral rates. In addition, this evaluation was conducted during, rather

than after, the data collection process was completed. Therefore, students might have been present during data analysis in the beginning of the project and subsequently dropped out by the end of the study.

Results

Referral Frequency

Analyses of the data showed very different trends over time based on the cohort being analyzed. For Cohort 1, during the semester prior to treatment, the treatment and comparison groups had similar referral averages. The treatment group had mean referrals of 1.62 while the comparison group had 1.71. These differences were not statistically different.

During the following three semesters, of which one was the semester of treatment and two were post treatment follow-up data, the mean differences were only statistically different in the second semester post treatment. The mean scores for the treatment semester were 2.82 for the treatment group and 2.51 for the comparison group. For the first semester post they were 2.16 for the treatment group and 1.89 for the comparison group (see Figure 3).

The only significant finding was during the second post treatment data point where the means were 3.41 for the treatment group and 2.06 for the comparison group, $t=2.287$, $p<.05$. The treatment group had a significantly higher mean referral rate than the comparison group. While both groups had increases in their referral frequencies during the four-semester period, those not receiving treatment had smaller increases than those that did receive treatment.

For Cohort 2, the mean referrals for the matching semester were 2.3 for the treatment group and 1.92 for the comparison group. The following three semesters were unremarkable; no significant differences between the two groups emerged. During the semester of treatment, the treatment group had a mean of 1.94 while the comparison group had 1.37. The two follow-up

semesters post treatment had means of 3.39 and 2.19 for the treatment group while the comparison group had 2.51 and 1.92 (see Figure 4).

Referral Severity

Also analyzed were changes over time in the number of violent and mandatory suspension referrals between the treatment and comparison groups. For Cohort 1, the overall trend of violent and zero tolerance referrals was down. For the purpose of matching, both groups had similar rates of violence during the matching semester. While the violence rate dropped for both groups, it dropped at a much greater rate for the comparison group during the semester of treatment. The treatment group had a 17% violence rate the semester of treatment compared with 8% by the comparison group (see Table 4).

Table 4. *Cohort 1 Referral Frequency and Violent/Zero Tolerance Referrals*

	Matching Semester	Treatment	Post 1	Post 2
	ref freq (f violent)	ref freq (f violent)	ref freq (f violent)	ref freq (f violent)
Treatment Group N= 76	47 (13)	49 (19)	45 (8)	50 (9)
Comparison Group N= 307	191 (55)	184 (26)	150 (17)	169 (24)

During the two semesters post treatment, the treatment group had a 10% rate followed by an 11% rate. The comparison group had a 5% during the first post follow-up and an 8% rate during the second post follow-up.

The second cohort had an increase in the number of students with referrals from the semester previous and the treatment semester to the two semesters post treatment. The violence rate vacillated over the four semesters beginning with a 27% violence rate during the matching semester dropping to 21% during the treatment semester, followed by 34% and 23% during the

two semesters post treatment. Their comparison group also had fluctuating frequencies during these four semesters. Beginning with 180 of the 378 students having referrals during the matching semester then dropping to 146 in the treatment semester. The frequency rose to 188 during the first semester post and then dropped again to 165 during the second semester post. The comparison group matched the treatment group in the semester previous at 26% violence referrals, then 8% the semester of treatment, followed by 14% and 9% in the two semesters post. For Cohort 2, improvement is difficult to discern, but nevertheless, the percentage of violent referrals is down (see Table 5.)

Table 5. Cohort 2 Referral Frequency and Violent/Zero Tolerance Referrals

	Matching Semester	Treatment	Post 1	Post 2
	ref freq (f violent)	ref freq (f violent)	ref freq (f violent)	ref freq (f violent)
Treatment Group N= 71	35 (19)	36 (15)	44 (24)	41 (16)
Comparison Group N= 378	180 (100)	146 (32)	188 (53)	165 (35)

Discussion

Project Chill Out is one of five programs funded through the Safe Schools/Healthy Students Initiative grant. Limitations to the evaluation of this project include the lack of control over the selection criteria used to recruit program participants and the possibility that referrals may be too broad an indicator of positive changes as a result of participation. Some participants entered the program with zero referrals and left the program the same. The lack of consistent criteria used to admit participants into the program naturally affects the outcomes being measured. These limitations are, however, anticipated when conducting secondary analysis. The

purpose in this evaluation was to be able to attribute positive changes, if they occurred, to the program, which set out to help participating students.

Other limitations bring about potential arguments, which might favor looking at these results in another light. One such limitation is the idea that our comparison group did not serve as a perfect matched group on some variable that we were unable to measure. That is, given the nature of evaluation, we had a discrete menu of variables that were available to measure as outcomes for this program. There was the potential for some intervening variation that we could not measure. For instance, daily classroom relations between teacher and student might explain why a student would be recommended into Chill Out even when there was no referral history for this student. Given the current results, we cannot say there is any proven effectiveness for this program.

While the results do not support program efficacy, it is important to keep in mind that participants in Chill Out were selected based on their identification as being at risk for issues surrounding anger management or other behavior related problems. Therefore, while all participants were in high-risk or at-risk groups, the comparison group was not randomly selected nor were they identified as being in an at-risk group. We cannot guarantee that our comparison group was therefore an exact match to the treatment group, but rather the best possible match given the information available.

In this context, Chill Out did not succeed, in that the comparison group of matched students continuously improved on the variables measured when compared with those students that participated in the program. In an effort to further assist with understanding these results, an analysis of district wide referral trends was undertaken. It was found that while the district

census has gone up from 1998 to 2001, referrals are down and the number of students being referred is down. Also, the number of violent referrals, critical to school safety, is down.

Consistent with national findings, we have found that middle schools are in distress when it comes to behavior problems. In Pinellas County, for example, high schools have over 2,000 students more than middle schools, yet the rate of violence type referrals in high schools was less than half, or in one case a third of that in middle schools from our analysis over a five semester period (Boroughs, Massey & Armstrong, 2002). Given the problems facing middle schools, implementation of programs designed to reduce violence such as Chill Out are critical. More research is needed to determine if this program offers sustainable improvements for its student participants.

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Figure 1.

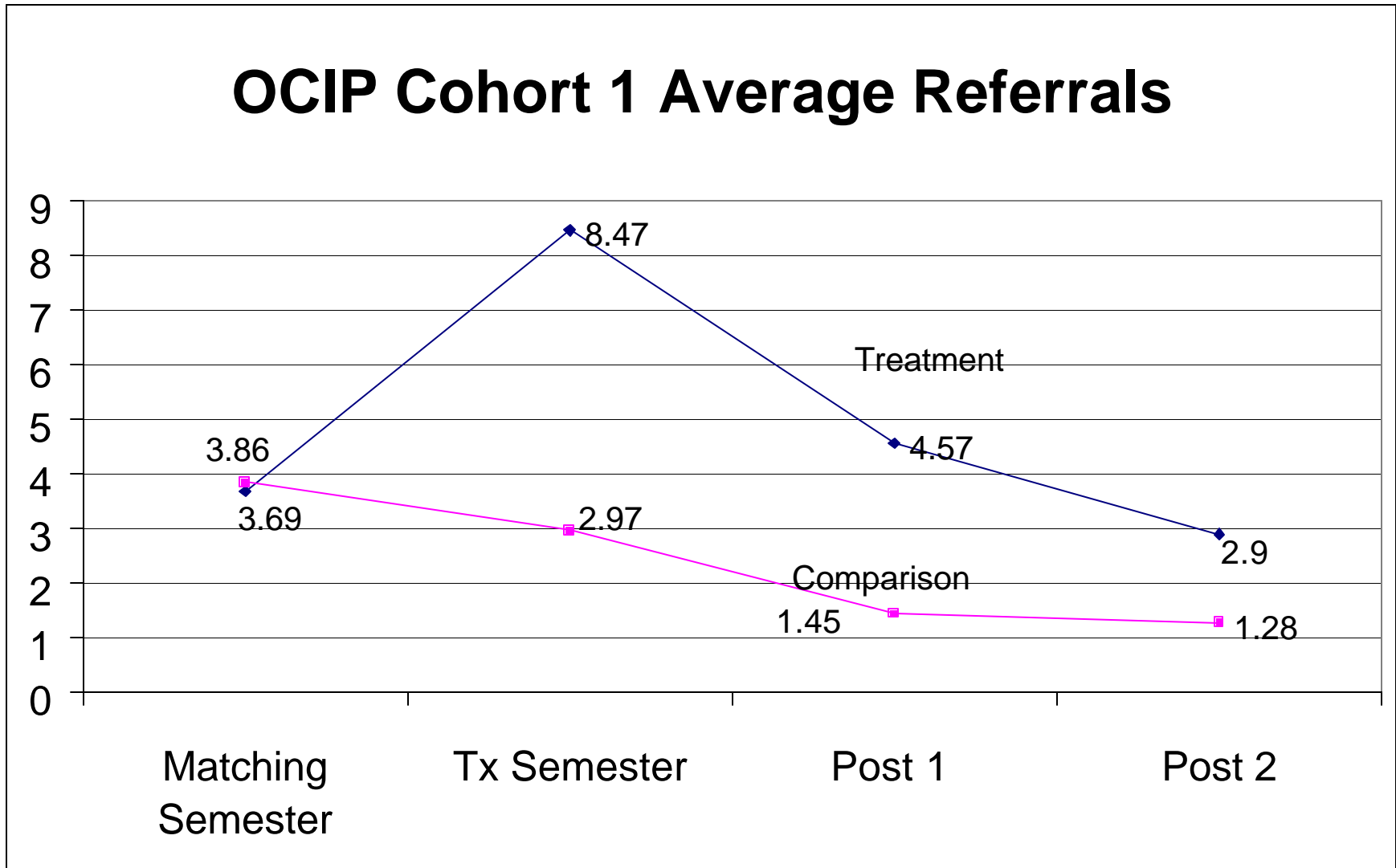


Figure 2.

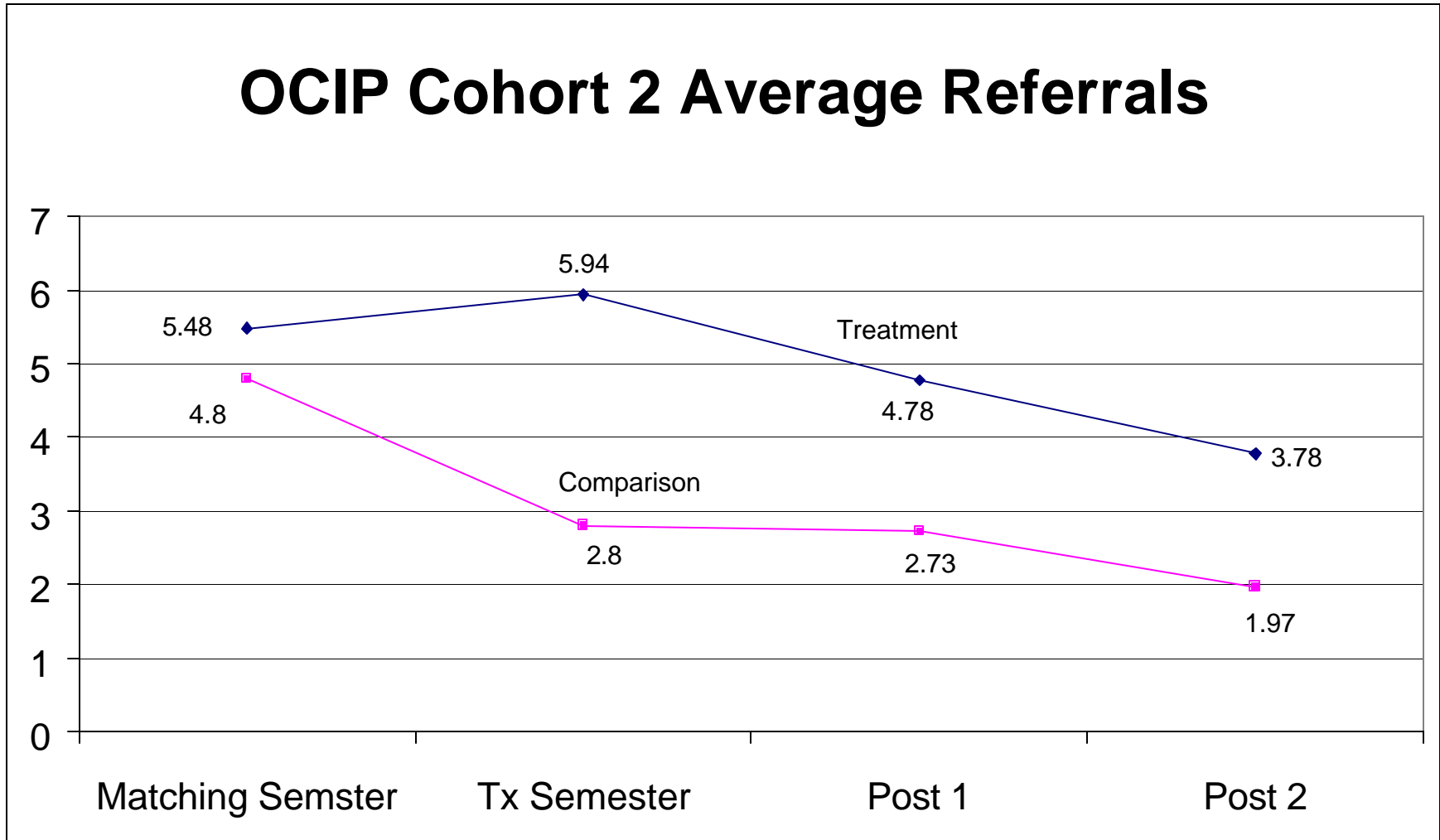


Figure 3.

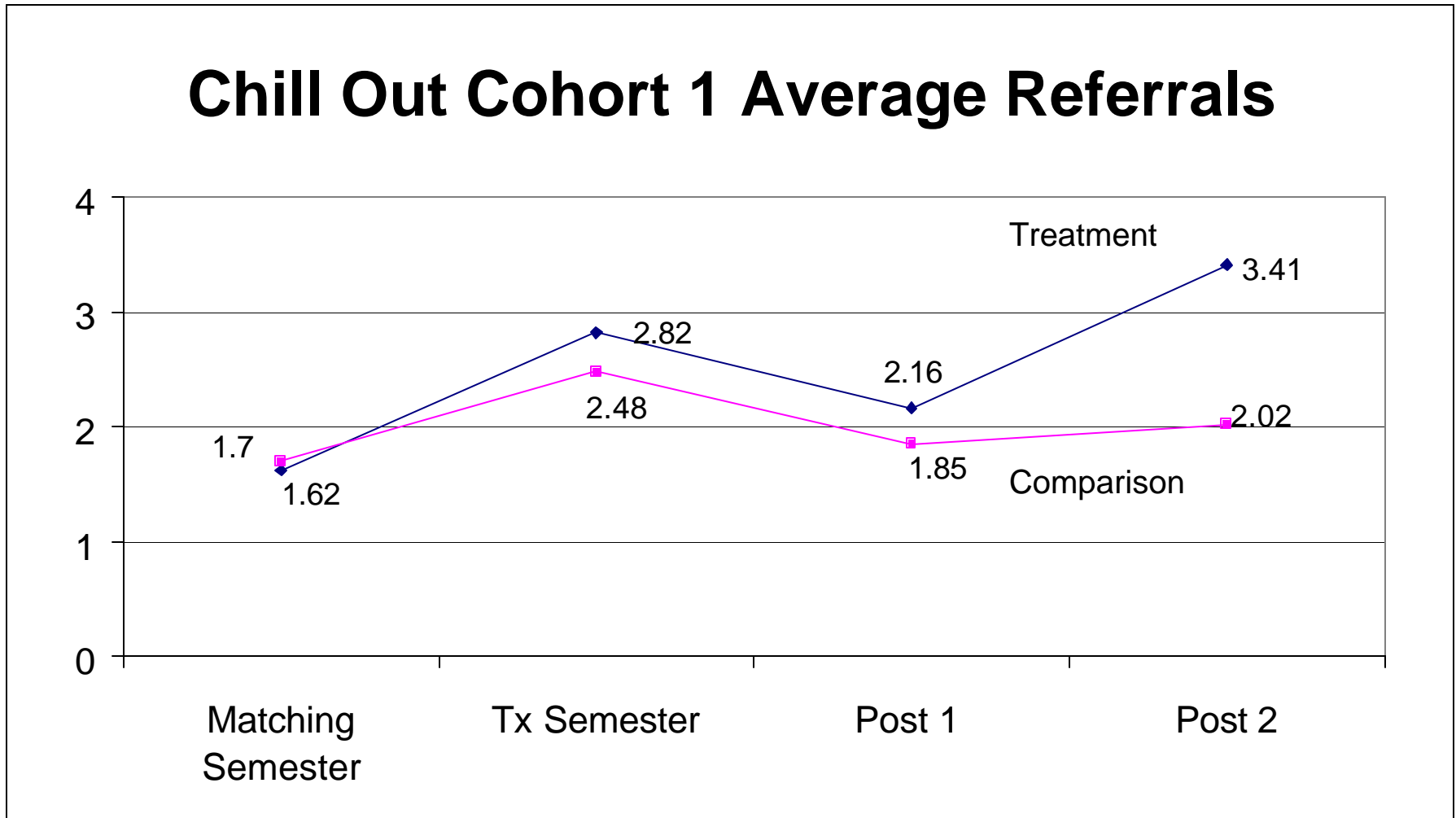


Figure.4

Chill Out Cohort 2 Average Referrals

