

**Alameda County Juvenile Justice Center
Unit 6 Transformative Life Skills (TLS) Program
June 2008 – December 2009
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EXECUTIVE SUMMARY

As part of the behavioral therapy program, Niroga Institute has brought a program of Transformative Life Skills (TLS), a multi-modality intervention including yoga, breathing techniques and meditation, to Unit 6 (formerly known as B2) since June 2006. Data collection for this evaluation began in June 2008 and was completed December 2009. Program classes continue to be provided within the unit 5 days per week, with one girls' and one boys' class per day.

Throughout the 18 months of program delivery for the current study, a total of 217 residents participated in the TLS program (at least one session). The average attendance was 22.55 total sessions (SD = 15.72; range = 1 to 69; mode = 12). And, although *limited* demographic data were obtained (i.e., 16% reported age, and 12% reported race/ethnicity), that which was received *suggests* that the sample consisted of slightly more young women (56%) than young men (44%), between the ages of 16 and 17 (65%), and of African-American (73.1%) race/ethnicity.

Concerning perceived stress, analysis revealed a *significant decrease* ($t = 2.061, p=.04$) in perceived stress from pre-test (mean = 32.59, SD=6.1) to post-test (mean = 31.28, SD=5.4). To explore the impact of attendance on perceived stress, attendance was coded as low (14 or less total sessions) or high (15+ total sessions). Based on this recoding, a subsequent t-test revealed *no* significant differences between pre- and post-perceived stress based on high ($t = .33, p = .75$) vs. low ($t = .30, p = .77$) attendance. Also, *no* significant differences were found between pre- and post-perceived stress based on gender [males ($t = 1.66, p = .11$); females ($t = 1.27, p = .21$)]. It is of interest to note that, although not *significantly* different, there was a *slightly* greater reduction in stress among the males (1.89 point reduction) as compared to the females (.96 point reduction).

Among the self control data, analyses revealed a *significant increase* in self control from pre- (mean = 36.99, SD=6.38) to post-test (mean = 38.67, SD=5.19) among participants ($t = -2.3, p=.02$). Analysis of the impact of attendance (low =14 or less total sessions; high = 15+ total sessions) did *not* reveal a significant difference between pre- and post-self control scores based on high ($t = -.28, p = .79$) vs. low ($t = -.69, p = .49$) attendance. Also, analysis revealed *no* significant differences between pre- and post-self control scores based on gender [males ($t = -1.74, p = .095$); females ($t = -1.53, p = .13$)]. Similar to the trend noted with perceived stress, it is interesting to note that, although not *significantly* different, there was a *slightly* greater increase in self control among the males (1.74 point increase) as compared to the females (1.5 point increase).

¹ Rebecca Matthew is an independent, contracted research analyst.

Analysis of the field notes/reflections produced by Niroga staff members instrumental in the delivery and management of the program provided several themes concerning the strengths and challenges of the students, Juvenile Hall environment, and program design/delivery. Strengths noted among the students included improved conflict resolution and ability to identify maladaptive behavior patterns, improved self awareness, peer leadership, and daily transformation (i.e., a notable shift in overall well-being following a session). Challenges noted among the students were mental health (i.e., a high percentage of the residents have diagnosable mental health disorders) and general resistance to data collection instruments (i.e., unwillingness to complete the required data collection forms).

Environmental strengths particularly surrounded the staff: their overall high level of support for the program, their assistance with data collection, and their assistance with classroom management. The primary environmental challenge noted relates to the previously mentioned mental health needs of the students. As a result of the high rate of mental health disorders among the young men and women, the rate and frequency of various situational, personal, and emotional crises would frequently impact, to varying degrees, the ability to conduct sessions successfully.

Programmatic strengths include Niroga's history in the unit since 2006 (i.e., which lead to increased staff support, buy-in, and overall program continuity) and a high level of experience among the Niroga instructors. Finally, programmatic challenges included the effects of relying on unit staff to perform data collection activities (i.e., inconsistent data collection), the high rates of recidivism within the unit (i.e., estimated at 27.2% within this study), and inconsistent data collection (i.e., as noted above, in addition to challenges with collecting attendance data).

In summary, although preliminary and limited by statistical and logistical constraints, these findings suggest that the delivery of a TLS program within Juvenile Hall among predominantly African American males and females, between the ages of 12 and 17, leads to positive outcomes. In particular, these data suggest that participation in the program leads to a significant *decrease* in perceived stress, and a significant *increase* in self control. These *statistical* shifts are complemented by the qualitative data provided by Niroga staff, suggesting that program participation facilitated residents' ability to "resolve conflict in more adaptive ways" and "improve self awareness."

FULL REPORT

METHODS

Recruitment and Program Delivery

Niroga Institute's program of Transformative Life Skills (TLS), a multi-modality intervention including yoga, breathing techniques and meditation, is offered as part of Unit 6's behavioral therapy program. As such, there was no "formal" recruitment required. If a resident chose not to attend on a given day for various reasons, the hour would be spent (most often) in her/his room. The 60-minute program was delivered on site five (5) days per week, involving one boys' and one girls' class per day. Sessions involved the following components: an initial moment of silence (centering), a "check in," a series of yoga poses and breathing exercises, and a final "check out."

Data Collection

Data collection was conducted by the behavioral health/guidance clinic staff in addition to Niroga staff members, throughout the study, to include baseline, weekly, and post-test data. Clinic staff would coordinate and administer the PSS-10 and TSCS-13 at baseline and post-test, while Niroga staff requested that all participants complete the PSS-4 weekly, in order to assess a possible shift in perceived stress on a more regular basis. As will be noted later, there were significant challenges associated with data collection. For example, participants were often transferred at times when guidance staff was unavailable to complete the post-test. In addition, many participants were unwilling to complete the weekly assessments.

Instrumentation

In an attempt to obtain demographic data concerning age and ethnicity, a header was included on the first page of the survey instrument; however, many participants chose not to answer these questions.

Perceived stress was assessed with the *Perceived Stress Scale-10 (PSS-10)*. The PSS-10 is a validated, 10-item, self-report questionnaire, used to assess the level of stress experienced in the previous month (Cohen, Kamarck, Mermelstein, 1983²; Cohen & Williamson, 1988³). Participants indicate responses to all 10 items on a 5-point likert scale ranging from (1) never, to (5) very often. Initial psychometric analyses revealed a Cronbach's alpha reliability of .78 (Cohen, Kamarck, Mermelstein, 1983). PSS-10 scores are obtained by reverse coding the positive items (i.e., items 4, 5, 7, 8) and then summing across all 10 items on a continuous scale. Scores range from 10 to 50, with higher scores indicating greater perceived stress.

² Cohen, S., Kamarck, T., Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, (4), 385-396.

³ Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health: Claremont Symposium on applied social psychology*. Newbury Park, CA: Sage

Self control was assessed with the *Tangney Self Control Scale (TSCS-13)*. The TSCS-13 is a validated, 13-item, self-report questionnaire (Tangney, Baumeister, & Boone, 2004⁴), which assesses the level/degree of self control experienced in the previous two weeks. Participants indicate responses to all 13 items on a 5-point likert scale ranging from (1) never, to (5) very often. TSCS-13 scores are obtained by reverse coding the negative items (i.e., items 2, 3, 4, 5, 7, 10, 12, 13) and then summing across all 13 items on a continuous scale. Scores range from 13 to 65, with higher scores indicating greater levels of self control.

To assess possible shifts in perceived stress on a more regular (i.e., weekly) basis, the *Perceived Stress Scale-4 (PSS-4)* was utilized. The 4-item Perceived Stress Scale (PSS) assesses the degree to which individuals find their lives to be unpredictable and uncontrollable during the past month (Cohen, Kamarck, Mermelstein, 1983; Cohen & Williamson, 1988). Cronbach's alpha reliability coefficients range from 0.60 to 0.72 (Cohen, Kamarck, Mermelstein, 1983; Cohen & Williamson, 1988). Participants indicate responses to all 4 items on a 5-point likert scale ranging from (1) almost never, to (5) very often. PSS-4 scores are obtained by reverse coding the positive items (i.e., items 2 and 3) and then summing across all 4 items on a continuous scale. Scores range from 4 to 20, with higher scores indicating greater perceived stress.

Analysis

To assess changes in pre- to post-test scores on self control and perceived stress, paired samples t-tests were conducted. In addition, paired samples t-tests were conducted to determine the potential impact of overall attendance (high vs. low) and gender (male vs. female) on changes in pre- to post-test self control and perceived stress scores. In addition to the quantitative analyses noted above, qualitative data obtained from program staff (e.g., in the form of field notes/reflections) were also analyzed in an attempt to provide additional understanding and program feedback.

⁴ Tangney, J.P., Baumeister, R.F., & Boone, A.L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, 72(2), 271-324.

RESULTS

Demographics

Although a total of 217 residents participated in at least one program session throughout the 18 months of program delivery, pre- and post-test perceived stress data were obtained from only 75 residents (35%), and pre- and post-test self control data were obtained from only 70 residents (32%). Although all participants reported their gender, only 16% reported their age, and 12% reported their race/ethnicity. Based on these data, the sample was comprised of slightly more young women (56%) than young men (44%), and, although *very limited*, the data concerning age and ethnicity *suggests* that the majority of residents were between the ages of 16 and 17 (65%) and of African-American (73.1%) ethnicity.

Instrumentation

Similar to previous studies (Cohen, Kamarck, Mermelstein, 1983; Cohen & Williamson, 1988; Tangney, Baumeister, & Boone, 2004), the instruments demonstrated acceptable reliability: Cronbach's alpha averaged .75 on the PSS-10 and .745 on the TSCS-13⁵ (please see Table 1). The data were entered directly into a PASW (Version 16—formerly, SPSS) database for analysis.

Table 1: Cronbach's Alpha Results

	PRE		POST	
	# of valid cases	alpha	# of valid cases	alpha
PSS-10 (10 items)	142	.76	95	.74
TSCS-13 (13 items)	133	.75	90	.74

⁵ These findings are similar to those obtained by Niroga Institute in its study conducted at El Cerrito High School during Fall 2008: Cronbach's alpha ranged from 0.78 - 0.87 on the PSS-10 and 0.82 - 0.83 on the TSCS-13.

Perceived Stress

1. As demonstrated in Figure 1, a paired samples t-test revealed a significant decrease in perceived stress from pre- (mean = 32.59, SD=6.1) to post-test (mean = 31.28, SD=5.41) among participants ($t = 2.061, p=.04$).
2. To explore the impact of attendance on perceived stress, attendance was coded as low (14 or less total sessions) or high (15+ total sessions). Based on this recoding, a subsequent t-test analysis was performed which revealed *no* significant differences between pre- and post-perceived stress for either the high ($t = .33, p = .75$) or the low ($t = .30, p = .77$) attendance groups. *Based on a reduced sample size associated with missing/incomplete data, this analysis was performed on a significantly reduced sample size (i.e., 12 participants within the high and 19 within the low attendance groups). As such, one should interpret this finding cautiously.*
3. To explore the impact of gender on perceived stress, an additional t-test analysis was performed which revealed *no* significant differences between pre- and post-perceived stress for either the males ($t = 1.66, p = .11$) or the females ($t = 1.27, p = .21$). It should be noted, however, that although not *significantly* different, there was a slightly greater reduction in stress among the males (1.89 point reduction) as compared to the females (.96 point reduction)—as noted in Figure 2.

Figure 1: Mean Pre- and Post-Test Perceived Stress Scores

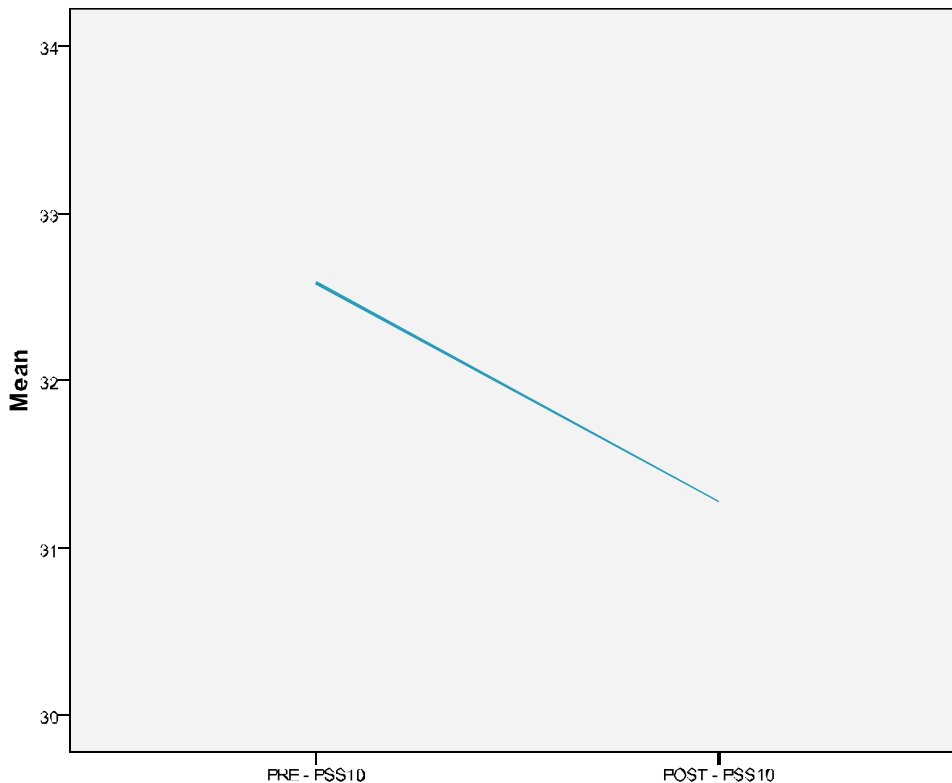
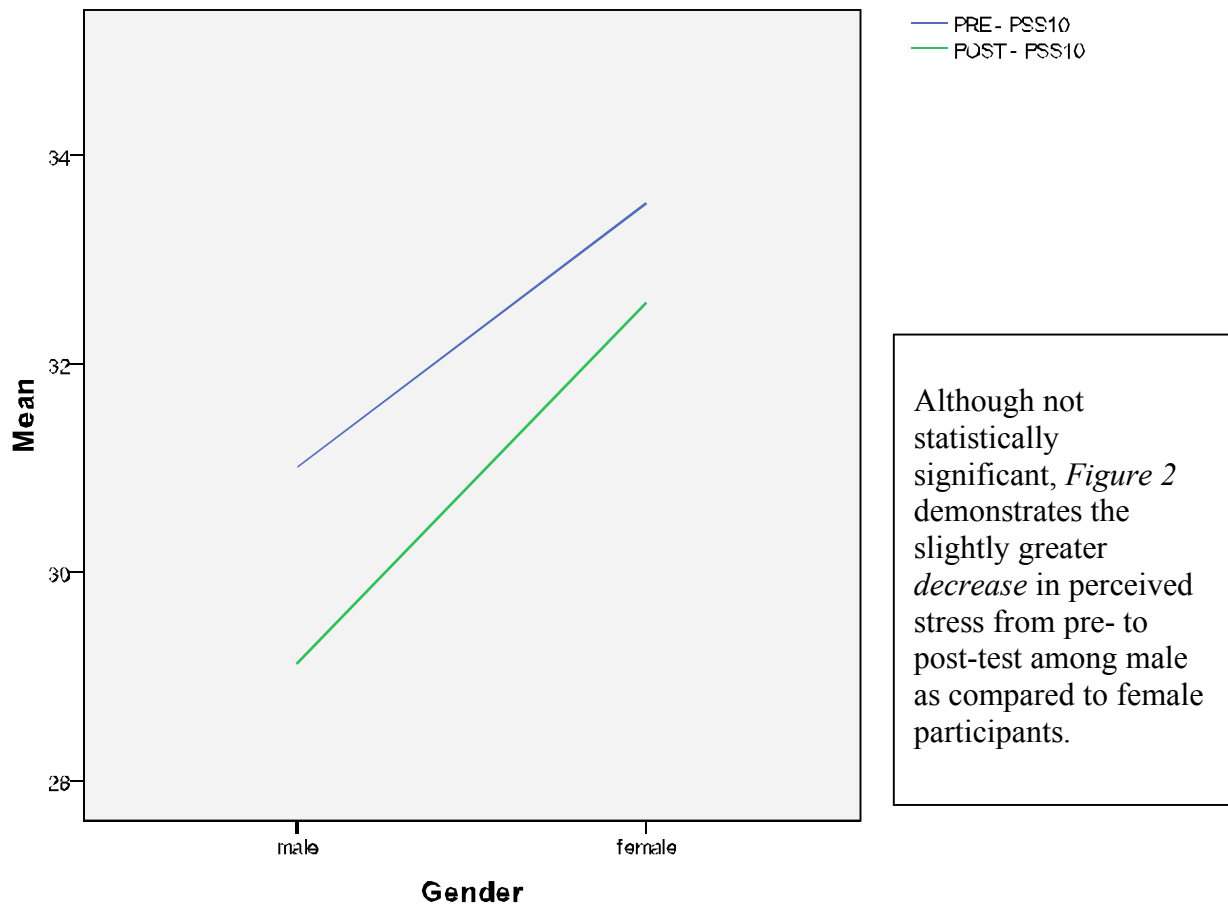


Figure 1 demonstrates the significant decrease in perceived stress scores from pre-test (mean = 32.59, SD=6.1) to post-test (mean = 31.28, SD=5.41).

Figure 2: Mean Pre- and Post-Test Perceived Stress Scores among Males and Females



Self Control

1. As demonstrated in Figure 3, a paired samples t-test revealed a significant increase in self control from pre- (mean = 36.99, SD=6.38) to post-test (mean = 38.67, SD=5.19) among participants ($t = -2.3, p=.02$).
2. To explore the impact of attendance on self control, attendance was coded as low (14 or less total sessions) or high (15+ total sessions). Based on this recoding, a subsequent t-test analysis was performed which revealed *no* significant differences between pre- and post-self control scores for either the high ($t = -.28, p = .79$) or the low ($t = -.69, p = .49$) attendance groups. *Based on a reduced sample size associated with missing/incomplete data, this analysis was performed on a significantly reduced sample size (i.e., 12 participants within the high and 19 within the low attendance groups). As such, one should interpret this finding cautiously.*
3. To explore the impact of gender on self control, an additional t-test analysis was performed which revealed *no* significant differences between pre- and post-perceived stress for either the males ($t = -1.74, p = .095$) or the females ($t = -1.53, p = .13$). It should be noted, however, that although not *significantly* different, there was a slightly greater

increase in self control among the males (1.74 point increase) as compared to the females (1.5 point increase)—as noted in Figure 4.

Figure 3: Pre- and Post-Self Control Scores

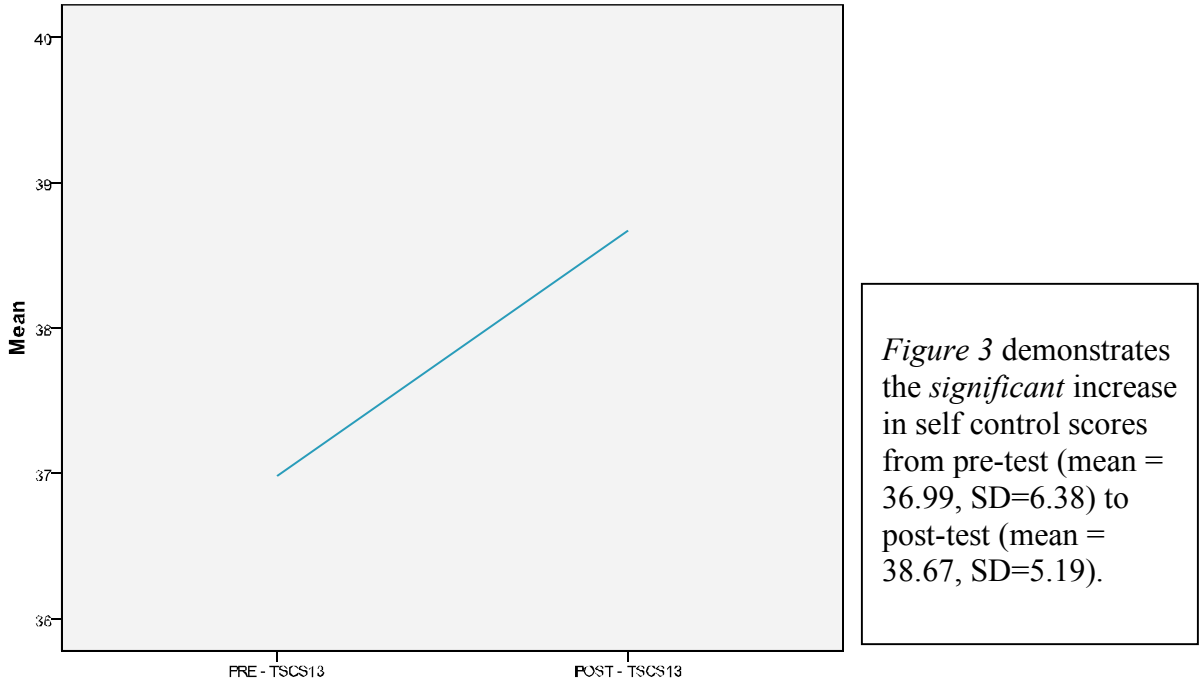
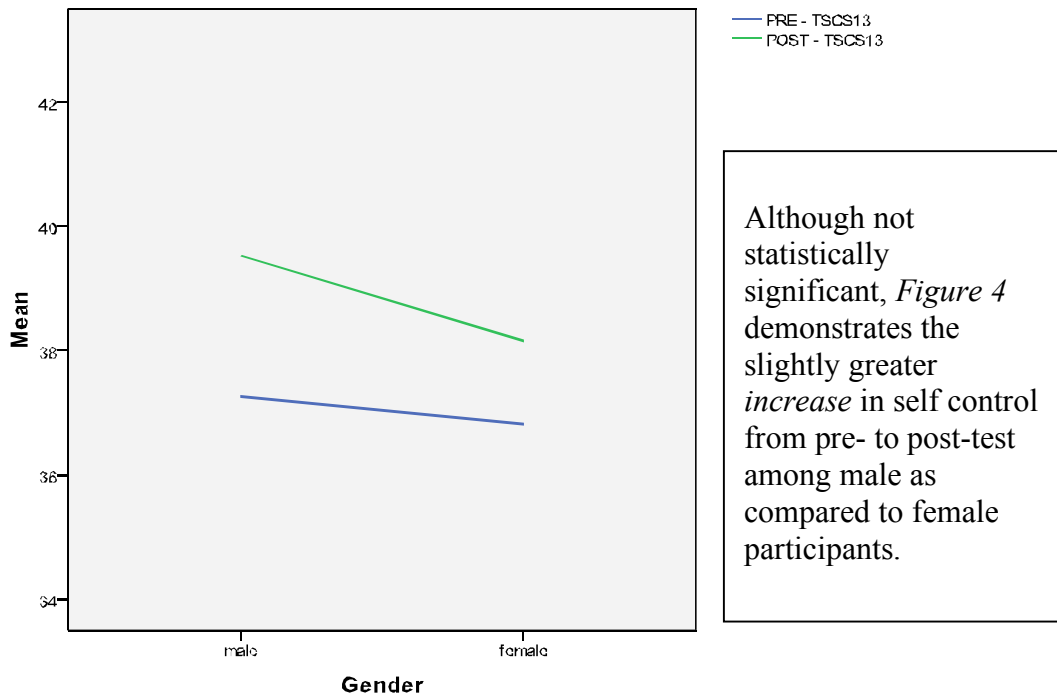


Figure 4: Mean Pre- and Post-Test Self Control Scores among Males and Females



Qualitative Data Obtained From Program Staff

A review of the field notes/reflections provided by Niroga program staff highlighted the strengths and challenges within the following three thematic areas: student participants, environment, and study/program design and delivery. To follow are direct quotes from these data sources grouped by topic and theme, followed by overall lessons learned.

Student Strengths:

Improved conflict resolution/identifying behavior patterns: With the constant reminder to turn your focus inward during the program session, minors in Unit 6 have developed stronger conflict resolution skills and insight into their own behaviors. The session serves as a place for the minors to explore their own impulses, thoughts and actions. Many of the minors in Unit 6 understand how to “take yoga off the mat,” which has been invaluable in decreasing conflict.

Improved self awareness: It can be very challenging for the minors in Unit 6 to focus on themselves, but in yoga they work every session to improve that ability. Guidance clinic uses the metaphor “stay on your own mat” throughout the day to remind the minors to stay focused on themselves by staying out of each other’s “business.”

Peer Leadership: There have been several minors in Unit 6 who have really taken to the practice of yoga and who have demonstrated strong leadership capabilities. The yoga sessions often provide an opportunity to nourish the leadership qualities of the youth by allowing them to lead portions of the class. Some of the youth have developed a strong interest in yoga and have pursued continuing the practice after leaving juvenile hall.

Daily transformation: At the beginning of most yoga sessions in Unit 6 there is some element of chaos; however, by the end there has often been a visible transformation. It is amazing to witness this dramatic change in energy. It appears as though the minors in Unit 6 have a positive association with yoga and recognize it as a place where they can experience a feeling of well being.

Student Challenges:

Mental Health: A high percentage of minors housed in Unit 6 take medication for mental or emotional illnesses. In Unit 6 the yoga classes take place in the morning when many of the minors have not yet taken their medications. In some cases the presence or absence of a minor’s medication can have an easily distinguishable effect on their behavior and ability to participate in yoga.

Resistance to data collection instruments: The minors in Unit 6 did not respond well to the data collection instruments. During the administration of the weekly assessment, many participants would either refuse to fill it out or not record valid answers. This may be due to the nature of minors housed in Unit 6 who are typically receiving intensive therapy and assessment.

Environmental Strengths:

Overall Staff Support for the Program: The guidance clinic staff in unit 6 are very involved in the yoga program. They do an amazing job incorporating yoga into their day treatment model. They also use “yoga language” through the day in their therapy groups. The yoga program is built into the structure of Unit 6, creating a very holistic approach to rehabilitation. Program continuity is also supported by regular communication between Niroga and clinic staff.

Staff Assistance with Data Collection: As mentioned in the above sections, the guidance clinic staff was instrumental in facilitating data collection. The study design called for guidance clinic staff to complete an Intake with every minor who arrived in Unit 6 prior to them attending yoga and to administer the same form as an Outtake before they were released. Staff also assisted with the collection of daily attendance.

Staff Assistance with Classroom Management: A guidance clinic staff or intern is present during every yoga session. This person is there to assist the Niroga instructor as issues arise. Having the guidance clinic staff in the room is very helpful because the population in Unit 6 often needs extra support during the yoga sessions.

Environmental Challenges:

The primary environmental challenge noted is in relation to the previously mentioned mental health needs of the students. As a result, the high rate of mental health disorders among the young men and women, the rate and frequency of various situational, personal, and emotional crises would frequently impact, to varying degrees, the ability to conduct yoga sessions.

Programmatic Strengths:

History in Unit: Yoga has been a part of the behavioral therapy model in Unit 6 for close to four years. A lot of work has been put into developing, adapting, and sustaining the continuity of a yoga program to meet the needs of minors housed in Unit 6.

Experienced instructors: The instructors that teach in Unit 6 are very experienced and committed to practicing with this population. They all have different styles that complement one another and maximize the accessibility of knowledge for the youth.

Programmatic Challenges:

Relying on Unit Staff to Perform Data Collection Activities: One of the major challenges in this project was the study design. The study design was dependant on Unit 6 guidance clinic workers capturing Intakes and Outtakes. It was very difficult due to various situational and environmental challenges to capture these data in a consistently efficient manner. Because the collection of this data was not a “priority,” it may have been

overlooked at times. And, because Niroga staff had no way to ensure that the instruments were being administered per protocol, there was no way of tracking data collection problems on a consistent basis.

Recidivism: The high rate of recidivism in Unit 6 was another challenge for data collection. For those leaving and returning, sometime on multiple occasions, it made data collection particularly challenging to follow and obtain in an accurate manner. This challenge is most within this unit, as it is the (1) only one designed as a day treatment unit and (2) suitable for minors with diagnosable mental illnesses.

Inconsistent Data Collection: Data collected from Unit 6 was very inconsistent because clinic staff was simply unable to perform this task consistently, in addition to their existing work demands. Also, capturing accurate attendance records was difficult because minors are being pulled out of class, asked to leave or deciding to leave on their own.

Lessons Learned:

1. Ensure the task of data collection is performed by program staff (i.e., expecting unit/clinical staff to perform this task in addition to existing work demands is not feasible).
2. Develop evaluation protocols that do not exacerbate an “over-assessed” population.
3. Develop strategies for situations where recidivism is present.
4. Make sure that everyone involved in facilitating the study understands the significance, roles and responsibilities, and short and long term goals.
5. Implement an incentive program similar to that of unit 4 (i.e., “Yogi of the Week”) to keep youth focused and goal oriented.