

## DOES THE BEHAVIORAL PROGRESS MADE AT JRC GENERALIZE ACROSS SETTINGS AND OVER TIME? A FOLLOW-UP STUDY OF FORMER JRC STUDENTS.

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We surveyed post-treatment outcomes of 85 former students of the Judge Rotenberg Educational Center (JRC), a residential care facility that employs a highly consistent application of behavioral treatment and educational programming. All students who were reachable and who had attended JRC for at least 3 months were included. The mean length of time since a student had attended JRC was 5.5 years (range 0.33 – 29.7 years). We used both a subjective General Life Adjustment rating scale (performed by guardians and/or the former students themselves) and objective counts of certain Quality of Life Indicators. Using these measures, this group of students showed marked improvement over their status prior to enrolling in JRC.

### **Introduction**

Examining post-treatment patient or student outcomes for the users of residential care facilities remains an important aspect in assessing the long-term durability of the treatment students receive while in the care of the facility, as well as the generalization of treatment effects to natural environments. The participants in this study consisted of former students of the Judge Rotenberg Educational Center(JRC). JRC operates day and residential programs for children and adults with behavior problems, including conduct disorders, emotional problems, brain injury or psychosis, autism and developmental disabilities. This study is part of JRC's ongoing efforts to assess the effectiveness of treatment after students have left the program.

The basic underlying approach taken in all of JRC's programs is the use of behavioral psychology and its various technological applications, such as behavioral education, programmed instruction, precision teaching, behavior modification, and behavior therapy and counseling. From JRC's inception, its philosophy has always included the following principles: a willingness to accept students with the most difficult behavioral problems and a refusal to reject or expel any student because of the difficulty of his or her presenting behaviors; the use of a highly structured, consistent application of behavioral psychology to both the education and treatment of its students; elimination or minimization of the use of psychotropic medication; and the use of a full range of effective behavioral education and treatment procedures, including supplementary aversives if needed.<sup>1</sup>

As a result of JRC's near-zero-rejection admissions policy, students who attend JRC have included some of the most difficult-to-treat students in the nation. A typical JRC student comes into the facility taking one or more psychotropic medications,<sup>2</sup> has been suspended and/or expelled from a variety of school settings, has extremely poor interpersonal relationships with others (including family members), and is likely on a trajectory to end up in a psychiatric hospital or prison (in fact, many JRC students have a history of psychiatric hospitalizations prior to JRC admission and some have been referred to JRC from a prison setting).

## Method

### Participants

The participants consisted of 85 former students of the Judge Rotenberg Educational Center (JRC). Two-hundred and seventy-nine former JRC students were selected to be called for data collection. The criteria for the selection of the 279 former students included: a.) they had been discharged from JRC; b.) they had

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<sup>1</sup> Additional information is available from JRC's website at [www.judgerc.org](http://www.judgerc.org).

<sup>2</sup> During a 2008 survey, of those students admitted to JRC during the prior 5 years who were still enrolled at the time of the survey, 85% had been taking at least one psychotropic medication prior to enrolling in JRC; of those same students who were enrolled at JRC at the time of the survey, only 3% continued to receive psychotropic medication.

contact information available; and c.) they had not previously indicated a desire to not participate in previous editions of this study. All together, data were successfully collected for 85 (30%) of the 279 former students.

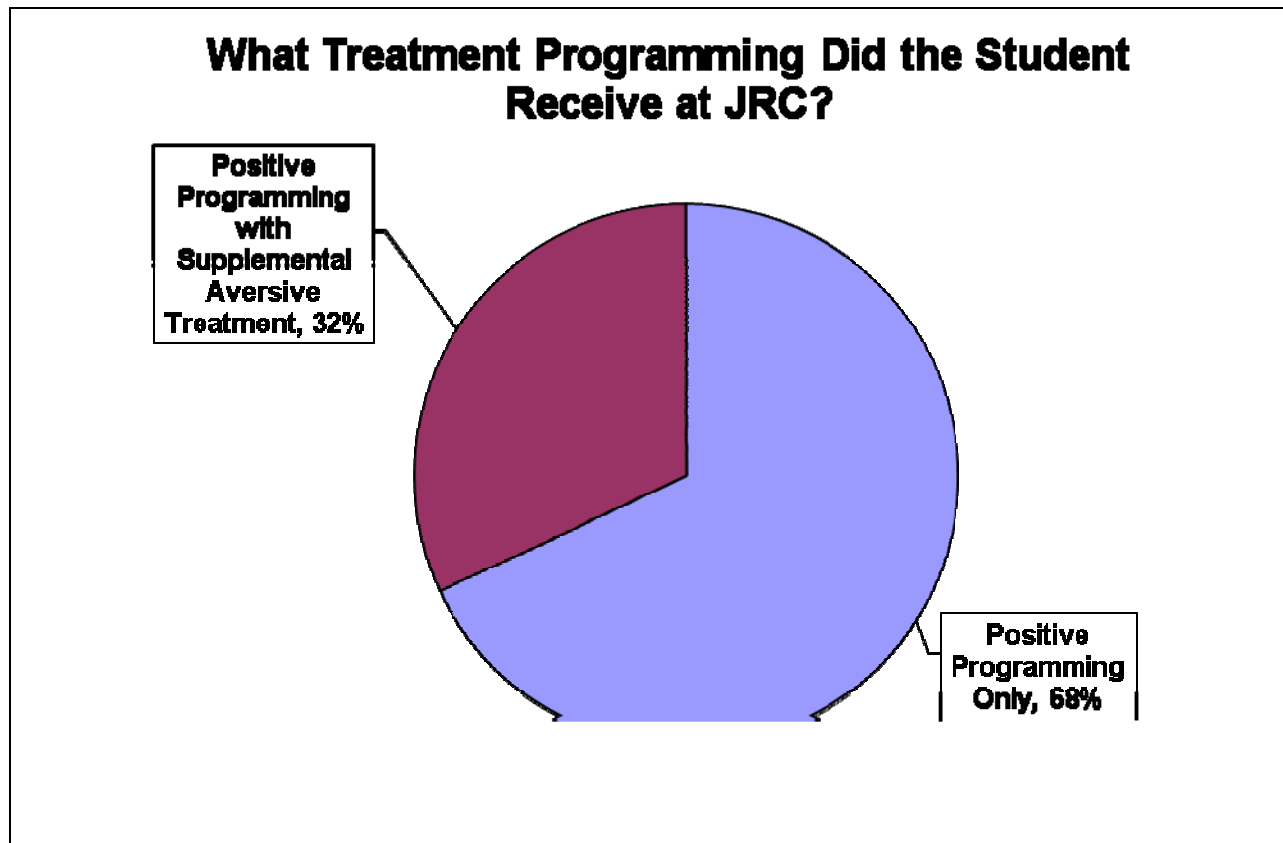
Of the 85 former JRC students, 33 (39%) were classified with developmental delay and 52 (61%) were classified as developmentally typical (e.g., typical verbal skills, high-level adaptive skills, average IQ scores). All of the former students included in this study (i.e., the 85 for whom data were collected) had received comprehensive behavioral treatment during their tenure at JRC. For 58 of these former students (68%), treatment had consisted of positive-only programming. For 27 of these former students (32%), treatment had consisted of positive programming supplemented with contingent aversives typically in the form of a brief skin shock generated by the Graduated Electronic Decelerator (GED) device.<sup>3</sup> Please see Figure 1.

### Procedures

Once potential participants were identified using the selection criteria described above, the legal guardian of the participant or the former student (if the student was his or her own guardian) was contacted via telephone by a JRC staff member. During a telephone interview, the respondents were asked a set of questions from a structured questionnaire, which included questions regarding current dimensions of general life functioning: psychiatric hospitalizations; psychotropic medications; legal involvement; daytime activities and employment status; educational activities; and recreational activities. Participants were also asked to provide a general narrative and comments regarding the former students' performance and to provide a rating of their general life adjustment based upon a 5-point Likert-type scale (with 1-very poor, 2-below average/not good, 3-fair, 4-good, and 5-exceptional). These ratings were provided for present life adjustment, life adjustment at JRC discharge, and life adjustment prior to receiving treatment at JRC.

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<sup>3</sup> The GED is a remote-controlled skin-shock device which delivers brief, mild electrical stimulation to the surface of the skin. The reader is referred to [www.effectivetreatment.org/remote.html](http://www.effectivetreatment.org/remote.html) for a detailed paper regarding the development and characteristics of the GED. Additionally, a case study documenting the effectiveness of positive programming supplemented with contingent aversives in the form of the GED can be found at [www.effectivetreatment.org/treat.html](http://www.effectivetreatment.org/treat.html).

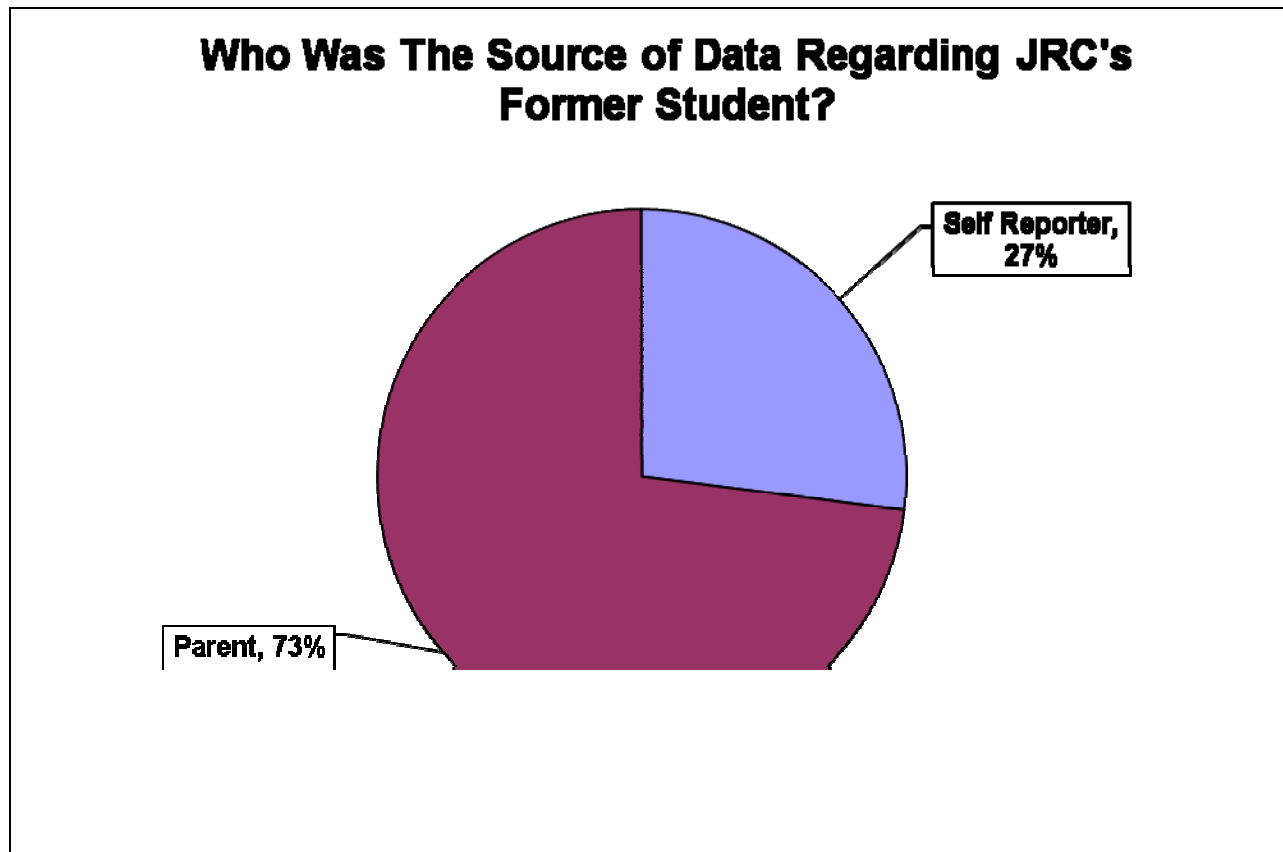


**Figure 1.**

## **Results**

From an initial total pool of 279 potential participants, 85 (30%) parent/guardians or former students were successfully contacted. As has been the case with the previous JRC follow up studies, the sole reason for inability to contact participants was a lack of current contact information despite consistent efforts to maintain contact and obtain current contact information (e.g., repeated phone contacts, searches of information databases such as 411 or Whitepages, use of Facebook, etc.).

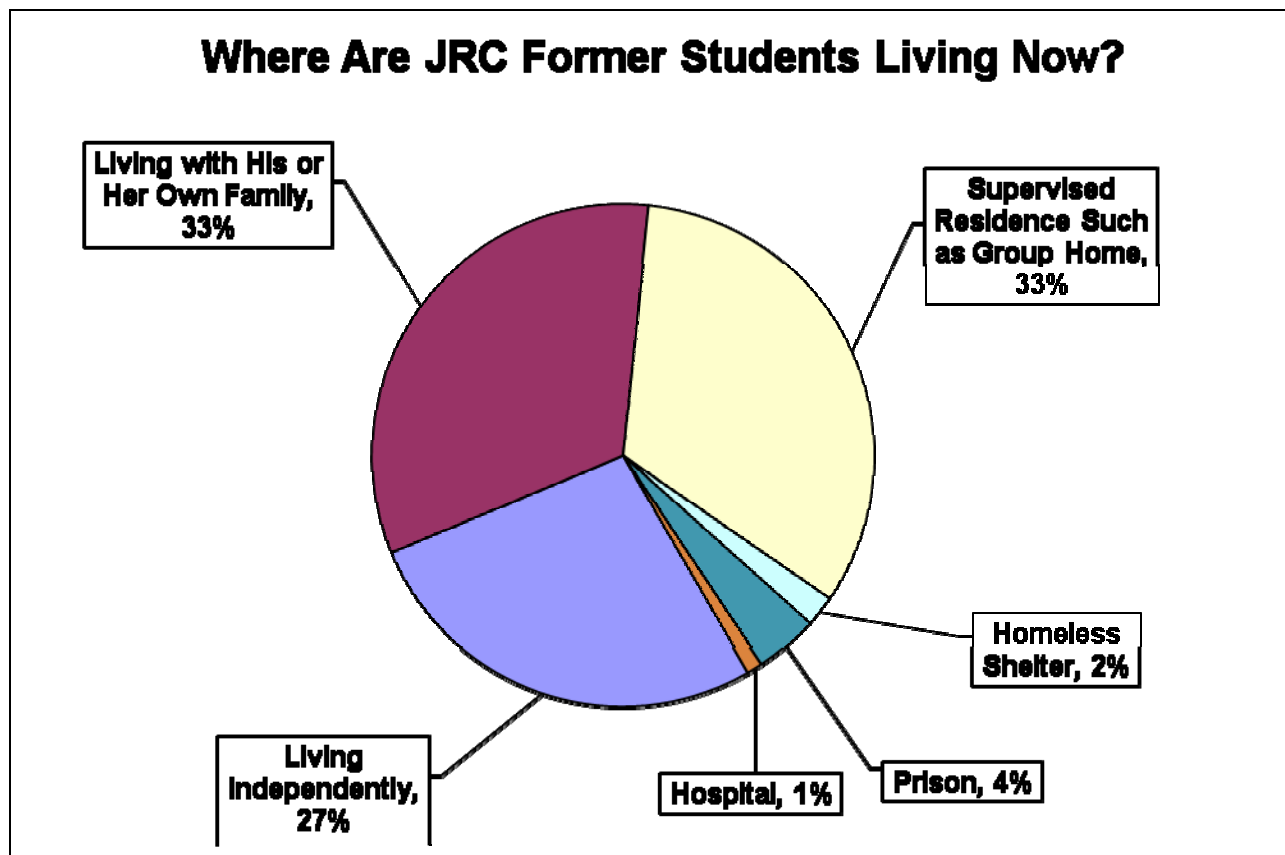
The mean age of the former students (i.e., at the time of this investigation) was 25 years, 4 months (range 11.7 - 50.3 years). The mean length of stay at JRC was 3 years, 9 months (range 0.5 – 15.6 years). The mean time since discharge from JRC was 5.5 years (range 0.3 – 29.7 years). The reporter was a parent/guardian in 62 (73%) of the cases and the former student him/herself in 23 (27%) of the cases (see Figure 2).



**Figure 2.**

Living/Residential Situation (see Figure 3)

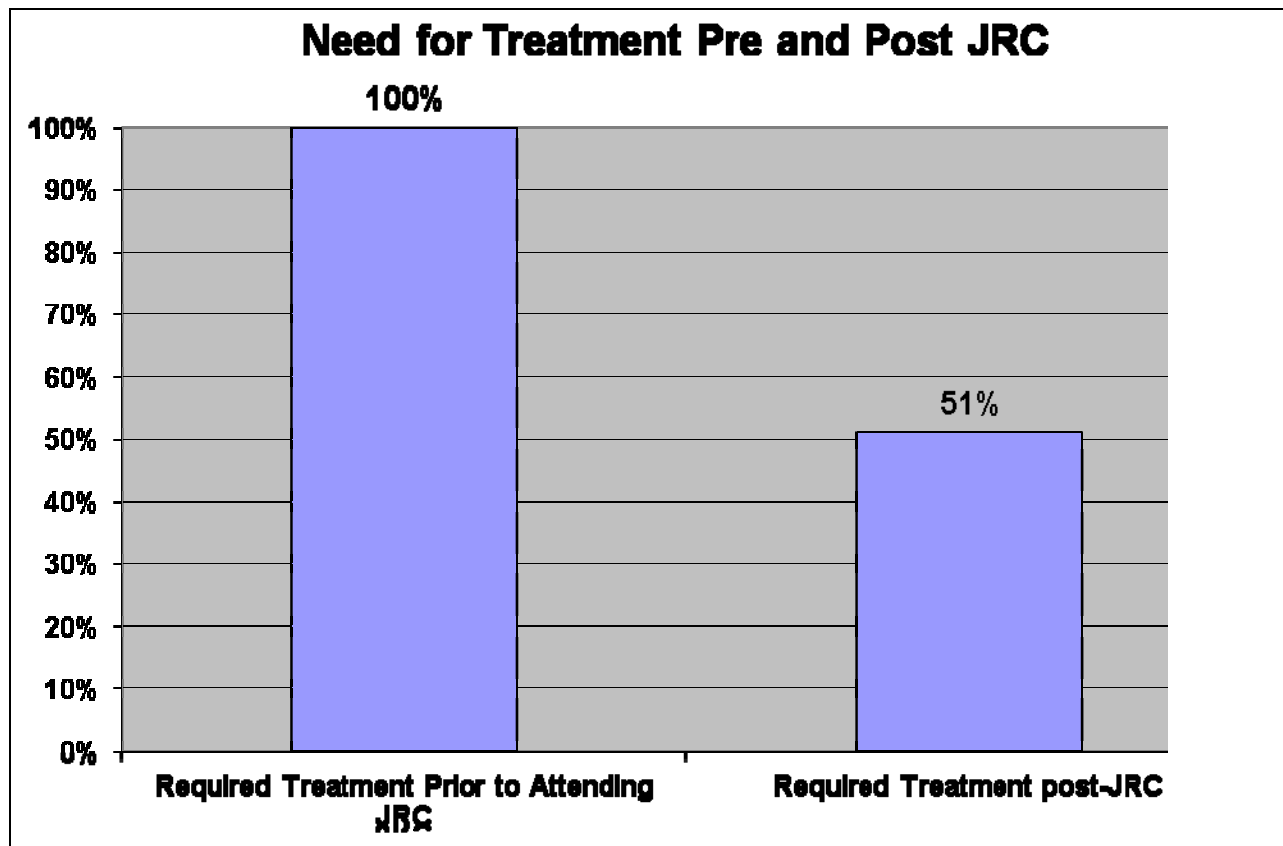
Where are former JRC students living? Twenty-three (27%) were living independently. Twenty-eight (33%) were living with their family. Twenty-eight (33%) were in supervised residential situations such as group homes, most of which were considered (by the parent/guardian or former student) less restrictive than JRC. Two individuals were homeless, three were incarcerated, and one was hospitalized.



**Figure 3.**

Treatment (see Figures 4 & 5)

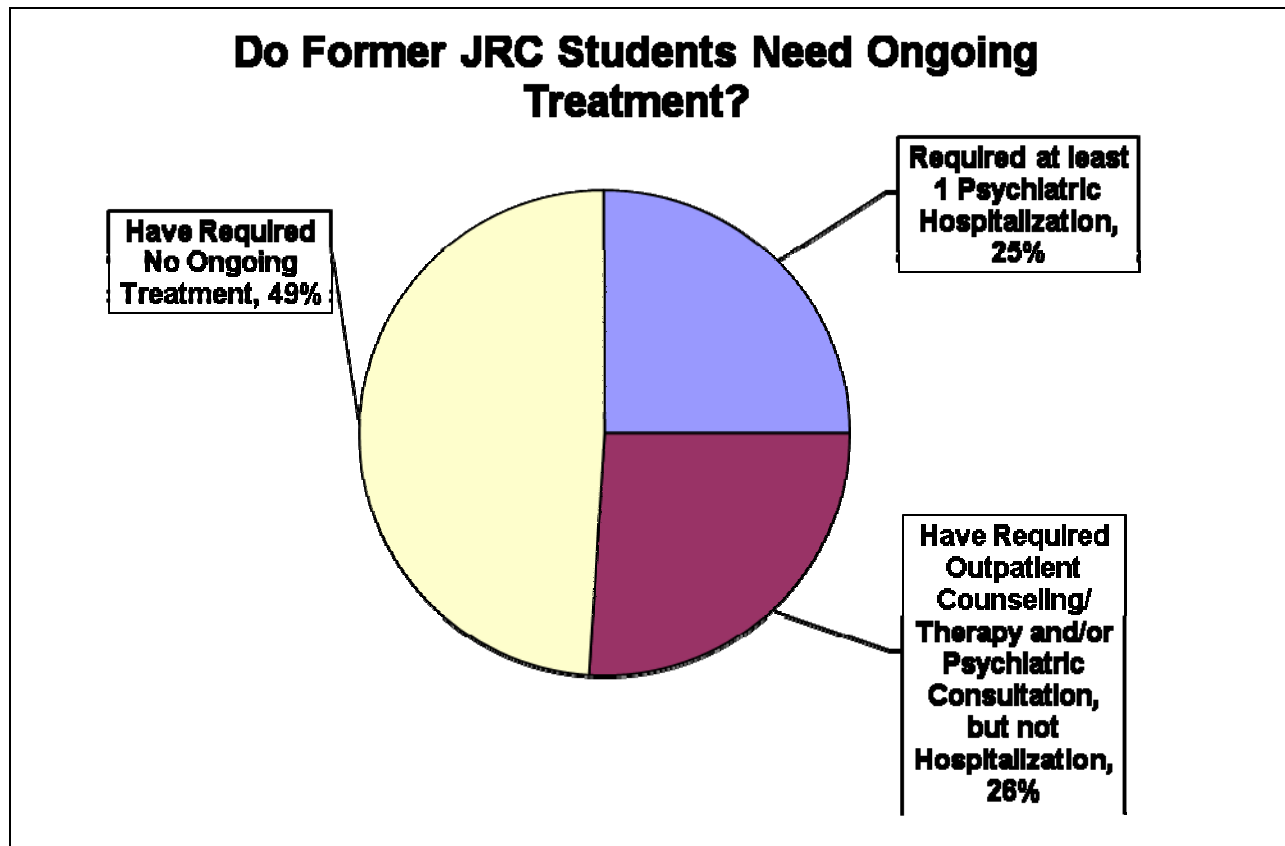
What are the ongoing treatment needs of students after leaving JRC? Figure 4 compares the need for treatment before and after attending JRC.



**Figure 4.**

Prior to their JRC admission, all of these students had required ongoing treatment, as evidenced by the very fact that they had to be placed at JRC. Post-JRC only 51% of these students required any kind of ongoing treatment.

Figure 5 shows the mix of treatment needs of the former students.



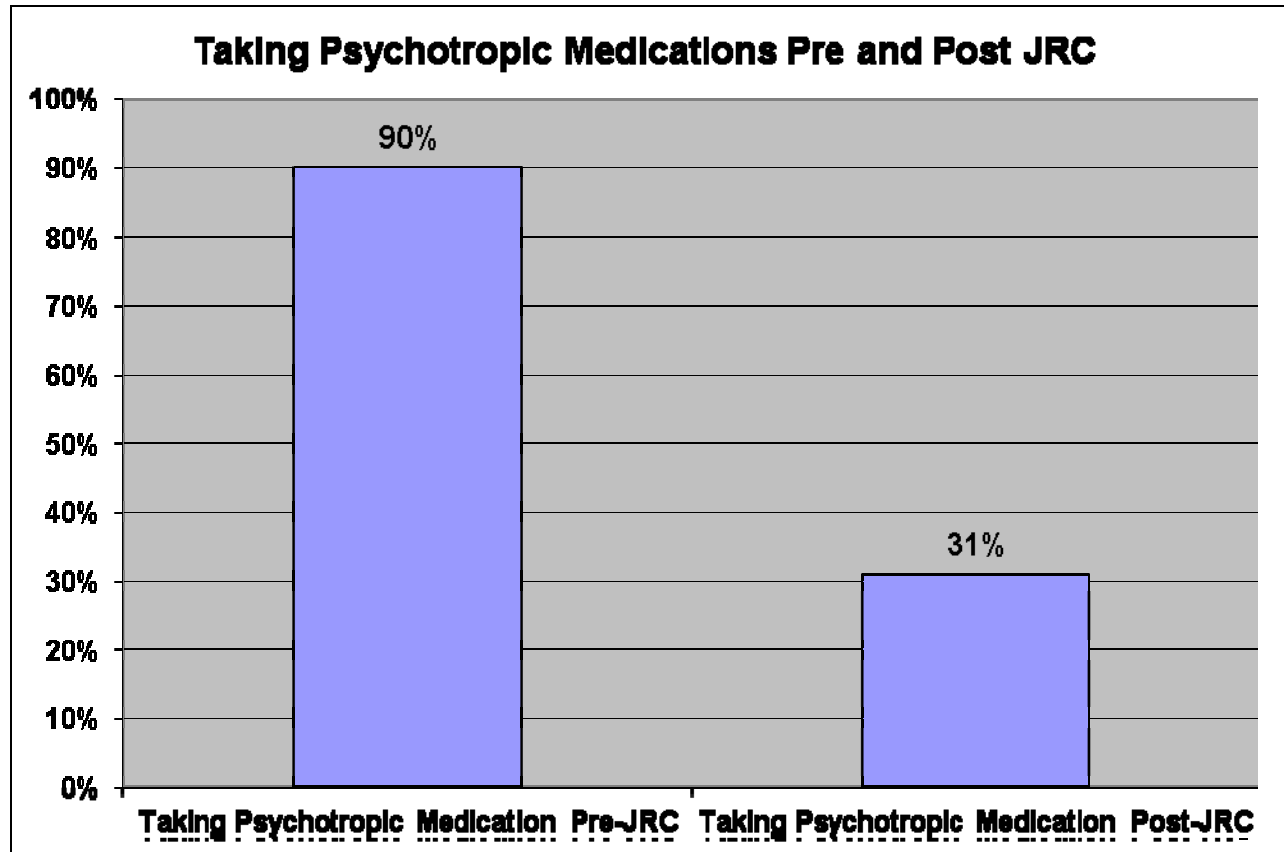
**Figure 5.**

Forty-one (49%) have needed no further treatment. Twenty-two (26%) have utilized outpatient counseling, therapy, or psychiatric consultation. Twenty-one (25%) have required at least one psychiatric hospitalization because of their behaviors.



### Psychotropic Medications

Figure 6 shows the number of students requiring psychotropic medications before and after attending JRC.

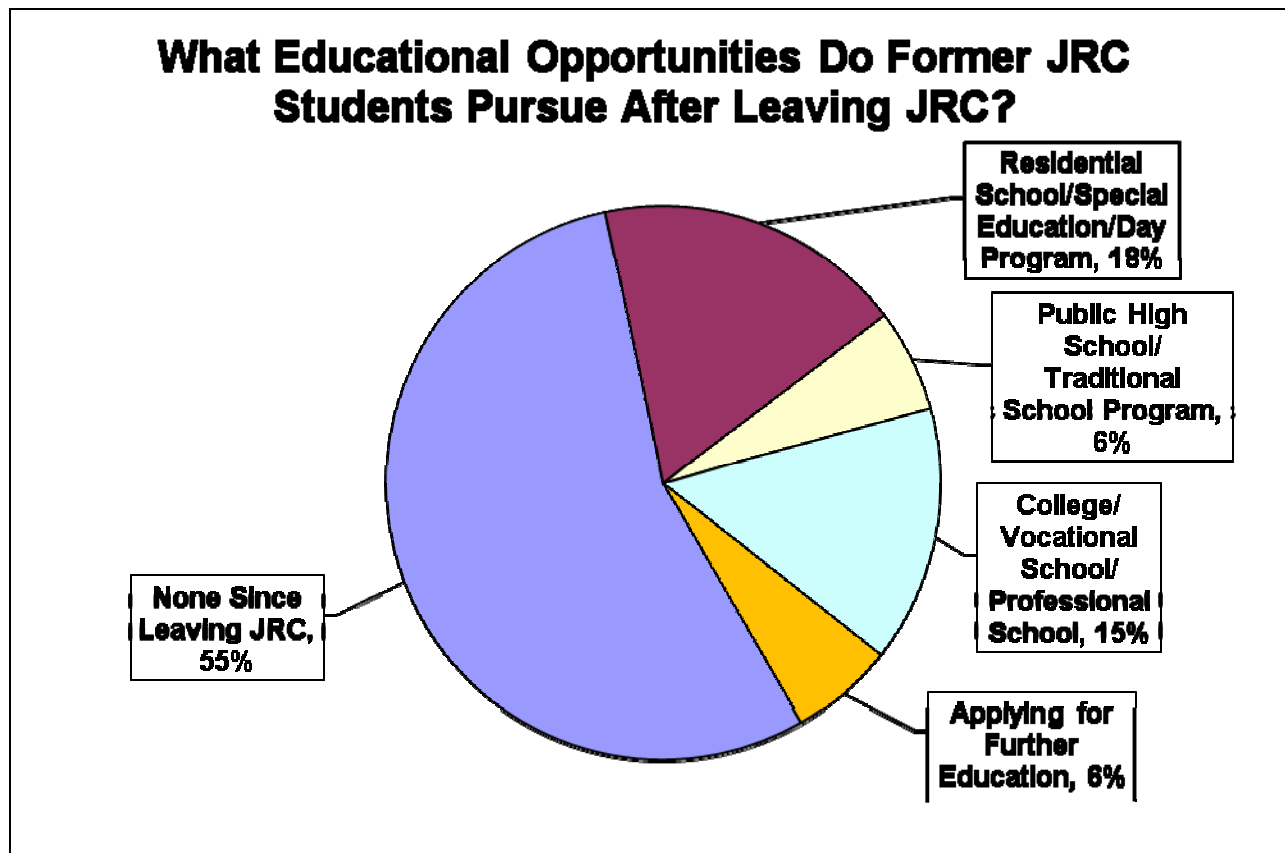


**Figure 6.**

Prior to their admission to JRC, 90% of the students were receiving psychotropic medications. At the time of follow-up, only 31% were receiving such medications. This reduction is important given the serious long-term side effects of psychotropic medications.

## Education

What impact does JRC's program have on educational functioning? Figure 7 displays this information.

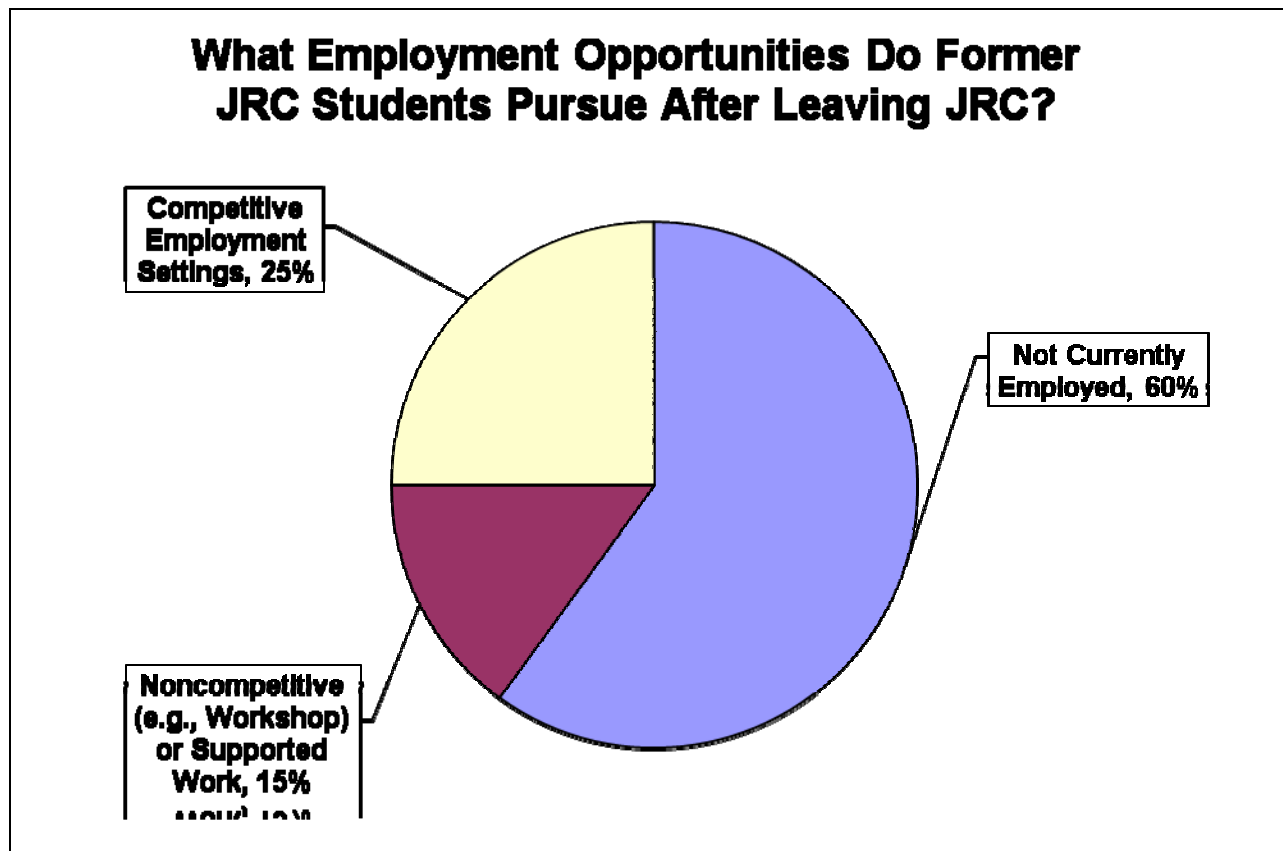


**Figure 7.**

Twenty-one percent of the former students are now either in high school (6%) or in college, vocational or professional education (15%). Six percent stated that they are applying for further education. Fifty-five percent are not involved in post-JRC education; however, some of these students have aged out of the educational system and have pursued employment rather than further education. Eighteen percent have continued to receive residential or special educational services. Most of these settings were considered less restrictive than JRC, a fact that reflects the improved behaviors of those individuals.

## Employment

Figure 8 shows the employment situation of the former students.



**Figure 8.**

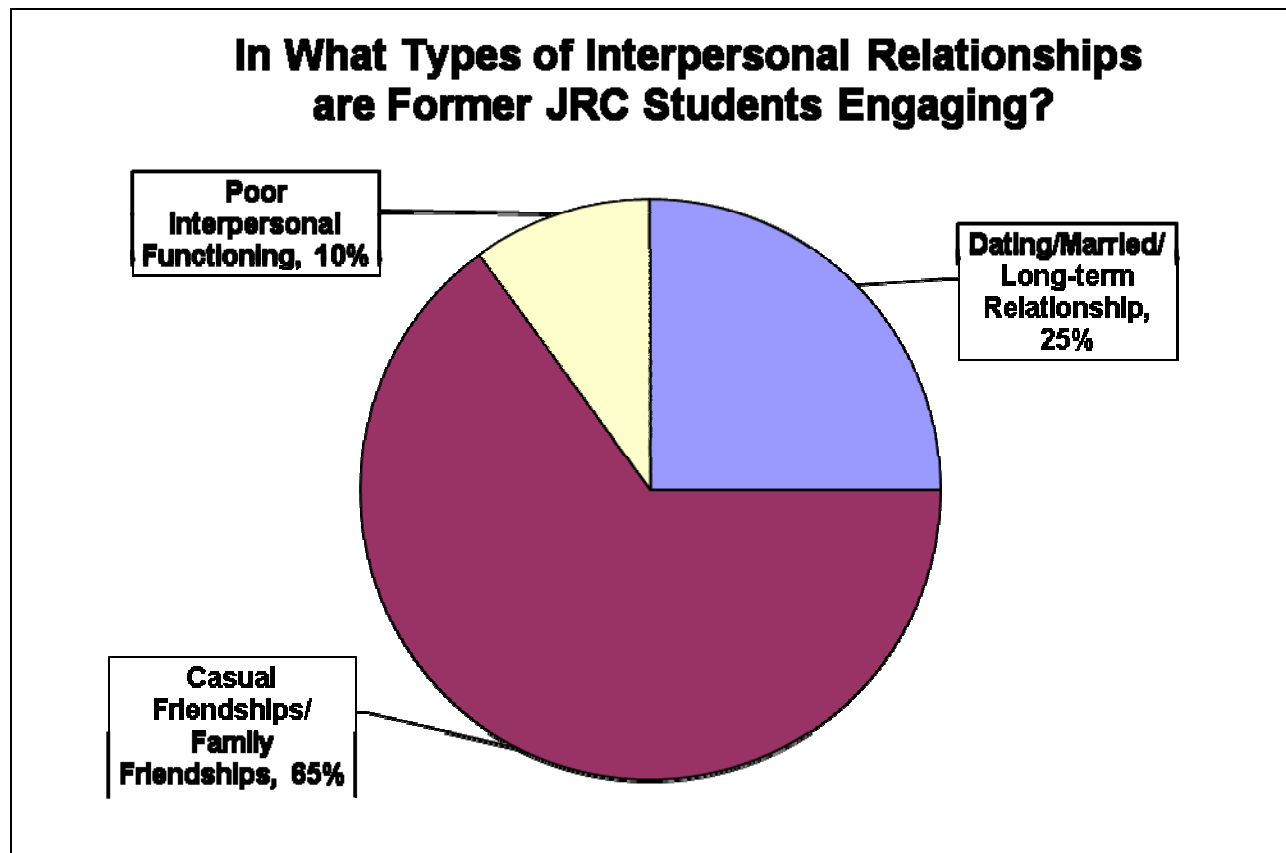
Twenty-five percent were in competitive jobs. Another fifteen percent were working in supported settings. Sixty percent of the former students were not employed. Part of this can be explained by the age of the former student. That is, it is not necessarily reasonable to expect school-age individuals to be working. Some of those students that were not working indicated that either they were training for a position or that they were actively looking for employment opportunities. Also, many of JRC's former students have developmental or physical disabilities that might limit their employability. All of these students entered JRC demonstrating behaviors that prevented them from maintaining any gainful employment, either competitive or supported.

## Recreation

The former students reported a wide range of interests and hobbies including spending time with friends; spending time with family; playing with siblings; playing football; shopping; spending time at a recording studio working on beat music; going out to eat; going to the movies; caring for pets; playing basketball; listening to music; playing video games; walking dog; watching sports; listening to music; taking care of children; going to the park; going to church; going to the gym; participation in the Special Olympics; talking on the phone; swimming; going to the zoo; watching movies at home; spending time with girlfriend; field trips into local community; going bowling; watching television; volunteer work at hospitals and libraries; cooking; riding bicycle; going to the ocean; playing piano and violin; volunteering at the local fire department (for both fire and rescue); participating member of local Scottish clan; playing role-playing (and card) games including Pathfinder, Yug-i-oh, etc.; roller-skating; hand-taming parakeets; sledding; going to the library; taking on-line classes; job-related trainings such as child care classes, life boat training (while working on a cruise ship), CPR/First Aid training, and ServSafe certification through employer; writing; exercising; dancing; horseback riding; going on vacation; helping with chores such as cleaning and cooking; home visits; playing computer games; going on van rides; and fishing. Prior to enrolling in JRC, these students' inappropriate behaviors interfered with normal functioning in most aspects of their daily life, including their ability to engage in recreational activities. Now, however, the former students are able to engage in a wide range of recreational activities in their personal life.

## Relationships

Figure 9 shows the type of relationships that the former students enjoy.

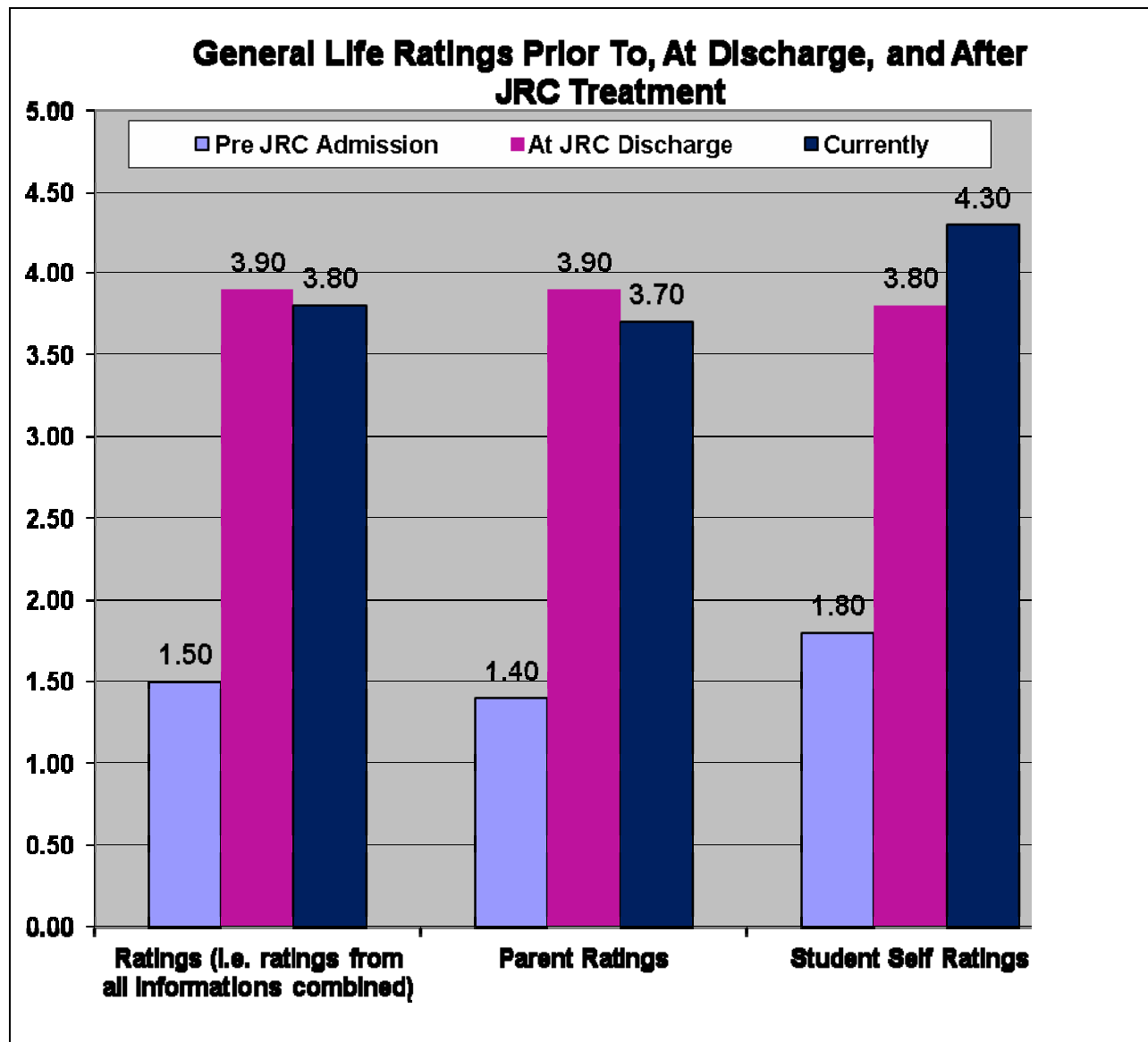


**Figure 9.**

This area of functioning is difficult to quantify. When asked directly about meaningful relationships and dating, 25% of the former students reported that they were either married, in a long-term relationship, or consistently dating. This statistic is remarkable in that it was these very close relationships that the typical JRC student was unable to enjoy prior to enrollment at JRC due to the extreme disruptiveness of their inappropriate behaviors. An additional 65% reported some enjoyable casual friendships or family relationships. Only 10% reported a severe lack of ability to enjoy, or lack of effort to build, interpersonal relationships.

### General Life Adjustment Rating

See Figure 10 for comparisons of mean before, at-discharge, and after JRC general life adjustment (GLA) ratings by former student or parent/guardian.



**Figure 10.**

These subjective ratings are vulnerable to a number of reporting biases, but do reflect a genuine perception of the respondents that the former students' overall level of functioning has continued at an improved level since discharge from JRC as compared to before JRC admission.

## Discussion

The results of this investigation indicate that former students of JRC demonstrated marked improvement in their life adjustment and quality of life following treatment. These findings are consistent with follow-up studies from previous years.

The marked improvement is seen in the fact that the objective indicators and subjective quality of life measures taken after attending JRC were improved over those before entering JRC. Also the improved functioning measured in this way has continued for as long as 29 years after the former students were discharged from JRC.

After leaving JRC, students from this study generally transitioned back home, to independent living, to another less restrictive residential program, or to a day educational/vocational program. Some of these students started full or part time jobs and some pursued further (post-secondary) education. For others, the ability to safely return home and have relatively normal family and peer relationships is an indicator of treatment success.

Limitations of the current study include an absence of formal/reliable data (beyond retrospective informant report) of the student's functioning prior to admission. Rather, prototypical admission status is often referred to in this study as a comparison for current post-treatment functioning. Further, as with previous follow-up studies conducted at JRC, there was relatively high attrition due to the inability to locate current contact information for a significant number of the initially selected participant pool. The ability to successfully contact the guardians of former students remains a significant aspect in assessing the long-term treatment effects of residential programs. Maintaining more frequent ongoing contact with guardians of former students, as well as the former students themselves, may increase the ability to track the follow-up progress of more students in the future. Another reason for the relatively small sample size in this study is that some former students do not wish to maintain contact with JRC because they do not want anyone to know that they attended such a highly structured educational and treatment program.

Suggested areas of improvement that might be considered to enhance future follow-up studies of residential care include the following additions: (1) a

standardized behavioral checklist administered at pre-admission, at discharge, and at specified periods post-discharge; (2) a control group consisting of students accepted into the facility, but not attending; (3) an examination of the relationship of pre-admission variables (e.g., number of previous placements, intellectual functioning, and prior adjudication) to post-treatment outcomes; (4) an examination of the relationship of other variables (such as time since discharge, length of stay, reason for discharge, etc.) to post-treatment outcomes; and (5) further examination of ratings in terms of statistical significance as technologically quantifiable.

In conclusion, although there were several factors that limited the generalizability and significance of the findings, the results indicate that former students of the Judge Rotenberg Educational Center showed substantial and sustained overall improvement as measured by the indicators of quality of life as used in this study.