



Briefing Report
Changes in Risk and Protective Factors
During Residential Placement
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Issue:

A primary function of residential placement in a juvenile justice system is not to simply incapacitate the highest-risk offenders but to provide effective delinquency intervention and treatment to reduce the likelihood of re-offending upon release, thereby increasing public safety. The most effective mechanism to accomplish a task of this magnitude is to target the individualized risk and protective factors empirically shown to be the strongest predictors of recidivism (Andrews & Bonta, 2003). The proximal outcome of interest is whether the risk factors have decreased and the protective factors have increased during the period of confinement. The purpose of this report is to examine the extent of risk reduction and increase in protective factors for youth served by the Florida Department of Juvenile Justice (FDJJ) during residential placement.

Highlighted Results:

The following bullets provide a brief synopsis of the analyses. Comprehensive results and detailed explanations follow below:

- On average, risk factors are being decreased and protective factors increased during residential services for FDJJ youth. Seventeen of eighteen risk domain change scores were reduced, while all eighteen protective domain change scores increased during placement;
- Average risk reductions over twenty percent were evidenced in the Current Skills domain and three skills subdomains (Skills for Appropriately Dealing with Difficult Situations, Dealing with Feelings and Emotions, and Techniques for Controlling Impulsive Behaviors Leading to Trouble); Average protective factor increases of twenty percent or greater were evidenced in thirteen of the eighteen change scores, including increases greater than forty percent in the Current Alcohol and Drugs protective score and the Current Aggression protective score;
- Significant differences by gender were found in the ability to reduce risk and increase protective factors. Females evidenced significantly greater risk reduction on eight of the eighteen domains examined, while males did not show better risk reduction on any domain. Females also evidenced significantly more increase on protective scores than males in eleven of the eighteen domains, while males had significantly more increase in two domain protective scores;
- Significant differences in effectiveness were found between non-secure and secure residential placement. Non-secure placement outperformed secure placement on fourteen of thirty-six scores, was statistically equivalent on twenty scores, and was only outperformed by secure

placement on two scores, both of which were in the employment/vocational areas. The extent of changes greater than fifteen percent was very high for both groups (twenty-five of thirty-six scores for non-secure, twenty-three of thirty-six scores for secure);

- Significant differences were found between age at admission and risk and protective changes. However, all skills domain/subdomain risk scores improved by fifteen percent or greater (up to 44.6% for “12 and under” youth) for all three age at admission classifications. Furthermore, protective scores in Alcohol/Drugs, Attitudes, Aggression, and all five skills subdomains increased by at least thirty percent for all three age groups;
- High risk to re-offend youth evidenced significantly better risk reduction and protective score increases than lower risk youth. High risk youth evidenced significantly greater risk reduction than low risk youth in thirteen of the eighteen domains, and greater increases in twelve protective domain scores. High risk youth improved more than moderate risk youth in nine risk scores and six protective scores. They also evidenced greater improvements than moderate-high risk youth in ten risk scores and six protective scores. These results confirm the risk principle of reserving deep end residential placement for the highest risk youth.

Methodology:

Data was taken from the final completion files used in the creation of the 2012 Comprehensive Accountability Report (CAR). The CAR is published annually by the FDJJ and contains information regarding recidivism rates for all youth who successfully completed a FDJJ service during fiscal year 2010-11 (July 1, 2010 through June 30, 2011). A particular youth could have been included more than one time in the current study if that youth successfully completed more than one FDJJ residential commitment placement during the examined fiscal year.

The current study used data for these 2010-2011 fiscal year successful completions, including each youth’s R-PACT risk/needs assessment information on risk and protective scores. The Residential PACT (R-PACT) assessment rank orders the youth’s top risk and protective factors across twelve distinct domains, many composed of subdomains. The R-PACT assessment is based heavily on the validated Community PACT (C-PACT), which is administered to all youth with a juvenile arrest (see Baglivio, 2009; Baglivio & Jackowski, 2013; Winokur-Early, Hand, & Blankenship, 2012 for C-PACT validation studies). In June 2013 results from an R-PACT study conducted by Florida State University College of Criminology & Criminal Justice validated the exit R-PACT domain scores as predictive of subsequent offending (Hay, 2013). The validation study furthermore indicated positive changes (risk reduction and protective factor increases) in 84% of all R-PACT items from initial to exit R-PACT.

The closest R-PACT assessment subsequent to residential placement (the initial PACT) was used in order to capture the youth’s risk and protective factor levels at time of placement. The R-PACT assessment closest to the youth completing the residential program (the exit PACT) was used to capture the risk and protective factor levels at the time of completion. These two R-PACT assessments were used to construct “change scores” for each dynamic risk and protective domain (the domains that can be changed, in contrast to “static” domains which are history-based, such as prior offending). A total of thirty-six change scores were examined (18 risk, 18 protective).

A percent of maximum score was created by dividing a youth's domain risk score by the domain maximum score. The initial R-PACT percent maximum score for each dynamic domain was then subtracted from the exit R-PACT percent maximum score for each corresponding domain to arrive at a change score for each domain. The more negative a risk factor change score, the more the risk of that particular domain was reduced during the youth's residential placement. For example, a youth scoring five points of a maximum ten on a particular domain on the initial R-PACT, and two points of a maximum ten on the exit R-PACT for the same particular domain would have a change score of -0.3 ($2/10 - 5/10 = -0.3$), or a 30% reduction in maximum risk in that domain. The greater the reduction for risk scores (negative change scores), and the greater the increase (positive change scores) for protective scores, the more effective the juvenile justice service was at accomplishing its primary goal.

It is important to remember the change score increases and decreases represent a percent change from initial to exit R-PACT assessments. For example, a reduction of 10% for one youth could mean scoring a ten on initial risk out of a possible twenty and an eight on exit risk ($8/20 - 10/20 = -.1 = -10\%$), while the same 10% risk reduction, on the same domain could mean another youth scoring a twenty on initial risk out of a possible twenty, and an eighteen on exit risk ($18/20 - 20/20 = -.1 = -10\%$). Each youth evidenced a 10% reduction, yet the first youth began with, and ended with, a lower risk score even though both youth evidenced the same risk reduction percent. In this example, the first youth's initial risk score was still less than half the second youth's exit risk score. Finding that the reduction in risk for each youth was each 10% and therefore the reduction was statistically equivalent does not mean services have reduced the second youth's risk to that of the first youth's risk. **The purpose of the change score is to demonstrate the percent reduction or increase in risk and protective factors during the course of residential placement. Stated differently, of the risk or protective score presented by the youth, by what percent do residential programs reduce or increase those scores.**

Analyses include whether risk is being reduced and protective factors increased for each dynamic domain of the R-PACT during residential placement. These results will show whether FDJJ is accomplishing the crucial task of increasing public safety by decreasing the likelihood of re-offending of youth placed in residential programs, while providing these youth the tools to be successful upon transition back to the community. Differences are examined between non-secure and secure residential programs, by gender, by age at admission to the program, and by overall risk to re-offend level prior to admission (taken from the validated C-PACT administered prior to admission to the residential program) classified as low, moderate, moderate-high, and high.

All youth who completed residential placement during fiscal year 2010-2011 who had two R-PACT assessments during the placement were included in the current study. Effectiveness was defined by negative risk factor change scores, and positive protective factor change scores. The final sample consisted of 4,460 youth, of which fifteen percent were female, eighty-four percent were placed in non-secure residential programs, 68.5% were sixteen or over at time of admission, and only 0.5% (24 youth) were twelve or under at admission. One-way Analysis of Variance (ANOVA) and independent samples t-tests were used to explore whether change score differences between gender, secure/non-secure, risk to re-offend levels, or age at admission were statistically significant.

FIGURE 1.

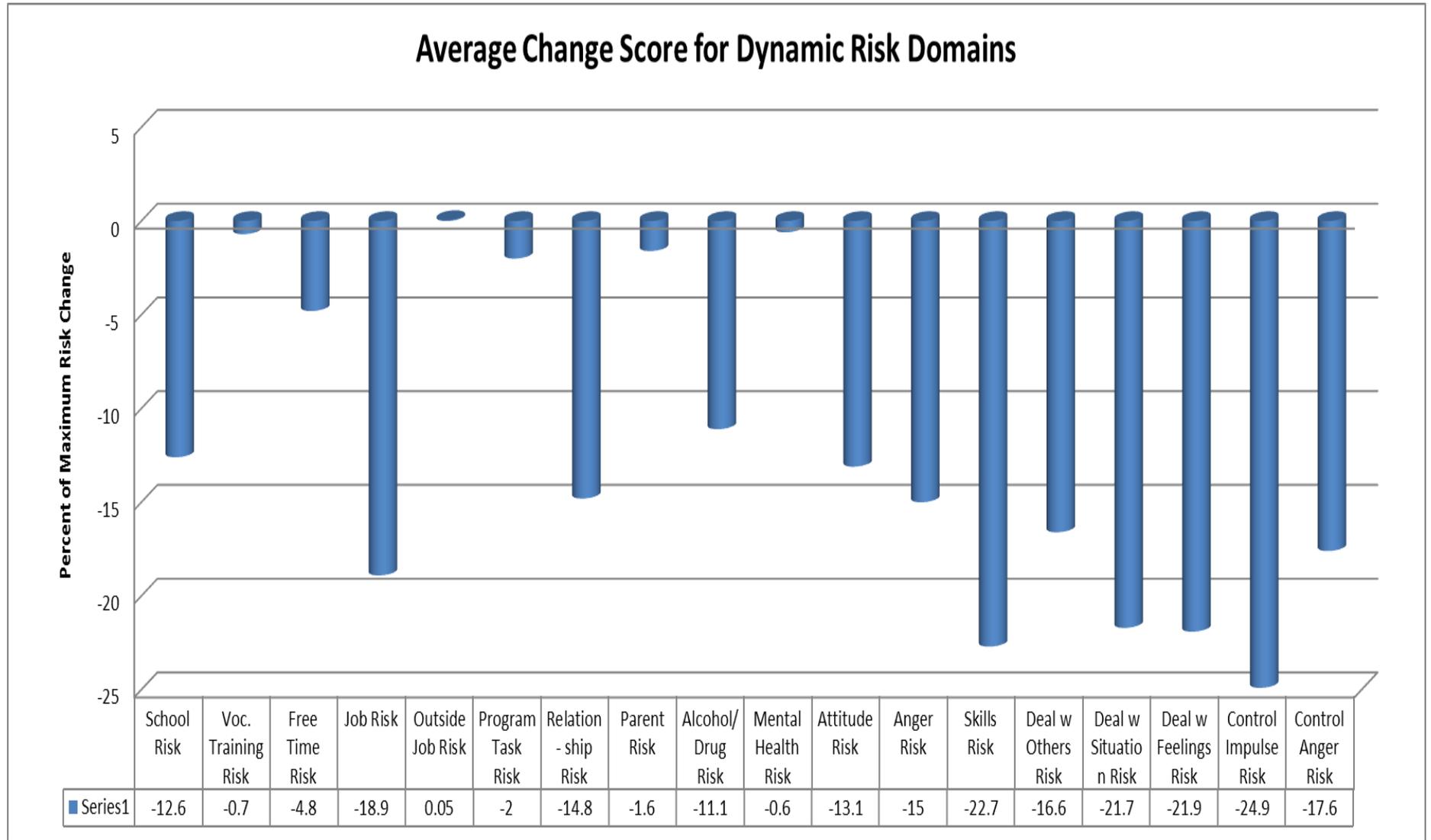
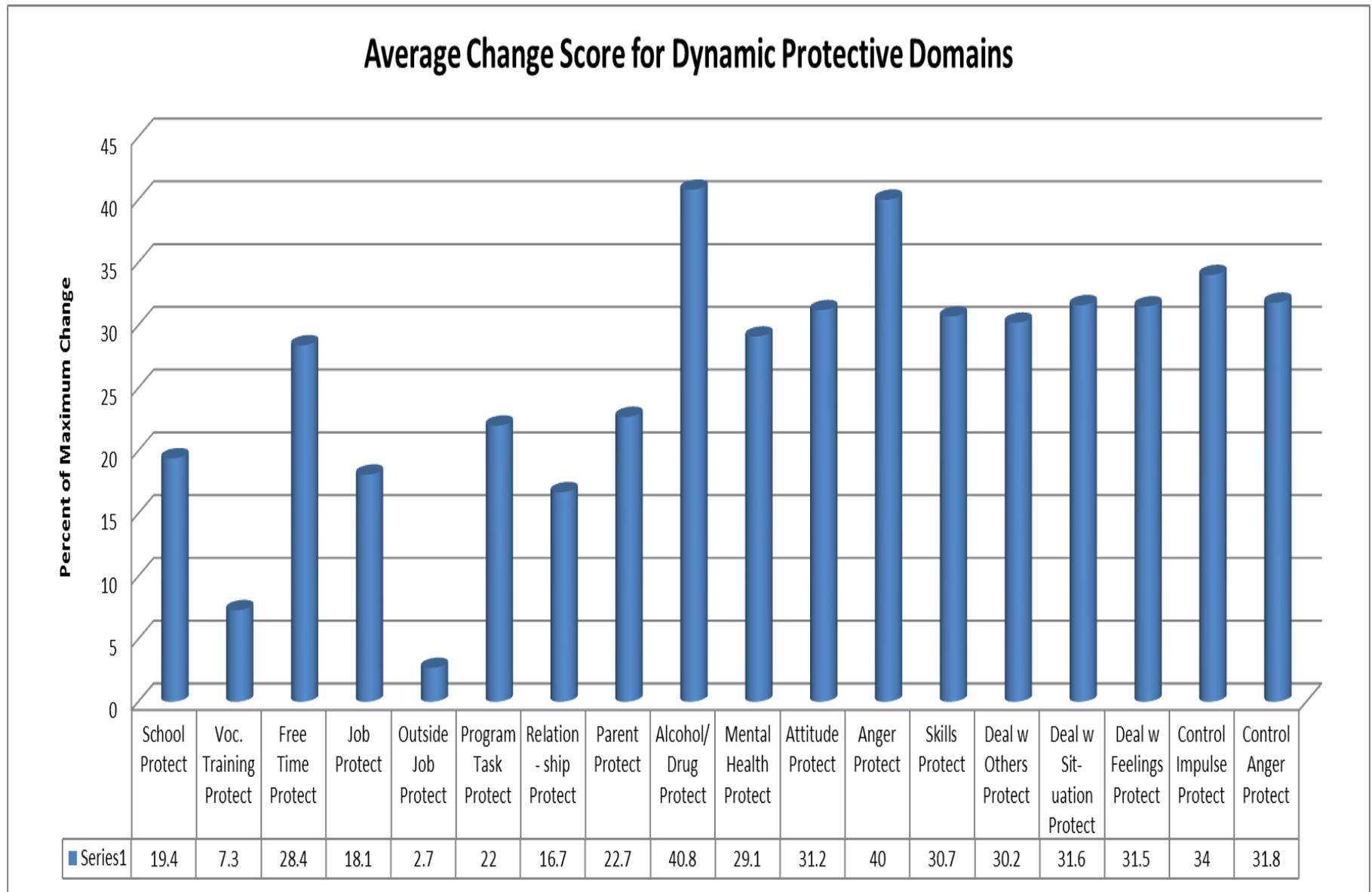


FIGURE 2.



Comprehensive Results:

Analyses begin with an examination of the average change scores for the sample of youth completing residential placement by R-PACT risk and protective dynamic domain. As can be seen in Figure 1 and Figure 2, the vast majority of scores are in the direction intended, with reductions in risk in seventeen of eighteen scores, and increases in protective scores for all eighteen examined. The only risk domain that was not decreased during placement was the Current Outside Employment risk (labeled “Outside Job Risk” below), which was essentially unchanged from initial to exit (half of one percent increase). It should be noted that each risk domain had youth with both positive and negative values, meaning risk did increase for some youth during placement in each domain. There was no domain where 100% of all youth showed a reduction in risk (or an increase in protective score for that matter).

As Figure 1 illustrates, the greatest reductions in risk were found in the skills domains, especially the overall Current Skills domain, and the Skills for Appropriately Dealing with Difficult Situations, Skills for Appropriately Dealing with Feelings/Emotions, and the Techniques for Controlling Impulsive Behaviors Leading to Trouble domains. Other domains averaging risk reductions over fifteen percent were the Employability (understanding what is required to maintain a job, employment aspirations and plans, and acquired skills that lead to employment)(18.9% reduction), Skills for Appropriately Dealing with Others (16.6% reduction), and the Techniques for Controlling Aggression (17.6% reduction) domains. These results are very promising in light of strong empirical support for social skills interventions being among the most effective at decreasing subsequent offending of juveniles (Lipsey, 2009; Lipsey, Howell, Kelly, Chapman, & Carver 2010). Figure 2 shows that, on average, every protective domain score is increasing during residential placement. Increases range from a 2.7% increase in Current Outside Employment, which captures whether youth are currently employed (while in the program) and how well employment is going, to a 40.8% increase in the Current Alcohol/Drug protective score. The low increase in Current Outside Employment may be an artifact of how few programs afford youth the opportunity to procure gainful employment in the community during their placement. The Current Alcohol/Drug increase of over forty percent is not an artifact of the youth not having access to substances as the items in that domain are attitudinal-based (ex. “attitude toward drug use”) and based on demonstrated progress on substance abuse goals during placement. As with the risk domains, changes in the Skills areas were very pronounced on average, each over thirty percent increase in protective score during placement.

Results by Gender:

Next, change scores were examined by gender to uncover whether residential placement is more or less effective in reducing risk and increasing protective scores for males or females. Independent samples t-tests were used to examine significant differences on change scores between males and females. Females evidenced significantly better risk reduction on eight of the eighteen domains examined, while males did not have better risk reduction than females on any domain. Females also evidenced significantly more increase on protective scores than males in eleven of the eighteen domains, while males had significantly more increase in two domain protective scores (Current Alcohol/Drug and Vocational Training). Table 1 displays the results of the significance tests by gender, with non-significant domains meaning the change scores were statistically equivalent across gender.

Table 1.

Change Score Comparisons Female vs. Male Youth		
Domain	Mean Difference	Significance Level
School Risk	0.9	0.258
Vocational Training Risk	-1.6	<.001*
Use of Free Time Risk	-1.3	0.177
Employability Risk	-0.3	0.852
Outside Employment Risk	0.05	0.497
Program Supervised Tasks Risk	-1.4	0.067
Current Relationships Risk	-3.1	.002*
Parent/Caretaker Relationship Risk	-2	<.001*
Alcohol/Drug Risk	0.6	0.43
Mental Health Risk	-0.1	0.836
Attitudes Risk	-1.1	0.113
Anger/Aggression Risk	-4.2	<.001*
Skills Risk	-0.6	0.572
Skills Dealing w Others Risk	-1.4	0.122
Skills Dealing w Situations Risk	-4	.001*
Skills Dealing w Feelings Risk	-5.5	<.001*
Impulse Control Risk	-6.2	<.001*
Anger Control Risk	-2.3	.038*
School Protective	1.1	0.307
Vocational Training Protective	-3	.001*
Use of Free Time Protective	3.8	.04*
Employability Protective	-1.2	0.272
Outside Employment Protective	1.2	0.088
Program Supervised Tasks Protective	1	0.432
Relationship Protective	0.4	0.657
Parent/Caretaker Relationship Protective	2.2	.001*
Alcohol/Drug Protective	-2.9	.005*
Mental Health Protective	3.6	.001*
Attitudes Protective	2.2	.038*
Anger/Aggression Protective	4.8	<.001*
Skills Protective	2.9	.003*
Skills Dealing w Others Protective	5.6	<.001*
Skills Dealing w Situations Protective	5.5	<.001*
Skills Dealing w Feelings Protective	7.8	<.001*
Impulse Control Protective	7.4	<.001*
Anger Control Protective	5.2	<.001*

Note: *= statistically significant at $p < .05$; Mean difference is the difference between the female youth change score minus the male youth change score; Negative mean differences for risk factors equate to female youth evidencing greater risk reduction while positive mean differences for protective factors equate to female youth evidencing greater protective factor increases. Significant differences are in bold.

Figure 3.

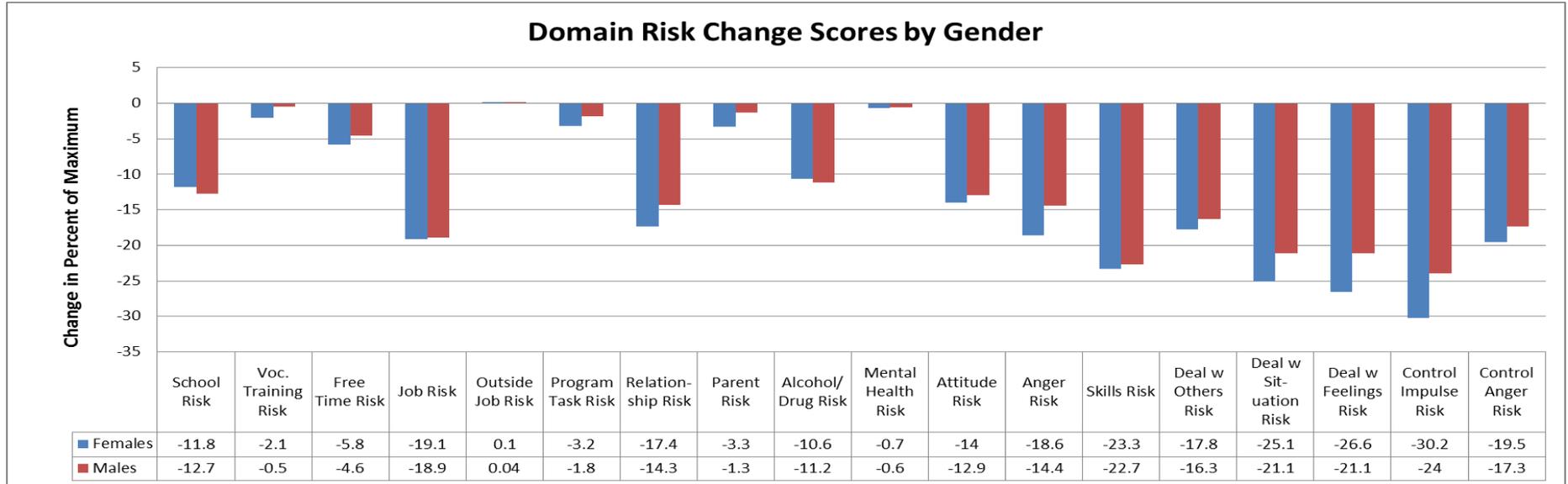
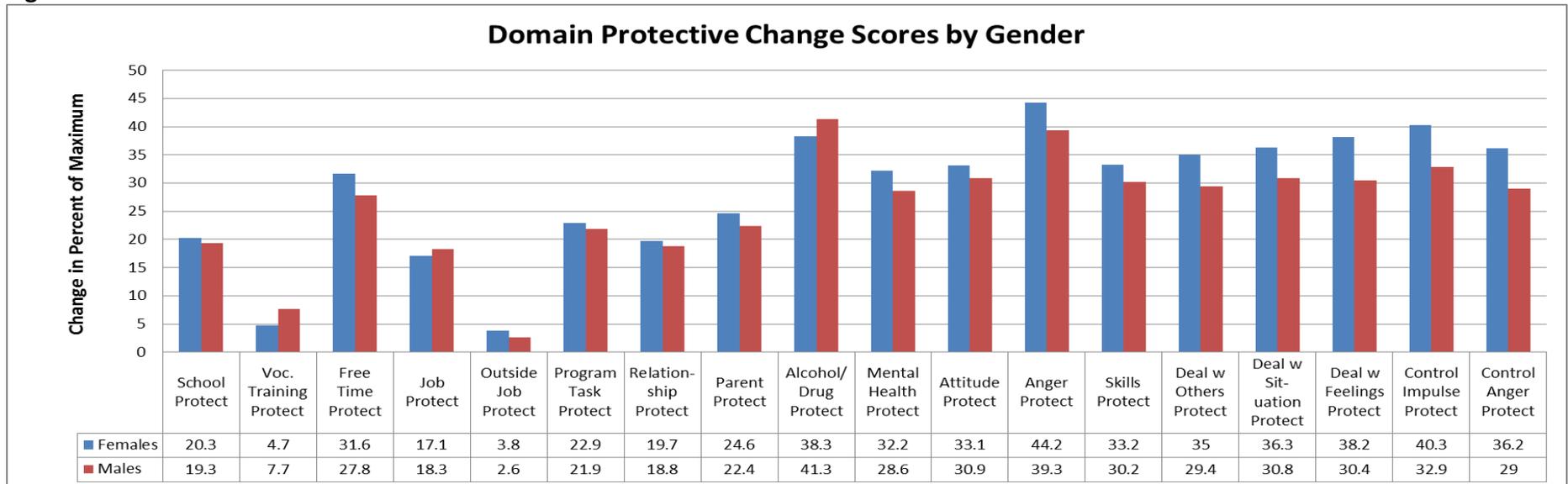


Figure 4.



Females evidenced greater risk reduction and increases in protective scores predominately in the social skills subdomains and the aggression and relationships with parents/caretakers domains. The greatest difference found was in the Skills Dealing with Feelings/Emotions protective score, where females evidenced a 7.8% more increase in that score than males. The greatest risk reduction was a 6.2% difference in the Techniques for Controlling Impulsive Behaviors domain (labeled Impulse Control in Table 1). These results do not indicate that residential placement was ineffective at reducing risk or increasing protective factors for male youth, only that the changes evidenced by the female youth were significantly greater in many areas. Quite the contrary; the risk score in each domain was reduced during placement for both males and females in all domains, except Current Outside Employment, where it remained essentially unchanged for each gender. The protective factor score of each domain increased for both males and females on every dynamic domain. Figure 3 and Figure 4 illustrate the change scores for risk and protective domains for males and females (respectively).

Results by Restrictiveness Level:

Change scores were compared for youth placed in non-secure residential programs to those placed in secure programs. Non-secure programs are those classified as low- and moderate-risk residential programs, while secure programs are the high- and maximum-risk programs. Low-risk programs are not physically secure, though they provide enough security to keep youth, staff, and the public safe. The anticipated length of stay is three to six months. Moderate-risk programs are physically-secure or staff-secure, with an anticipated length of stay of six to nine months. Youth in low- and moderate-risk facilities are allowed limited access to the community. High-risk programs are hardware-secure with perimeter fencing with access to the community limited to the last sixty days of placement for qualified youth. The anticipated length of stay of high-risk programs is nine to twelve months. Maximum-risk programs are the most secure programs operated. Youth do not have access to the community with the exception of needs for medical attention that cannot be provided on-site and for court appearances. The statutorily mandated length of stay for maximum-risk programs is eighteen to thirty-six months. In relation to change scores and reducing risk and increasing protective scores, secure programs, based on longer lengths of stay, have more time with youth to influence those changes. However, secure programs serve higher risk youth with more extensive criminal careers. The ability to quickly improve risk and protective scores for non-secure programs and to effect change in the highest risk youth for secure programs is paramount to success.

Figure 5 and Figure 6 illustrate the ability of secure and non-secure residential programs to effect risk and protective factors during placement. Non-secure placement reduced risk significantly better than secure placement in four domains (Current Academic Status, Current Relationships, Current Alcohol/Drug, and Current Skills), while secure placement reduced risk significantly more in Employability. Non-secure increased protective scores significantly more than secure placement in ten domains (Outside Employment, Current Alcohol/Drugs, Current Mental Health, Aggression, Skills, and the five skills subdomains). Secure placement increased protective scores more in one domain (Program Supervised Tasks). The finding that non-secure placement increased the protective score significantly more in Current Outside Employment was expected as youth in secure placement are not permitted access to community during placement to work.

Figure 5.

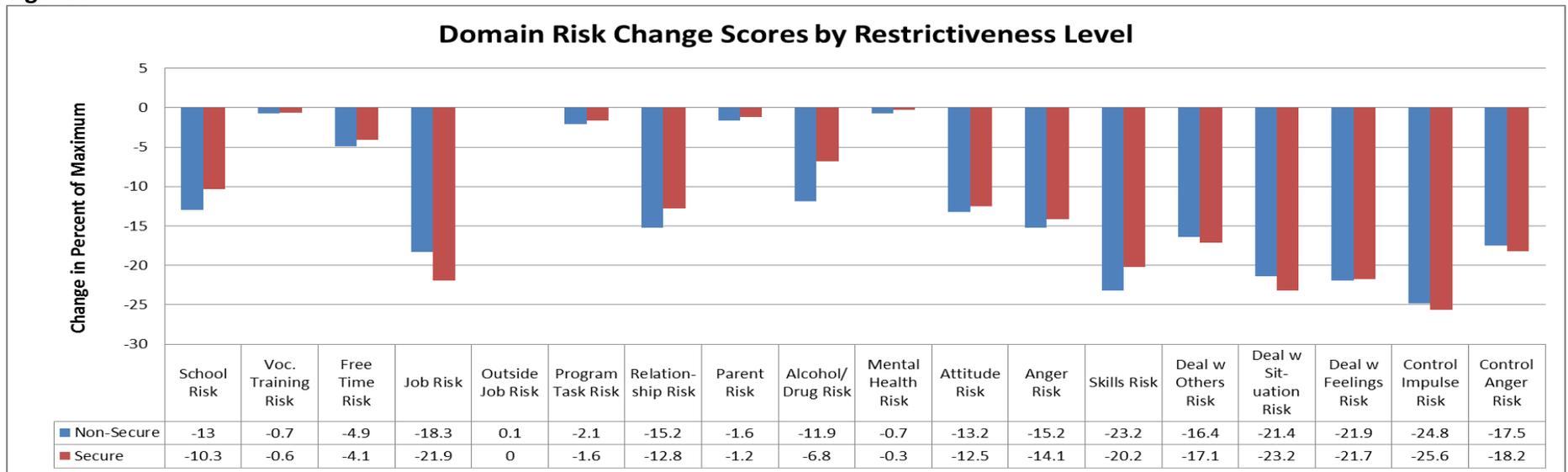
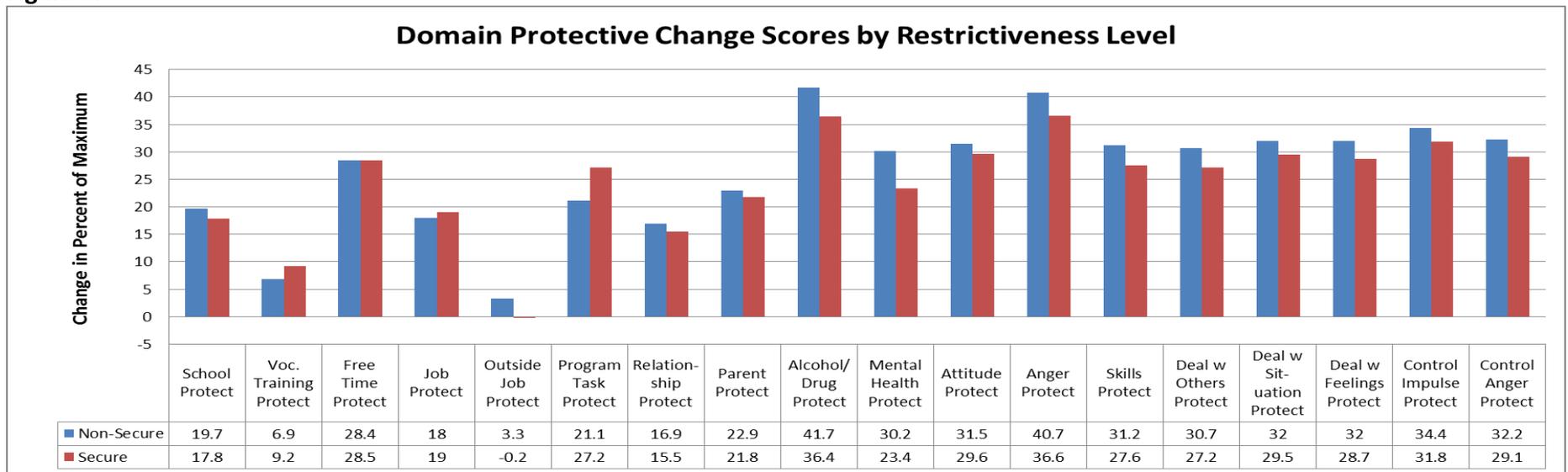


Figure 6.



The result that non-secure was much more effective at increasing the Skills and skills subdomain protective scores is interesting in light of the fact that youth in secure placement have such longer lengths of stay to effect that change. The youth sent to secure placement are the highest risk youth in the state, in theory. Therefore, they should have the highest baseline levels of risk from which reductions are possible. Non-secure placement outperformed secure placement in fourteen of thirty-six changes, was statistically equivalent in twenty scores, and was only outperformed by secure placement in two scores, both of which were in the employment/vocational areas (Employability, Program Supervised Tasks). It would appear that the secure placement may be getting older youth prepared for employment upon eventual release, while non-secure programs more focused on teaching social skills and targeting the myriad of empirically proven criminogenic needs other than employment. Of the youth in secure placement, 78.5% were sixteen years of age or older at time of admission, compared to 66.6% of those in non-secure. Perhaps the age of the youth in secure lends itself to a greater focus on employability/employment, though criminological research does not support that focus if the goal is recidivism reduction (Lipsey, 2009). However, it must be pointed out that secure placement still reduced risk and increased protective scores, and substantially for many domains, as indicated in Figures 5 and 6.

Many domain risk reductions and increases in protective scores were very large changes for both non-secure and secure youth. The greatest risk reduction was in Techniques for Controlling Impulsive Behaviors for both non-secure and secure youth (reduction of 24.8% and 25.6%, respectively). The greatest increases in protective scores was found in Current Alcohol/Drug for both groups (increase of 41.7% for non-secure and 36.4% for secure) and Aggression (40.7% increase for non-secure, 36.6% increase for secure). The extent of changes greater than fifteen percent is very high for both groups (twenty-five of thirty-six scores for non-secure, twenty-three of thirty-six scores for secure). Domains that did not evidence much change during placement were Outside Employment, Current Parent/Caretaker Relationships (risk only, protective did increase over 22% for each group), Mental Health risk, and Vocational Training Status.

Results by Age at Admission:

Analyses examined whether changes in risk and protective factors differed based on the age of the youth at the time of admission. Age at admission was classified according to three broad categories: 12 and under; 13 to 15, and 16 and over. The majority of the 4,460 youth sample was composed of youth 16 and over at time of admission (N=3,053, 68.5%), followed by 13-15 year olds (N=1,383, 31%), with only twenty four youth 12 and under (0.5%). One-way ANOVA was used to examine whether any age category differed significantly from any other on each of the change scores. For change scores that were statistically significant (based on the F statistic), the test of Homogeneity of Variances (Levene statistic) was used to determine the post hoc test used (Bonferroni or Tamhane's T2). Table 2 shows which domain change scores were statistically different between the three age at admission classifications. Only four of the eighteen risk domain change scores did not differ by age at admission. Residential placement was equally effective across age in the reducing risk in Current Vocational Training Status (reduced by only 0.7% on average), Current Outside Employment (did not change during placement), Current Parent/Caretaker Relationship (reduced by 1.6% on average), and Current Alcohol/Drug (reduced by 11% on average). Protective factors increased equivalently across age in eight domains: Current Use of Free Time (increased by 28.4% on average), Program Supervised

Tasks (increased by 22% on average), Current Relationships (increased by 16.7% on average), Current Parent/Caretaker Relationship (increased by 22.7% on average), Current Mental Health (increased by 29% on average), Dealing with Others (increased by 30.2% on average), Dealing with Difficult Situations (increased by 31.6% on average), and Impulse Control (increased by 34% on average). The remaining twenty-four change scores differed by age at admission.

Table 2. Risk and Protective Differences by Age at Admission

Age	Comparison Group	Risk Reduction Domains	Comparison Group	Protective Increase
12 and Under	Superior over 13-15 Group	Current Skills	Superior over 13-15 Group	None
	Superior over 16 and Over Group	Current Skills	Superior over 16 and Over Group	None
13-15	Superior over 12 and Under Group	Employability	Superior over 12 and Under Group	Employability, Outside Employment
	Superior over 16 and Over Group	Current School, Use of Free Time, Current Relationships, Current Mental Health, Current Attitudes, Aggression, Current Skills, Skills for Dealing with Others, Skills for Dealing with Difficult Situations, Skills for Dealing with Feelings/Emotions, Impulse Control, Controlling Aggression	Superior over 16 and Over Group	Current School, Employability, Current Attitudes, Aggression, Current Skills, Controlling Aggression
16 and Over	Superior over 12 and Under Group	Employability,	Superior over 12 and Under Group	Current Vocational Status, Employability
	Superior over 13-15 Group	Employability	Superior over 13-15 Group	Current Vocational Status, Alcohol/Drug

Note: The mean difference for all domains referenced in the table was significant at the .05 level.

Figure 7.

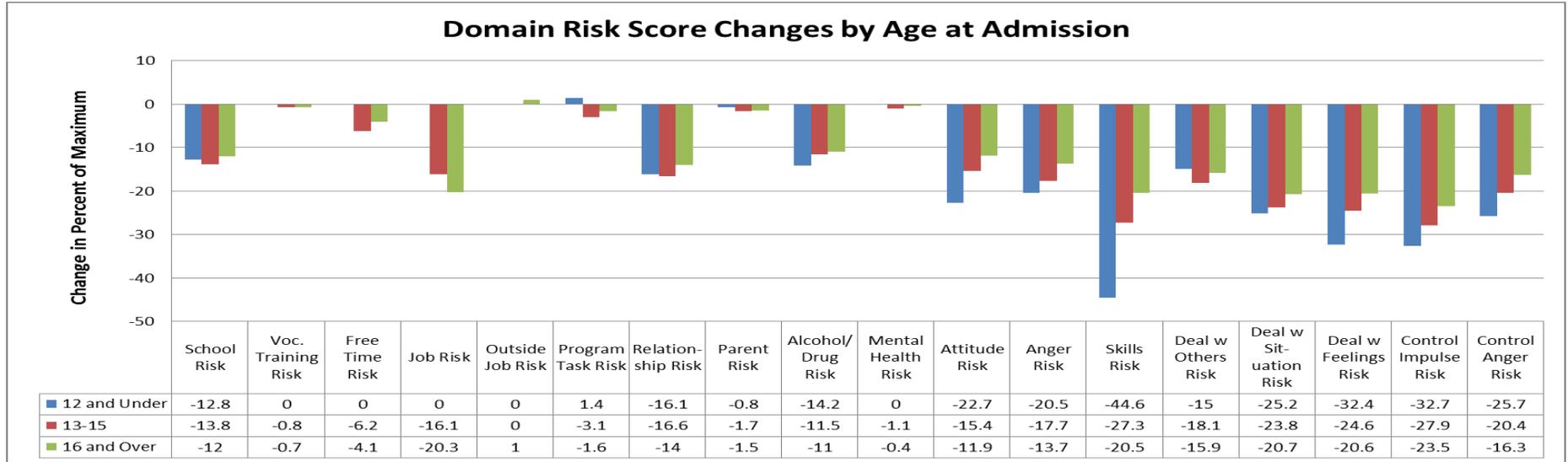
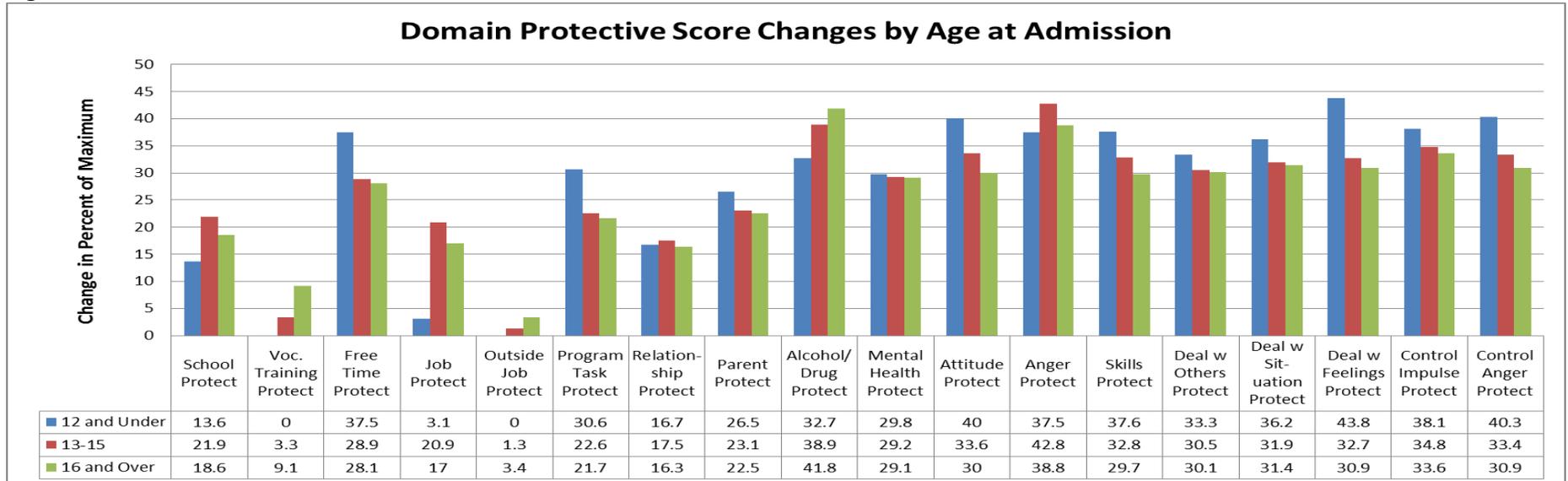


Figure 8.



As Table 2 shows, the only instances in which placement was more effective at reducing risk or increasing protective scores for the “13-15” or the “16 and Over” groups than for the “12 and Under” group was in the domains related to work/employment (Employability risk, Outside Employment protective, Employability protective, Vocational Status protective). Finding that programs did not focus as much on these domains for younger youth makes intuitive sense. It also shows that for the majority of risk and protective factors, residential programs are effecting just as much change in younger youth than older youth. Table 2 shows the youngest group (12 and Under) performed better than the older two groups only in the Current Skills risk domain. This could be a function of younger youth having more extensive social skills deficits to begin with (hence the ability to effect more change). However, this is an empirical question worth exploring that was not fleshed out in the current analysis. Perhaps most evident from Table 2 is that the youth who were thirteen to fifteen years of age at admission evidenced significantly greater change (risk reduction and increase in protective scores) than the youth who were sixteen or over at time of admission. These differences were most evident in the area of social skills. This could be due to more initial deficits and hence more that can change. As noted above for change scores by restrictiveness level, these results should not be interpreted to mean that change did not occur for youth sixteen or older at time of admission. In fact, all skills domain/subdomain risk scores improved by fifteen percent or greater (up to 44.6% for 12 and Under youth) for all three age at admission classifications. Furthermore, protective scores in Alcohol/Drugs, Attitudes, Aggression, and all five skills subdomains increased by at least thirty percent for all three age groups. Figure 7 and Figure 8 illustrate changes in risk and protective scores (respectively) for each of the three age classifications.

Results by Overall Risk to Re-offend Level:

Youth placed in residential programs are often the highest risk youth under the care and custody of the Florida Department of Juvenile Justice. Sometimes, however, lower risk youth are placed in residential programs. The current sample of 4,460 youth was composed of 535 low risk to re-offend youth (12%), 772 moderate risk youth (17.3%), 1,411 moderate-high risk youth (31.6%), and 1,742 high risk youth (39.1%). One of the Five Principles of Effective Intervention is the Risk Principle (Andrews & Bonta, 2003). The risk principle dictates that intensity of treatments and interventions should mimic the level of the risk to re-offend with more intense services delivered to the highest risk youth (Andrews & Bonta, 2003; Harland, 1996, McGuire, 2002; Sherman et al., 1997). Research shows high intensity services delivered to low-risk to re-offend youth are iatrogenic; having the negative consequence of actually increasing recidivism (Andrews & Kiessling, 1980; Baird et al., 1979; Bonta et al., 2000; O’Donnell et al., 1971). Overall risk to re-offend for the current analysis was taken from the C-PACT assessment completed closest to the youth entering residential placement.

Examination of changes in risk and protective factors by overall risk to re-offend level shows significant differences across groups. Table 3 shows which domain change scores were statistically different between the four risk classifications. Immediately seen is that the low risk to re-offend group did not evidence significantly better reduction in risk or increase in protective scores than the other groups in any domain. The low risk youth did evidence substantial changes (risk reduction and protective factor increases), but those changes evidenced by the other three groups were equal to, or greater than, the low risk change. Table 3 also shows that the moderate risk to re-offend youth only performed significantly better than the low risk youth in any domain. Similarly, moderate-high

youth only performed better than low and moderate youth in any domain. The risk reduction and protective factor increase change scores were very similar for moderate and moderate-high youth, only differing in two risk domains (Skills Dealing with Difficult Situations, and Techniques for Controlling Aggression), and no protective domains.

Table 3. Risk and Protective Differences by Overall Risk to Re-offend

Risk Level	Comparison		Comparison	
	Group	Risk Reduction Domains	Group	Protective Increase
Low	Moderate	None	Moderate	None
	Mod-High	None	Mod-High	None
	High	None	High	None
Moderate	Low	Current School, Attitudes, Aggression, Current Skills	Low	Current School, Current Relationships, Attitudes, Aggression, Current Skills
	Mod-High	None	Mod-High	None
	High	None	High	None
Moderate-High	Low	Employability, Current Relationships, Attitudes, Aggression, Current Skills, Skills Dealing w/ Others, Skills Dealing w/ Situations, Skills Dealing w/ Feelings, Impulse Control, Controlling Aggression	Low	Employability, Current Relationships, Attitudes, Aggression
	Moderate	Skills Dealing w/ Situations, Controlling Aggression	Moderate	None
	High	None	High	None
High	Low	Current School, Use of Free Time, Employability, Current Relationships, Alcohol/Drugs, Attitudes, Aggression, Current Skills, Skills Dealing w/ Others, Skills Dealing w/ Situations, Skills Dealing w/ Feelings, Impulse Control, Controlling Aggression	Low	Current School, Use of Free Time, Employability, Current Relationships, Alcohol/Drugs, Mental Health, Attitudes, Aggression, Current Skills, Skills Dealing w/ Others, Impulse Control, Controlling Aggression
	Moderate	Employability, Current Relationships, Attitudes, Aggression, Skills Dealing w/ Others, Skills Dealing w/ Situations, Skills Dealing w/ Feelings, Impulse Control, Controlling Aggression	Moderate	Use of Free Time, Employability, Mental Health, Attitudes, Aggression, Controlling Aggression
	Mod-High	Current School, Current Relationships, Alcohol/Drugs, Attitudes, Aggression, Current Skills, Skills Dealing w/ Others, Skills Dealing w/ Feelings, Impulse Control, Controlling Aggression	Mod-High	Employability, Alcohol/Drugs, Mental Health, Attitudes, Aggression, Current Skills

Note: The mean difference for all domains referenced in the table was significant at the .05 level.

Figure 9.

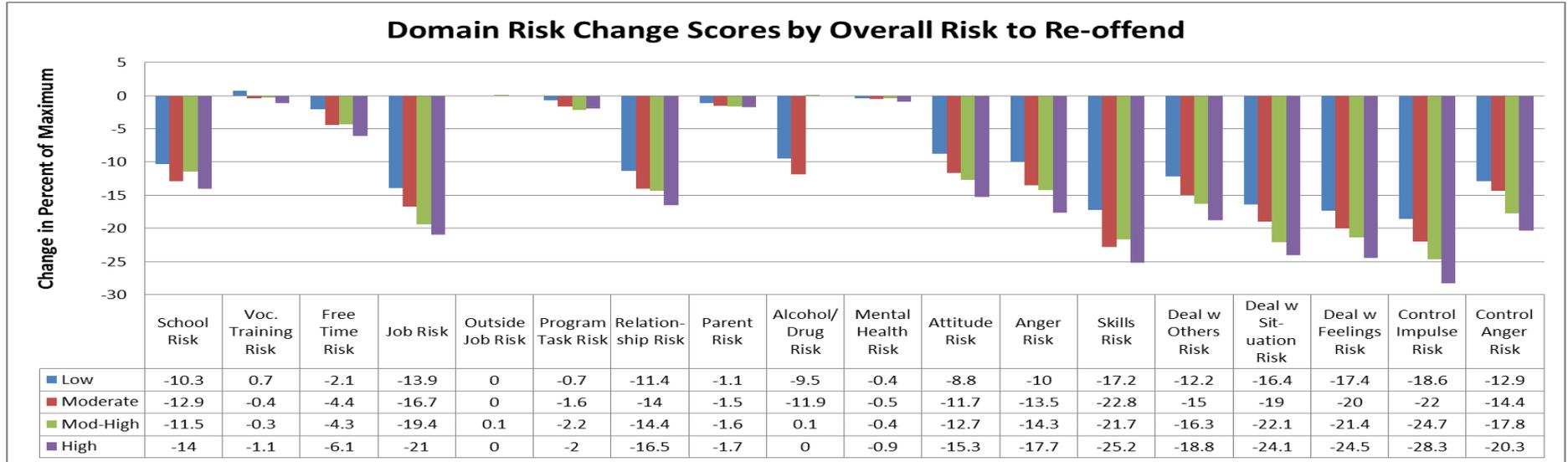
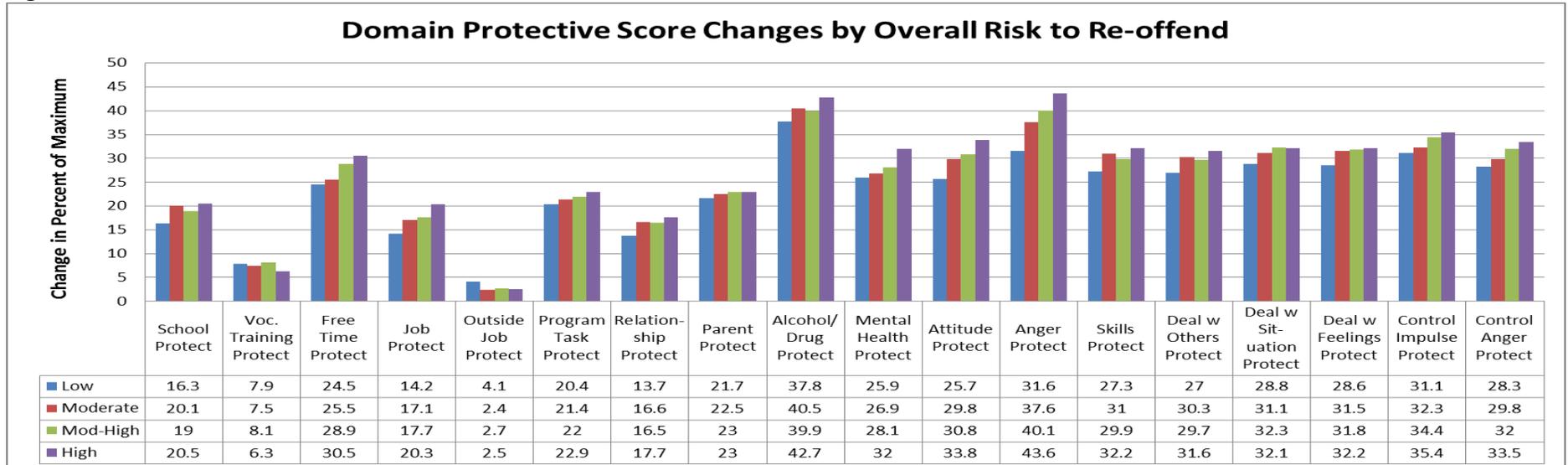


Figure 10.



The most dramatic differences were between high risk to re-offend youth and the other three groups. High risk youth evidenced significantly greater risk reduction than low risk youth in thirteen of the eighteen domains, and greater increases in twelve protective domain scores. High risk youth improved more than moderate risk youth in nine risk scores and six protective scores. They also evidenced greater improvements than moderate-high risk youth in ten risk scores and six protective scores. The high risk youth outperformed all other youth in the following seven risk domains: Current Relationships, Attitudes, Aggression, Skills Dealing with Others, Skills Dealing with Feelings/Emotions, Techniques for Controlling Impulsive Behaviors, and Techniques for Controlling Aggression. They also outperformed all other youth in four protective domains (Employability, Mental Health, Attitudes, and Aggression). No other risk level group (low, moderate, or moderate-high) outperformed all other youth in any domain. These results show that while youth at all risk to re-offend levels are showing improvements during residential placement, the high risk to re-offend youth are evidencing significantly greater change in the intended direction of risk reduction and increases in protective scores. Figure 9 and Figure 10 highlight the differences in risk and protective domain changes during placement for each risk level. All risk and protective domain changes for each risk level are in the intended directions, with the exception of essentially no changes in Outside Employment, Vocational Training, and Mental Health risk.

Recidivism Results:

The above analysis examine changes in risk and protective scores empirically demonstrated to be among the strongest predictors of juvenile offending/recidivism (Andrews & Bonta, 2003). However, these factors may vary in the strength of their relationship with re-offending. The extent of change may not be predictive, or correlated with re-offending in light of the discussion in the methodology section above (two youth with the same percent of change, yet the second youth ended with a higher score than the first youth began with; therefore the first youth may still be half as likely to re-offend). Therefore, this analysis examines the relationship between the exit risk and protective scores with recidivism. This shows whether youth with lower risk in a particular domain or higher protective score in a particular domain re-offend at lower rates than youth with higher risk or lower protective scores. Recidivism was measured using the official FDJJ definition of a subsequent delinquent or criminal referral/arrest that resulted in a juvenile adjudication or conviction within one year from program completion.

Risk and protective domain scores at release from residential placement (as measured by the exit R-PACT) that were significantly related to subsequent re-offending are shown in Table 5.

Ten of the eighteen risk scores and fifteen protective scores were correlated with re-offending. All of the correlations are in the intended direction with positive values for risk scores and negative values for protective scores (as risk increases re-offending increases, as protective scores increase re-offending decreases). The strongest correlations between risk scores and recidivism are between Current School Status, Attitudes, Aggression, and Current Relationships with re-offending. The Current Skills domain was significantly related to re-offending, but four of the five skills subdomains were not. The majority of protective scores are related to subsequent offending demonstrating the importance of focusing not just on risk reduction, but on increasing strengths and prosocial networks and skills.

Table 4.

Relationship of Exit R-PACT Scores to Recidivism	
Domain	Pearson Correlation
School Risk	.084**
Vocational Training Risk	0.015
Use of Free Time Risk	.031*
Employability Risk	.054**
Outside Employment Risk	0.012
Program Supervised Tasks Risk	0.008
Current Relationships Risk	.061**
Parent/Caretaker Relationship Risk	0.01
Alcohol/Drug Risk	.054**
Mental Health Risk	.032*
Attitudes Risk	.072**
Anger/Aggression Risk	.072**
Skills Risk	.039**
Skills Dealing w Others Risk	0.026
Skills Dealing w Situations Risk	0.028
Skills Dealing w Feelings Risk	.032*
Impulse Control Risk	0.018
Anger Control Risk	0.017
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School Protective	-.057**
Vocational Training Protective	-.045**
Use of Free Time Protective	-.039*
Employability Protective	-.109**
Outside Employment Protective	-.017
Program Supervised Tasks Protective	-.043**
Relationship Protective	-.058**
Parent/Caretaker Relationship Protective	-.024
Alcohol/Drug Protective	-.04**
Mental Health Protective	-.003
Attitudes Protective	-.081**
Anger/Aggression Protective	-.057**
Skills Protective	-.08**
Skills Dealing w Others Protective	-.077**
Skills Dealing w Situations Protective	-.067**
Skills Dealing w Feelings Protective	-.073**
Impulse Control Protective	-.071**
Anger Control Protective	-.075**

Note: *= statistically significant at p< .05; **= statistically significant at p< .01; Positive correlations for risk factors show that as the risk increases re-offending increases, while negative correlations for protective factors show that as protective scores increase re-offending decreases; Significant differences are in bold.

The only domains in which neither the risk nor the protective scores were related to subsequent offending were Outside Employment and Parent/Caretaker Relationships. The null finding for Outside Employment was expected as there was negligible change in that area (0.05% increase in risk which is essentially stability, and only 2.7% increase in protective score). The lack of significance in the Parent/Caretaker Relationships domain was unexpected as substantial change occurred on the protective score (increase of 22.7% for the sample). The protective score of that domain measures aspects such as whether the youth has a good relationship with various family members, the level of conflict within the home, the progress on goals related to family during placement.

The Current Skills protective score was correlated with recidivism ($p < .01$). Furthermore, all of the skills subdomains were significantly related to subsequent offending (at $p < .01$). This finding is important for several reasons. First, it shows the need to examine both deficits (risks), as well as strengths (protective factors) of youth served. Critical relationships between progress and re-offending would have been missed had the focus been narrowly on risk. Secondly, and perhaps more important, we see that it is not simply the absence of risk that matters, but it is the improvement into the prosocial realm that is imperative. Reducing the use of antisocial skills in four of the five subdomains was not enough; the youth had to actually begin using prosocial aspects of the skills covered in those domains before reductions in re-offending were related. The importance of increasing the use of appropriate social skills echoes recent meta-analytic work demonstrating cognitive-behavioral and skill building interventions are among the most effective with juvenile delinquents (Lipsey, 2009; Lipsey, M.W., Howell, J.C., Kelly, M.R., Chapman, G., & Carver, D., 2010).

Implications:

As reducing risk and increasing protective factors is paramount to impacting the ultimate target of recidivism rates, it is essential for residential programs to demonstrate an ability to affect change for the highest risk youth. The current analysis has demonstrated residential placement to be decidedly effective with reducing risk and increasing the strengths of the youth served, especially the high risk youth. Continual monitoring of reassessment results and change scores is best practice and an important tool to ensure youth in residential placements are making the progress necessary for success. Case management performance plans for higher risk youth should include the goal of completing an evidence-based delinquency intervention targeted to individualized risk and protective factors based on validated assessment. It is essential for programs to provide a constellation of interventions across multiple risk factors. The youth that completed residential placement with lower risk and greater protective scores had lower recidivism rates. Therefore, increasing protective factors and building prosocial networks and strengths is demonstrated to be critical to optimal impact on public safety and truly providing youth served with a chance at future success.

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