ENVIRONMENTAL CORRECTIONS: AN APPLICATION OF ENVIRONMENTAL CRIMINOLOGICAL THEORIES TO COMMUNITY CORRECTIONS PRACTICES

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Abstract

The Environmental Corrections model of probation and parole applies the tenets of environmental criminological theories to community corrections practices. This model works to reduce recidivism by addressing the two causes of crime: opportunity and propensity. First, officers work to limit supervisees’ access to chances to commit crime, redesigning offenders’ routine activities so that risky settings are avoided and replaced with prosocial influences. Second, the nature of officer-offender meetings is reoriented so that the criminogenic needs relevant to opportunity-avoidance and resistance are addressed. This article describes the results of a 6-month evaluation of a pilot test of the Environmental Corrections model.

Acknowledgements: I gratefully acknowledge all contributors to the project. Disclaimer: The information provided in this article is a reflection of the author’s evaluation and does not represent the official position of Queensland Corrective Services. Correspondence addressing this article should be directed to: Lacey Schaefer, School of Criminology and Criminal Justice, Griffith University, Social Sciences Building (M10), 176 Messines Ridge Road, Mt Gravatt QLD 4122 Australia; phone: +61 07 3735 3482; email: lschaefer@griffith.edu.au.
Introduction

Traditional models of probation and parole are oriented around two anchors of practice—treatment and control—which are frequently described as incompatible (Taxman, Henderson, & Lerch, 2010; Taxman, Shepardson, & Byrne, 2004). As a consequence, community corrections practices often embody eclectic approaches whereby multiple supervision ideologies are merged (Skeem & Manchak, 2008; Taxman, 2011) or supervision frameworks that have no overt guiding goal (Worrall & Hoy, 2005). Unfortunately, the lack of a clear overarching philosophy has often resulted in probation and parole practices that are devoid of a theory about what causes crime (and thus, how to prevent reoffending); at a minimum, it is common for the theories that do guide community corrections work to be contorted, misinterpreted, or neglected in routine practices (Latessa, Cullen, & Gendreau, 2002). As a consequence of these conditions, many agencies now embody models that emphasize administrative functions rather than corrective interventions and which tend to incorporate blanket supervision stipulations (Feeley & Simon, 1992; MacKenzie, 2006; West & Seiter, 2004). This state of affairs then prompts the question of whether community supervision can effectively prevent recidivism (Bonta, Rugge, Scott, Bourgon, & Yessine, 2008; Glaze & Bonczar, 2011; Solomon, Kachnowski, & Bhati, 2005).

Moreover, the embodiment of treatment and control orientations is often done in ways that conflicts with the best available research evidence about how to reduce reoffending. For instance, community corrections agencies that utilize strategies that attempt to control offenders are often based on a warped version of deterrence, whereby offenders are made to follow generic supervision conditions (e.g., not associating with any known offenders, home curfews, alcohol bans) leveraged by generic threats of punishment for noncompliance. Within the treatment orientation, core correctional practices (including the principles of effective correctional intervention) are often ignored in favor of a passive form of service brokerage. These skewed frameworks, in combination with rising caseload numbers, have unfortunately resulted in some community corrections practices concerned with organizational processes rather than correction (Burrell, 2012). Although some of these features may be the necessary consequence of the current state of supply and demand in probation and parole (indeed, there is frequently a distinction between design and practice), it is clear that these approaches may limit the ability of agencies to limit reoffending.

In contrast to these orientations to probation and parole, Schaefer, Cullen, and Eck (2016) have recently proposed a new organizing framework for supervising offenders in the community (drawn from an initial idea outlined in Cullen, Eck, & Lowenkamp, 2002, and further elaborated by Schaefer, 2013). The ‘Environmental Corrections’ paradigm incorporates the two elements of crime events—opportunity and propensity—into a model of probation and parole. This model draws on the insights of environmental criminological theories (for an overview of these perspectives, see Andresen, 2014; Wortley & Townsley, 2016), validated by a canon of empirical research, operating on the simple principle that people cannot commit crime absent the chance to do so. Environmental Corrections thus repositions community corrections officers as problem-solvers that seek to understand and reorganize the routines of probationers and parolees so that crime opportunities are avoided altogether and resisted when encountered. This model corresponds with the growing movement in community corrections to incorporate opportunity-reduction as a foundation for supervision (Miller, 2012; Schaefer, Cullen, & Manchak, 2017; Schaefer & Williamson, 2017).

Summarily, the Environmental Corrections model works to address the two elements of (re)offending
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In the first instance, rather than relying on generic supervision stipulations, the conditions of probation and parole orders can be tailored to reflect the unique opportunities for reoffending for each supervisee. These supervision conditions are embedded in a larger set of routine activities for each probationer and parolee (such that the ‘crime triangle’ is disrupted, whereby the motivated offender is kept away from suitable targets or where there is an absence of capable guardianship; Clarke & Eck, 2005). This approach not only aims to steer offenders away from crime-conducive places, associations, and activities, but also attempts to encourage the offender’s exposure to a prosocial lifestyle and agents of informal social control. In the second instance, probation and parole staff can effectively reduce the propensity of their supervisees to reoffend by utilising officer-offender meetings as mini-interventions rather than case management time. Through cognitive restructuring and skills trainings, officers can (1) help probationers and parolees to avoid situations that are likely to contain crime opportunities (e.g., through offence mapping and consequential thinking skills development), and (2) resist chances to reoffend that do arise (e.g., through teaching emotion regulation skills). These opportunity- and propensity-reduction strategies fundamentally alter the goal of supervision meetings. Probation and parole staff are ideally situated to help change the ways that offenders think about their opportunities for relapse and to collaboratively develop plans to avoid these crime-conducive environments (Bourgon, Gutierrez, & Ashton, 2011). As opposed to monitoring offenders’ adherence to generically prescribed rules and referring them to external service providers, through the Environmental Corrections model probation and parole officers work actively as change agents with each supervisee. This model helps to identify each supervisee’s specific precipitators for reoffending, developing case plan conditions and offender routines that avoid the situations where these risks are located. Corrections staff additionally work to disrupt the criminogenic needs (such as deficient consequential thinking or coping skills) that would lead the probationer or parolee to exploit the crime opportunities that remain. Although the package of Environmental Corrections is new, it is aligned with a host of evidence-based core correctional practices (Bonta, Rugge, Scott, Bourgon, & Yessine, 2008; Dowden & Andrews, 2004).

A Pilot Test of Environmental Corrections
This article describes the results of a quantitative evaluation of a pilot test of the Environmental Corrections model, performed in one office located in the Brisbane metropolitan area in Australia.

Study Sample
Following consultations between the research team and Queensland Corrective Services, one of the local district offices was purposively selected as the initial field location for the intervention. The office was chosen due to its balanced offender and collective caseload profile. The average caseload size for senior case managers (who supervise high-risk offenders) was 40, while the average caseload size for case managers (who supervise low-risk and medium-risk offenders) was 80 (for reference, the offender-to-operational staff ratio in Queensland is 35:1, compared to 21:1 nationally; Queensland Parole System Review, 2016). The office supervises a mix of order types and offender characteristics without any particular caseload saturations.

All staff working at the chosen probation and parole office received training in the Environmental Corrections model (see the proceeding subsection). This included two district managers, two
supervisors, seven senior case managers, four case managers, and one probation services officer. Staff had lengths of employment extending from two weeks to fifteen years, with an average tenure of three years among offender supervisors.

All offenders being supervised in the selected district office were included in the pilot test (this included offenders who were already under active supervision orders as well as offenders received into the office during the intervention). Across the office, approximately 450 community supervision orders are overseen at any given time; this includes probation orders (41%), court-ordered parole orders (39%), board-ordered parole orders (15%), and other order types (e.g., community service; 5%). The office carries a caseload with a range of reoffending risk scores, including low (14%), standard (45%), enhanced (21%), and intensive (20%). Offence types included major violence (including sex offences, 35%), minor violence (10%), drugs (36%), property (52%), weapons (7%), and public order (9%). The average age of offenders supervised at the selected district office was 32.29 (SD = 10.35), 79% of offenders were male, and 23% of the sample identifies as Aboriginal or Torres Strait Islander.

Training in the Environmental Corrections Model
All of the staff to be trained in the new model of probation and parole were gathered for a pre-intervention meeting in April 2016. During this meeting, the objectives and strategy of the pilot test were outlined. Offender supervisors received endorsement from management staff and were able to ask questions about the nature of the experiment. All of the staff that were to undergo training in the Environmental Corrections model were provided with pre-training materials. Staff received a preparation manual with pre-reading information to orient them toward the ideas that undergird the new model.

Two weeks later, staff received their Environmental Corrections training across two days in April 2016. The training included three components with three training modules in each. In the first component, ‘Managing Opportunity’, staff received training in: (1) an introduction to crime opportunities, (2) developing case plans, and (3) tools and crime controllers. In the second component, ‘Managing Propensity’, staff received training in: (4) an introduction to criminal propensity, (5) cognitive-behavioural techniques, and (6) cognitive skills training. In the third component, ‘Managing Offenders’, staff received training in: (7) special populations, (8) monitoring offenders, and (9) a review of goals and methods of Environmental Corrections.

The intervention was implemented immediately following this training. All staff operating at the treatment field site used the Environmental Corrections model as of 1 May, 2016. The Principal Investigator completed field observations and booster trainings in the weeks and months following the implementation of the intervention. Booster trainings took place with individual staff members following shadowing during officer-offender meetings. Group-based booster trainings for the entire office were scheduled on seven occasions between May and October 2016. These booster sessions sought to upskill staff members in areas where deficiencies were noted, and also served to provide refresher training to staff as needed.

Analytical Techniques
Six months after implementation, the Principal Investigator requested data from Corrective Services in order to evaluate the impact of the intervention. The data requested included offender characteristics,
offence details, order details, assessment information, correctional history, and outcome measures (including contravention and reoffence details). These data were collated across January 1, 2015 through October 31, 2016.

Data was merged from two samples: offenders supervised at the selected district office (the treatment group) and offenders supervised at a comparable district office (to serve as a control group; further information about the matching procedures used is provided below). For this project, another district office in the Brisbane metropolitan region was selected as the most similar to the treatment field site due to its staff-offender caseloads ratio, offender characteristics, and geographic location. It is important to note that a control group was required in order to make meaningful comparisons about the impact of the intervention. If the treatment office was measured in isolation, any change in outcomes (such as a reduction in recidivism over time) could not be fairly attributed to the new model; it would be possible that this change would have been observed despite the intervention. Thus, in order to account for these potential cofounders, a control group was selected. When the treatment group and the control group are roughly equal, any differences in outcome can be attributed to the effects of the intervention.

Upon receipt of the data, a new dataset was created with both samples merged together. Although offenders have unique identification numbers, it was possible for an offender to have multiple orders in the dataset; therefore, to overcome this potential hurdle, each individual episode was assigned a unique case code. A number of new variables were created to support the analytical techniques pursued here. The final dataset contained more than 400 variables across nearly 3,000 community corrections orders (treatment n = 1,681; control n = 1,296).

The analyses that followed were performed in two steps. First, trends in reoffending were calculated across the treatment and control offices. These analyses show the overall trends in offender outcomes from January 2015 through October 2016 (with the intervention being implemented at the treatment office in May 2016). Although these analyses provide a general picture of the rates and directions of reoffending, these trend data do not control for any statistically significant differences between groups. Therefore, readers should take caution in interpreting trend data, understanding that the differences in outcomes observed between the two groups may be due to the intervention or due to some other underlying difference (such as variable risk profiles across the two offices, for example).

Second, rates of reoffending were compared between the treatment and control groups following propensity score matching (see Apel & Sweeten, 2010). This matching procedure creates two statistically equivalent groups that controls for a number of potential confounding variables, accounting for many baseline differences between treated and untreated study participants when looking at the outcome of the treatment (Austin, 2011a). In this way, any differences in outcomes between the two groups of offenders can more reliably be attributed to the intervention and not some other spurious influence.

The two groups were matched on nineteen variables across four categories: offender characteristics (offender’s age at the time of the intervention, offender’s sex, offender’s country of birth, offender’s identification as Aboriginal and Torres Strait Islander), offence characteristics (number of offences listed on the current order, most serious offence for the current order, whether the offence(s) fell
into any of the categories: major violence, minor violence, drugs, property, weapons, public order), order characteristics (order type, whether the offender is serving multiple concurrent orders), and risk characteristics (risk of reoffending category, number of correctional episodes, accommodation risk level, employment risk level, and substance abuse risk level). The offenders in these two groups were matched using an exact matching method for risk of reoffending category, combined with a nearest neighbour matching technique with a caliper of .1 (Austin, 2011); this resulted in a subsample size of 258 offenders in each group. The matching process was conducted using a PSM dialog within SPSS that invokes three R packages. The procedure resulted in the two groups being statistically equivalent; that is, the differences between the treatment and the control group across the nineteen variables that may drive offender outcomes were reduced to statistical non-significance. Thus, because the two groups are extremely comparable, any differences in the outcomes observed between them can more safely be attributed to the intervention.

Results
Looking at the trends of reoffending, as showcased in Figure 1, the rate of recidivism for offenders supervised at the treatment office is substantially lower six months following the implementation of the intervention, compared to the rate of reoffending for those offenders supervised at the control office; the rates of reoffending were roughly comparable at the start of the experiment. Here, reoffending is operationalised as a new charge as recorded by police. The monthly proportion represents the number of orders that incurred a new charge within the preceding six months, relative to the number of active orders under supervision at each office in that month. It is important to note that the results here may be spurious; that is, it is possible that the group differences between the offenders supervised at the treatment versus the control office could be the driver of the differences in rates of reoffending seen here, rather than being due to the intervention itself. Still, at face value, the results shown in Figure 1 demonstrate a marked reduction in reoffending among those offenders.
supervised at the treatment office following the introduction of the Environmental Corrections model.

Viewed differently, Figure 2 outlines the cumulative trend in reoffending post-intervention across all orders between the treatment and control groups. That is, each monthly percentage represents the number of orders with a recorded reoffence (a new criminal charge) since the start of the intervention, relative to the number of orders being supervised at each office. The results in Figure 2 demonstrate that 32.39% of orders at the control site had a recorded reoffence six months after the implementation of the intervention, compared to just 26.50% of those orders being supervised in the treatment group. This is an 18% raw reduction in recidivism, which is a statistically significant difference ($\chi^2 = 4.905, p < .05$). It is important to note again, however, that these groups have not been standardised in any way, therefore it is possible that the differences in reoffending observed between the two groups could be attributable to some factor other than the intervention.

![Figure 2: Cumulative Trends of Reoffending Across All Orders](image)

<table>
<thead>
<tr>
<th></th>
<th>Apr-16</th>
<th>May-16</th>
<th>Jun-16</th>
<th>Jul-16</th>
<th>Aug-16</th>
<th>Sep-16</th>
<th>Oct-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment group</td>
<td>0.00%</td>
<td>9.43%</td>
<td>14.67%</td>
<td>19.40%</td>
<td>23.26%</td>
<td>26.13%</td>
<td>26.50%</td>
</tr>
<tr>
<td>Control group</td>
<td>0.00%</td>
<td>12.13%</td>
<td>21.55%</td>
<td>25.89%</td>
<td>29.98%</td>
<td>30.64%</td>
<td>32.39%</td>
</tr>
</tbody>
</table>

As these results demonstrate, the overall rate of reoffending appears to decrease for offenders supervised at the treatment office following the introduction of the new model of supervision, compared to those offenders being supervised at the control office. However, these differences in offender outcomes cannot reliably be attributed solely to the intervention, as it is possible that the offenders supervised at each office have individual differences that may have contributed to the observed results. Thus, a matching procedure was used to create two statistically equivalent groups that controls for many of the spurious influences that could reasonably be driving the differences in outcomes. A rigorous propensity score matching technique was used to create two groups of offenders across the treatment and control offices that were statistically identical across a number of offender, offence, order, and risk characteristics. Thus, having removed the potentially confounding influence of nineteen variables associated with reoffending risk, any differences in the outcomes...
between the treatment and control groups can now be more reasonably attributed to the effects of the treatment intervention.

Using this matching procedure, Figure 3 shows the cumulative rates of reoffending post-intervention across the treatment and control groups. The treatment group consistently exhibits a lower proportion of reoffending, with the difference between groups becoming statistically significant from four months post-intervention and onward. Here, reoffending is operationalised as the number of offenders incurring a new charge relative to the number of offenders under supervision during that month. At six months post-intervention, the treatment group exhibited a cumulative rate of reoffending of 25.00%, compared to a rate of reoffending of 34.81% for the control group. The rate of difference between the treatment and control group is a reduction in reoffending of 28.17%, which is statistically significant ($\chi^2 = 3.929, p < .05$).

![Figure 3: Comparative Cumulative Rates of Reoffending Post-Intervention](image)

Though not displayed here, trends and comparisons in technical violations were also calculated between the treatment and control groups. Results indicated that while the proportion of orders incurring contraventions indeed declined following the intervention, these technical violations decreased at both the treatment and control offices (and the rate of difference between the two groups is not statistically significant). This finding is encouraging, communicating that while reoffending appeared to decrease following the implementation of the new model, rates of breaches of supervision conditions did not simultaneously increase. Using the same treatment and control groups created through the propensity score matching procedure described above, the comparative cumulative rates of technical violations showed no statistically significant difference (roughly 15% of the treatment group had incurred a contravention, while approximately 12% of the control group had incurred a contravention; $\chi^2 = .697, p = .404$). Thus, the results here demonstrate that while
reoffending decreased for the treatment group following the introduction of the Environmental Corrections model, the intervention does not appear to have produced a statistically significant difference in rates of technical violations between the two groups.

**Summary and Conclusions**

The pilot test of the Environmental Corrections model of offender supervision appears to have been effective. The difference in the rate of reoffending among the treatment and control group, not accounting for any differences between the two offices, produces a reduction of recidivism for the treatment group of approximately 18% following the implementation of the new model. Using propensity score matching to control for a number of confounding influences, the proportion of offenders incurring a new charge was substantially lower at the treatment office (25%) compared to the control office (35%), for an overall reduction in recidivism of 28%. This is an impressive result that warrants replication for further study.

Although not reported here, a number of qualitative analyses have further demonstrated the utility of the intervention (Schaefer, under review). Offenders responded largely positively, describing how they felt better assisted in steering clear of trouble. Additionally, staff interviews indicated a preference for the new model, describing how they could observe differences in their own and their supervisees’ recognition and avoidance of tempting crime opportunities.

Yet despite these positive results, the pilot test is not without limitations. First, there was a high rate of staff turnover throughout the six-month measurement period, which may have influenced the course of the experiment. It is not possible to separate the impact of the model from the impact of individual case managers. Second, although there appears to be a reduction in reoffending among the treatment group following the intervention, it is not possible to attribute these differences solely to the content of the new model (such as what was learned during training). The possibility exists that the performance of staff improved following the implementation of the intervention due to factors other than Environmental Corrections (such as enhanced staff adherence to best practices on account of being observed and measured). Third, because random sampling and random assignment could not be undertaken for the current project, it is possible that pre-existing differences between the treatment and control groups contributed to the differences in outcomes. Although many of the risk-predictive variables were statistically controlled for using propensity score matching, other factors (such as the aptitude of case managers) that were not experimentally manipulated could have influenced the results reported here. Fourth, because the pilot test was in many ways a model within a model (that is, the Environmental Corrections intervention was implemented in an office where many agency practices were retained), it is difficult to fully estimate the impact of the experimental manipulation on its own merits, entirely independent of other standard practices.

Still, although additional studies beyond this initial pilot test are needed, the results reported here are encouraging. While it appears as though the new model has been successful in reducing reoffending, the case may be that the *format* of the new framework influenced these results rather than the content of the model. Put practically, it is possible that the opportunity-reduction orientation of the intervention is not responsible for the positive outcomes observed; rather, the recidivism reduction may have occurred because the nature of the officer-offender meeting was refashioned – these contacts became structured interventions with the goal of encouraging long-lasting desistance. The
results of this evaluation suggest that the pursuit of any framework that is interventive and targets offenders’ criminogenic needs would be a worthwhile endeavour.

A final note of importance is that this project provides an example of the benefits that can be produced from academic-practitioner partnerships. This pilot test would not have been possible without the cooperation of executive and operational staff with Queensland Corrective Services. The process was highly iterative, whereby the professional practices of staff were coached to align with the available evidence-base in conjunction with the reception and performance of that information by staff, and sensitive to the dynamic contexts where the experiment was performed. The process of the partnership has been instructive in itself, and is informing correctional practices as well as applied criminal justice scholarship. Consequently, this pilot test should prompt further investigation of the utility of opportunity-reduction offender supervision frameworks, but should also encourage practitioners and researchers to partner together toward the shared goal of uncovering best practices preventing reoffending.

LIST OF REFERENCES

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About the Author

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