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## Exploring Locus of Control in Offender Cognition and Recidivism Paradigms

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EXPLORING LOCUS OF CONTROL IN OFFENDER  
COGNITION AND RECIDIVISM PARADIGMS

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A Thesis

Presented to

The Graduate Faculty

Central Washington University

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In Partial Fulfillment

of the Requirements for the Degree

Master of Science

Experimental Psychology

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by

Anistasha Harmony Lightning

May 2019

CENTRAL WASHINGTON UNIVERSITY

Graduate Studies

We hereby approve the thesis of

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APPROVED FOR THE GRADUATE FACULTY

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Dean of Graduate Studies

## ABSTRACT

### EXPLORING LOCUS OF CONTROL IN OFFENDER

### COGNITION AND RECIDIVISM PARADIGMS

by

Anistasha Harmony Lightning

May 2019

Working with four Washington State county jails to administer surveys to currently incarcerated inmates, we investigated locus of control and beliefs in the likelihood of continued legal involvement as possible antecedents to criminal recidivism. The surveys examined whether there was any connection between legal involvement frequency and the externalization of locus of control. We investigated external locus of control with specific respect to involvement with the law, the prospect of future incarceration, and feelings concerning the overall cause of original and/or sustained legal involvement utilizing the Revised Causal Dimension Scale (McAuley, Duncan, & Russell, 1992). We identified statistically significant interactions between these variables and built a significant predictive path model beginning with elements of locus of control and terminating on increased legal involvement.

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## **CHAPTER I: INTRODUCTION**

A common theme in Washington state justice departments is reducing recidivism. Recidivism is defined as “a tendency to relapse into a previous condition or mode of behavior, especially a relapse into criminal behavior” (Recidivism, n.d.). In research specifically analyzing this phenomenon, this translates as re-offense and subsequent re-incarceration. Reduction in recidivism, then, is a goal for both juvenile and adult correctional agencies. Educational, therapeutic, and other in-facility interventions are widely available for juvenile offenders, which target cycles of criminal behavior and focus on rehabilitation and community reintegration (Washington Department of Social and Health Services, 2017). In adult correctional facilities, however, such programs are not widely available. Adult prisons and county jail facilities in Washington do have programming available, but much of it is religious or work-oriented in nature (Washington State Department of Corrections, 2016). These programs, coupled with extremely limited access to mental health services, do little to address the parallel adult need for rehabilitation.

The number of arrests and incarcerations has, fortunately, decreased for both adults and juveniles across the board since the year 2000 (Washington State Uniform Crime Reporting, 2000; 2016). Unfortunately, however, repeat offense and recidivism remains an issue. These chronic repeat offenders seem to reap no benefit from available programming and resources. The Bureau of Justice Statistics reported in a 9-year longevity study for released prisoners that up to 83% were re-arrested or re-incarcerated within three years of release (U.S. Department of Justice, 2018). In juvenile detention and programs implemented by the Juvenile Justice Administration, even available educational and behavioral therapies seem to offer little benefit

for high-risk youth (Washington Department of Social and Health Services, 2017). In adult corrections, these programs are not only sparse, if available at all, but have done less still to curb the problem of recidivism in Washington. It is clear that a more rehabilitative model is needed, especially in adult corrections, to address this problem. For that to occur, antecedents to recidivism must first be identified.

Regretfully, there appears to be a trend in the literature that examines the potential influencers to this problem: much of the relevant research focuses on juvenile populations. Whether this is due to a societal focus on the rehabilitation of children and the punishment of adults is unclear. What is clear is that literature examining the nature of recidivism from a rehabilitative standpoint disproportionately uses juvenile populations. That does not, however, mean that the conclusions drawn in such literature cannot be applied to research concerning adult populations.

Where recidivism is concerned, much of the literature examines neighborhood environment, types of interventions available before, during, and after incarceration, type of criminal offense, and simple numbers (meaning how many are re-incarcerated). What the currently available literature fails to address is exactly *why* individuals may choose to continually engage in crime, leading to that recidivism. Indeed, poverty, dangerous living conditions, and social influence may provide some answers (Abrams & Snyder, 2010; Halliday & Graham, 2000; Passini, 2012). Unfortunately, in-system decisions can do little to mitigate such issues. What the greater correctional system *can* do is develop and implement effective behavioral interventions that target the psychological precursors to recidivism.

These models must begin with an examination of psychological constructs related to

criminal offense. In this area, feelings of control, exposure to stress, and differences in resiliency characteristics have been identified as potential antecedents (Han, Weisz, & Weiss, 2001; Lodewijks, deRuiter, & Doreleijers, 2010; Richaud, 2013). Locus of control, a psychological construct created by Rotter in 1966, may be applicable. Here, the research sought to draw a link between this psychological construct, which surrounds feelings of control and resiliency, and its potential application to repeat criminal offense. Orientations leading individuals to believe they have little control over life events and the related consequences may be a contributing factor in the decision to continually engage in illegal activity. Thus, it may be that their orientation toward control and causality is influencing their motivation to change and move away from criminal acts.

## CHAPTER II: LITERATURE REVIEW

The construct above concerning orientations toward control may be an important piece of the recidivism puzzle, previously overlooked in adult offender populations. An analysis of this locus of control (LOC) may provide more understanding concerning why some offenders recidivate, and others do not. LOC, here, refers to an individual's general expectations concerning the connection between behaviors and their causes and consequences (Rotter, 1966). Those who view their actions and what happens to them as resulting from chance, luck, or other factors out of their hands are said to have an *external locus of control*. Alternatively, those who view their actions and what happens to them as causally related are said to have a more *internal locus of control*.

For the purposes of this research, external locus of control may be the maladaptive orientation influencing recidivism. For any criminal offender, this would mean, at the most basic level, failing to take responsibility or accepting responsibility for criminality, its consequences, and choices leading away from future trouble with the law. While it is true that there are many factors identified in the literature that may influence recidivism, I focus only on possible interactions between the construct of LOC and the number of times an individual has been in contact with legal authority (i.e., arrests, incarceration, other sentencing, etc.). The idea is that individuals who do not view anything they do as having a potential to change the outcome of their lives (those with an external locus of control) may be less likely to change their behaviors, and thus more likely to have increased contact with the law. This increased contact paired with a specific locus of control may then be predictive of recidivism risk.

For example, consider that the individual in question would display a pattern of thinking

resembling the following: “Nothing I do can keep me from getting locked up, so why bother? Why bother changing my behaviors or pursuing work or education because my being incarcerated is not my fault. It is the system’s/my environment/ etc. that led me here and had nothing or little to do with my own actions.”

This hypothetical individual is exhibiting an external locus of control with respect to their incarceration. It is possible that this orientation would only become more extreme, more external, as it was reinforced. Meaning the reinforcement (repeat incarceration or another contact with the law) may result in the more extreme external orientation (more of a dismissal of the influence of one’s own actions) concerning the contributing factors to legal contact. Examining the previous research and literature concerning locus of control and stress exposure, as well as the treatment amenability, motivation, and feelings of control in incarcerated persons (and other populations) can tell us much about this possibility.

Where internal LOC has been linked to adaptive behaviors and high levels of resilience (Munoz, Brady, & Brown, 2017), external LOC has been linked to depression, anxiety, and other psychopathology (Archer, 1980; Chorpita & Barlow, 1998; Han et al., 2001), and appears to develop from exposure to stress (Nowicki et al., 2018). Few things are as stressful to the human being as incarceration. This stress is largely due to the related restrictions on autonomy, healthy social integration, and the environmentally linked stress on the mind and body (Dmitrieva, Monahan, Cauffman, & Steinberg, 2012).

This increased stress exposure, measured in our research through the number of times an individual has been in contact with the law, may then lead to a more external locus of control scores on established quantitative scales. A more internal locus of control is far more adaptive,

having links to increased resiliency, positive behavior patterns, and better stress management (Munoz et al., 2017). However, if an individual comes to believe there is nothing they can do to break the criminal cycle, as with external locus of control, they would be less likely to make efforts to develop positive, anti-criminal behaviors.

In a meta-analysis, Barnett and Fitzalan-Howard (2018) observed that any intervention, whether correctional facility or community based, that focused on controlling the individual, deterrence, building extrinsic motivation, or basic discipline did little to curb recidivism. However, the same meta-analysis observed that programs focused on building intrinsic motivation and those based upon restorative intent and skills-building were more effective in reducing recidivism in offenders.

Barnet and Fitzalan-Howard's 2018 review is particularly impactful here because of the analytic distinction between extrinsic ineffectiveness and intrinsic effectiveness. Extrinsic interventions, or those designed to emphasize *external* reasoning, appear to be ineffective in dealing with recidivism. However, intrinsically oriented intervention, or those focused on building *internal* motivation for change and behavioral decisions, appear to be effective in curbing recidivism. Therefore, this lends support to the proposition that those with higher individual recidivism rates may have a greater degree of external reasoning, or in our case, external locus of control.

Page and Scalora (2004) utilized such thinking to predict treatment amenability, here used to refer to an individual's willingness to participate in and internalize meaningful treatment. They found that a more internal orientation predicted greater levels of help-seeking behavior, treatment participation, and positive treatment outcomes. Perhaps more importantly, individuals

with more external orientation displayed more resistance to behavioral changes and treatment strategies. Such findings may point to a relationship between an externalized locus of control and diminished intervention efficacy.

Page and Scalora's research utilized juvenile participants, but their conclusions remain applicable to adult populations. Where treatment is available, adult offenders may not be willing to properly utilize or internalize their lessons in external orientation states. Further, where treatment more available, this suggests that understanding control orientation (also known as locus of control) would aid in the implementation and overall efficacy of treatment.

Additionally, as Halliday and Graham (2000) observed, many delinquent individuals express a kind of hopeless sentiment when faced with the prospect of incarceration for current or continued criminal activity, regardless of treatment. As the title of their paper suggests: "If I get locked up, I get locked up." This is a classic example of a situation-specific external locus of control. Indeed, consistent and seemingly inescapable stress lends itself well to the behaviors associated with this externalized locus of control (Nowicki et al., 2018; Takase et al., 2005).

Helplessness is a related concept, here. The idea of feeling helpless to change a situation lends itself well to further elaboration for external locus of control and the potential resulting behaviors. Helplessness is a depression-like behavior observed consistently in animals and humans when perceived control over the environment is lacking (Kubala, Christianson, Kaufman, Watkins, & Maier, 2012; Maier, 2001; Takase et al., 2005). If an individual feels trapped in a situation, they are far less likely to attempt to change it.

This feeling of being trapped can be informed and reinforced by repeated failed attempts to escape the adverse situation initially (Takase et al., 2005). This concept, known completely as

“learned helplessness” has many links to external locus of control via consistent stressor exposure, escape-avoidance, and persistent lack of controllability (Cohen, Rothbart, & Phillips, 1976; Hiroto, 1974). Learned helplessness is a separate psychological construct not measured in the present research model, but conceptually it provides a good example of the potential behavioral consequences of an externalized locus of control.

There are some positive recent developments in Washington state corrections that may be reducing the potential for learned helplessness to develop. Both juvenile and adult arrests have declined in the state of Washington from the year 2000 to the year 2016 (Washington State Uniform Crime Reporting, 2000; 2016). This may be due to the increased availability of community-based diversion programs, treatments, and sentencing options (Washington State Department of Corrections, 2016). Knowing the exact cause, however, would require analysis beyond the scope of the present research question. What is relevant, though, is the assumption that the decline in arrests may also mean a decline in re-arrests. At the most basic level, continuing to decrease the number of arrests and subsequent sentencings should remain a priority in the Washington state justice system. To encourage a continuation in this trend, understanding whether locus of control is, indeed, a statistically significant predictive factor in recidivism is important.

Because recidivism has not become a non-existent phenomenon, one must logically conclude that a proportion of offenders will still find themselves reincarcerated (or in other repeat legal contact). For justice departments concerned with public safety, this, then, remains a major concern. In this research, I attempted to draw on previous theories in the area of recidivism influence in order to gain more insight into the broader picture of the recidivism issue. If locus of

control is, indeed, somehow related to recidivism, this knowledge could inform future diversion and rehabilitative programming.

There must be some factors influencing response to rehabilitative models and propensity toward recidivism. Control, treatment amenability, type of programming, and stress have already been identified as important potential factors (Barnett & Fitzalan-Howard, 2018; Halliday and Graham, 2000; Page & Scalora, 2004). These factors are all related, in some way, to the locus of control construct under investigation, adding to the rationale for examining this issue.

Concerning recidivism influence and rates, specifically, research has shown that external LOC is a predictive factor in increased re-offense rates (Halliday & Graham, 2000). This research demonstrated a preliminary link between locus of control and recidivism in juveniles that, unfortunately, appears to have gone unexplored in adults. Our aim was to give further credit to the LOC-recidivism link in addition to expanding Halliday and Graham's (2000) conclusions to adult populations. Other research also demonstrates a continuity of criminal behavior from adolescence to adulthood in as many as 40% to 60% of offenders, meaning conclusions reached at the juvenile level have great potential to remain applicable at the adult level (National Institute of Justice, 2013). Additionally, by that connection, factors relating to recidivism, if identified, hold potential benefits for both populations, as well.

Importantly, locus of control does not appear to be a static concept or one that individuals gain through psychosocial development that then becomes unable to change. Rather, research points to a more dynamic picture of LOC, changing and shifting from internal to external and vice versa with the ebb and flow of varying environmental factors. This ebb and flow is emphasized in changing social relationships and the stability of surrounding environments

(Nowicki et al., 2018).

Concerning the specific effect of this social stress and stability, Nowicki et al. (2018), in an analysis of 16 factors for exploring changes in LOC in spousal relationships, noted that 12 out of the 16 were stressful events associated with externalizing locus of control. Some of these stressors were relationship based (such as spousal support) while others were environment based (such as employment). This would suggest that sustained exposure to social and environmental stressors are a necessary predictor of an externalizing LOC over time.

This influential flexibility is of great importance to the questions investigated in this research. Recall that it sought to draw a relationship between recidivism and externalizing locus of control. The distinction between *externalized* and *externalizing* is important, here. Externalizing suggests a change over time where externalized suggests and already present external locus of control. This research sought to evaluate whether locus of control is *externalizing* (becoming more external) as a function of the number of times an individual encounters the legal system. It is also important to note that it is entirely possible to note that an offender may begin with an externalized locus of control that will then follow an *externalizing* trend as their number of incarcerations or other law-contact experiences increases.

Earlier, this review spoke of the type of consistent stress exposure present when an offender is involved in the legal system. Such consistent exposure to stress has been linked to the development of helplessness (a related consequence of external LOC) as deep as biological brain function. Rat studies have demonstrated that a lack of stressor controllability leads to behaviors associated with learned helplessness. This concept, which holds that an individual will not seek to escape a negative situation even when the means to do so are presented, seems to stem from

an organism's belief that their detainment in, or freedom from, the stressor environment is not personally controllable.

Takase et al. (2005) observed that learned helplessness behaviors in rats were a function of the number of inescapable tail shocks received in a controlled setting. It is first important to note that rats are a common subject of neurobiological research because the layout of their brain is very similar to that of a human. Noting this, repeated exposure to inescapable shocks (inescapable stress) has demonstrated decreased observable desire in rats to leave the aversive environment, here referring to shock exposure. This observable behavior is a type of escape-avoidance that had previously been linked to the concept of learned helplessness in humans, which itself had been previously linked to external locus of control (Cohen et al., 1976; Hiroto, 1974; Maier, 2001).

Consider this neurobiological principle in our case. The repeated and seemingly inescapable stress of incarceration or other legal involvement that comes with consistent recidivism may lead to helpless behaviors in offender populations with externalized control ideals, such that they would see no point in ceasing their criminal activities or actively adjusting their behaviors to "escape" from the harm of incarceration or other legal involvement. Such consequences may be playing a part in continued criminality.

More recently, this same type of stressor controllability measure has been expanded to adolescent rats and physical brain structure analysis. Repeated exposure to inescapable tail shocks is causally linked not only to decreased social exploration but also to activation of the serotonergic dorsal raphe nucleus, an area of the brain implicated in depression (Kubala et al., 2012). Recall from earlier literature that depression and other pathologies are linked to external

locus of control (Archer, 1980; Chorpita & Barlow, 1998; Han et al., 2001). Thus Kubala et al. (2012) demonstrates that exposure to stress predicts the development of behaviors often observed in conjunction with external locus of control in humans.

The idea that repeated exposure to stress is causally linked to escape-avoidance and depression-like behaviors in neuroscience research is an interesting one. It lends important biological validity to the possibility of externalizing locus of control in offenders due to the consistent exposure to the stress of legal involvement. Indeed, control, or at least the perception of control, has been identified in this review of literature in both rats and humans to be an important factor in stress-related behavioral consequences (recall: depression, escape-avoidance, psychopathology).

Thinking of this in the context of the severe social and environmental stress that comes with incarceration and legal involvement, it is a reasonable expectation that similar behavioral consequences, measured via locus of control, would be observable. It would be difficult to argue against the assertion that these incidents are particularly stressful to an individual, and that logically there must be some aversive consequence related to such stress exposure. Our research proposed that locus of control change is one of those consequences.

According to Lambie and Randell (2013), juvenile incarceration is likely to result in behavioral disturbances and significant mental health consequences that often result in repeat incarceration. Recall that the National Institute of Justice (2013) reported a continuation of criminality into adulthood in 40% to 60% of juvenile offenders, and it becomes reasonable to assume that these behavioral disturbances would be a consequence for adult offenders, as well. Both autonomy and healthy social integration are vital to a healthy human psychological

environment. Incarceration and other legal involvement may limit these vital conditions by entirely restricting those two necessary factors (Dmitrieva et al., 2012).

The only responsible action, then, to lower recidivism and improve public safety would be to investigate possible outward presentations of that limited psychological health. Outward presentations, here, refers to observable behavioral and psychological consequences. Change in locus of control orientation in one such consequence of restricted autonomy and control and is the consequence this research investigated.

With all of these constructs in mind, this study examined whether repeated contact with the legal system related to externalizing locus of control in adult criminal offenders. Previous research does seem to demonstrate both a dynamic, plastic nature of LOC as it relates to environmental factors and that LOC is predictive of intervention efficacy and recidivism rates. Therefore, if LOC does externalize as a function of repeat legal involvement, there exists sufficient cause to target this factor in future cognitive and behavioral programming.

In a sense, the present research derived much from Halliday and Graham (2000). However, that team's research examined primary and secondary controllability with respect to recidivism and criminal behavior. In their study, "primary" referred to attempting to change individual outcomes and "secondary" referred to control stemming from accepting one's environment and working effectively within it. The combined relationship between primary and secondary control was correlated to how quickly an offender would recidivate or, if they would at all. The current research, on the other hand, aimed to connect locus of control via its component causal dimensions, identified by McAuley, Duncan, and Russell (1992), to the number of times an individual has been in contact with the legal system overall.

The current research did not examine the speed at which an individual may recidivate, as Halliday and Graham (2000) did. Rather, it examines the change in locus of control as a function over time and with respect to past recidivism, thereby speculating on the potential interactions with locus of control and recidivism itself. Additionally, the present research measured locus of control with *specific respect* to the causes of incarceration and other legal contact, where Halliday and Graham (2000) obtained general control orientations through various measures and linked them to recidivism predictions and community adjustment.

With these considerations in mind, this research investigated the following hypothesis: as the number of sentencing or legal experiences increases, locus of control will predictively externalize. Meaning that the more times an individual has been arrested, sentenced to detention, group homes, electronic home monitoring, or probation, etc., the more they will view the causes of their legal involvement as external, or outside of them. Additionally, it was hypothesized that increased legal involvement would lead to an individual viewing future legal involvement as more likely. From this hypothesis, the research aimed to investigate questions concerning how incarcerated persons change their thoughts and behaviors relating to perceptions of control as a function of their legal involvement.

This relationship was tested and quantified via causal dimensions (locus of control). The original question hoped that, if such a relationship could be determined, then a piece of the recidivism problem could become clearer. If aspects, antecedents, or consequences of the recidivism problem can be more clearly identified, then that information can be used to take steps in reducing overall recidivism. Such results would, then, have additional benefits beyond adding to the scientific literature.

## CHAPTER III: METHOD

### Participants

The sample included a survey of 117 currently incarcerated county jail inmates in Washington State. Two surveys were incomplete and unusable for analysis. Three additional surveys were removed from the sample as outliers in adult and total legal involvement, falling greater than three standard deviations from the mean. The final sample for analysis was thus 112 completed surveys.

I initially performed a power analysis to determine the required sample size for a medium effect size and an acceptable statistical power factor of .85. I performed this analysis to compute sample size for the  $p = .05$  and  $p = .01$  level for Pearson correlations, linear regression, and independent samples t-tests (two-tailed). For all analyses of this type, G\*Power version 3.1.9.2 was used (Faul, Erdfelder, Lang, & Buchner, 2007).

For Pearson's  $r$  correlation, 163 participants were predicted to yield these results at the  $p = .05$  level, and 255 participants were predicted to be necessary at the  $p = .01$  level. A medium effect size for a Pearson Correlation is approximately .30. For linear regression analysis, the recommended  $n$  was 87 at the  $p = .05$  level, given three predictor variables (the largest number I used), 76 for two predictor variables, and 62 for one predictor variable. These numbers increase to 120 participants for three predictor variables, 108 for two, and 91 for one at the  $p = .01$  level. For linear regression, a medium effect size is generally considered to be .15. Finally, for independent samples t-tests, the recommended  $n$  is 146 at the  $p = .05$  level and 214 at the  $p = .01$  level. For independent samples t-tests, a medium effect size is considered to be .50.

The mean age of participants was 33.73 years ( $SD = 8.886$ ), 75.9% reported graduating from high school or a G.E.D. program, and 33.9% reported being homeless before becoming incarcerated. Ethnically, the participants identified as White (48.2%,  $n = 54$ ), Hispanic or Latin American (17.9%,  $n = 20$ ), Black or African American (2.7%,  $n = 3$ ), Native American or Alaska Native (9.8%,  $n = 11$ ), Asian (1.8%,  $n = 2$ ), Multiracial (15.2%,  $n = 17$ ), or some “other” ethnicity (4.5%,  $n = 5$ ).

I did not record gender, nor did I record the name of the jails where specific surveys were completed, as conducting research in county jails produced some unique confidentiality concerns. The disposition of some legal cases for inmates may be undecided – they may be awaiting trial, sentencing, or some part of their record may be sealed. In order to ensure the protection of inmate identity, minimal demographic data were collected.

## **Materials**

Volunteer inmates were first asked to answer some limited demographic questions and to complete an Involvement with the Law questionnaire (Appendix A). This questionnaire asked participants to self-report the number of times they had experienced various forms of legal involvement, both as adults and juveniles. Volunteers were also asked to self-report how likely they believed they were to have future involvement with the law and what they view to be the overall cause or causes of their legal involvement.

The Revised Causal Dimension Scale immediately followed the Involvement with the Law Questionnaire (McAuley et al., 1992). This scale was used with permission from the copyright owner, Sage Publications. All surveys were in paper format and administered to participants to be filled out by hand using a pen or pencil.

## **Design**

This research utilized a correlational design. All participants were given the same surveys in similar conditions. There were no experimental control groups. Variables were designated based on conclusions in previous literature and on the hypothesized relationship between locus of control and legal involvement.

I measured limited demographic information. I coded age, race/ethnicity, education level, household type (to determine homelessness status), and household income. Many participants did not know their household income, and thus I lacked significant information to use this variable in the analysis.

Gathered data were coded based on participant responses to numeric questions or those that lent themselves well to bivariate or ordinal coding (e.g., assigning a number to racial identifiers for the latter and using homeless = 1, not homeless = 0 for the former). One qualitative variable was coded from the responses to the “causes of legal involvement” question. This variable examined whether a participant indicated that “drugs” or “drug use” or “[substance] addiction” was a contributing cause to their legal involvement. This qualitative information was coded as bivariate data, indicating simply whether or not a participant stated a drug cause for their legal involvement.

In addition to these variables, I recorded juvenile legal involvement and lifetime legal involvement. These were recorded as frequencies, and thus the difference between the two was calculated and coded as adult legal involvement.

In this context, legal involvement refers to several different types of occurrences that would commonly result for an individual who has committed (or has been suspected of

committing) a crime. Self-reported legal involvement as an adult refers to arrests, jail time awaiting trial or court date, jail sentences, prison sentences, electronic home monitoring (house arrest), community service or community restitution, group homes or work release programs, probation, and any “other” involvement occurrences (participant defined and elaborated) not otherwise covered by previous options. Self-reported juvenile legal involvement refers to arrest, referral to juvenile diversion, juvenile detention, community service or restitution, or a participant-defined “other” option.

Further, I recorded and coded two different variables examining thoughts concerning future involvement with the law. The first was a simple bivariate response variable – a “yes” or “no” question – concerning whether participants thought future legal involvement was likely. For those that selected “yes,” I added another variable, termed future likelihood score, asking them to rate on a one to eight Likert-type scale how likely that future involvement was to occur. A score of one denoted “extremely unlikely,” and a score of eight denoted “extremely likely.” A score of zero was automatically coded for all participants who indicated “no” on the bivariate question.

Finally, I recorded total scores for each of the four Revised Causal Dimension Scale elements. These scores were termed “locus of causality,” “stability,” “personal control,” and “external control” after their original operational designations (McAuley et al., 1992). Certain questions were designated for each element by the original scale authors. These can be observed in Figure 1. Each question on the Likert-type scale has a minimum score of one and a maximum score of nine. I used the sum of these designated questions as the total scores for each of the four causal dimension variables.

Instructions: Think about the reason or reasons you have written above. The items below concern your impressions or opinions of this cause or causes of your performance. Circle one number for each of the following questions.

Is the cause(s) something:	9	8	7	6	5	4	3	2	1	
1. That reflects an aspect of yourself	9	8	7	6	5	4	3	2	1	reflects an aspect of the situation
2. Manageable by you	9	8	7	6	5	4	3	2	1	not manageable by you
3. Permanent	9	8	7	6	5	4	3	2	1	temporary
4. You can regulate	9	8	7	6	5	4	3	2	1	you cannot regulate
5. Over which others have control	9	8	7	6	5	4	3	2	1	over which others have no control
6. Inside of you	9	8	7	6	5	4	3	2	1	outside of you
7. Stable over time	9	8	7	6	5	4	3	2	1	variable over time
8. Under the power of other people	9	8	7	6	5	4	3	2	1	not under the power of other people
9. Something about you	9	8	7	6	5	4	3	2	1	something about others
10. Over which you have power	9	8	7	6	5	4	3	2	1	over which you have no power
11. Unchangeable	9	8	7	6	5	4	3	2	1	changeable
12. Other people can regulate	9	8	7	6	5	4	3	2	1	other people cannot regulate

NOTE: The total scores for each dimension are obtained by summing the items, as follows:  
1, 6, 9 = locus of causality; 5, 8, 12 = external control; 3, 7, 11 = stability; 2, 4, 10 = personal control.

Figure 1. The Revised Causal Dimension Scale (McAuley, Duncan, & Russell, 1992). A scale designed to measure four elements of locus of control, termed locus of causality, external control, stability, and personal control, with respect to a specific prompting situation. Copyright 1992 by Sage Publications. Reproduced with permission.

It is important to note that two of the elements in this scale, locus of causality and external control, are not identical to locus of control and external locus of control. Locus of control is used throughout this research to refer to Rotter's (1966) original conceptualization of the paradigm while locus of causality, when used, refers only to the element of this paradigm identified by McAuley et al. (1992) in their Revised Causal Dimension Scale. Similarly, external locus of control is used in reference to Rotter's (1966) original dichotomy between internal and external locus of control orientations, where external control refers again to a factor identified by McAuley et al. (1992) for their scale.

## Procedure

Several county jail administrators and commanders were contacted to arrange survey distribution. Of those contacted, four agreed to allow data collection with their currently incarcerated populations. Data collection was scheduled in one- or two-day blocks with each facility, allowing for multiple visits to each to obtain the largest possible participation numbers.

Each jail was under the operational jurisdiction of its own county government and jail commander, and as such had unique standard operating procedures. To compensate for this, five different data collection procedures were devised and presented to jail commanders, such that they could choose from one or several that proved least intrusive to daily operations (Appendix B).

Surveys were administered on a one-on-one basis in designated jail visitation areas. In all data collection procedures, volunteer inmates retained the option to fill out the survey on their own or have the administrator read the survey to them and transcribe their responses. This option was designed to compensate for limited literacy, educational disadvantage, or other written language barrier. In all cases of in-person data collection, the administrator remained available to answer questions in cases of confusion surrounding survey items.

Following the completion of the Legal Involvement Questionnaire, volunteers completed the Revised Causal Dimension Scale (McAuley et al., 1992). The scale measures four separate causal dimensions factors and, in so doing, measures overall locus of control. The four dimensions examined were “Locus of Causality,” “External Control,” “Stability,” and “Personal Control.” The 12 questions of this scale are Likert-type questions, asking participants to select between two causal dimension options. Each dimension was scored separately, on a scale from 1 to 9, for a minimum score of 3 and a maximum score of 27 in each dimension. For the sake of clarity, and because the names of these dimensions may be misleading when compared with Rotter’s (1966) definitions for locus of control, the Revised Causal Dimension Scale is provided in Figure 1.

This scale was specifically selected because it is designed to examine locus of control with respect to specific prompting scenarios (McAuley et al., 1992; Russell, 1982). Russell's (1982) original version of the Casual Dimension Scale defined its purpose as "a measure designed to assess how the attributor perceives the causal attributions he or she has stated" with further emphasizes that "it assesses the respondent's perceptions of causes in a *particular situation*." This purpose does not change in McAuley, et al.'s (1992) revision.

The measure is, therefore, designed to serve as a causal dimensions response measure related to a specific prompting scenario, based on the underlying principles of locus of control as defined by Rotter (1966). Thus, the legal involvement questionnaire and the related questions concerning perceived overall cause or causes of that legal involvement served as the prompt scenario. In being asked to self-report their total legal involvement, speculate on the likelihood of future legal involvement, and reflect on the overall cause for legal involvement.

In this way, participants are primed to think of their legal involvement before answering the Causal Dimension Scale questions. They are also specifically prompted to answer the questions while referencing the cause of legal involvement they were asked about in the immediately preceding question. The present research was, therefore, able to examine dimensions of locus of control with specific respect to the causes of legal involvement by first prompting participants to think about such involvement in the preceding questions.

## CHAPTER IV: RESULTS

### Descriptive Analysis

I predicted that locus of control would externalize as a function of legal involvement. Specifically, I sought also to investigate possible antecedents of recidivism, which emphasized a focus on locus of control dimensions. Data were analyzed using both univariate and multivariate statistical techniques through a combination of R and SPSS software.

In order to begin piecing apart this relationship, I first analyzed frequencies and descriptive statistics for the variables present in the investigation. Of those surveyed ( $n = 112$ ), 56.3% self-reported a juvenile criminal record ( $n = 63$ ), 50.9% self-reported “drugs,” “drug use,” or “[substance] addiction” as a contributing factor to their legal involvement ( $n = 57$ ), and 68.8% indicated that they believed future legal involvement was possible ( $n = 77$ ).

Participants were also asked to rate the likelihood of future legal involvement on a Likert-type scale ranging from 1 (extremely unlikely) to 8 (extremely likely), with a score of 0 being coded for those who indicated that future involvement was not possible. Across all participants, the mean likelihood score was 3.67 ( $SD = 3.08$ ). Across only those participants who viewed future legal involvement as a possibility, the mean likelihood score was 5.33 ( $SD = 2.22$ ). For the purposes of all further analysis, likelihood scores across all participants ( $n = 112$ ) were used.

Legal involvement was divided into juvenile, adult, and lifetime frequencies. These were produced from reported frequencies of lifetime legal involvement and juvenile legal involvement on the Legal Involvement questionnaire. The difference between the two was calculated and used in data analysis as an adult legal involvement variable. The mean juvenile legal involvement across participants was 11.47 ( $SD = 25.57$ ). For adult legal involvement, the mean frequency was

51.19 ( $SD = 66.02$ ). Finally, for lifetime legal involvement, the mean frequency was 62.65 ( $SD = 77.18$ ). All of these data were skewed and highly kurtotic. They were therefore transformed to meet statistical normality requirements with logarithmic (adult and lifetime) and cube root (juvenile) transformations before conducting further analysis. The data were further screened to evaluate whether they met assumptions for the statistical tests performed. The data met all other requirements for the applied statistical testing.

Lifetime legal involvement was further divided into low, moderate, and high legal involvement for the purposes of descriptive analysis. These categories reflect total involvement greater than 0.5 standard deviations below the mean in this variable, within  $\pm 0.5$  standard deviation from the mean, and greater than 0.5 standard deviation from the mean, respectively.

These cutoffs were chosen based on the overall high standard deviation of these data. This decision placed low legal involvement at between 0 and 24 self-reported occurrences, moderate involvement at 24 to 101 occurrences, and high involvement at greater than 101 occurrences. The low legal involvement category represented only 28.6% of participants ( $n = 32$ ), while the moderate and high categories represented 38.4% ( $n = 43$ ) and 33.0% ( $n = 37$ ), respectively.

Concerning the scores on the revised causal dimension scale elements, there was a minimum score of 3 and a maximum score of 27 for all four elements (locus of causality, external control, stability, and personal control). The range of responses for all four ranged from 3 to 27, indicating that some participants scored both the lowest possible and the highest possible for at least one of the four. For locus of causality, the mean score was 17.11 ( $SD = 6.00$ ). External control saw a mean score of 13.71 ( $SD = 6.69$ ), while stability saw a mean score of 12.28 ( $SD = 5.82$ ). Finally, personal control exhibited a mean score of 17.41 ( $SD = 6.20$ ).

## Correlations

In order to understand the relationship between our variables as it relates to our hypothesis, I first examined correlation coefficients and their significance. In all correlations, I used the Pearson Correlation Coefficient,  $r$ . The overall results of these analyses are summarized in Table 1.

Correlations	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Age	-								
2. Lifetime Legal Involvement	.195* .040	-							
3. Adult Legal Involvement	.225* .017	.950** .000	-						
4. Juvenile Legal Involvement	-.091 .341	.525** .000	.303** .001	-					
5. Future Likelihood	.057 .552	.352** .000	.334** .000	.236* .012	-				
6. Locus of Causality	.139 .144	.200* .035	.238* .012	.067 .482	.085 .375	-			
7. External Control	-.020 .833	-.024 .798	-.048 .616	.068 .476	.081 .393	-.314** .001	-		
8. Stability	.134 .159	.030 .754	-.036 .706	.201* .033	.252** .007	-.093 .330	.176 .064	-	
9. Personal Control	-.069 .472	-.054 .575	-.030 .752	-.034 .721	-.216* .022	.343** .000	-.316** .001	-.286** .002	-

\* Correlation is significant at the 0.05 level (2-tailed).  
 \*\* Correlation is significant at the 0.01 level (2-tailed).

First, future likelihood, or the degree to which an individual believes future legal involvement is likely, was statistically significantly correlated with juvenile, adult, and lifetime legal involvement ( $r(110) = .24, p = .01, r(110) = .33, p = .000$ , and  $r(110) = .35, p = .000$ , respectively). All correlations were positive, suggesting a reflexively positive relationship between these variables. Thus, an increase in future likelihood scores suggests a proportionate increase in total legal involvement numbers across all three categories.

Additionally, future likelihood was statistically significantly correlated with the stability element in McAuley et al.'s (1992) Revised Causal Dimension Scale ( $r(110) = .25, p = .007$ ). The nature of this relationship is also positive, suggesting a proportionate increase in stability scores with rising future likelihood scores.

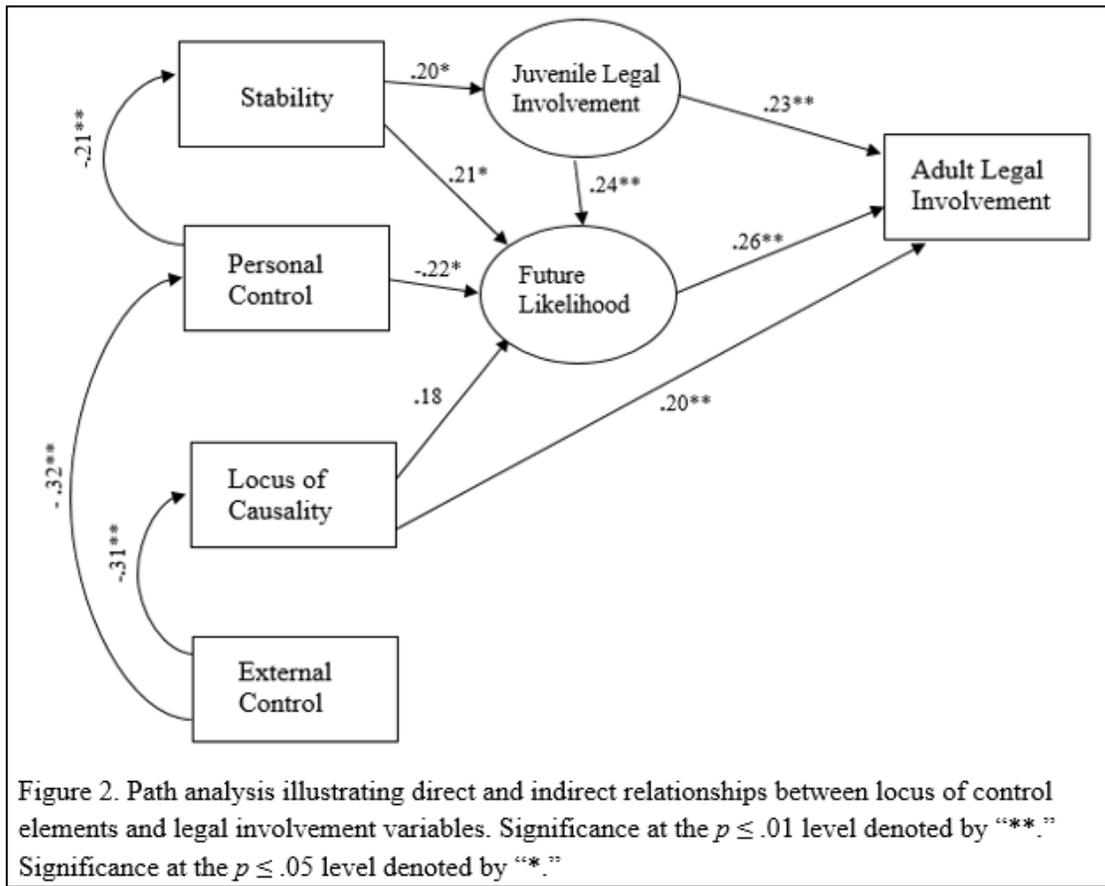
Some correlations are present between the various Revised Causal Dimension Scale elements, all of which reflect correlations measured by the original scale authors. First, our data showed a significant negative correlation between personal control and both external control and stability ( $r(110) = -.32, p = .001$ ;  $r(110) = -.29, p = .002$ ). Additionally, there is a significant positive correlation between personal control and locus of causality ( $r(110) = .34, p = .000$ ). All of these relationships are reflective of statistically significant correlations between the same variables identified by the original authors, all at the  $p < .05$  level. It is important to note that the original correlations between personal control and both external control and locus of causality were stronger, at  $r = -.558$  and  $r = .711$ , respectively (McAuley et al., 1992). Though the correlations differed slightly in magnitude (but not in direction), possibly due to differences in sample size and population type, this remains an important piece of validity testing for the use of the Revised Causal Dimension Scale in this research.

Speaking further to the elements of McAuley et al.'s (1992) Revised Causal Dimension Scale, locus of causality was statistically significantly correlated with adult and lifetime legal involvement ( $r(110) = .24, p = .01$ ;  $r(110) = .20, p = .04$ ) but not with juvenile legal involvement on its own ( $r(110) = .14, p = .15$ ). Stability was statistically significantly correlated with juvenile legal involvement ( $r(110) = .20, p = .03$ ) and future likelihood ( $r(110) = .25, p = .01$ ).

Personal control and external control, on the other hand, were minimally correlated with the legal involvement variables. Personal control was only statistically significantly correlated with future likelihood ( $r(110) = -.22, p = .02$ ) and external control was not statistically significantly correlated with any of our variables of interest.

### Regression Models

Linear regression and multiple linear regression analyses were used to build predictive models between our variables. These regression analyses were employed to build a predictive path model for our legal involvement variables, which included the Revised Causal Dimensions Scale scores, total juvenile and adult legal involvement, and perceptions concerning the likelihood of future legal involvement (Figure 2). A predictive model of this nature is necessary



not only for testing our specific hypothesis but for identifying any possible mitigating elements to the recidivism issue at hand.

Recall that age and adult legal involvement showed a statistically significant positive correlation, suggesting an increase in legal involvement with an increase in age. Interestingly, age is also a significant predictor of adult legal involvement ( $\beta = .27, t(110) = 2.95, p = .004$ ), accounting for an acceptable proportion of variance therein, as well ( $R^2 = .07, F(1, 110) = 8.67, p = .004$ ). This is not included in the path model but remains an important relationship.

First, and importantly for our path model, the elements of the Revised Causal Dimensions Scale have some predictive relationships with other elements. External control significantly predicts personal control ( $\beta = -.32, t(110) = -3.49, p = .001$ ) and accounts for a modest proportion of the variance, there ( $R^2 = .10, F(1, 110) = 12.18, p = .001$ ). Additionally, external control is significantly predictive of locus of causality ( $\beta = -.31, t(110) = -3.46, p = .001$ ) and likewise predicted a modest amount of variance ( $R^2 = .10, F(1, 110) = 11.99, p = .001$ ). Personal control is then individually predictive of stability ( $\beta = -.29, t(110) = -3.13, p = .002$ ), but accounts for less of the variance than external control does for other Revised Causal Dimension Scale elements ( $R^2 = .08, F(1, 110) = 9.97, p = .002$ ).

Using the various elements of the Revised Causal Dimension Scale (and their predictive relationships to each other), I can then draw relationships to both juvenile legal involvement and future likelihood. First, stability is significantly predictive of juvenile legal involvement ( $\beta = .20, t(110) = 2.21, p = .03$ ) but accounts for a small proportion of the variance in juvenile involvement on its own ( $R^2 = .04, F(1, 110) = 4.64, p = .03$ ). Juvenile involvement itself is significantly predictive of future likelihood ( $\beta = .24, t(110) = 2.54, p = .01$ ) and accounts for a

proportion of the variance in likelihood scores ( $R^2 = .06$ ,  $F(1, 110) = 6.47$ ,  $p = .01$ ), suggesting more juvenile involvement leads to viewing future legal involvement as more likely.

A combined model of stability, personal control, and locus of causality is overall a statistically significant predictor of future likelihood ( $p = .004$ ) and accounts for a significant proportion of the variance ( $R^2 = .12$ ,  $F(1, 110) = 4.66$ ,  $p = .004$ ). Thus, identifying an individual with certain scores on these measures may allow for some prediction of their future likelihood beliefs.

Stability and personal control were both significant predictors in this model individually ( $\beta = .21$ ,  $t(110) = 2.19$ ,  $p = .03$ ;  $\beta = -.22$ ,  $t(110) = -2.18$ ,  $p = .03$ ), with locus of causality approaching significance as an individual predictor ( $\beta = .18$ ,  $t(110) = 1.86$ ,  $p = .07$ ). Thus, higher stability and lower personal control scores significantly predict higher future likelihood scores.

Moving forward to adult legal involvement, this final variable in our model is significantly predicted by locus of causality, future likelihood, and juvenile legal involvement. A multiple linear regression using those factors to predict adult legal involvement was statistically significant ( $p = .000$ ) and accounted for a sizable proportion of variance in adult involvement ( $R^2 = .20$ ,  $F(1, 110) = 9.24$ ,  $p = .000$ ). Each predictive element was also statistically significant with locus of causality ( $\beta = .20$ ,  $t(110) = 2.32$ ,  $p = .02$ ), future likelihood ( $\beta = .26$ ,  $t(110) = 2.98$ ,  $p = .004$ ), and juvenile legal involvement ( $\beta = .23$ ,  $t(110) = 2.57$ ,  $p = .01$ ) all providing significant contributions to the model.

### **T-tests**

In order to further investigate antecedents to recidivism, I also established three grouping variables to examine how these may relate to scores on the causal dimension scale attributes and

how they may differ with respect to adult and total lifetime legal involvement. Employing independent samples t-tests to investigate mean difference relationships, these groups were (a) those who self-reported juvenile legal involvement and those who did not, (b) those who did or did not indicate that drugs or drug use were a contributing factor to their overall legal involvement, and (c) those who did or did not indicate that future legal involvement was likely.

Concerning differences between individuals with and without a juvenile record, there was a significant effect with future likelihood scores ( $t(111) = -2.04, p = .04, d = .39$ ), where individuals self-reporting juvenile legal involvement rated future involvement as more likely, on average, compared to those reporting no juvenile involvement. Additionally, there was a significant effect concerning stability scores on the revised causal dimension scale ( $t(111) = -2.11, p = .04, d = .40$ ) with higher average stability scores for those indicating juvenile involvement. Finally, the effect concerning adult legal involvement approached significance ( $t(111) = -1.87, p = .06, d = .35$ ), with higher adult legal involvement in those reporting juvenile involvement. Increasing participation (and thereby increasing the  $n$ ), may push this effect into statistical significance.

Moving on to differences between those indicating and not indicating a drug-related cause for legal involvement, there was a significant effect with locus of causality scores ( $t(111) = -2.53, p = .01, d = .48$ ) with drug users interestingly having higher average locus of causality scores compared to those who did not indicate a drug-related contribution to legal involvement. Additionally, there was a significant effect with total adult legal involvement ( $t(111) = -1.96, p = .05, d = .34$ ), with higher average adult involvement in drug users. Effects concerning stability scores approached significance ( $t(111) = 1.66, p = .09, d = .30$ ) with interestingly lower average

stability scores for those indicating a drug-related contribution. Again, this may break the threshold into statistical significance with an increase in  $n$ .

Finally, I examined differences between those indicating future involvement was likely and those indicating that future involvement was not likely. First, there was a significant effect concerning total adult legal involvement ( $t(111) = -3.31, p = .002, d = .71$ ) with higher average adult involvement for those indicating a belief in future involvement. Effects concerning both stability and personal control scores approached significance ( $t(111) = -1.79, p = .08, d = .38$ ;  $t(111) = 1.70, p = .09, d = .34$ ) with higher average stability scores and lower average personal control scores for those indicating future involvement was likely.

## CHAPTER V: DISCUSSION

I originally conceptualized this research to address a persistent problem in the criminal justice system: chronic recidivism. A large majority of individuals who become incarcerated are likely to do so again and again throughout life. Up to 83% of released prisoners may be re-arrested or re-incarcerated within three years of release (U.S. Department of Justice, 2018). This problem is partially reflected in our correlation data, with a statistically significant positive correlations between both lifetime and adult legal involvement when compared to age ( $r(110) = .20, p = .04$  and  $r(110) = .23, p = .02$ , respectively), suggesting that legal involvement may increase throughout life for those who end up involved in the system.

I sought to build a foundational study that would investigate any statistically significant antecedents to this recidivism problem. Specifically, I framed our investigation around locus of control, utilizing McAuley et al.'s (1992) Revised Causal Dimension Scale, a measure consisting of four locus of control inspired elements, to understand that construct's relationship to recidivism.

It is important to acknowledge that our sample size did not meet the size requirement for a medium effect size for both Pearson's  $r$  Correlation and our two-tailed independent samples  $t$ -tests. I maintained statistically significant, yet small, effect sizes for the former and a mix of significant small and medium effect sizes for the latter. For the linear regressions, our sample size effectively met size requirements for medium effect size. An increase in  $n$  would serve to aid effect size problems in the Pearson Correlations and  $t$ -tests while bolstering the results of the regression analyses.

Our original hypothesis stated that locus of control would externalize, or at least move toward externalization, as a result of increased legal involvement. Meaning, that the more times an individual was involved in the system, the more they would view the causes of their legal involvement as unchanging and uncontrollable. Additionally, I postulated a positive relationship between legal involvement and likelihood with which a person believed they were to experience future involvement.

This original hypothesis regarding locus of control and legal involvement was only partially correct, as reflected in our Pearson correlations. First, the correlation between adult legal involvement and locus of causality was positive, meaning that more legal involvement reflected viewing legal involvement as an aspect of personal quality (an *internal* locus of control trait). However, the stability of the legal involvement cause was positively correlated with juvenile legal involvement, suggesting that a juvenile record is associated with external locus of control traits. The likelihood predictions were fully supported by the data. I accurately predicted a positive correlation between legal involvement and beliefs concerning future likelihood. Further, the correlations between future likelihood and *both* stability and personal control suggest an externalizing locus of control related to belief in future likelihood.

Concerning the positive relationship between future likelihood and stability, it is important to remember that the prompting question for the Revised Causal Dimension Scale scores asked participants to describe the overall cause for their legal involvement. This means that stability scores are reflective of how stable (i.e., unchanging) they believe *that cause* to be, and not how stable they view their lives or any other general scenario to be. Higher stability scores reflect a view that the cause of legal involvement is *less* changeable, reflecting the

principles of external locus of control. Thus, results suggest that the less changeable one perceived the causes of legal involvement to be, the more likely they will believe future involvement is.

Another positive correlation between locus of causality and both adult and lifetime legal involvement suggests that those individuals with a greater number of legal involvement occurrences *in adulthood* are displaying proportionately higher locus of causality scores. This is an interesting and unexpected relationship dynamic that necessitated deeper consideration. Concerning such a relationship, McAuley et al. (1992) noted a positive correlation between locus of causality scores and stability scores (an increase in one seems to suggest a proportionate increase in the other). This may be because causes viewed as a part of oneself are generally viewed as more stable. In the context of legal involvement causes, a stable, unchanging cause was reflective of more external locus of control dimensions. However, viewing the cause as reflecting an aspect of the self-versus the situation, as was common among participants, is ultimately reflective of internal locus of control dimensionality. Thus, concerning locus of causality, I may note that an *increase* in this is more predictive of recidivism than a *decrease* (as was noted by the regression model) when it specifically concerns causes for legal involvement, based on the results of our earlier correlations.

Perhaps, then, in terms of this causal dimension, looking at aspects of personal versus situational attribution is not a proper starting point for decreasing recidivism. In this case, an internal reflection in the locus of causality element may not necessarily suggest a lower propensity for recidivism. Rather, it may be important to play on the correlation between locus of causality and stability to reach this goal, decreasing the perceived stability of the cause as a way

to combat recidivism, or to look to other aspects of causal dimensionality present here to formulate new questions and begin to combat recidivism. It would be interesting to see other research tackle this issue and the possible relationships alluded to by our data.

The positive correlation between stability and both juvenile involvement and future likelihood is also noteworthy. It suggests that individuals with a greater number of juvenile legal occurrences and those viewing future involvement as more likely are displaying proportionate increases in stability scores, which indicates that these individuals view the causes of their legal involvement as more stable (less changeable). Together, these results point to a relationship between legal involvement, locus of causality, stability, and future likelihood. The nature of that relationship became far clearer through further examination with linear regression models. These findings are discussed later on.

Personal control only displayed one significant correlation, which was a negative relationship with future likelihood scores. This points to an inverse relationship between feelings of personal control and beliefs in future likelihood, a relationship that also became more clear after regression analysis.

External control was not significantly correlated with any legal involvement variables, though it was negatively correlated with personal control. It is interesting to note that personal control and external control do not appear to show inverse relationships with our variables, even though they have a significant negative correlation. Intuitively, one would expect personal and external control to be inversely related. However, when examining the questions of the Revised Causal Dimension Scale in the context of our “causes of legal involvement” question, it becomes

more apparent that this may not necessarily be the case. There may also be a mathematic reason why this inverse relationship is not reflected with our data.

First, and perhaps most obviously, personal control and external control only boast a correlation at  $r(110) = -.32$ , meaning that for every increase of 1 in personal control, there is a proportionate decrease of .32 in external control. On a scale with a range of only 3 to 27, this is not a relatively significant formula in which to work. Additionally, the nature of the correlation suggests that an increase in personal control will not *necessarily* equate to a decrease in external control.

Take, for example, a personal control question in the scale asking whether the cause is something “you can regulate” or “you cannot regulate” versus an external control question asking if the cause is something “other people can regulate” or “other people cannot regulate” (McAuley et al., 1992). Aligning a certain way on one of those scales does not necessarily mean that the other is not also true, particularly with respect to legal involvement. Additionally, a participant’s understanding of “regulate” may differ greatly from other participants, particularly in such an educationally disadvantaged population. Combined, these factors may be producing the effect I saw in our data.

There may, of course, be a multitude of other causes, an examination of which is beyond the scope of this research. What is important to remember when considering this effect, however, is that the basic nature of the correlation between the Revised Causal Dimension Scale elements and the original correlations found by the authors is the same. This strongly supports a conclusion that the scale is functioning as expected for this population, and therefore maintains its validity for further use in this research. It may very well be the nature and techniques behind

our own measured variables that produced this effect – something that could be mitigated in future research.

The first part of the original hypothesis, which proposed a predictive relationship beginning with legal involvement and ending with locus of control elements, was not supported by the data. There was no statistically significant regression model where legal involvement predicted locus of control change. Interestingly, further examination with these predictive linear regression models revealed that there *is* a statistically significant predictive relationship between these variables, but in the *opposite* direction of our original hypothesis. Beginning the model with the four elements of the Revised Causal Dimension Scale and moving through beliefs in future likelihood to predict both self-reported juvenile and adult legal involvement proved to be a significant path.

Concerning these regression models, it is first important to note the significant relationship between age and adult legal involvement. This relationship was first identified through a significant positive correlation and strengthened by a significant predictive regression. This relationship is not factored into the overall path model but rather used as an illustrative piece of support for conducting this research in the first place. Together, the correlation and regression suggest that, for those individuals involved in the legal system, legal involvement does indeed increase with age, lending statistical credibility to the presence of a recidivism problem. Our path model further investigated possible predictive antecedents to this problem.

Elements of the path model, then, speak to the multifaceted picture linking recidivism and locus of control. There is a predictive relationship between these concepts. Again, the predictive element of the original hypothesis was not correct. Many of the correlations supported

this hypothesis at first, but predictive modeling revealed that the hypothesized *direction* of the relationship was incorrect. Rather than a predictive model going from legal involvement to future likelihood to externalizing locus of control elements, the statistically significant model *begins* with the locus of control elements, which predict juvenile legal involvement and future likelihood scores. A combination of locus of control elements, juvenile involvement, and future likelihood then predict increased legal involvement. These results are illustrated above with a path analysis model in Figure 2.

First, noting the relationships between the individual elements of the Revised Causal Dimension Scale was important for building the model foundation. Not all of the elements were significantly correlated or significantly predictive of our legal involvement variables. Thus, in order to build a fully illustrative predictive model between locus of control elements and legal involvement factors, I must draw indirect relationships through regression analysis.

The relationships between the four elements of the Revised Causal Dimension Scale allowed us to do just that. For example, external control was not statistically significantly correlated or predictive of any of our legal involvement variables, but it is evident in Figure 2 that there is still an indirect relationship with those variables through the rest of the scale elements.

Moving forward in the model, stability scores were significantly predictive of juvenile legal involvement. This suggests that individuals who view their cause as stable and unchanging may be predictably more likely to have more extensive juvenile legal involvement. Further, juvenile involvement was predictive of future likelihood, meaning that individuals with higher levels of juvenile involvement tend to believe future involvement is more likely.

Stability and personal control were also significantly predictive of future likelihood scores. Thus, an individual viewing the causes of legal involvement as stable *and* identifying little personal control over that causal scenario may be prone to higher predictions of future likelihood concerning their legal involvement. Predictors of the final element of the path model, adult legal involvement, could then be calculated.

Interestingly, juvenile legal involvement, future likelihood scores, and locus of causality scores significantly predicted adult legal involvement. Therefore, it is a combination of these factors that significantly predict recidivism. The extent of a juvenile record and increased future likelihood beliefs were intuitive predictors; as one increases, so does the other. Locus of causality, however, was less intuitive. As locus of causality becomes more internal, adult legal involvement increases. The nature of that relationship is considered earlier in this discussion.

This path model revealed several important things concerning the relationship between locus of control and legal involvement. First, it revealed that scores on the Revised Causal Dimensions Scale are predictive of adult legal involvement either directly (locus of causality) or indirectly (stability, external control, and personal control). It may imply, then, that identifying scores on these elements with respect to the causes of legal involvement is predictive of an increase in adult legal involvement (our operationalization of recidivism in this research). Together, the results of the regression analyses suggest that (a) identifying measurable scores on locus of control would allow for a prediction of how likely an individual believes future legal involvement is and (b) may allow for predictive identification of recidivism (increased adult legal involvement) risk.

Originally, I had hoped that identifying legal involvement as an externalizing force for locus of control would illustrate a need for more control-based behavioral therapies within the jail system. However, the actual revealed relationship (through all forms of statistical testing) is far more telling and significant than our original hypothesis could have hoped. The statistically significant model, which shows a predictive relationship starting with locus of control elements and *ending* on increased legal involvement, suggests that high-recidivism individuals may already have elements of external locus of control when they enter the system, which may simply fuel a continuation in criminality. Further, our correlations reveal that these individuals have *internal* loci of causality, and *external* stability and personal control orientations. This suggests they view criminality as a personal attribute, yet still view the surrounding circumstances as unchangeable and out of personal control.

The path model also provides evidence to support this latter portion, illustrating that such locus of control orientations are predictive of increased legal involvement in adulthood. Perhaps identifying those individuals with high stability and low personal control orientations related to these legal causes may serve as the first indicator to high recidivism risk while the offender still has relatively low legal involvement. Indeed, Halliday and Graham (2000) did significantly link locus of control to recidivism risk and recidivism increase, and our research suggests a predictive link between locus of control and increased legal involvement. These locus of control orientations are also significantly related to future likelihood beliefs. This knowledge may provide a launch point for future research examining techniques and policies to positively affect recidivism by addressing causal orientations and future likelihood thoughts.

It appears that juvenile legal involvement is also significantly predictive of adult legal involvement. Juvenile legal involvement, in addition to certain causal orientations, may be a significant antecedent of recidivism. Of course, results also indicate that *any* legal involvement is predictive of an increase in lifetime legal involvement. This speaks well toward advocacy for diversion and treatment-based programs for juveniles and low-frequency adult offenders, as opposed to incarceration or other punishment focused models.

The analysis also revealed some interesting relationships not present in the original hypothesis. T-tests reveal that there is a significant difference for those holding a juvenile record with respect toward views on future legal involvement and with respect to the stability of their legal involvement cause. Those with a juvenile record had higher average future likelihood scores and higher average stability scores than those without juvenile records. This further encourages early intervention and paves the way for more research investigating effective methodologies for diversion and treatment-based justice models. Certain types of risk screening have already proven helpful in curbing violent re-offense in juvenile offenders, which speaks to a potential benefit for locus of control screening used in similar ways (Lodewijks, de Ruiter, & Doreleijers, 2010).

It is particularly interesting that those indicating drug-related causes had *higher* average locus of causality scores and *lower* average stability scores than other participants. This suggests that these individuals view their addiction and related problems more as an aspect of personal choice and personal attribution that is *more* changeable than other causes listed by participants. This may suggest that these individuals are already viewing their drug use as controllable and changeable, but for some reason have not been able to stem their use or its influence on their

own recidivism. Further research would be necessary to properly understand the underlying nature of these results, but they do offer a firm starting point for investigating the results of increased treatment availability for addicts in the justice system. This initial information may also prove useful for addiction treatment and recovery programs already in place within the justice system.

Speaking specifically to locus of causality scores, I saw this higher locus of causality effect both here (for drug use) and in the correlation and regression analyses (predicting adult legal involvement). It was interesting to see that what is generally considered an internal locus of control score trait was reflected significantly in factors related to generally negative outcomes. These scores may suggest an interesting by-product of using the causes for legal involvement as the prompt for the Revised Causal Dimension Scale measure.

## CHAPTER VI: CONCLUSION

The present research resulted in a statistically significant predictive model beginning with locus of control elements and ending with adult legal involvement, in addition to other correlational and t-test based conclusions. It is important to note, however, that the data were gathered using self-report measures. That is, the inmates who volunteered to complete the survey only self-reported the number of times they have been involved with the law (both as adults and juveniles). These numbers may be inflated or deflated and may not accurately reflect the true reality of an individual's involvement. This is particularly true when asking about juvenile involvement, as many participants were many years into adulthood, diminishing the accuracy of memory recall for juvenile years.

Self-report measures are a common tool in research, despite these limitations. Future research or reproduction of the present research should seek to crosscheck self-reported numbers with unsealed criminal records and personal files to maintain greater applicability in conclusions through fact checking.

For the present research, this was not possible. I collected data in county jails, and some participants may not have been sentenced or may have been in the middle of active legal proceedings. As such, I elected not to record names, gender, and the name of the jail a particular survey was administered in to protect participant identity. Juvenile records are also often sealed or expunged in Washington when an individual reaches adulthood, making self-report the only realistic option for gaining juvenile involvement information. Conducting this research in prisons (where individuals have already been sentenced) or in a state with easier access to a person's criminal records may prove a viable solution to this problem.

For the issues examined, it is clear that the picture of recidivism has many complex circumstantial and cognitive angles. This research was intended to serve as a baseline for future work that I hope may lead to a clearer understanding of recidivism and inform advocacy for treatment-based justice models. Our findings concerning the predictive relationship between locus of control elements, future likelihood beliefs, and legal involvement serve such a purpose. Additionally, the nature of significant mean differences in locus of control, legal involvement, and future likelihood considering juvenile records and drug use provide some insight toward areas where intervention may be effective.

I examined aspects of recidivism through the medium of the offenders directly impacted by system involvement. Recidivism remains a core element of the criminal justice system with many potentially influential components. Hopefully, continuing to build an understanding of these factors will lead to insightful research and proactive policy decisions in the future.

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Appendix A: Involvement with the Law Questionnaire

**BACKGROUND INFORMATION**

**1. How old are you?**

**2. What is your race or ethnicity? (Check ALL that apply)**

- White
- Hispanic, Latino, or Spanish Origin
- Black or African American
- Native American or Alaska Native
- Asian
- Native Hawaiian
- Other Pacific Islander
- Other:
- Multiracial:
- I do not know
- Prefer not to answer

**3. What is the highest level of education you have completed? (Check only ONE)**

- No Schooling
- Kindergarten

Grade 1 – 11

\* Specify highest grade completed: \_\_

High school diploma or G.E.D

Formal education beyond high school

\* Type of education beyond high school, if any: \_\_\_\_\_

**4. What type of home do you live in when not housed in a state or county facility or group home?**

One-Family House

Apartment Home

Mobile Home/ Manufactured Housing

Trailer or RV

Car, Van, or another vehicle

Homeless or Living in a Shelter (**SKIP TO Question #7**)

**5. Including yourself, how many people live with you in this home? \_\_\_\_\_**

**6. Including yourself, how much money do you and all the people who live with you make in one year? (Give your best guess)**

## INVOLVEMENT WITH THE LAW

- 7. Next to each item below, write the TOTAL number of times you have experienced each one.** [For example, if you have been arrested 3 times and sent to jail 1 time, you would write a “3” next to Arrest, and a “1” next to “Jail sentence”]

\_\_\_\_\_ Arrest

\_\_\_\_\_ Jail time awaiting trial, no conviction

\_\_\_\_\_ Jail sentence

\_\_\_\_\_ Prison sentence

\_\_\_\_\_ Electronic home monitoring (house arrest)

\_\_\_\_\_ Community service or restitution

\_\_\_\_\_ Group home

\_\_\_\_\_ Probation

\_\_\_\_\_ Other involvement with the law – Please explain below:

- 8. Of the total number of items listed in question #7 above, how many of these occurrences happened before you were 18 years old?** [For example, if you have been arrested 4 times, and one arrest occurred before you were 18, you would write “1” next to “Arrest” here]

\_\_\_\_\_ None

\_\_\_\_\_ Arrest

\_\_\_\_\_ Referral to juvenile diversion

\_\_\_\_\_ Juvenile detention

\_\_\_\_\_ Community service or restitution

\_\_\_\_\_ Other involvement with the law – Please explain below:

**9. Do you believe it is possible, even if unlikely, that you will experience more legal involvement in the future?**

YES

NO (**SKIP TO Question #11**)

**10 a) How likely do you believe this legal involvement is to occur? (Circle ONE number):**

Extremely Unlikely    1       2       3       4       5       6       7       8       Extremely  
Likely

**10 b) Briefly explain why you believe it is likely, even if unlikely, that you will experience legal involvement in the future.**

**10 c) How long do you think it will be before you experience legal involvement again?**

- 11. IF YOU ANSWERED “NO” to Question #9 above, briefly explain why you believe you will NOT experience any future legal involvement.**
- 12. What do you believe is the overall cause or reason for your legal involvement? Please describe this reason below. What led you to committing a crime and experiencing legal involvement in the first place? DO NOT include any specific information about ongoing or past cases.**

## Appendix B: Data Collection Strategies

**Strategy 1:** time will be scheduled for the researcher to come to the facility with the detention commanders, sergeants, or lieutenants. Before arrival, the researcher would have arranged for a recruitment flier to be posted advertising the nature of the study and the date or dates survey administration. Upon the researcher's arrival, volunteer inmates would be escorted, individually, to a glass-separated visitation area typically used for legal consultations. Here, the survey would be administered by the researcher on a one-on-one basis. This process would be completed for every volunteer inmate who volunteered to take the survey.

**Strategy 2:** time will be scheduled for the researcher to come to the facility with the detention commanders, sergeants, or lieutenants. Before arrival, the researcher would have arranged for a recruitment flier to be posted advertising the nature of the study and the date or dates survey administration. Upon the researcher's arrival, volunteer inmates would be escorted, individually, to an open visitation area typically used for legal consultations, family visits, or another visitation in a minimum-security setting. Here, the survey would be administered by the researcher on a one-on-one basis. This process would be completed for every volunteer inmate who volunteered to take the survey.

**Strategy 3:** time will be scheduled for the researcher to come to the facility with the detention commanders, sergeants, or lieutenants. Upon arrival, the researcher would use a random number generator to select individuals to approach from the current day's inmate roster. The individuals would be approached by correctional staff and presented with a recruitment flier and an informed consent form. If they agreed to take the survey, they would be escorted, individually, to a glass-separated visitation area typically used for legal consultations. Here, the

survey would be administered by the researcher on a one-on-one basis. This process would continue until the end of the visitation and data collection time arranged between the researcher and the facility.

**Strategy 4:** Some facilities may not allow in-person data collection in offender housing areas. However, they may be amicable to survey distribution without the researcher present. In such a case, time will be scheduled with detention center command or staff for the researcher to drop off individual packets containing (a) an informative recruitment flier, (b) informed consent, and (c) the data collection instrument. Detention staff would take the surveys to the common areas in individual housing blocks and make a short announcement that there is an optional survey available and that if inmates would like to complete it, they may pick one up to be completed and turned in by the end of the day. The researcher would return at a pre-arranged time to pick up the completed (and non-completed) surveys from the facility.

**Strategy 5:** If NO data can be collected within county jail facility, there is a contingency plan designed to still allow completion of the research. This plan would occur ONLY if no other method of data collection were viable. Data, in this case, would collect data online through survey distribution services. Amazon Mechanical Turk would be used to collect data, using a link to an online version of the survey in Qualtrics. The survey would be uploaded to these websites with the same questions and format as the paper survey. Collecting data with the general public would require the addition of a screening question, asking them if they have any criminal history consistent with the survey and research questions. In this strategy, the respondents are expected to be non-incarcerated persons with a self-reported legal involvement history.