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Personality Assessment Inventory Predictors of Parole for Adults who Committed Murder as Juveniles

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Abstract

Previously juveniles as young as 14 guilty of murder were eligible to be sentenced to life without the possibility of parole. However, the decision of *Miller v. Alabama* (2012) declared mandatory life without the possibility of parole (LWOP) unconstitutional. Juveniles sentenced to LWOP were now able to be either resentenced or eligible for possible parole. The current study examined which scales on the Personality Assessment Inventory (PAI) predict parole outcomes for adult men seeking parole who committed murder when they were juveniles and sentenced to LWOP. The PAI is a 344-item self-report assessment comprised of validity, clinical, interpersonal and treatment scales. Parole candidates are either granted parole or are given a review date between one and five years. It was predicted that individuals denied parole or given longer review dates will score higher on the Antisocial, Aggression, and Violence Potential Index (VPI) scales of the PAI, have a higher number of disciplinary reports, and have lower participation in rehabilitation programs than individuals granted parole or granted lower review dates. Contrary to our predictions, the Aggression, Antisocial Scales, and Violence Potential Index on the PAI did not contribute to the prediction of parole decisions. However, there are many possible future directions pointed to by this research. Limitations of this study are discussed.

Keywords: juvenile homicide offenders, parole, PAI

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Before the peak of public concern in the 1990's about juvenile violence, the sentence of life without the possibility of parole was rarely imposed on juvenile offenders (Human Rights Watch, 2005). These individuals were labeled "super-predators." This idea of irredeemable individuals came from public perception that the rise in juvenile violent crimes were being committed by individuals who were budding psychopaths and that the individual's committing these crimes should be treated the same as their adult counterparts (D'Ambra, 1997). Many believed that individuals like these were repeating violent acts and would continue into adulthood if not incarcerated for long sentences, even life sentences. However, research shows the opposite. Juvenile crime decreased during this alleged "juvenile crime panic" in the 1990s (Monahon & Kaban, 2009).

Adolescence, the Supreme Court, and the Limits of Sentencing

There has been a shift in the way we construe culpability for juvenile offenders in the courts. The U.S. Supreme Court, a late comer to this shift, has gained ground through a series of path-breaking decisions on the limits of punishment for juveniles convicted of serious crimes, even murder. The first shift resulted from *Roper v. Simmons* (2005) which declared that juveniles under the age of 18 who committed a capital offense could no longer be sentenced to death. They argued that death for juveniles was against the Eighth Amendment prohibition against cruel and unusual punishment. Prior to this case, a death sentence decision for a juvenile was left to the judge or jury (Giunta, 2008). This court decision was a major shift in the ideology of culpability of juveniles.

The next reform addressed juveniles convicted of non-homicide offenses. *Graham v. Florida* (2010) declared that a life without the possibility of parole sentence for a juvenile convicted of a non-homicide offense was unconstitutional under the Eighth Amendment. Prior to *Graham*, it was legal in 31 states to impose this sentence for non-homicide offense, and it was argued that this type of sentence for juveniles was disproportionate to the crimes they were committing (Siegler & Sullivan, 2011).

Prior to *Miller v. Alabama* (2015), juveniles could receive an automatic LWOP for committing a murder as young as 14. *Miller* ended that, making it unconstitutional to give automatic LWOP to a juvenile offender but left intact discretionary LWOP sentences based on an individualized hearing. *Montgomery v. Louisiana* (2016) expanded the *Miller* decision and said that those who were sentenced to LWOP should now be either eligible to be resentenced or released (Arnold et al., 2018). Since then, states have been working retroactively to have parole hearings or resentencing hearings for the offenders who received the sentence of life without the possibility of parole.

A problem in the resentencing phase is the absence of criteria to determine who should be eligible for a LWOP sentence. *Miller* (2012) asserts that LWOP sentences should be reserved for the "rare" juvenile considered "irreparably corrupt," and beyond the point of rehabilitation. This raises the problem of whether psychological science can establish reliable and valid methods to determine which juveniles facing JWOP are beyond the reach of rehabilitation and are likely to persist in their violent offending across the life course.

Adolescent Brain

The National Youth Risk Behavior Survey (YRBS, 2005) documents a high rate at which adolescents engage in risky behavior, such as driving without a seatbelt or while drunk, using

illegal substances, engaging in unprotected sex and many other types of dangerous and risky behaviors. However, there remains a debate about the underlying causes behind the high-risk behavior of adolescents (Casey et al, 2008). A prominent argument against juvenile offenders receiving LWOP is their still developing brain. Differences in brain development are associated with juveniles being prone to risk-taking, being more heavily influenced by their emotions, and being more vulnerable to negative influence of their peers. This is because their prefrontal cortex, a core component when it comes to our decision-making, is not fully matured (Blakemore & Robbins, 2012). This results in juveniles having an underdeveloped brain that lacks complete control over their decision-making processes and self-regulation compared to a fully developed adult brain.

The prefrontal cortex is the part of the brain that helps control impulses and is not fully developed until adulthood. This leaves adolescent brains more susceptible to poor decision-making due to acting on primarily impulse and emotion. In fact, it is not until individuals reach the middle of their 20s when this brain structure is fully developed. This leaves juveniles not being able to weigh the possible consequences and potential risks of their behavior and make them less able to think ahead of their adult counterparts. This ability to think ahead is even more disinhibited in situations that are emotionally charged due to the amygdala, a part of the brain that reacts to detection of fear, being elevated in adolescent brains. This again, leaves them more susceptible to act on impulse due to relying more on the amygdala than their underdeveloped prefrontal cortex.

In an adult brain, the more developed prefrontal cortex would be able to be more heavily relied on to weigh the consequences of their actions and have more cognitive control in emotionally charged situations. This is due to the failure of the adolescent prefrontal cortex to

modulate a more primitive limbic system, which is the part of the brain that is important when forming emotional responses. This may lead the juvenile to act out more aggressively than an adult may have in the same situation. Casey et al. (2008) suggest that it is the prefrontal cortex immaturity paired with an active limbic control system that plays a big part in the deficient decision-making processes of juveniles. The limbic system develops earlier than the prefrontal cortex, resulting in more emotionally influenced and impulsive decision-making. Furthermore, adolescents also have a heightened response to rewards that causes them to be more involved in the risk-taking behavior (Casey et al., 2008).

Other popular theories about adolescent impulsivity and risk-taking portray adolescents as more unconcerned or unaware of the consequences of their behavior. However, contrary to this theory, adolescents do about the same as adults when tested about their capacity to perceive risk (Steinberg, 2007). Regardless of their capacity for risk perception, typically, as an individual ages they tend to become less involved in substance use and delinquency (Steinberg & Morris, 2001). Therefore, they are not only able to perceive risky behavior the same as adults but will most likely grow out of this type of behavior as they transition from adolescence to adulthood.

Steinberg (2007) offers a slightly different explanation and says that the brain's control-system is just as strong in adolescents as it is in adults and can be used to overcome impulses; however, it is only less effective in adolescents in social situations where they are under heightened emotional arousal, often termed "hot cognition" typically occurring within the context of other peers. It is when the adolescent is in the presence of others or under some emotional arousal that the control network cannot subside these impulses like it can in adults. Adolescents tend to care more about conforming to their peers and typically are more interested in seeking approval from their peers than adults are. This is what leaves them more prone to

risky behavior and explains that as this control network develops with age, they are more able to control their impulses. Research has thus shown that it is differences in brain development of adults and adolescents in the prefrontal cortex that is known to play a critical role in social decision making between helps explain the more impulsive and risk-taking behavior of adolescents (Steinberg & Morris, 2001).

Juvenile Offenders

There is recent accumulating research about the clinical and legal characteristics of juvenile homicide perpetrators and their risk of violent recidivism. Various reasons for why these individuals kill have evolved through the years primarily starting with the belief that psychodynamic factors animate their homicide. This was the core belief in the 1940s and 1950s. Among some of the other explanations are that the individuals were having psychotic episodes or had other forms of severe psychopathology. These types of explanations aided in the name 'super-predator' to describe these juvenile homicide offenders. Although mixed beliefs on the type of psychopathology of the juveniles existed, the most common diagnosis of these juveniles were personality disorders and conduct disorders (Heide, 2003).

Among some of the other reasons discussed in the literature are neurological impairments and low intelligence. Zagar et. al. (1990) found that their group of homicidal offenders were more likely to have severe learning disabilities when compared to nonviolent delinquents. However, there are others that argue that these differences occur very infrequently and are almost absent in juvenile murderers (Heide, 2003). DiCataldo & Everett (2008) found that in their sample comparing juvenile homicide offenders to juveniles who committed other violent offenses, that the homicide group was less likely to have significant mental health problems and other established risk factors predictive of violence.

There are family and other social factors that have been identified for juvenile homicide offenders. Zagar et al. (1990) found that when looking at nonviolent delinquents and matching them to homicidal delinquents, those who were homicidal tended to have more criminally violent families and introduced violence to the child from an earlier age. The majority of the juvenile homicide offenders studied tend to grow up in adversarial settings where there is some type of abuse or mistreatment occurring in the household (Heide, 2003). Many of the juveniles come from families that contain some type of sexual or physical abuse and have parents that abuse drugs and alcohol. The parents of these juvenile offenders often have criminal histories themselves (DiCataldo & Everett, 2008).

Juvenile homicide offenders typically have some involvement in other antisocial behavior and substance use. The same Zagar et. al. (1990) study found that homicidal offenders were more likely than their matched counterparts to participate in gangs and substance abuse. Heide (2003) further expands this and includes a history of fighting and having school attendance issues. The same study discussed how the rates of substance abuse in other studies vary, some claiming that 20% of the juvenile killers reported substance abuse while some others report as high as 70% of their sample participating in this type of behavior. Another characteristic that is associated with juvenile murderers is exposure to weapons and their availability to these weapons. DiCataldo & Everett (2008) found that their sample of juvenile homicide offenders were more likely to have weapons, specifically guns, inside their house compared to a group of juveniles committed for other violence offenses excluding murder. Among some of the other factors that are more prevalent in homicide offenders compared to non-homicidal violent offenders are school suspensions, neighborhood disorder, and prior arrests (DeLisi et al., 2016)

There have also been differing views on whether juvenile homicide offenders are at high risk for violent recidivism. In Heide's (2003) review of the literature from the last 50 years, she explored differing estimates of recidivism rates for juvenile homicide perpetrators. One study found that only about 5% of these juvenile murderers will go on to continue committing crimes (Monahon & Kaban, 2009). A reason for this could be that those who are more likely to take part in treatments are less likely to reoffend. However, this statistic is mainly an outlier as much juvenile offender research shows that these individuals recidivate at a higher rate. Heide (2001) looked at a sample of juvenile homicide offenders who committed murder and found that within three years of their release, 60% of them had gone back to prison. Liem (2013) found that individuals imprisoned for reasons beside homicide were more likely to reoffend than their sample of homicide offenders. On the other hand, some studies find that although they may not go on to commit more homicides, they are equally likely to commit other violent crimes at a similar rate as nonhomicide offenders (Heide, 2003).

Parole Decisions

At a parole hearing in the Commonwealth of Massachusetts, parole candidates receive either a setback for a re-hearing or are paroled. A setback includes several years that the individual will have to continue to serve before their next hearing. This ranges from one to five years in Massachusetts.

It is the job of the parole board to decide if the individual has met the goals of sentencing: punishment, public safety, deterrence, and rehabilitation (Haas, 2018). Among some of the specific factors that are considered when determining if the inmate has met these goals include age, institutional adjustments, length of the individual's sentence, social support, and any correctional counselor recommendations (Bowman & Ely, 2017; Hail-Jares, 2015; Jiang &

Winfree, 2006; Morgan & Smith, 2005). Hussemann & Siegal (2020) conducted a study looking at the implementation of the *Miller-Montgomery* decision in Michigan and found that the most important factor in the resentencing of a juvenile given an LWOP sentencing was their institutional record. They found that many parole decision-makers interviewed after the resentencing hearing identified that the main factors that contributed to an individual's parole decisions were the number of disciplinary reports an individual received, their participation in rehabilitation and educational programs, and engagement in service work. Some of the reasons individuals are denied include the following: lack of insight, limited program participation, a lengthy disciplinary history, or lack of compassion for their victims (Haas, 2018). Research has thus shown that disciplinary history and program participation are significant factors in the parole board's decision.

Risk-Need-Responsivity Theory (RNR)

Numerous research studies assessing an individual's risk use the RNR theory as a guide. This theory was first developed in the 1980s and looks at the assessment and treatment of offenders. Although this model was developed to assess the individual's risk and need for treatment, it could offer some insight on how the parole board assesses offenders and makes decisions on the inmate's possible release. It is also the leading theory for correctional classification (Arnold et. al, 2018).

This theory has three different principles: risk, need and responsivity. The responsivity aspect has two different parts: general and specific responsivity. General responsivity uses cognitive social learning methods to affect behavior, while specific responsivity is more about methods that adapt to the individual. The aspect relevant here would be the specific responsivity because it considers different characteristics of the individual such as biopsycho-social factors,

motivation, personality, and strengths (Bonta & Andrews, 2007). The creators of this model also advocate that responsiveness to treatment is also important when assessing an individual's risk. Therefore, program participation can be an important part of assessing risk of an individual.

Research that studies the RNR theory has produced eight different risk factors. These factors are the "central eight": a history of their school or work, pro-social recreational activities, substance abuse, family and martial relationships, antisocial associates, antisocial cognition, history of antisocial/criminal behavior, and antisocial personality traits (Arnold et. al., 2018). Most of the risk factors of these "central eight" are dynamic risk factors. Dynamic risk factors are important in LWOP juvenile resentencing because they are useful predictors since they can change over time (Ruiz et. al., 2013). These are risk factors that can change when an inmate is in prison due to programs and services offered. Although they are useful there has been some criticism that dynamic risk factors are not as strongly predictive as static risk factors. However, research has also supported the predictive value of dynamic risk factors (Arnold et. al., 2018). Treatment tries to target these type of risk factors since they are more amendable to treatment and change than the static risk factors.

Risk for re-offense is important when making parole decisions, because a good parole decision includes weighing level of risk of the individual if they are to be released to the community. The risk principle of this theory has been tested in multiple studies and has shown that it can be effective when trying to reduce reoffending, which is one of aspects the parole board looks at (Barnes-Lee, 2020). This model serves as a guide when assessing what risk factors an individual has and if they are parole eligible.

Personality Assessment Inventory (PAI)

Multiple assessment tools are available to assess an individual's current range of psychopathology and personality traits. A common assessment tool often used with forensic population is the Personality Assessment Inventory (PAI) (Morey, 1991). The PAI is a self-report questionnaire consisting of 344 items that load on multiple scales that include validity, clinical, interpersonal, and treatment-related scales. The PAI only requires a fourth grade reading level, making it more comprehensible for an inmate and giving it advantage over other self-report measures requiring a higher reading level, such as the MMPI-2-RD, for instance, which has a sixth grade reading level. Prison officials can use the relevant clinical features in the PAI to help make decisions regarding their diverse inmate population regarding mental health and behavioral needs (Reidy et. al., 2016). Lastly, there are several validity measures incorporated in the instrument itself to prevent concerns about its accuracy.

As suggested by Reidy et. al. (2016), the PAI has good internal reliability with alpha levels ranging from .66 to .93. Groth-Marnat (2016) described the test-retest reliability for the individual scales ranging from .68 to .92. The median was .83 for test-retest reliability. For subscales, the test-retest reliability ranged from .68 to .85 with a median of .78. Not only has the PAI been shown to have high construct validity, but it also has held up in different research with diverse racial and ethnic groups in the United States. This is important for our sample, as our population will deal with a variety of individuals with various racial and ethnic backgrounds. Some criticism has come that there was not enough Latino/a representation in the normative sample. However, African Americans are well represented in the normative sample and most of the research that has been done on racial and ethnic groups has been positive. Some limitations of this assessment are that it is self-report. However, there are certain scales that measure the consistency and accuracy of responding (Growth-Marnat, 2016).

Research on the PAI has a wide range of clinical applications. Some uses of the PAI have included risk assessment, need for treatment, psychopathy, recidivism, suicide risk and other clinical applications (Ruiz et. al., 2018). Cashel et. al. (1995) also found the PAI predictive of an inmate's defensiveness. Ruiz et. al. (2018) conducted a study to see whether the PAI could be useful in creating measures from the DSM-5 for personality trait domains within the Alternative Model for Personality Disorders. Penson et. al. (2016) looked at two specific scales of the PAI, the Borderline (BOR) and Antisocial (ANT) scales, to see how well they predict general offending and substance use and found that both scales related to predicting future negative outcomes.

PAI Scales and Subscales

Several PAI scales appear to assess factors relevant to constructs the parole board takes into consideration. The Aggression (AGG), Antisocial (ANT), and Violence Potential Index (VPI) scales have been studied as to its ability to predict general reoffending, violent reoffending, and institutional misbehavior (Ruiz et. al., 2018). Some other scales of the PAI that have been shown to be predictive of prison infractions are the Borderline Features (BOR), Mania (MAN) and Paranoia (PAR) scales, but they have not shown to be as strong predictors and therefore are not included in this study (Reidy et. al., 2016).

The Aggression scale (AGG) is one of the treatment scales of the PAI and assesses Verbal Aggression (AGG-V), Aggressive Attitudes (AGG-A), and physical aggression (AGG-P). These specific scales relate to the RNR theory because they express aspects of the anti-social cognition and personality factors (Ruiz et al., 2013). Gardner et. al. (2014) found this scale to be highly correlated with institutional misconduct and recidivism.

The Antisocial scale (ANT) is a clinical scale that assesses antisocial personality characteristics and antisocial behavior. The Antisocial Behaviors subscale (ANT-A) taps into the history of the individual's antisocial behavior. Egocentricity (ANT-E) and Stimulus-Seeking (ANT-S) are both subscales that are associated with antisocial and psychopathic personality. The Antisocial scale is linked to institutional misconduct, general offending, and violent offending for juvenile offenders (Ruiz et. al., 2013). Reidy et. al. (2016) found that the ANT scale was predictive of recidivism and aggression. Furthermore, Edens & Ruiz (2009) found that the ANT scale is correlated with institutional misconduct for both aggressive and nonaggressive misconduct. However, Gardner et. al. (2015) found that this scale was slightly stronger as a predictor of violent offenses than non-violent types of institutional misconduct. The same study found that the Aggression scale (AGG) and Antisocial scale (ANT) scale had incremental validity for predicting recidivism and institutional misconduct in comparison to other scales.

Lastly, the Violence Potential Index is a measure of the individual's risk of violence and includes the personality and clinical aspects of the PAI. There are twenty risk-related features drawn from the other scales and subscales that comprise of this scale (Groth-Marnat, 2016). It was created to enhance the AGG scale and assess dangerousness. Violence Potential Index scores range from 0-20. This scale is a supplemental of the Aggression scale (AGG) of the PAI. Individuals who receive a score over nine are considered moderate risk and those over a score of 17 are considered a marked risk of violent behavior. Research has found that the VPI is associated with anger, hostility, psychopathy, and poor judgment (Crawford et. al., 2007). Although, their meta-analytic review by Gardner et. al. (2015) found that the VPI's relation to recidivism and misconduct was mixed.

Current Study

The current study assessed the relationship between parole decisions and scores on selected subscales of the parole candidate's PAI. These subscales have been prominent in previous research looking at recidivism and institutional misconduct but have not been used to directly predict parole. The subscales of the PAI assessed were the ANT, AGG, and VPI subscales. These subscales were chosen because previous research has shown that they are predictive of institutional misconduct, violence, and recidivism (Gardner et. al., 2014; Ruiz et. al., 2013).

Certain demographic information such as race and age of the offender was also utilized. The number of disciplinary reports and their participation in rehabilitation programs was also assessed. These variables were tested in combination with the PAI subscales to assess parole decisions of the individuals in the database. Based on the literature, the following hypotheses were tested:

1. The PAI scales of ANT, AGG, and the VPI will be positively associated with the length of parole review.
2. The number of disciplinary reports will be positively associated with the length of parole review.
3. Those with lower participation in programs will also have longer parole reviews.
4. There will be a positive relationship between the number of disciplinary reports and low program participation and scores on the PAI scales.

Method

Participants

The participants in this study consisted of 21 men (N=21) convicted of homicide as a juvenile who were eligible for parole. Our database consisted of individuals whose age ranged from 14-18 years at the time of their offense. Any individual in the database that was over the age of 18 at the time of their offense was excluded from any analyses since the primary focus is on juvenile homicide offenders. If any of the participants have not yet had a parole hearing, they were excluded from the study. This study was approved by the Roger Williams University Human Subjects Review Board. The study meets the ethical standards for research promulgated by the APA.

Materials

All relevant information was gathered from forensic mental health assessments. All identifying information was removed from the data to protect the individual's identity. Multiple raters coded a random sample of the same case to ensure interrater reliability and a codebook was developed and used to help guide coding of various variables. Variables used from this database relevant to this study include demographics, the PAI, disciplinary reports, and the individual's participation in programs.

PAI

The Personality Assessment Inventory is a self-administered test composed of 344 different statements that measure how true the statement is for an individual. All the participants in this study completed this assessment and their t-scores were entered in the database. There are 22 nonoverlapping scales on the PAI that include validity scales, clinical scales, interpersonal scales, and treatment-related scales. The PAI is generally accepted in the fields of clinical and forensic psychology and has been shown to have high construct validity. The scales of

Aggression (AGG), Antisocial (ANT) and the Violence Potential Index (VPI) are the three scales that were used in this study.

Forensic Mental Health Assessments (FMHA)

FMHAs were used to obtain information about the individual's history, variables related to the crime, disciplinary reports, level of program participation, and parole hearing decisions. The FMHAs were comprised of interviews with the parole candidate, collateral sources of information (i.e., parents, spouse, significant others, siblings, and other social supports), review of relevant records, and the results of psychological test, such as the PAI.

Design and Procedure

This archival research study using FMHAs conducted for the purpose of their parole review hearing. This data was coded and entered into an electronic data file comprised of demographic, family, childhood, educational, mental health, substance use, criminal history, and homicide-related variables. Various raters coded a random sample to ensure interrater reliability. We tested the relationship between the PAI scales, number of disciplinary reports (both violent and non-violent) and participation in rehabilitation programs on parole decisions. Any individual who scored in the clinically significant range on the Infrequency scale (INF) and the Inconsistency scale (ICN) will be removed to ensure more valid and reliable results. The cut off score of 75T for INF and 73T for the ICN is as suggested by Morey (1991, 1996).

Results

The data was analyzed using SPSS and examined the T-scores on the PAI, the number of disciplinary reports, and level of participation in treatment to determine which are predictive of parole decisions. The parole decisions are coded from 0 (paroled) to 5 (5-year-review date). The number of disciplinary reports were coded as 0 (0-5 disciplinary reports), 1 (6-15 disciplinary

reports), or 2 (>15 disciplinary reports). The level of program participation was coded as 0 (absent), 1 (partial), or 2 (present). The PAI was coded as the T-score obtained from the Clinical Interpretive Report created by Morey (1991). The level of inter-rater reliability was not calculated because all the variables were objective. The variables of interest were first analyzed using bivariate correlations and then entered into a regression analysis to derive a predictive model of parole decision-making.

Some cases had to be removed from our analysis because, although they were parole cases, they had not yet had a parole hearing (N=4). This left us with a sample of 24 participants. An additional 3 had to be removed because they did not have VPI scores. The final sample included 21 juvenile homicide offenders. No participants had over the suggested cut off T-score of 75 for Infrequency and 73 for Inconsistency (Morey, 1991).

Demographics

The mean age at the time of their offense was 16.50 (*M*=16.50, *SD*=1.23). The youngest juvenile offender was 13.5 years of age. The majority of our sample identified as White (40.0%) or African American (40.0%) with some identifying as Asian (4.0%), a mixed race (8.0%), or Latino (8.0%). Twenty-four percent of the sample was paroled (n=6), 8% of the unparoled received a 2-year setback (n=2), 28% of them received a 3-year setback (n=7), 8% of them received a 4-year setback (n=2), and 16% of them received a 5-year setback date (n=4). None of the individuals in the sample received a 1-year setback. The mean number of years given for parole decisions setback was 2.52 years (*M*=2.52, *SD*=1.86). The mean number for the level of program participation was 2.00 (*M*=2.00, *SD*=.00). The mean number of disciplinary reports was 2.24 (*M*=2.24, *SD*=2.89).

The mean score on the Aggression Scale was 46.16 (*M*=46.16, *SD*=6.85). The mean score on the Antisocial Scale was 55.32 (*M*=55.32, *SD*=5.20). The mean score on the Violence Potential Index was 54.14 (*M*=54.14, *SD*=10.26). See Table 1 for full demographic data.

Correlations for Parole Decisions and Predictors

A series of bivariate correlations were calculated to test the individual relationships between parole decisions and each of the PAI scales and the number of disciplinary reports. The level of program participation could not be analyzed because all participants were rated as two on this variable. See Table 2 for the full correlation analyses.

The correlation between the number of disciplinary reports and parole decision was not statistically significant and was a small positive relationship, *r*= .245. The correlation between the Aggression scale and parole decision was not statistically significant and was not meaningful, *r*= .083. The correlation between the Antisocial scale and parole decision was not statistically significant and was not meaningful, *r*= -.049. The correlation between the Violence Potential Index and parole decision was not statistically significant and was not meaningful, *r*= .118. The correlation between the Violence Potential Index and the Antisocial scale was statistically significant and had a strong positive relationship, *r*= .521. The correlation between the Violence Potential Index and the number of disciplinary reports was statistically significant and had a moderate positive relationship, *r*= .459.

Hierarchical Multiple Regression Analyses

A hierarchical multiple aggression was used to assess the ability of three PAI full scales (AGG, ANT, and VPI) to predict parole outcomes after controlling for the influence of disciplinary reports and level of program participation. Program participation was not included in the analysis because all individuals had the same participation rating of 2 and therefore

contributed nothing to the model. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. The number of disciplinary reports was added at Step 1, explaining 6.0% of the variance of parole outcomes. After entry of the PAI scale of Aggression at Step 2 the total variance explained by the model as a whole was 6.0%, F (1, 16) = 1.022, p= .327. The Aggression scale score explained no additional variance in parole decisions after controlling for the number of disciplinary reports, R squared change = .00, F change (2, 15) = .479, p=.628. The Antisocial scale was entered at Step 3 and the total variance explained by the model as a whole was 8.2%, F (3, 14) = .416, p =.744. The control measures explained an additional 2.2% of the variance after controlling for the number of disciplinary reports, R squared change = .022. The VPI scale was entered in Step 4 and the total variance explained by the model as a whole was 8.8%, F (4, 13) =.313, p=.865. In the final model, there were no statistically significant control measures. See Table 3 for the results of the hierarchical regression.

Discussion

The purpose of this study was to examine whether the scales on the PAI could predict parole decisions. It was predicted that there would be a positive association among the PAI subscales of Aggression (AGG), Antisocial (ANT), and the Violence Potential Index (VPI) and the decision to parole or the length of the review date. It is also predicted that the number of disciplinary reports will be positively associated with the length of parole review, and those with lower participation in programs would also have longer parole reviews. Lastly, we predicted there would be a positive relationship between the number of disciplinary reports, low program participation, and scores on the PAI scales.

Contrary to our predictions, the Aggression, Antisocial Scales, and Violence Potential Index on the PAI did not contribute to the prediction of parole decisions. Although we did not find them predictive of parole, the Violence Potential index may have some relationship to disciplinary reports. In fact, the increased number of disciplinary reports correlated with greater violence potential as assessed by the PAI.

These relationships had a moderate relationship and could be something to further explore. The number of disciplinary reports had a small relationship to parole decisions and could be less statistically significant because of our small sample size. We did not find a significant relationship between the PAI subscales on parole decisions. We were not able to identify any relationships between program participation with the number of disciplinary reports or the PAI scales. Therefore, our study did not provide strong evidence of using the PAI to determine which juveniles facing JWOP are beyond the reach of rehabilitation and are likely to persist in their violent offending across the life course.

Limitations

One possible limitation to our study is that the PAI is a self-report. Since these are real-world evaluations where the individuals being interviewed have high stakes there is incentive for response bias. Research indicates that the self-report measures may provide some valuable information about risk formulations (Morey, 1991). The PAI also provides scales to check for positive impression management and negative impression management. Although our study included scales to look for high infrequency and inconsistency scores, the positive and negative impression management scores could also be useful to include when using a self-report measure.

Another limitation to our study was the small sample size. This could be a reason why we did not find any significant results since it decreases our statistical power and possibly leads to a

Type II error. One possible reason for the small sample size could be due to having such a specialized group of individuals. All these individuals committed crimes at such a young age, and our sample was even more selective by focusing on individuals who committed murder.

Another limitation to this study was that everyone in our sample scored high on program participation, which meant our data had no variance and a very restricted range. There could be a few possible reasons for this. One reason could be that it is not very predictive of parole because the individuals are anticipating parole and have high program participation to make a good case for the parole board. Therefore, program participation is uniformly high among inmates anticipating an upcoming parole hearing. Another reason could be that we did not operationalize the variable precisely enough. This variable was rated as either absent, partial, or present. It could be better to operationalize this variable by the number of programs that the individual participated in than a clinical rating of their program participation.

Conclusions and Future Directions

Many factors go into the parole decision-making process, and previous research has looked at institutional misconduct as a predictor. The purpose of this study was to expand the research on parole decision making and examine the subscales of the PAI (ANT, AGG, and VPI subscales) as predictors of parole. In previous research, these subscales have been shown to be predictive of institutional misconduct, violence, and recidivism (Gardner et. al., 2014; Ruiz et. al., 2013). Although our study did not find these scales to be predictive of parole, there are many possible future directions pointed to by this research. Future research should use a larger sample size. A more diverse sample should be tested, specifically female juvenile offenders or non-homicide offenders. The PAI has various other scales that could be assessed with parole decisions, such as the level of social support scale.

Another future direction that could be utilized could be to separate the individuals into two groups: those who got parole and those who didn't. By running T-tests on the two groups, one could see how the individuals' scores on the PAI differed between those who were paroled and those who received a setback date. This research could even further be expanded to look at differences between juvenile offenders and adult offenders.

This research did not find the PAI to be predictive of parole decisions, but due to our small sample size our statistical power was limited and the PAI should be further utilized in this type of research.

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Appendix

Table 1

Demographics

Variable	%	*N*
Race/Ethnicity		
White/ Caucasian	40.00%	10
Black/African American	40.00%	10
Asian/ Pacific Islander	4.00%	1
Mixed Race	8.00%	2
Latino	8.00%	2
Total	100.00%	25

Variable	%	*N*
Current Decision		
Paroled	24.00%	6
1 Year Setback	0.00%	0
2 Years Setback	8.00%	2
3 Years Setback	28.00%	7
4 Years Setback	8.00%	2
5 Years Setback	16.00%	4
Total	100.00%	21

	M	*SD*	*N*
Age at Offense (Years)	16.50	1.23	25

Table 2

Summary of Correlations

Variable	n	*M*	*SD*	1	2	3	4	5
1. Current Parole Decision	21	2.52	1.861	-				
2. Disciplinary Reports	25	2.24	2.891	0.245	-			
3. Aggression Scale (AGG)	25	46.16	6.854	0.083	0.320	-		
4. Antisocial Scale (ANT)	25	55.32	5.202	-0.049	0.360	0.103	-	
5. Violence Potential Index (VPI)	21	54.14	10.263	0.118	0.459*	0.139	0.521*	-

*Significant at the .05 level

Table 3

Summary of Multiple Regression Analysis Using PAI Scales to Predict Parole Decisions

Variables	*B*	*SEB*	*β*	*95% CI B*	*t*	η_p^2	Change in R	R^2
Step 1							0.06	0.06
(Constant)	2.171	.561		(.982, 3.359)	3.872*			
Number of Disciplinary Reports	.158	.156	.245	(-.173, .488)	1.011	.060		
Step 2							.000	0.06
(Constant)	2.113	3.241		(-4.795, 9.021)	.652			
Number of Disciplinary Reports	.157	.170	.243	(-.206, .519)	.922	.053		
Aggression Scale (AGG)	.001	.072	.005	(-.152, .154)	.018	.000		
Step 3							0.022	0.082
(Constant)	5.190	6.283		(-8.287, 18.666)	.826			
Number of Disciplinary Reports	.194	.186	.301	(-.204, .592)	1.045	.072		
Aggression Scale (AGG)	.001	.073	.003	(-.157, .158)	.009	.000		
Antisocial Scale (ANT)	-.057	.098	-.158	(-.267, .154)	-.577	.022		
Step 4							0.006	0.088
(Constant)	5.064	6.514		(-9.009, 19.137)	.777			
Number of Disciplinary Reports	.175	.203	.271	(-.264, .613)	.860	.052		
Aggression Scale (AGG)	.001	.076	.003	(-.163, .165)	.010	.000		
Antisocial Scale (ANT)	-.071	.112	-.197	(-.314, .172)	-.628	.028		
Violence Potential Index (VPI)	.017	.060	.096	(-.112, .147)	.289	.060		

*p<.05