

# CAN KOREAN PCL-R PREDICT IMPLICIT AGGRESSION AMONG KOREAN INMATES?<sup>1)</sup>

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*This paper focuses on the relationship between psychopathy scores measured by the Korean Psychopathy Checklist—Revised (Cho & Lee, 2008) and inmates' implicit aggression (as opposed to verbally/physically explicit aggression) by correctional staff's evaluations to suggest the utilization of Korean PCL-R. Numerous studies identified the Factor 2 score of the PCL-R as being a more significant predictor of higher levels of disruptive institutional behavior and recidivism than the Factor 1 score (e.g., Walters, 2003). First, we found that Korean psychopathy scores, in comparison to other static variables (age, the number of previous crimes, using a weapon, and having an accomplice), predicted implicit aggression among Korean inmates using the hierarchical regression model. Secondly, we found Factor 2 to be a better predictor for implicit aggression than Factor 1. Therefore, our study suggests the utilization of the Korean PCL-R to the criminal justice system in South Korea.*

Evaluations by correctional or forensic experts have been the conventional risk assessment tools in the criminal justice settings. One of the more robust tools among risk assessments by clinicians, psychologists, or other mental health experts, the PCL-R (Psychopath Checklist—Revised: Hare, 1991 2003) has been

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found to be a powerful measurement for predicting recidivism after release and violent behaviors in correctional institutions before release. Numerous publications in the U.S. (Edens, Skeem, Cruise, & Cauffman, 2001; Heilbrun, Hare, Hart, Gustafson, Nunez, & White, 1998; Leistico, Salekin, DeCoster, & Rogers, 2008; Oliver & Wong, 2006; Walter, 2003; Yang, Wong, & Coid, 2010), Canada (Glover, Nicholson, Hemmati, Bernfeld, & Quinsey, 2002), the United Kingdom (Reiss, Meux, & Grubin, 2000), Scotland (Cooke, Michie, Hart, & Clark, 2005), and New Zealand (Wilson, 2000) have reported that the PCL-R measured psychopathy could significantly predict these violent outcomes in prisons and society, using ethnically different populations. Even though the Korean PCL-R has been published (Cho & Lee, 2008), only one study questioned the construct and predictive validity of the Korean PCL-R (e.g., Miller, Sohn & Lee, 2010). Moreover, little research has examined whether or not the Korean PCL-R has a relationship with correctional officers' evaluations on inmates.

Aggressive behaviors of human beings can appear through various outcomes. We may not be able to conclude that physically or verbally explicit aggressive behaviors are more violent or aggressive, compared to aggressive behaviors we may not observe (implicit aggression). Those implicit aggressive behaviors could be negative attitudes toward their service in prisons/correctional counselors, probabilities of problematic behaviors/recidivism, or deceitful manners during incarceration. The present study attempted to explore the utilization of the Korean PCL-R by examining a relationship between psychopathy scores and inmates' implicit aggression evaluated by correctional staff.

## PSYCHOPATHY AND VIOLENT BEHAVIORS

Psychopathy has existed from the earliest times across different regions, although it was not known as psychopathy. This psychopathic trait may lead to relatively longer engagement in the commission of crimes and the use of a higher degree of violence during the commission of crimes. Indeed, psychopathic offenders were significantly more likely to commit crimes (e.g., Hare, McPherson, & Forth, 1988; Kruh, Frick, & Clements, 2005; Lynam, Loeber, & Stouthamer-Loeber, 2008) and to utilize a weapon (e.g., Hare, 1981; Kruh et al., 2005; Michie & Cooke, 2006) than non-psychopathic offenders, not to mention the fact that psychopathic offenders' maintain continuous engagement in violent or criminal demeanors for far longer than non-psychopathic offenders.

(e.g., Kruh et al., 2005; Lynam et al., 2008; Raine, 2002). Additionally, one Finnish study (Lindberg, Laajasalo, Holi, Putkonen, Weizmann-Henelius, & Häkkänen-Nyholm, 2009) observed a higher tendency for psychopathic offenders' to commit crimes of murder with an accomplice.

Factor 1 of the PCL-R evaluates interpersonal and affective traits of individuals, whereas Factor 2 assesses behavioral and life patterns. Because a Factor 2 perspective is more proximate to behavioral outcomes (e.g., reconvictions and misbehaviors in prisons), studies assumed that Factor 2 exceeded Factor 1 in predicting institutional misbehaviors and recidivism. Numerous studies argued the differences in predicting these outcomes, along with two factor scores (Factor 1 and Factor 2) of the PCL-R (e.g., Edens & Campbell, 2007; Edens, Campbell, & Weir, 2007; Gendreau, Goggin, & Smith, 2002; Guy, Edens, Anthony, & Douglas, 2005; Hemphill & Hare, 1998; Walter, 2003). The controversy suggested Factor 2 was better in predicting prison adjustment before release and recidivism after release. Hemphill and Hare (1998) reported that Factor 2 was a better predictor of general recidivism. However, they also noted that taken together, both factors were powerful in predicting violent recidivism. This result was partially confirmed in Gendreau et al.'s study (2002) in that Factor 2 was better in predicting both general and violent recidivism as compared to Factor 1. Different predictive powers of the PCL-R total and two factor scores were reexamined by a meta-analysis (Walters, 2003). The study concluded that Factor 2 was a significantly better predictor of recidivism and institutional misbehaviors than Factor 1. The recent meta-analyses (Guy et al., 2005; Leistico et al., 2008) consistently supported this stronger association of behavioral traits (Factor 2) with violent behaviors. We should carefully acknowledge and support these studies because the result of meta-analyses did not suggest the inferiority of Factor 1 to predict outcomes. The prediction power of Factor 1 existed, yet it did not surmount that of Factor 2.

In the current study, we first examine the question about relationships between Korean PCL-R scores and correctional staff's evaluations on inmates. Secondly, we will examine whether or not two factors in the Korean PCL-R appear similar or different in predicting inmates' implicit aggression, as opposed to physically and verbally explicit aggressive behaviors during incarceration. Therefore, the present study attempts to recommend the practical usage of the Korean PCL-R in the Korean criminal justice system.

## INSTITUTIONAL PROBLEMATIC BEHAVIORS AND THE PCL-R SCORES

From the Korean academic perspective, the positive relationship between the PCL-R scores and troublesome behaviors in prisons was found mostly in western studies. However, some research (e.g., Edens, Petrila, & Buffington-Vollum, 2001; Edens, Poythress, & Lilienfeld, 1999; Heilbrun et al., 1998; Hildebrand, De Ruiter, & Nijman, 2004) did not support a positive link between psychopathy scores and institutional misbehaviors. This inconsistency can imply that there could be some variation that we have not fully explored with psychopathy scores, irrespective of PCL-R's popularity as a prominent tool to screen out institutional disruptive behaviors. Especially, when we examine the utilization of the Korean PCL-R, we should ask why this inconsistency occurred.

Certainly, in the Hildebrand et al.'s (2004) study, physical violence did not indicate a statistically significant average difference between the PCL-R high and low groups, even though all other problematic behaviors, except physical violence, were significantly different between the PCL-R high and low groups. This non-significant relationship between physical violence in prisons and the PCL-R scores were additionally found in Buffington-Vollum, Edens, Johnson, and Johnson (2002) research which examined male sex offenders who were incarcerated in the Texas Department of Criminal Justice (TDCJ). They reported a non-significant relationship between physically aggressive disciplinary offenses and high PCL-R scores. Results from this study told us that any disciplinary violations, whether they were aggressive or non-aggressive, were in general positively correlated with the PCL-R scores. However, interestingly, whereas verbally aggressive behaviors were significantly positively correlated with the PCL-R scores ( $r = .40, p < .01$ ), physically aggressive offenses were not significantly correlated with the PCL-R scores ( $r = .23, n.s.$ ). This finding was repeated by a meta-analysis of Guy et al. (2005). Using PCL-R total, Factor 1, and Factor 2 scores, they found the smallest effect sizes of physically violent misbehaviors compared to effect sizes of verbal and passive aggressions including threatening, hostility, and refusing to work. The non-significant relationship between physically violent incidents and the PCL-R scores has been constantly reported in other studies (e.g., Cooke, 1997; Heilbrun et al., 1998; Rasmussen & Levander, 1996).

The previous studies on the relationship of physical violence, institutional maladjustments, and the psychopathy scores might concentrate on overt instances during imprisonment or hospitalization. For instance, threatening or cursing other

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prisoners or correctional staff (verbal aggression) and assaulting other prisoners or correctional officers (physical aggression) are the only ones emphasized, and these findings did not highlight inmates' hidden risk factors from being incarcerated. Therefore, we felt it prudent to examine the psychopathy scores by another method, looking at inmates' hidden aggressiveness, to review the PCL-R utility in Korean institutional circumstances.

### THE PRESENT STUDY

The former research about the PCL-R and institutional problematic behavior has at least two issues that were not addressed. First, many studies focused on behavioral outcomes, such as hitting or cursing somebody (explicit aggressive problems). A relationship between inmates' PCL-R scores and correctional staff's assessments (implicit aggressive problems) has not been fully explicated in these previous studies. Secondly, because of this failure, there may be some unexpected results with respect to statistically non- or lesser-relationships between physically aggressive behaviors during incarceration and the psychopathy scores. The link between the psychopathy scores and correctional officers' evaluations has not been studied in a non-western environmental context. If we found a relationship between the PCL-R scores and inmates' implicit aggression measured by correctional staff's evaluations, we could support the utilization of the Korean PCL-R.

Therefore, the paper first attempts to find out whether being psychopaths (dichotomous) and having a higher level of psychopathy (metric) can predict implicit aggression—how inmates consider their punishment their feeling of remorse for the victim; how they view correctional treatment and staff their attitude against correctional counseling; the possibility of problematic behaviors the possibility of recidivism, and their attitude to deception. Secondly, the previous findings in western studies addressed a better prediction of the Factor 2 score to predict institutional misbehavior than Factor 1. Thus, if it is possible to identify some links between the Korean PCL-R scores and implicit aggression, this research will attempt to identify whether or not Factor 2 can predict implicit aggression better than Factor 1, akin to western findings, in a Korean sample.

### Research Questions

- 1-1. Does the psychopathic group (using the cutoff  $\geq 25$ ) display a higher level of implicit aggressiveness? And, Can a higher PCL-R score predict a higher level of inmates' implicit aggression?
- 1-2. If there is a relationship between Korean PCL-R scores and implicit aggression, will this relationship continue to hold even after other variables (e.g., age, criminal record, co-offender, and using weapon) are controlled?
2. Is the Factor 2 score a more reliable predictor of implicit aggression than the Factor 1 score?

## METHOD

### Participants

The raw data have 451 male violent offenders. In this study we have used only 202 cases which included the required information about correctional staff's evaluations. Therefore, the sample of the present study consisted of 202 male offenders who were imprisoned in prisons of South Korea. This data were collected for the validation of the Korean PCL-R version by research teams of Kyonggi and Hallym Universities. Thus, the sample was gathered by design from a relatively more violent offender population from prisons in major six districts. All inmates were provided with informed consent documentation, and any possible violation of human rights connected with this research process was examined by the Korean Bureau of Prisons. Table 1 describes the 202 participants' demographic information, and it was compared with the rest of 249 cases. Age of the current study sample ( $N = 202$ ) averaged around 38 years old ( $SD = 10.87$ ), and the number of previous convictions averaged about 6 times ( $SD = 4.57$ ). The average of the total PCL-R score was 21.32 ( $SD = 8.67$ ). Approximately 30 percent of participants ( $N = 134$ ) did not have a partner when they committed offenses, and around 15 percent of them ( $N = 67$ ) committed an offense with a partner. About 26 percent ( $N = 114$ ) did not use a weapon, and 20 percent ( $N = 88$ ) used a weapon at the time of the commission of their crimes. Whereas 80 inmates were classified as Korean psychopaths, 122 men were identified as non-psychopaths using the cutoff score of 25 and above to classify psychopaths. We found statistically significant

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**Table 1. Sample Demographic Characteristics**

Variable	Characteristics	N = 202	Percentage	N = 249	Percentage
Co-offender					
	No	134	30.1	188	42.2
	Yes	67	15.1	56	12.6
Weapon use					
	No	114	25.6	172	38.7
	Non-psychopaths	122	27.1	195	43.2
		N = 202		N = 249	
Variable	Mean	S.D.	Mean	S.D.	
Age	37.91	10.87	39.08	11.78	
Crime	5.92	4.57	4.65	4.48	
PCL-R	21.32	8.67	18.03	7.67	

NOTE. Co-offender is whether inmates had a co-offender at the time of their offenses. Weapon is whether they used a weapon. PCL-R is the total score. Crime is the numbers of prior crimes for which convicted. There were only six missing values out of total 451 for Co-offender and Weapon.

differences between the sample 202 and the rest of 249 in PCL-R total, the previous number of crimes, having a partner, using a weapon, and being a psychopathic offender. Age did not show a significant difference. The 202 sample demonstrated higher number of previous convictions ( $M = 5.92$ ,  $SD = 4.67$ ) than the rest of 249 ( $M = 4.65$ ,  $SD = 4.48$ ),  $t = .2946$ ,  $p = .003$ . The PCL-R total score of 202 averaged 21.32 ( $SD = 8.67$ ), and 249's total score averaged 18.03 ( $SD = 7.67$ ),  $t = 4.218$ ,  $p = .000$ . The chi-square tabulation analyses revealed that statistically significant relationships between 202 and 249. The sample 202 was less likely to have a company during their prior criminal involvements, while the rest 249 were more likely to commit crimes with a partner,  $\chi^2 (1, N = 445) = 5.940$ ,  $p < .05$ , but it showed a relatively weak association (Gamma  $V = -.253$ ). The sample 202 tended to have used a weapon,  $\chi^2 (1, N = 445) = 9.886$ ,  $p < .01$ , however this association was not strong (Gamma  $V = .303$ ). The 202 inmates were more likely to be defined as

psychopaths,  $\chi^2 (1, N = 451) = 17.144, p < .001$  with relatively stronger association (Gamma  $V = .406$ ).

## Measures

### *PCL-R*

The Korean version of the PCL-R (Cho & Lee, 2008) was used to measure individuals' psychopathic personal and behavioral traits. The PCL-R has 20 items and four sub-features: interpersonal, affective, life pattern, and antisocial behavioral features. Each item can be scored from 0 to 2 (0 = *item does not apply*, 1 = *item applies in some aspect*, and 2 = *item does apply*). The research (e.g., Hare, 1991, 2003) reports two constant factors by factor analysis. Factor 1 consists of interpersonal and affective features. Factor 2 is made up of lifestyle and behavioral features. Whereas interpersonal and affective individuals' characteristics, for instance callousness, lack of empathy, and superficial charming are identified as Factor 1, individuals' lifestyle and antisocial behavioral patterns, such as socially abnormal lifestyle, impulsivity, and antisocial engagements throughout the lifespan are identified as Factor 2. The reliability and validity of this instrument have been established (see Hare, 1991; Hart & Hare, 1997). Inter-rater reliability coefficients range from .74 to .97 (Hare, Harpur, Hakstian, Forth, Hart, & Newman, 1990; Smith & Newman, 1990). The Korean PCL-R manual suggested that the score of 25 and higher as a cutoff for a psychopath using the ROC (Receiver Operating Characteristics) analysis method (Cho & Lee, 2008). Additionally, one study reexamined this classification and suggested 24.5 as a valid cutoff point to classify relatively high-risk offenders (the AUC was .610,  $SEM = .039, p < .01$ ) after examining all possible cutoff points of the total PCL-R score (metric) to predict recidivism status (dichotomous). The accuracy of the AUC was not large enough, but it suggested more than chance-level (Miller, Sohn, & Lee, 2010). Thus, in terms of our cutoff benchmark, 25 and higher scores for Korean psychopaths and 24 and below scores as Korean non-psychopaths was applied for the current study.

### *Implicit Aggression.*

The variable about inmates' current prison life is measured by correctional officers' evaluations. For this single metric variable, eight inmates' perceptions were combined. These eight items were assessed by the evaluations of



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correctional officers. The interview process and risk assessment training for correctional officers were held at the Korean Legal Research and Training Institute before these staff members participated in evaluation proceedings in correctional institutions. Inmates' perceptions on their punishment; guilty feelings towards victims; attitudes on their current treatment attitudes on the correctional staff; and their attitude on prison counseling were evaluated into "positive" (0) and "negative"(1). The likelihood of dangerous behaviors in institutions the likelihood of recidivism; and cunning attitude were measured as "low" (0) and "high" (1). These eight dichotomous variables were computed together as one new variable of "implicit aggression" which ranged from 0 to 8with the average score of 4.1 (Cronbach's Alpha = .82). The higher the number in this variable indicates the greater the negative attitude that inmates have on their experience in penitentiaries. These eight evaluations by correctional officers were statistically useful predictors for inmate misconduct in Korean prisons (Lee & Edens, 2005).

### Procedure

The data used in this study were originally collected during the process of confirming the validity for the Korean Edition of PCL-R(Cho & Lee, 2008) from 2005 to 2008 (mainly in 2007) by trained evaluators who were either graduate students in psychology or mental health experts and attended the Psychopathy Checklist workshop by Hare. Evaluators had to review inmates' files in advance and individually interviewed according to the PCL-R manual indicated. The original data set included 451 male inmates. The 451 cases were collected from prisons in major six districts (Seoul, Kyonggi, Choongchung, Kyongsang, Julla, and Kangwan regions) of South Korea, and sub-sample 202 interviewees that the current study used were also Korean male inmates incarcerated at different prisons in major districts. Only 202 cases were included values following the correctional officers' evaluations.

Research teams by Cho and Lee (2008) gathered total 451 information through six collections. The second collection was 82incarcerated males in Youngdunpo prison and Seoul jail (both are located in Seoul district). Inter-rater reliability was reported based on these 82 cases. The two evaluators independently reviewed their files and interviewed the same cases. The Kappa values of the two interviewers ranged from .616 to 1.000 for each item. In addition, the PCL-R total scores between the two evaluators were correlated by

**Table 2. The Inter-Correlation Matrix of Variables**

	Implicit	PCL-R	Factor1	Factor2	Age	Crime
Implicit	1					
PCL-R	.400***	1				
Factor1	.325***	.813***	1			
Factor2	.361***	.859***	.431***	1		
Age	.093	-.063	.080	-.153*	1	
Crime	.137	.372***	.168*	.431***	.071	1

NOTE. *Pearson* correlations. All variables are quantitative variables: *Implicit* is a combined variable generated from eight inmates’ negative or positive attitudes measured by correctional officer’s evaluations. *PCL-R* is the total score. *Crime* is the numbers of prior crimes for which convicted. \*  $p < .05$ , \*\*\*  $p < .001$

.92 (Spearman), the correlations of two factors(Factor 1 and Factor 2) from two interviewers ranged from .89 to .90, and the correlation range of four features (interpersonal, affective, lifestyle, and behavioral features) was from .79 to .91 (pp. 267—269).

## RESULTS

### The Inter-Correlation Matrix of Variables

Table 2 indicates inter-correlations among variables used in the study. The inmates’ implicit aggression pattern displayed significant positive relationships with three PCL-R scores of total, Factor 1, and Factor 2 ( $p < .001$ ). Implicit aggression did not have any relationship with age and the number of prior crimes for which convicted. The total PCL-R score demonstrated significant positive relationships with both factors (Factor 1 and Factor 2) and the number of crimes ( $p < .001$ ). Both factors had positive relationships with the number of previous crimes. Participants’ age showed significant negative relationship with Factor 2 at a lower significance level of .05.

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Table 3. Four Features of the PCL-R and Implicit Aggression

		Implicit Aggression	feature 1	feature 2	feature 3	feature 4
Implicit aggression		1				
feature 1	Pearson	.228***				
	Spearman	.247***				
feature 2	Kendall's tau-b	.187***	1			
	Pearson	.343***	.527***			
	Spearman	.321**	.533***	1		
feature 3	Kendall's tau-b	.250**	.409***			
	Pearson	.365***	.379***	.542***		
	Spearman	.363***	.376***	.538***	1	
feature 4	Kendall's tau-b	.277***	.285***	.417***		
	Pearson	.280***	.114	.304***	.613***	
	Spearman	.274**	.108	.328***	.602***	1
	Kendall's tau-b	.208***	.079	.251***	.465***	

Note. Correlations for parametric and nonparametric. \*\*\*  $p < .01$

Four Features of the PCL-R and Implicit Aggression

The PCL-R construct has four traits which are interpersonal, affective, lifestyle and antisocial behavioral features. The inmates' implicit dangerousness by correctional staff evaluations illustrated significant positive relationships with all the underlying characteristics of the PCL-R psychopathology. All the four features significantly and positively related to each other, except the correlations of feature 1 and 4.

Korean PCL-R score and Implicit Aggression

The study attempted to suggest differences between the two groups according to the psychopathy score to determine the utility of the Korean PCL-R. Korean psychopaths (PCL-R total  $\geq 25$ ,  $N = 80$ ) and non-psychopaths (PCL-R

**Table 4. Korean PCL-R score and Implicit Aggression**

Predictor	R <sup>2</sup>	ΔR <sup>2</sup>	F	B	SE B	β	t
Step 1							
Age				.019	.017	.079	.969
Crime				.354	.181	.139	1.958†
Accomplice				-.275	.358	-.054	-.768
Weapon	.030	.010	1.504	.218	.359	.043	.606
Step 2							
Age				.028	.016	.117	1.775
Crime				-.056	.182	-.022	-.309
Accomplice				-.146	.332	-.029	-.440
Weapon				.048	.334	.009	.143
PCL-R	.174	.152	8.149***	.120	.021	.413	5.807***

Note. Method: ENTER. The dependent variable is inmates' implicit aggression. Crime is the number of prior criminal convictions. PCL-R here is the total score. B represents the un-standardized coefficient, and SE B indicates the standard error of the un-standardized coefficient. β represents the standardized coefficient. † p < .1, \*\*\* p < .001

total score ≤ 24, N = 122) were divided using the Korean PCL-R (see Table 1). While implicit aggression of Korean psychopaths averaged 5.04 (SD = 2.24), this implicit aggression score average of non-psychopaths was 3.49 (SD = 2.52). This difference was statistically significant,  $t(200) = -4.549, p < .001$ . In addition, a simple regression was conducted in predicting implicit aggression using the total PCL-R score as a predictor. This simple regression model noted that the PCL-R total score was a significant predictor for an implicit aggression pattern,  $F(1, 200) = 38.119, p < .001$ , and this total PCL-R score accounted for 16 percent of the total variance of implicit aggression.

Finally, Table 4 indicates the result of the hierarchical regression analysis which re-evaluated the relationship between the Korean PCL-R total score and implicit aggressiveness among Korean male inmates after controlling inmates' other static information. As a result, the total PCL-R score was entered after age, the number of prior crimes, existence of a co-offender, and the use of a weapon in order to determine the separate amount of variance of the Korean PCL-R total score. In the first step, the number of prior crimes was a

**Table 5. Factor 2 and Implicit Aggression**

Factors	R <sup>2</sup>	ΔR <sup>2</sup>	<i>F</i>	<i>B</i>	SE <i>B</i>	β	<i>t</i>
Factor 1				.118	.041	.209	2.907**
	.166	.157					
Factor 2			19.739***	.133	.035	.271	3.773***

Note. Method: ENTER. *B* represents the un-standardized coefficient, and SE *B* indicates the standard error of the un-standardized coefficient. β represents the standardized coefficient. \*\*\*  $p < .001$ , \*\*  $p < .01$

significant predictor at a lower level ( $p < .1$ ), but this model did not show a significance,  $F(4, 195) = 1.504$ , n.s., and this first model explained only three percent of the total variance. In the second step, when the PCL-R total score was included, this model significantly predicted inmates' implicit aggression,  $F(5, 194) = 8.149$ ,  $p < .001$ , and explained 17.4 percent out of the total variance of implicit aggression. It is noticeable that after the PCL-R total score was introduced into the regression model, the second step increased the specific amount of variability by about 14.4 percent.

#### Factor 2 and Implicit Aggression

As shown in Table 5, Factor 1 and Factor 2 were entered into the model using the entry method. This regression model showed that Factor 1 and Factor 2 to be significant predictors for inmates' covert aggressiveness,  $F(2, 199) = 19.739$ ,  $p < .001$  and that these two factor scores together accounted for approximately 17 percent of the total variance of inmates' implicit aggressive thinking. Particularly, in terms of research question two, Factor 2 predicted inmates' implicit aggression better than Factor 1. We noted that Factor 1 was also a significant factor in predicting inmates' implicit aggression—yet, its power was smaller than Factor 2.

## DISCUSSION

The present paper attempted to determine the relationship between the PCL-R scores and implicit aggression (as opposed to explicit verbal or physical aggression) in order to suggest the utilization of the Korean PCL-R. The primary purpose of this paper was supported. Korean psychopaths demonstrated significantly more negative thinking (implicit aggression) than Korean non-psychopaths, and the Korean PCL-R score significantly positively related with implicit aggression. The AUC to decide the cutoff score of the current study was not large. However, more than half of these Korean inmates were still in prison, and the maximum follow-up period was only three years. This shorter follow-up period with fewer inmates who were released might account for this lower AUC value. Therefore, by extending the study for a few more years for this Korean sample might provide better accuracy.

Psychopathy as a matter of cause may not be regarded as a taxonomical approach because all individuals may have some degree of psychopathic characteristics. This would be the reason why studies may have different standards of cutoff points. Even though the original Hare manual suggested a cutoff score of 30 to be psychopaths (for generally North American samples), this criterion was not pan-cultural. One study (Rice, Harris, & Cormier, 1992) applied a cutoff score of 26 or more to classify psychopaths, while several studies even provided a division of low, moderate, and high psychopathic groups (Grann, Långström, Tengström, & Kullgren, 1999; Gretton, McBride, Hare, O'Shaughnessy, & Kumka, 2001; Hart, Kropp, & Hare, 1988). Nevertheless, a number of studies regarding psychopathy in Europe and North America applied this dichotomous classification to define psychopathic and nonpsychopathic offenders based on the PCL-R score (e.g., Hare, 1981; Hare et al., 1988; Kruh et al., 2005; Michie & Cooke, 2006; Lindberg et al., 2009; Lynam et al., 2008; Reiss et al., 2000; Wilson, 2000). Hence, dichotomization of the Korean PCL-R score in the current study was empirically reasonable.

The hierarchical regression model also found that the higher level of psychopathy can predict the higher degree of implicit aggression, beyond inmates' static information. This could be a novel finding because it was almost a truism of past behaviors as the best predictor for violent behaviors in the future (e.g., Mossman, 1994). However, in the present study, offenders' prior criminal information was not a significant factor to assume inmates' concealed aggressiveness. The static risk factors, such as age, the prior criminal record,

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use of a weapon, and the existence of an accomplice did not have much of a connection with how negatively inmates considered their prison life, at least in this Korean study. Only the Korean PCL-R total scores can significantly predict inmates' implicit aggression in prisons.

Then, we additionally assumed that two sub-psychopathic traits (Factor 1 and Factor 2) have differently associated with implicit dangerousness. We observed that the Factor 2 score was better in comparison to that of the Factor 1 score. Akin to previous studies (e.g., Guy et al., 2005; Leistico et al., 2008; Walter, 2003) noted, this does not mean that Factor 1 could not predict implicit aggression in that there was a marginal difference between the strengths of the two factor scores. Although the difference between the two factors was small, we partially confirmed the previous research findings. First of all, Factor 2 showed a better power in predicting outcomes similar to other findings (e.g., Edens & Campbell, 2007; Walter, 2003) using a different sample. Secondly, Factor 2 was better even though this research aimed to examine the relationship between the psychopathy traits and implicit aggression, not explicitly aggressive verbal/physical institutional misbehaviors.

Aggressiveness, as we recognize, can emerge another way. It could be by telling lies or the making-up of stories. If prisoners acclimatize "effectively" in prisons, they will adjust to their routine life well and they will not engage in disciplinary violations. The incarceration experience may not mean that these individuals' fundamental traits have become adjusted, detoured, or changed because of incarceration or hospitalization. Accordingly, we may have to measure inmates' implicitly negative perceptions when we scrutinize the validity of the Korean PCL-R and its utilization. Indeed, these eight implicit aggressions measured by correctional officers' evaluations, which were not overtly violent, were valid predictors for institutional problematic behaviors in Korean prisons (Lee & Edens, 2005). The non-relationship between the PCL-R psychopathy scores and the physically disrupting behaviors during institutional periods may result from a lack of scrutiny about different aspects of human aggressiveness. In other words, this disparity may be due to us failing to notice that humans can be aggressive and violent, implicitly, as well as explicitly. This covert aggressiveness could be connected to the later aspects of violence such as reconviction or re-arrest.

We determined the relationship between the Korean PCL-R scores and correctional officers' evaluations toward inmates. Thus, this study could give useful indications to the Korean criminal justice system, especially regarding

how to utilize the Korean PCL-R scores. First, correctional policies may wish to take note of the fact that inmates' covert aggressive perceptions can be dangerous, like overtly aggressive behaviors. Research suggested these underlying human traits tended to be stable throughout the life trajectory compared to other behavioral characteristics (e.g., Lynam et al., 2008). Therefore, correctional counselors and treatment programs in prisons may have to deal with inmates' implicitly aggressive thinking patterns. Secondly, professionals in the Korean criminal justice system may utilize the Korean PCL-R information to classify the presumed most dangerous offender group so that they might target those populations intensively. If correctional interventions can target appropriately, we can assist inmates' institutional adjustment and it in turn may alleviate later criminal involvements after these inmates finish their service.

#### Limitations

The present paper used implicit aggression which was evaluated by eight different findings (variables) from correctional officers' assessments. As a result, implicit aggression may be affected by the skill and experience of correctional staff. Also, correctional officers in general are not professional evaluators who majored in psychology or other related areas, thus they may not have accurately assessed whether or not these Korean male inmates were lying. We could not compare explicitly aggressive institutional misconducts to the PCL-R score because the raw data did not include overtly violent behaviors in penitentiaries.

Even though this original information was from major prisons of South Korea, some limitations hesitate there presentativeness of this sample. We found some significant differences in variables we have used between the current sample 202 and the rest of 249, but this whole 451 sample was gathered from a relatively more violent offender population during the validation process of the Korean PCL-R version. This data included only male adult offenders, thus additional examinations on juvenile and women offenders would provide more accuracy of this instrument's usage in Korea.

Since the data were collected by inmates' voluntarily attendance, we are not sure about inmates' refusal rate for the PCL-R interview itself. Inmates' reluctance to be interviewed, the PCL-R interviewers' lack of skill, and various prison administration circumstances which have may blocked more correctional staff evaluations could be additional limitations.



### Future Research

Further studies should compare the Korean PCL-R scores to Western or other Asian PCL-R scores to examine differences or/and similarities among culturally different offender populations. This approach would suggest how this psychopathy construct appears in different samples which can lead to more appropriate utilizations of the Korean PCL-R. There is no existing literature about whether or not Korean male inmates' hidden problematic attitudes (implicit aggression) have an association with this robust tool (the PCL-R) in a Korean sample. This paper attempted to remedy this deficiency.

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## **CAN KOREAN PCL-R PREDICT IMPLICIT AGGRESSION AMONG KOREAN INMATES?**

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