

Predicting Recidivism Using Adverse Childhood Experiences & the Level of Service Inventory



Mark H. Heirigs,¹ Anthony W. Tatman,² Tara Richey,³ Ashlea Loudon,⁴ and Heather Bell⁵

Justice Policy Journal • Volume 17, Number 1 (Spring 2020)

© Center on Juvenile and Criminal Justice 2020 • www.cjcj.org/jpj

Abstract

Adverse childhood experiences have been demonstrated to have severe negative consequences on a variety of life outcomes. The adverse childhood experience (ACEs) scale was created to assess childhood maltreatment and has been shown to significantly predict negative life events in adulthood. The Level of Service Inventory – Revised (LSI-R) is a widely used risk assessment to predict recidivism. The current analysis used a sample of 293 individuals to test the ability of ACEs and the LSI-R to predict recidivism in multiple models. The results demonstrate that both ACEs and the LSI-R prove to be significant predictors of recidivism. The potential policy implications for community-based corrections are discussed.

¹ University of Montana

² Iowa Department of Correctional Services

³ Iowa Department of Correctional Services

⁴ Iowa Department of Correctional Services

⁵ Iowa Department of Correctional Services

Corresponding Author:

Mark H. Heirigs
mheirigs@iastate.edu

Introduction

Drury and his colleagues (2017) recently made a call for criminology and criminal justice practitioners to acknowledge the significant role adverse childhood experiences (ACE) play in criminogenic behavior. According to the Bureau of Justice Statistics, at the end of 2016 there were an estimated 4,537,100 adults under supervision as parolees and probationers, which was the lowest number since 1999 (Kaeble, 2018). In other words, this statistic would suggest that 1 in every 55 adults in the United States were under some form of community supervision. Males make up the majority of the supervised population at 87%. Racially, 45% of the supervised population is White, 38% is Black, and 15% is Hispanic. One of the most important issues within parole and probation is how to account for risk factors in order to categorize supervisees in a way that proficiently evaluates individuals. Moreover, moving to a trauma-informed care model, which focuses on identifying trauma and related symptoms, would be one outcome of accounting for ACEs among a supervised population (Harris & Fallot, 2001; Hodes, 2006; Miller & Najavits, 2012).

Andrews and Doden (2006) stated that educational level, vocational skills, and self-control all act as protective factors and reduce recidivism. Moore and Tatman (2016) explained that these are skills learned during childhood from both peers and family. Negative childhood experiences harm an individual's chance to gain these protective factors. It has been pointed out that maltreatment and poor parental skills are more likely to cause delinquency, whereas a supportive family can foster prosocial behavior in poor environmental conditions. In particular, Rucevic and Ajdukovic (2015) found that institutionalized juveniles have higher levels of ACEs when compared to a community sample. Therefore, researchers should examine the potential relationship between ACEs and recidivism. In an effort to detect future recidivism the Level of Service Inventory – Revised (LSI-R) was created by Andrews and Bonta (1995) and is the most widely used risk assessment tool in the United States and Canada (DeLisi & Conis, 2013).

The current analysis explores the relationship between ACEs and recidivism, as well as the LSI-R and recidivism. While the LSI-R is highly regarded by criminal justice practitioners, the use of the ACEs scale to predict recidivism could add a new perspective to view risk of recidivism. Reavis, Looman, Franco, and Rojas (2013) suggested that in order to decrease recidivism criminal justice practitioners should center treatment around the impact of early life experiences. Therefore, the current study will use data from 293 individuals who were under community supervision to examine the effects of both the LSI-R and ACE on recidivism

Adverse Childhood Experiences

Felitti et al.'s (1996) study of 9,508 adults introduced the concept of ACEs to account for both negative behavior outcomes and poor health. The findings suggest that there was a significant association between ACEs and major health issues in adulthood. For example, those who had experienced four or more ACEs were 4 to 12 times more likely to engage in substance abuse, tobacco use, suffer from depression, attempt suicide, and contract a sexually transmitted disease. Within juvenile offenders, ACEs are extremely prevalent. For example, Baglivio and colleagues (2014) examined 60,000 juvenile offenders in Florida and found that these juveniles were 13 times less likely to have no ACEs in comparison to Felitti et al.'s (1996) original ACEs study. Boduszek, Hyland, and Bourke (2012) examined 144 adult male recidivists and found that offenders who were exposed to family violence as juveniles were six times more likely to commit a homicide in comparison to those who were not exposed to family violence. Higher level of ACEs largely lay the foundation for a more dense criminal career (Baglivio et al., 2015; Fox et al., 2015; Wolff & Baglivio, 2017), incarceration (De Ravello, Abeita, & Brown, 2008), sexual homicide (DeLisi & Beauregard, 2018), intimate partner violence (Swogger et al., 2012), and victimization (Whitfield et al., 2003). For instance, Fox and colleagues (2015) found that each additional ACE increased the chance of serious, violent, and chronic juvenile offending by 35%. Furthermore, ACEs have been shown to have an increased effect on juvenile delinquency, fighting, dating violence, carrying weapons, and mental health disorders (Evans-Chase et al., 2013; Duke et al., 2010). Specifically, sex offenders have been evidenced to experience extensive adverse childhood experiences (Abbiati et al., 2014; DeCou et al., 2015; Dhawan & Marshall, 1996; Forsman et al., 2015; Freund et al., 1990; Graham, 1996; Jung & Carlson, 2011; McCuish, Lussier, & Corrado, 2015, 2016; Seghorn, Prentky, & Boucher, 1987; Widom & Ames, 1994; Widom & Massey, 2015).

ACEs have also been associated with higher levels of recidivism (Craig et al., 2017; Hanson & Morton-Bourgon, 2005; Wolff & Baglivio, 2017; Wolf, Baglivio, & Piquero, 2017). For example, Wolff and their colleagues (2015) found that ACEs increase the risk for recidivism and higher levels of ACEs led to a shorter time until recidivism, a finding that was consistent across demographic specific models. Craig et al., (2017) found that an increase in ACEs exposure led to a higher likelihood of recidivating, and stronger social bonds did not lessen the impact ACEs had on recidivism. Wolff and Baglivio (2017) found the ACEs have both a direct and indirect effect on increasing recidivism. However, Baglivio et al. (2016) failed to show that ACEs have a direct effect on recidivism. Pournaghash and Feizabadi (2009) examined ACEs relationship to recidivism by creating a questionnaire that

contained the ACE scale items. Using a sample of couples from family court they found that ACEs predicted future violence. Consequently, testing the relationship between ACEs and recidivism is an important endeavor for the current analysis.

DeLisi and his colleagues (2017) found that the effects of ACEs vary across racial and ethnic groups. Moreover, Duke et al. (2010) examined 136,549 youth from the Minnesota Student Survey from 2007 and found differences in the effects of ACEs between gender and a variety of behaviors including delinquency, bullying, fighting, dating violence, and carrying weapons. Therefore, the current analysis will account for both gender and racial differences.

Level of Service Inventory – Revised

The LSI-R is considered one of the most widely used risk assessments (DeLisi & Conis, 2013) and consists of 54 items that cover important areas for recidivism including: criminal history, financial status, education/employment history, family/marital status, substance abuse, accommodations, recreation activities, peer groups, emotional status, and attitudes (Andrews & Bonta, 1995). Andrews and Bonta (1995) constructed the LSI-R to measure to level of risk an offender has to recidivate. The LSI-R is to be given by trained correctional staff in a 45 minute semi-structured interview style (Vose, Cullen, & Smith, 2008).

The LSI-R has been evidenced to be a strong and accurate risk assessment in predicting recidivism. For instance, Genreau, Little, and Goggin (1996) conducted a meta-analysis of published articles from 1970 to 1994 and found that the LSI-R was the best assessment used to predict reoffending. The LSI-R has also been found to be consistent demographically with race and ethnicity (Holsinger, Lowenkamp, & Latessa, 2003, 2006; Schlager & Simourd, 2007), genders (Coulson et al., 1996), and a variety of criminality (Loza & Simourd, 1994). However, Manchak, Skeem, and Douglas (2008) employed a sample of 1,144 released inmates. Results found that the LSI-R moderately predicted general recidivism but not violent recidivism.

Nevertheless, the LSI-R has proven to be a significant predictor of recidivism for sex offenders (Ragusa-Salerno, Ostermann, & Thomas, 2013), higher risk offenders (Wilson & Gutierrez, 2013), and drug offenders (Kelly & Welsh, 2008).

Oliver, Stockdale, and Wormith (2014) conducted a meta-analysis of 128 studies that examined recidivism predictability of the LSI and LSI-R. Findings suggest that gender and ethnicity were not significant sources of effect size. Comparatively speaking, Canadian samples performed better than studies conducted outside of North American and studies in the United States. Hollin & Palmer (2006)

demonstrated the LSI-R was predicative of recidivism within the English prison population. Likewise, the LSI-R showed predictability regarding recidivism within a large sample of Australian offenders (Hsu, Caputi, & Byrne, 2009). Moreover, Girard and Wormith (2004) found inmates that scored higher on the Level of Service Inventory-Ontario Revision were more likely to recidivate using a 31-month timeframe.

Methods

Sample

The sample of the current analysis is 293 participants from a Midwestern community corrections based agency. In total, 78 recidivated and 215 abstained from committing an offense while on supervision. Racially, 66% of the individuals were classified as white and the remaining 34% were categorized as minorities.⁶ Schlager and Simourd (2006) found the differences on the LSI-R between Hispanic and African American participants to be statistically insignificant and referred to the differences as clinically meaningless. Of the 293 individuals 94 were female. Messina and her colleagues (2007) found ACEs were more prevalent among women in their comparison of 427 men and 315 women prisoners, suggesting that gender is an important aspect to consider. The age spanned from 18 to 70 years old, with an average age of 31.98.

Dependent Variable

The dependent variable was coded as recidivated (1) and non-recidivists (0). Recidivism was measured and tracked over each offender's terms of probation or parole.

Adverse Childhood Experiences

ACEs were measured using a binary (true or false) response format for 10 questions and then summed up in order to create the score used in the analysis.⁷ These questions were prefaced by telling the individual that these questions were about growing up and during the first 18 years of life. The first questions were

⁶ Preliminary ANOVA findings showed racial categories were not significantly related to differences in ACEs score or LSI scores. Therefore, a binary variable was used.

⁷ Please see Appendix A for a complete list of the 10 questions used.

asked in order to understanding emotional abuse within the household. The second questions pertained to physical abuse. The third questions attempted to address if an individual had experiences sexual abuse in their childhood. The fourth question encompassed if an individual felt support from their family. Next, the fifth question asked if an individual's parents were ever too drunk or high to care for them or if they weren't provided with food and clothes. Following, the sixth question asked if an individual's parents were ever divorced or separated. Subsequently, the seventh question pertained to if a person's mother or stepmother had ever been abused. Question number eight asked about drug or alcohol abuse within the home. Suicide and mental illness in the household was assessed within question number nine.⁸ Lastly, question number 10 asked if there were any members of their household who went to prison.

Level of Service Inventory – Revised

The LSI-R score that was used for the current analysis was the most recent LSI-R score collected during the participant's supervision. DeLisi and Conis (2013) stated that the LSI-R is the most widely used risk assessment in both the United States and Canada. The LSI-R is comprised of 54 questions with 10 subareas such as criminal history, education and employment, and substance use. Multiple imputation was conducted for individuals who did not have an LSI-R score reported. Multiple imputation took into account gender, age, race, ACEs, and recidivism.

Findings

Table 1 displays the logistic regressions with odds ratios for ACEs. With just ACEs in the model, a one unit increase on ACEs significantly increased the odds of recidivism by 18%. When controlling for age, gender, and race, ACEs were still significant and increased the odds of recidivism by 23%.

⁸ Gaston (2016) found spurious results for the impact parental incarceration had on individuals.

Table 1. Logistic Regression with Odds Ratios with for Recidivism with ACEs

Variable	Model 1			Model 2		
	Odds Ratio	SE	Z	Odds Ratio	SE	Z
ACES Total	1.18**	.071	2.82	1.23***	.078	3.24
LSI-R						
Age				.966	.013	-2.64
Female				.561	.174	-1.86
People of Color				1.392	.409	1.13
Constant	.269***	.047	-7.50	.785	.348	-.55
Pseudo R ²	.141			.058		
N	293			293		

*p<.05, **p<.01, ***p<.001

Table 2 shows the results from logistic regression with odds ratios for LSI-R scores. LSI-R scores proved to be significant in both models. For instance, a one-point increase on the LSI-R increased the odds of recidivism by 10%. Moreover, when controlling for age, gender, and race LSI-R scores were still a significant predictor of recidivism with a 1-point increase on the LSI-R increasing the odds of recidivism by 11%. Additionally, in model 2, age was a significant variable to consider in regards to recidivism. For every one-year increase in age there was a 4.2% decrease in the odds of that individual recidivating. This relationship has been evidenced through a variety of past research on the age crime curve (Moffitt, 1993).

Table 2. Logistic Regression with Odds Ratios for Recidivism with LSI-R

Variable	Model 1			Model 2		
	Odds Ratio	SE	Z	Odds Ratio	SE	Z
ACES Total						
LSI-R	1.10***	.019	5.19	1.11***	.021	5.25
Age				.958**	.013	-3.04
Female				1.03	.342	0.10
People of Color				1.06	.322	0.21
Constant	.031***	.016	-6.70			
Pseudo R ²	.094			.087		
N	293			293		

*p<.05, **p<.01, ***p<.001

Table 3 features both ACEs and LSI-R in the same model in order to compare the effects both have on recidivism. Both ACEs and LSI-R scores were significant

predictors of recidivism but LSI-R had a smaller p-value. However, ACEs produced a larger odds ratio. A one-point increase on the LSI-R increased the odds of an individual recidivating by 10%. Conversely, a one unit increase on ACEs increased the odds of recidivism by 13%. Lastly, the age-crime curve was found again, with every one-year increase in age decreasing the odds of recidivism by 4.2%.

Table 3. Logistic Regression with Odds Ratios for Recidivism with ACEs & LSI-R

Variable	Model 1		
	Odds Ratio	SE	Z
ACES Total	1.13*	.067	2.00
LSI-R	1.10***	.018	5.73
Age	.958**	.015	-2.64
Female	.923	.342	-0.22
People of Color	1.18	.347	0.56
Constant	.087***	.055	-3.89
Pseudo R ²	.133		
N	293		

*p<.05, **p<.01, ***p<.001

Conclusion

Overall, both the LSI-R and ACEs scale demonstrated statistical significance in predicting recidivism within our sample. While the LSI-R is the most common risk assessment given (DeLisi & Conis, 2013), the findings suggest that criminal justice practitioners should also consider administering an ACEs survey. Of note, in the final model we included both ACEs and LSI-R scores and both were significant predictors of recidivism. Although the ACEs survey (OR=1.13, p<.05) produced a slightly higher odds ratio, the p-value was lower than the LSI-R (OR=1.10, p<.001). Moreover, prior to the inclusion of the LSI-R, ACEs produced a much higher odds ratio with the control variables in the model than the LSI-R did when using controls. However, yet again, the LSI-R did in fact produce a smaller p-value than ACEs. Therefore, it is not the recommendation to replace the LSI-R with ACEs. Rather, there is potential to include both in future measures of risk in order to create a richer measure of recidivism risk.

Some potential limitations of the study need to be addressed. For example, the current population was comprised of urban, Midwestern individuals. The findings of the current analysis have potential to be generalized to other criminal populations, but further research on this topic would add validity to our findings. Moreover, racially, our sample was close to the general population of the area the

sample was gathered from but may not mirror other regions. It would be in the best interest of the field to continue to investigate this topic further with a more diverse sample from a variety of states.

The findings of the current analysis suggest that criminal justice practitioners should collect information on ACEs from their clientele. Moore and Tatman (2016) suggested that the ACEs scale can be easily administered by staff and done much more quickly than the LSI-R. The ACEs scale can be used as a self-report measure during the initial process of entering community corrections programs. Once individuals are identified as having a high number of ACEs the implementation of trauma informed treatment could be used in order to provide better care for individuals. Messina and colleagues (2007) argued that because of the impact ACEs have on individuals, the criminal justice system should focus on a trauma-based treatment. For example, a focus on trauma or offering trauma group for individuals to participate in will allow for a more holistic approach to treating a potential root of criminogenic phenomenon. Training all staff to be aware of the impact of trauma, avoiding retraumatization, and taking an approach that fundamentally avoids doing further harm is ideal for a trauma informed care approach (Harris & Falot, 2001; Hodes, 2006; Miller & Najavits, 2012). Miller and Najavits (2012) stated that prisons are difficult settings for trauma informed care.⁹ The same triggers in the correctional setting may be present within a community corrections population because criminal justice practitioners may be seen as authority figures (Owen et al., 2008). Yet, with proper training and techniques a trauma informed care approach is one of the best ways to combat the relationship we found between ACEs and recidivism.

References

- Abbiati, M., Mezzo, B., Waeny-Desponds, J., Minervini, J., Mormont, C., & Gravier, B. (2014). Victimization in childhood of male sex offenders: Relationship between violence experienced and subsequent offenses through discourse analysis. *Victims & Offenders, 9*(2), 234-254.
- Andrews, D.A., & Bonta, J. (1995). *The level of service inventory - Revised*. Toronto, Ontario, Canada: Multi-Health Systems.

⁹ Christy and colleagues (2012) lay out a variety of challenges regarding trauma informed care, specifically they discuss screening for trauma-related disorders within the criminal justice setting.

- Andrews, D.A., & Dowden, C. (2006). Risk principle of case classification in correctional treatment: A meta-analytic investigation. *International journal of offender therapy and comparative criminology*, 50(1), 88-100.
- Baglivio, M.T., Epps, N., Swartz, K., Huq, M.S., Sheer, A., & Hardt, N.S. (2014). The prevalence of adverse childhood experiences (ACE) in the lives of juvenile offenders. *Journal of juvenile justice*, 3(2).
- Baglivio, M.T., Wolff, K.T., Piquero, A.R., Bilchik, S., Jackowski, K., Greenwald, M.A., & Epps, N. (2016). Maltreatment, child welfare, and recidivism in a sample of deep-end crossover youth. *Journal of youth and adolescence*, 45(4), 625-654.
- Baglivio, M.T., Wolff, K.T., Piquero, A.R., & Epps, N. (2015). The relationship between adverse childhood experiences (ACE) and juvenile offending trajectories in a juvenile offender sample. *Journal of Criminal Justice*, 43(3), 229-241.
- Boduszek, D., Hyland, P., & Bourke, A. (2012). An investigation of the role of personality, familial, and peer-related characteristics in homicidal offending using retrospective data. *Journal of Criminal Psychology*, 2(2), 96-106.
- Christy, A., Clark, C., Frei, A., & Rynearson-Moody, S. (2012). Challenges of diverting veterans to trauma informed care: The heterogeneity of Intercept 2. *Criminal Justice and Behavior*, 39(4), 461-474.
- Coulson, G., Ilacqua, G., Nutbrown, V., Giulekas, D., & Cudjoe, F. (1996). Predictive utility of the LSI for incarcerated female offenders. *Criminal Justice and Behavior*, 23(3), 427-439.
- Craig, J.M., Baglivio, M.T., Wolff, K.T., Piquero, A.R., & Epps, N. (2017). Do social bonds buffer the impact of adverse childhood experiences on reoffending? *Youth violence and juvenile justice*, 15(1), 3-20.
- De Ravello, L., Abeita, J., & Brown, P. (2008). Breaking the cycle/mending the hoop: Adverse childhood experiences among incarcerated American Indian/Alaska Native women in New Mexico. *Health care for women international*, 29(3), 300-315.
- DeCou, C.R., Cole, T.T., Rowland, S.E., Kaplan, S.P., & Lynch, S.M. (2015). An ecological process model of female sex offending: The role of victimization, psychological distress, and life stressors. *Sexual Abuse*, 27(3), 302-323.
- DeLisi, M., Alcala, J., Kusow, A., Hochstetler, A., Heirigs, M.H., Caudill, J.W. & Baglivio, M.T. (2017). Adverse childhood experiences, commitment offense, and race/ethnicity: are the effects crime-, race-, and ethnicity-specific? *International journal of environmental research and public health*, 14(3), 331.

- DeLisi, M. & Beauregard, E. (2018). Adverse Childhood Experiences and Criminal Extremity: New Evidence for Sexual Homicide. *Journal of forensic sciences*, 63(2), 484-489.
- DeLisi, M. & Conis, P. J. (2013). American Corrections: Theory. *Research, Policy, and Practice*.
- DeLisi, M., Drury, A. J., & Elbert, M.J. (2019). Parent Exposure to Drugs: A "New" Adverse Childhood Experience With Devastating Behavioral Consequences. *Journal of Drug Issues*, 49(1), 91-105.
- Dhawan, S. & Marshall, W.L. (1996). Sexual abuse histories of sexual offenders. *Sexual Abuse*, 8(1), 7-15.
- Drury, A., Heinrichs, T., Elbert, M., Tahja, K., DeLisi, M., & Caropreso, D. (2017). Adverse childhood experiences, paraphilias, and serious criminal violence among federal sex offenders. *Journal of criminal psychology*, 7(2), 105-119.
- Duke, N.N., Pettingell, S.L., McMorris, B.J., & Borowsky, I.W. (2010). Adolescent violence perpetration: associations with multiple types of adverse childhood experiences. *Pediatrics* 125: 778-787.
- Evans-Chase, M., Kim, M., & Zhou, H. (2013). Risk-taking and self-regulation: A systematic review of the analysis of delinquency outcomes in the juvenile justice intervention literature 1996-2009. *Criminal Justice and Behavior*, 40(6), 608-628.
- Forsman, M., Johansson, A., Santtila, P., Sandnabba, K., & Långström, N. (2015). Sexually coercive behavior following childhood maltreatment. *Archives of sexual behavior*, 44(1), 149-156.
- Fox, B.H., Perez, N., Cass, E., Baglivio, M.T., & Epps, N. (2015). Trauma changes everything: Examining the relationship between adverse childhood experiences and serious, violent and chronic juvenile offenders. *Child abuse & neglect*, 46, 163-173.
- Freund, K., Watson, R., & Dickey, R. (1990). Does sexual abuse in childhood cause pedophilia? An exploratory study. *Archives of sexual behavior*, 19(6), 557-568.
- Gaston, S. (2016). The Long-term Effects of Parental Incarceration: Does Parental Incarceration in Childhood or Adolescence Predict Depressive Symptoms in Adulthood? *Criminal Justice and Behavior*, 43(8), 1056-1075.
- Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology*, 34(4), 575-608.

- Girard, L. & Wormith, J.S. (2004). The predictive validity of the Level of Service Inventory - Ontario Revision on general and violent recidivism among various offender groups. *Criminal justice and behavior*, 31(2), 150-181.
- Graham, K.R. (1996). The childhood victimization of sex offenders: An underestimated issue. *International Journal of Offender Therapy and Comparative Criminology*, 40(3), 192-203.
- Harris, M.E. & Fallot, R.D. (2001). *Using trauma theory to design service systems*. Jossey-Bass.
- Hanson, R.K. & Morton-Bourgon, K.E. (2005). The characteristics of persistent sexual offenders: a meta-analysis of recidivism studies. *Journal of consulting and clinical psychology*, 73(6), 1154.
- Hodes, G.R. (2006). *Responding to childhood trauma: The promise and practice of trauma informed care*. Pennsylvania Office of Mental Health and Substance Abuse Services.
- Hollin, C.R. & Palmer, E.J. (2006). The Level of Service Inventory–Revised profile of English prisoners: Risk and reconviction analysis. *Criminal Justice and Behavior*, 33(3), 347-366.
- Holsinger, A. M., Lowenkamp, C. T., & Latessa, E. J. (2003). Ethnicity, gender, and the level of service inventory - Revised. *Journal of Criminal Justice*, 31(4), 309-320.
- Holsinger, A.M., Lowenkamp, C.T., & Latessa, E.J. (2006). Exploring the validity of the Level of Service Inventory - Revised with Native American offenders. *Journal of Criminal Justice*, 34(3), 331-337.
- Hsu, C.I., Caputi, P., & Byrne, M.K. (2009). The Level of Service Inventory—Revised (LSI-R) A Useful Risk Assessment Measure for Australian Offenders? *Criminal Justice and Behavior*, 36(7), 728-740.
- Jung, S. & Carlson, E. (2011). Abuse histories and attributions of sexual offenders. *Journal of Criminal Psychology*, 1(1), 36-42.
- Kaeble, D. (2018). Correctional populations in the United States, 2016. *Bureau of Justice Statistics*, 1-24.
- Kelly, C.E. & Welsh, W.N. (2008). The predictive validity of the Level of Service Inventory—Revised for drug-involved offenders. *Criminal Justice and Behavior*, 35(7), 819-831.
- Loza, W. & Simourd, D.J. (1994). Psychometric evaluation of the Level of Supervision Inventory (LSI) among male Canadian federal offenders. *Criminal Justice and Behavior*, 21(4), 468-480.

- Manchak, S.M., Skeem, J.L., & Douglas, K.S. (2008). Utility of the Revised Level of Service Inventory (LSI-R) in predicting recidivism after long-term incarceration. *Law and human behavior, 32*(6), 477-488.
- McCuish, E.C., Lussier, P., & Corrado, R.R. (2015). Examining antisocial behavioral antecedents of juvenile sexual offenders and juvenile non-sexual offenders. *Sexual Abuse, 27*(4), 414-438.
- McCuish, E., Lussier, P., & Corrado, R. (2016). Criminal careers of juvenile sex and nonsex offenders: Evidence from a prospective longitudinal study. *Youth violence and juvenile justice, 14*(3), 199-224.
- Messina, N., Grella, C., Burdon, W., & Prendergast, M. (2007). Childhood adverse events and current traumatic distress: A comparison of men and women drug-dependent prisoners. *Criminal Justice and Behavior, 34*(11), 1385-1401.
- Miller, N.A. & Najavits, L.M. (2012). Creating trauma-informed correctional care: A balance of goals and environment. *European journal of psychotraumatology, 3*(1), 17246.
- Moffitt, T. (1993). A Developmental Taxonomy. *Psychological review, 100*(4), 674-701.
- Moore, M.D. & Tatman, A.W. (2016). Adverse childhood experiences and offender risk to re-offend in the United States: A quantitative examination. *International Journal of Criminal Justice Sciences, 11*(2), 148.
- Olver, M.E., Stockdale, K.C., & Wormith, J.S. (2014). Thirty years of research on the Level of Service Scales: A meta-analytic examination of predictive accuracy and sources of variability. *Psychological Assessment, 26*(1), 156.
- Owens, B., Wells, J., Pollock., Muscat, B., & Torres, S. (2008). *Gendered violence and safety: A contextual approach to improving security in women's facilities*. Washington, DC: US Department of Justice, Office of Justice Programs, National Institute of Justice.
- Pournaghash-Tehrani, S. & Feizabadi, Z. (2009). Predictability of physical and psychological violence by early adverse childhood experiences. *Journal of family violence, 24*(6), 417-422.
- Ragusa-Salerno, L.M., Ostermann, M., & Thomas, S.S. (2013). Does the LSI-R have utility for sex offenders? *Criminal Justice and Behavior, 40*(9), 952-969.
- Ručević, S. & Ajduković, M. (2016). Problem Behaviors, Childhood Victimization, and Attachment Quality in Croatian Sample of Community and Referred Psychopathic-Like Adolescents. *Criminal Justice and Behavior, 43*(5), 564-582.

- Schlager, M.D. & Simourd, D.J. (2007). Validity of the Level of Service Inventory—Revised (LSI-R) among African American and Hispanic male offenders. *Criminal Justice and Behavior*, 34(4), 545-554.
- Seghorn, T.K., Prentky, R.A., & Boucher, R.J. (1987). Childhood sexual abuse in the lives of sexually aggressive offenders. *Journal of the American Academy of Child & Adolescent Psychiatry*, 26(2), 262-267.
- Swogger, M.T., Walsh, Z., Kosson, D.S., Cashman-Brown, S., & Caine, E. D. (2012). Self-reported childhood physical abuse and perpetration of intimate partner violence: The moderating role of psychopathic traits. *Criminal justice and behavior*, 39(7), 910-922.
- Vose, B., Cullen, F.T., & Smith, P. (2008). The empirical status of the Level of Service Inventory. *Fed. Probation*, 72, 22.
- Whitfield, C.L., Anda, R.F., Dube, S.R., & Felitti, V.J. (2003). Violent childhood experiences and the risk of intimate partner violence in adults: Assessment in a large health maintenance organization. *Journal of interpersonal violence*, 18(2), 166-185.
- Widom, C.S. & Ames, M.A. (1994). Criminal consequences of childhood sexual victimization. *Child abuse & neglect*, 18(4), 303-318.
- Widom, C.S. & Massey, C. (2015). A prospective examination of whether childhood sexual abuse predicts subsequent sexual offending. *JAMA pediatrics*, 169(1), 1-7.
- Wilson, H.A. & Gutierrez, L. (2014). Does one size fit all? A meta-analysis examining the predictive ability of the Level of Service Inventory (LSI) with Aboriginal offenders. *Criminal Justice and Behavior*, 41(2), 196-219.
- Wolff, K.T. & Baglivio, M.T. (2017). Adverse childhood experiences, negative emotionality, and pathways to juvenile recidivism. *Crime & Delinquency*, 63(12), 1495-1521.
- Wolff, K.T., Baglivio, M.T., & Piquero, A.R. (2017). The relationship between adverse childhood experiences and recidivism in a sample of juvenile offenders in community-based treatment. *International Journal of Offender Therapy and Comparative Criminology*, 61(11), 1210-1242.

Appendix A. Adverse Childhood Experiences Questionnaire

1. Did a parent or other adult in the household often... Swear at you, insult you, put you down, or humiliate you? Or act in a way that made you afraid that you might be physically hurt?
2. Did a parent or other adult in the
3. Did an adult or person at least 5 years older than you ever... Touch or fondle you or make you touch their body in a sexual way? Or try to or actually have oral, anal, or vaginal sex with you?
4. Did you often feel that no one in your family loved you or thought you were important or special? Or your family didn't look out for each other, feel close to each other, or support each other?
5. Did you often feel that you didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? Or your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
6. Were your parents ever separated or divorced?
7. Was your mother or stepmother often pushed, grabbed, slapped, or had something thrown at her? Or sometimes or often kicked, bitten, hit with a fist, or hit with something hard? Or ever repeatedly hit over at least a few minutes or threatened with a gun or knife?
8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?
9. Was a household member depressed or mentally ill or did a household member attempt suicide?
10. Did a household member go to prison?

About the Authors

Mark H. Heirigs is an Assistant Professor at the University of Montana. His research interests are in psychopathy, homicide, and comparative criminology. E-mail: mheirigs@iastate.edu

Tony Tatman, Ph.D. is a Licensed Psychologist in the State of Iowa and the Clinical Services Director for the Department of Correctional Services, Fifth Judicial District, Des Moines, IA. E-mail: tony.tatman@iowa.gov

Tara Richey is a Probation/Parole Officer for the Department of Correctional Services, Fifth Judicial District, Des Moines, IA.

Ashlea Loudon, AS, AA Criminal Justice, is a Probation Parole Officer for the Federal caseload for the Department of Correctional Services, Fifth Judicial District, Des Moines, IA.

Heather Bell is an Executive Officer for the Department of Correctional Services, Fifth Judicial District, Des Moines, IA.