A Dissertation
Submitted to the Faculty
of
Xavier University
in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Psychology
by
K. McRee Lauch, M.A.
February 2015

Approved:

Karl Stukenberg, Ph.D., ABPP

Karl Stukenberg, Ph.D., ABPP
Chair, School of Psychology

Kathleen J. Hart, PhD, ABPP

Kathleen J Hart, Ph.D., ABPP
Dissertation Chair

Predictors of Treatment Completion and Recidivism
Among Intimate Partner Violence Offenders

Dissertation Committee

Chair	Kathleen J Hart, Ph.D., ABPP Professor of Psychology
Member	Jennifer Gibson, Ph.D. Assistant Professor of Psychology
Member	Scott A. Bresler, Ph.D. Clinical Director Division of Forensic Psychiatry University of Cincinnati

Acknowledgements

I would like to extend my gratitude to a number of important people without whom this document would not have been possible. Thank you for your contributions, support, and encouragement throughout this long, challenging process.

First and foremost, many thanks to my dissertation chair, Kathleen J Hart, Ph.D., for her willingness to provide me with just the right combination of independence, structure, and humor needed to achieve this milestone. I want to acknowledge my committee, Scott Bresler, Ph.D., and Jennifer Gibson, Ph.D., for their knowledge and recommendations, which have unquestionably improved the quality of this document. The support and encouragement of my chair and committee have left a lasting impression on me, one that I drew on during the most challenging of moments and made this accomplishment that much more rewarding.

I also wish to express my appreciation to my parents, who taught me early on the importance of hard work, perseverance, dedication, and belief in myself. This too has finally passed. Last, but certainly not least, I want to express my heart-felt gratitude and appreciation to my husband and children, who have been my biggest cheerleaders, providing me with endless support, love, and encouragement over the past few years. Thank you for all of your uplifting words, limitless hugs, patience, and understanding.

Table of Contents

	Page
Acknowledgements.	3
Table of Contents.....	4
List of Tables.....	5
List of Appendices.....	7
Dissertation.....	8
References.....	27
Tables.....	32
Appendix.....	52
Summary.....	53

List of Tables

1. Demographic Characteristics of the Total Sample	32
2. Comparison of Demographic and Historic Characteristics Between Those Who Successfully Completed Treatment and Those Who Did Not.....	34
3. Classification Analysis for Treatment Outcome and Demographic Factors.....	36
4. Demographic Predictor Variables for Treatment Outcome in Discriminant Function Analysis	37
5. Classification Analysis for Treatment Outcome and Historic Factors.....	38
6. Historic Predictor Variables for Treatment Outcome in Discriminant Function Analysis.....	39
7. Number and Percentage of Participants by Recidivism Category.....	40
8. Comparison of Demographic and Historic Characteristics Between Those Who Recidivate 1 Year Post-Treatment and Those Who Do Not.....	41
9. Comparison of Demographic and Historic Characteristics Between Those Who Recidivate Violently and Those Who Do Not.....	43
10. Comparison of Demographic and Historic Characteristics Between Those Who Engage in Non-Violent Recidivism and Those Who Did Not Engage in Non-Violent Recidivism.....	45

11. Classification Analysis for Recidivism One-Year Post Treatment and Demographic Factors.....	47
12. Demographic Predictor Variables for Post-Treatment Recidivism in Discriminant Function Analysis	48
13. Classification Analysis for Recidivism One-Year Post Treatment and Historic Factors.....	49
14. Historic Predictor Variables for Post-Treatment Recidivism in Discriminant Function Analysis	50
15. Comparison Between Those Who Successfully Completed Treatment and Post-Treatment Recidivism.....	51

List of Appendices

A. Institutional Review Board Approval Letter	52
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Abstract

The primary focus of this study was to examine the variables or combination of variables that predict batterer intervention program completion and/or intimate partner violence recidivism. Participants in the study were 202 men who participated in a batterers' intervention group from February 2011 to February 2012. Data were collected from an archival database, which housed historical and demographic data on each participant that was gathered at the start of treatment. Results of the analyses comparing those men who completed treatment versus those who did not found that while demographic and historic factors were helpful in distinguishing between the two groups, the variables alone only predicted treatment outcome at a modest level. Demographic factors demonstrated to correctly classify post-treatment recidivism included age, race, and relationship status. Findings would suggest future research would benefit from identifying other factors that influence treatment completion and post-treatment recidivism, in order to create more effective interventions.

Predictors of Treatment Completion and Recidivism Among Intimate Partner Violence Offenders

Recent Center for Disease Control [CDC] statistics (Black, et al., 2011) estimate that 12 million individuals are impacted yearly by intimate partner violence. The results from the CDC's National Intimate Partner and Sexual Violence Survey found that in 2010, 35% of women (1 in 3) and 28.5% of men (1 in 4) reported experiencing physical assault, stalking, or rape by an intimate partner over the course of their lifetime (Black, et al., 2011), and 8.7 million couples (1 in 6) report experiencing intimate partner violence in 1995 (Cahn, 1996; Holtzworth-Munroe, 1995). Given this, it is not surprising that the psychological and public health community has been involved in developing interventions to address IPV. Beginning in the early 1980s, offender-centered treatment designed to prevent IPV and reoffending became prevalent (Barner & Carney, 2011; Dutton, 2003; Healey & Smith, 1998). Criminal justice agencies shortly began to follow suit by recognizing their role in the prosecution of IPV and referring offenders to treatment programs (Healey & Smith, 1998) and by 2011, 90% of offenders adjudicated for charges related to intimate partner violence were court mandated to participate in IPV intervention programs (Barner & Carney, 2011).

While multiple intervention models have developed since the implementation of the first IPV program in the late 1970s, three programs have held constant as the most widely used models. The Duluth Domestic Abuse Intervention Project (Duluth model) remains the most widely known of the three models. Attributing IPV to societal values that support male dominance and violence to power and control (Healey & Smith, 1998), the Duluth model takes a psycho-educational approach to treatment with the overall goal

of re-socializing batterers toward a more feminist view of intimate relationships (Dutton & Sonkin, 2003; Healey & Smith, 1998). Despite the fact that the Duluth model continues to be the primary model for court-mandated treatment, the model has received mixed reviews regarding its effectiveness in reducing IPV (Barner & Carney, 2011; Dutton & Sonkin, 2003).

Two additional intervention programs have emerged and continue to stand out as mainstream intervention programs. Much like the Duluth model, both the AMEND and Emerge models incorporate reeducation and skill building into treatment. Unlike the Duluth model that believed education was enough to promote change, the Emerge and AMEND model added in-depth counseling focused on cognitive behavior techniques and a longer length of treatment in order to address the complexity of IPV (Healey, Smith, & O'Sullivan, 1998). Both models use confrontational group therapy to teach anger management, conflict resolution, and communication skills in order to avoid future violence. The Emerge program focuses strongly on utilizing group therapy to foster internal motivation for change (Aldarondo & Mederos, 2002).

Though there is no one treatment model used by all batterer programs (Dutton & Sonkin, 2003), a 2007 survey of 276 programs found that 53% of the programs reported using the Duluth model, 49% identified their programs as cognitive behavioral, 14% followed the Emerge model, and 13% identified their model as other (Price & Rosenbaum, 2007 as cited in Saunders, 2008). Despite the fact that batterer intervention programs have been around since the 1970s and notwithstanding the trend in court-mandated treatment for individuals adjudicated on a charge of domestic violence, the efficacy of treatment programs has repeatedly been questioned. Although initial meta-

analyses (e.g., Dutton, 1986) indicated a high percentage of intervention programs were successful, closer review of the studies found limitations that would suggest prior analyses were inaccurate (Day, Chung, & O'Leary, 2009). The questions raised in these early studies lead professionals in the field to conduct further efficacy studies. Saunders (2008) evaluated over 35 studies that assessed batterer intervention programs between 1988 and 2007. The range of effective outcomes for the studies varied widely; of the studies he reviewed, 0% (Waldo, 1988) to 41% (Gondolf, 2000) of treatment completers remained violence free following treatment. Higher rates of reoffending were found among batterers who dropped out of treatment, between 10% to 62% (Aldarondo & Mederos, 2002). Additionally, some studies found an increase in other forms of violence following treatment completion, such as verbal and emotional abuse (Babcock, Green, & Robie, 2004). Obviously, Saunders's (2008) study raised question as to the efficacy of IPV treatment. Further studies (e.g., Dunford, 2000; Gondolf, 2001; Jackson, et al., 2003) have attempted to develop more adequate methodologies in the study of treatment effectiveness, but results regarding treatment efficacy continues to be mixed (e.g., Babcock, et al., 2004; Feder & Wilson, 2005).

Despite the inconclusive results regarding treatment efficacy, a handful of studies have suggested that those men who complete batterers' treatment are less likely to re-assault their partners than those men who either drop out or never attend treatment (e.g., Bennett, Stoops, Call, & Flett, 2007; Gover, Jennings, Davis, Tomsich, & Tewksbury, 2011). Therefore, a current trend in research has been to compare men who complete treatment with those who do not complete, as well as to compare men who engage in other forms of crime following treatment with those who do not, in order to proactively

identify men at a heightened risk for treatment failure and recidivism. By identifying those men at heightened risk for dropping out of treatment and/or recidivating early on in the treatment process, treatment providers could identify those men most appropriate for treatment, implement early interventions, and/or tailor treatment to the individual needs of the batterer all in the hopes of increasing rates of treatment completion and post-treatment violence.

Factors commonly identified as being associated with treatment dropout include demographic variables such as education level, employment, income, relationship status, referral source, factors related to criminal history and substance use (e.g., Daly & Pelowski, 2000; Gover, et al., 2011). Across studies, those who completed treatment were more likely to be employed (e.g., Cadsky, et al., 2001), have higher levels of education (e.g., Daly, Power, & Gondolf, 2001), and have higher incomes (e.g., Daly & Pelowski, 2000). Marital status has also been linked to treatment completion, with married or cohabitating partners more likely to complete treatment (e.g., Gover, et al., 2011). Criminal history and substance use have been consistently connected to treatment outcome (e.g., Cadsky, et al., 2001), as has mode of referral (e.g., Hamberger & Hastings, 1989).

Although some factors have been associated with treatment completion across multiple studies, attrition studies revealed inconsistent findings regarding the relationship between age, race, and history of childhood abuse and treatment dropout. Whereas some studies (e.g., Bennett, et al., 2007; Cadsky, et al., 1996) found a significant relationship between age and treatment outcome, far more have suggested that age is not a predictor of treatment completion. In fact, in a review of 11 attrition studies, Daly and Pelowski

(2000) only identified four studies that found a positive relationship between age and completion with two of those studies showing the positive relationship did not remain when researchers controlled for SES. Results are equally mixed in regards to race, with seven studies finding race to be a statistically significant predictor of treatment outcome (e.g., Bennett, 2007; Hamberger & Hastings, 1989) and seven studies suggesting race was not a predictor of treatment outcome (Daly & Pelowski, 2000). Results regarding the predictive value of history of abuse as a child are also inconclusive. While several important attrition studies have found this factor to be associated with treatment dropout, an extensive review of the literature found 60% of research that included childhood abuse as a variable did not find an association between treatment outcome and abuse as a child (Daly & Pelowski, 2000)

Much like predictors of program outcome, factors associated with re-assault would be helpful in educating treatment providers and victims. Factors that have been identified as having a positive association with recidivism are substance use (e.g., Bennett, et al., 2007), low SES, and age (e.g., Sartin, Hansen, & Huss, 2006). While many studies have demonstrated mixed results regarding childhood abuse and referral source, no significant differences have been found between those who engage in post-treatment recidivism and those who do not with regards to race, employment, relationship status, and education (e.g., Hamberger & Hastings, 1990).

Following the current trend in research, this study set out to evaluate individual and combinations of demographic and historical variables to determine their ability to statistically predict treatment completion and recidivism in a sample of men who participated in a community-based intervention program for IPV. Based on the review of

literature, the current study examined the following demographic variables: age, race, socioeconomic status, education, employment, relationship status, referral source, and number of sessions attended. In addition, the study explored the relationship between the following historical variables and treatment completion and recidivism: experiencing abuse and IPV in childhood, criminal history, and substance abuse history.

Method

Participants

The study utilized a dataset from a batterers' intervention program run through a community organization in an urban county in the Midwestern region of the U.S. The program is designed to treat men who are referred to treatment through the court, probation department, mental health professionals, or are self-referred and adheres to a combination of the Emerge and AMEND treatment models. The dataset consists of 202 men who participated in the program from February 2011 to February 2012.

Demographic information for the sample is provided in Table 1. As can be seen in that table, the mean age for the sample was 36 years old ($SD = 10.04$; range 21 to 60 years) and nearly all of the sample was either African American ($n = 97$; 48.74%) or Caucasian ($n = 91$; 45.73%). In terms of education, most of the men either received a high school degree/GED ($n = 72$; 39.56%) or did not complete high school ($n = 54$; 29.67%). The largest portion of the men were single ($n = 73$; 37.06%) at the time of treatment, followed closely by those in a relationship ($n = 68$; 34.52%; married or dating). Nearly half (49.7%) of the men were employed, either full or part time, and the mean income was \$938.20 per month ($SD = 1,523.11$, range 0-12,500). The most common referral source was by probation ($n = 137$, 68.16%). The men attended a mean of 16.85 sessions out of a

possible 25 ($SD = 9.95$; range 0 – 25); 50.5% of the men completed the program, defined as attending all 25 sessions.

Measures

Demographic Characteristics. The following demographic characteristics were maintained in the dataset and were included in the analyses:

Age in years based on chronological age when entered program.

Race as a categorical value based on participants' report to the referral source at the time of program enrollment. Specifically, race is categorized as Caucasian, African American, and other.

Highest level of education a categorical variable based on information provided by the referral source obtained from participant report. Highest level of education is grouped as less than a high school degree, GED/high school diploma, some college, Associate degree/Bachelor degree, and Graduate degree.

Estimated income as a numerical value provided by the referral source based on a description of the participants' financial situation.

Employment as a categorical variable provided by the referral source based on a self-report from the participant. Categories included under employment are employed full-time or part-time and unemployed or on disability.

Relationship status based on a categorical value provided by the referral sources and gathered from information by the participant. Grouped as single, dating, married, divorced/separated, and other.

Referral source based on a categorical value provided by the referral source. Variables are grouped as legal, self, and other.

Sessions attended as a numeric value provided by the treatment provider to reflect the number of sessions that the participant attended.

Historical Characteristics. The following historical characteristics were maintained in the database and were included in the analyses.

Criminal history was recorded as a categorical value provided by the referral source based on number of prior criminal charges. Categories included in criminal history include domestic violence, assault/felonious assault, child endangerment, disorderly conduct/persistent disorderly conduct, harassment, substance use related charges, (e.g., driving under the influence, open flask, operating a vehicle while intoxicated, possession of drugs or drug paraphernalia), menacing, criminal damaging, TPO violation, battery, rape, and other.

History of abuse as a child as a categorical value based on referral source report with information obtained from the participant. History of abuse was categorized as either “yes” or “no” abuse was present in childhood.

Substance abuse history as a categorical value based on report of prior substance abuse charges and/or treatment obtained from referral source. A history of substance abuse was categorized as either present (yes) or not present (no).

Procedure

The director of programs granted permission to utilize the program’s electronic dataset, which houses demographic and historical data on all current and previous participants of the program. The Xavier University Institutional Review Board approved the project in the exempt category (Appendix A).

De-identified information on participants from the dataset who were enrolled in the program from February 1, 2011 to February 1, 2012 was extracted to arrive at a complete dataset of 202 participants. Twenty electronic files (10%) were randomly selected and checked against the paper files in order to ensure participant information was correctly entered into the database; no errors in data entry were identified in those files.

Though the dataset used for statistical analyses was de-identified, in order to check recidivism during the one-year period following the end of treatment, the program provided a list of participants' names. The list was kept secure during the time of its use and shredded immediately after use. The primary investigator used names and birthdates to search the home county's and one adjacent county's publicly available websites to identify if the participant engaged in any form of recidivism within one year of completing treatment. Any type of recidivism (e.g., violent, non-violent, drug and alcohol related) was recorded as present, and by category, for statistical analysis.

Results

The aim of the study was to investigate the predictive power of demographic and historic factors on treatment completion and post-treatment recidivism. This was done by examining recidivism outcomes of men who participated in an intimate partner violence intervention program by comparing those who completed and did not complete the program using demographic and historic variables that have been identified in previous research. Because of the number of analyses completed, a probability level of .01 for significance was set.

Table 2 presents means, standard deviations or number and percentages of the variables examined in this study, along with t-test or chi square statistics comparing those who successfully completed treatment with those who did not complete treatment. As can be seen, there was a significant difference between these groups on age, $t = 3.95$, $p = .001$, with older adults more likely to successfully complete treatment. In addition, there was a statistically significant difference between those who completed treatment and those who did not on race, $\chi^2 = 18.21$, $p = .001$, employment, $\chi^2 = 8.75$, $p = .01$, and abuse as a child, $\chi^2 = 8.38$, $p = .001$. Those who successfully completed the program were more likely older in age, white, employed, and reported no abuse as a child.

We also examined which variables predicted successful completion through two discriminant function analyses, one each for demographic and historical variables. Discriminant function was chosen over logistic regression because it can yield more accurate results, provided its assumptions are met. In the case of this study, we met the requirement of mutually exclusive and adequately sized criterion variables and of homoscedasticity (as measured by Box's M) for most of the analyses. Whereas the assumption of normal distribution was not met for all predictor variables in all the functions we computed, we opted to accept the possibility of inflated error, particularly since we used a more conservative probability level (.01) for significance. We also recognized that some of the predictor variables were correlated; multicollinearity decreases the predictive power of the function, but we were willing to accept that limitation to these analyses.

The results of the discriminant function for demographic variables are presented in Tables 3 and 4. As can be seen, a significant function was produced for the

demographic variables, Wilks' Lambda = .81, $p = .001$, with age and employment significant contributors and race and referral source approaching significance. This combination of variables correctly classified 69.3% of cases.

Results of the discriminant function using historical factors to predict successful treatment completion are presented in Tables 5 and 6. As seen in the tables, a significant function was produced, Wilks' Lambda = .93, $p = .001$, with history of abuse as a child as a significant contributor. The combination of variables correctly classified 62.4% of cases.

We also compared the demographic and historical characteristics of participants who recidivated within a year after completing treatment ($n = 45$, 22% of sample) versus those who did not recidivate ($n = 157$). The breakdown for types of recidivism participants engaged in can be seen in Table 7. Means and standard deviations for each variable can be found in Table 8. As can be seen, the groups significantly differed on age, $t = -4.29$, $p = .001$, and race $\chi^2 = 16.61$, $p = .001$, with younger participants and African American participants more likely to recidivate.

Demographic and historical characteristics were also compared for those who engaged in violent recidivism ($n = 28$) compared with those who did not engage in a violent crime post treatment ($n = 172$). Means and standard deviations for each variable are in Table 9. The groups significantly differed on age, $t = -3.25$, $p = .001$ and race, $\chi^2 = 11.34$, $p = .01$, with younger, African American participants more likely to engage in a violent offense.

Those who engaged in non-violent recidivism ($n = 24$) were compared on demographic and historic variables with those who did not engage in non-violent

recidivism, either because they engage in violent recidivism or no recidivism of any type. Means and standard deviations for each variable can be found in Table 10. As can be seen, age, $t = -2.51$, $p = .01$, was associated with non-violent recidivism, with younger men more likely to recidivate non-violently.

Discriminant function analysis was utilized to examine which variables predicted any type of post-treatment recidivism. Again, we used two discriminant function analyses, one each for demographic and historical variables. The results of the discriminant function for demographic variables are presented in Tables 11 and 12. As can be seen, a significant function was produced, with age identified as a significant contributor. The variable correctly classified 78.2% of cases.

Results of the discriminant function using historical factors to predict post-treatment recidivism are presented in Tables 13 and 14. As can be seen in the tables, neither history of abuse as a child, substance abuse history, or criminal history was a significant contributor, and a significant function was not produced for the combination of historical variables.

Although the primary aim of the study was to compare differences between participants on treatment outcome and recidivism, as well as to investigate the predictive power of demographic and historic factors on treatment completion and post-treatment recidivism, we also compared the difference in treatment outcome for those who recidivated one year post-treatment and those who did not. Means and standard deviations for each variable are in Table 15. The groups significantly differed, $\chi^2 = 8.70$, $p = .003$, with those who successfully completed treatment less likely to engage in post-treatment recidivism.

Discussion

In order to address the significant problems caused by IPV, treatment programs are routinely mandated by the legal system for perpetrators of IPV. While the research examining the efficacy of these programs has been inconsistent (e.g., Daly & Pelowski, 2000), research identifying factors that are associated with success has been more helpful. In particular, previous studies have found demographic variables such as income, employment, education, referral source, and historic variables such as substance abuse, and criminal history to consistently predict treatment completion (e.g., Bennett, et al., 2007; Daly, et al., 2001). Other variables, such as age, race, relationship status, and history of abuse as a child, have had more mixed findings, with some research suggesting that these are relevant features (e.g., Bennett, et al., 2007; Cadsky, et al., 1996) whereas others do not support these as predictors of success (e.g., Daly & Pelowski, 2000; Hamberger, et al., 2000;). To that line of research, this study examined participants' demographic and historical characteristics to identify which variables might predict treatment completion and recidivism for the first 12 months following participation in a IPV treatment program.

As an initial strategy to answer these questions, we compared those participants who completed the program with those who did not on demographic and historical variables, with the rationale that program completion underlies response to treatment. We found that those who completed treatment and those who did not differed on race, age, and employment. Specifically, those who completed treatment were more likely to be older, Caucasians participants who were employed. Furthermore, participants who completed treatment differed from non-completers in that they were less likely to report a

history of abuse as a child. Using discriminant function, all of the same variables were identified as a means of achieving the most accurate classification, with the exception of race, which did not significantly add to the function. However, the percentage of cases correctly classified using these variables was modest for both analyses, with demographic variables correctly sorting 69% of cases and historical variables correctly sorting 62% of cases.

These findings parallel prior studies that have consistently found those who complete treatment are employed (e.g., Cadsky, et al., 2001; Dalton, 2001). Unlike this study's findings, the age, race, and history of abuse have not been shown to consistently predict treatment outcome in the literature (e.g., Bennett, et al., 2007; Daly & Pelowski, 2000).

These findings, as well as findings from prior research, would suggest that while these specific variables distinguish between the two groups, the variables alone only predict treatment outcome at a modest level. Therefore, there are other factors that influence treatment completion, and future research might attempt to identify those features so as to create more effective interventions. Given the consistent differences found across our analyses that identify race and age as differentiating features of completers versus non-completers, might the treatment program be presenting material in a way that resonates with one group culture more than another? This would suggest the need for treatment material that can be generalized over a wider demographic group, or programs that are geared more specifically to age, race or socioeconomic groups. Furthermore, the association between age and treatment completion would suggest a

maturity affect, which questions whether treatment *per se* is the agent of change or if completion is more a factor of maturity for some participants.

Lastly, it is important to note that the men who participated in this intervention were required to pay for the treatment at each session. Therefore, is it possible that a participant was motivated to fully engage in and complete all components of treatment, but was unable to attend due to financial constraints? We examined the Pearson correlation between race and income, and found a small but significant relationship between these variables, ($r = .16, p = .02$), suggesting that treatment outcome may be influenced by income. Paying for treatment can be an important motivator for change, but there may be value in determining if financial issues prevent participation.

We also compared participants who engaged in criminal behavior ($n = 45, 22.28\%$) with those who did not recidivate during the 12-months following treatment completion ($n = 157, 77.72\%$) and the predictive power of these variables. The recidivism rate of 22.28% for the participants of the current program is lower than the recidivism rates reported in prior studies, which found men who engaged in offender treatment to recidivate at a rate of 25% (Aldarondo & Mederos, 2002) to 41% (e.g., Davis, Maxwell, & Taylor, 2000). Edelson and Grusznski (1988) found a recidivism rate of 48% within six months for men who did not receive offender treatment, which would suggest that offenders who received the current treatment recidivated at a lower level than those who do not receive treatment.

When evaluating those participants who engaged in post-treatment recidivism with those who did not engage in criminal behavior after the completing the program, results indicated the groups differed on age and race, with older, Caucasian participants

less likely to recidivate post-treatment. Age, but not race, comprised the significant discriminant function. This is consistent with prior research that suggested individuals who were younger were more likely to engage in criminal behavior more generally (e.g., Federal Bureau of Investigation, 2014) and in re-assault after conviction for Domestic Violence (e.g., Bennett, et al., 2007).

Though this study's primary aim was to identify the predictive power of historical and demographic variables on treatment completion and recidivism, we also have some information about the overall efficacy of the program. As previously mentioned, the recidivism rate of participants was lower than that reported in other studies. We also examined treatment completion (22%) with post-treatment recidivism, and found a significantly lower rate of recidivism among treatment completers (13%) than noncompleters (31%), a finding that supports the value of the program, given the overall low rate of recidivism.

The current results should be considered with several limitations in mind. The program from which the data were generated serves one large urban community and a small rural community in Southwest Ohio, which placed limitations on the diversity of the sample, specifically with regard to age, race, income, and education. In addition, the treatment program used for this study followed a combination of the AMEND and Emerge treatment models. As a result, there are limitations with the findings' generalizability to other samples and treatment programs. Furthermore, many of the data elements (e.g., employment and income) were gathered through self-report and thus the possibility of bias and variation of reports is increased given the subjective nature of self-report. In addition, other pieces of data (e.g., relationship status) were captured by

participants endorsing categories most closely fitting their situation; some of the categories may not have been relevant for all participants or adequately captured their situation. This may have been especially relevant in the “relationship” category, which offered the options of single, dating, married, divorced/separated, and other. It is possible that the categories included in the self-report form did not fully capture the range of relationship options, such as engaged or co-habiting. Additionally, given the nature of archival data, the possibility for inconsistent data coding could be seen as a limitation. Lastly, statistical limitations exist given that the number of participants who engaged in criminal behavior after treatment was relatively low ($n = 45$) which resulted in unequal sample size when comparing those who recidivate with those who do not engage in crime after treatment.

Although there is support for the efficacy of the program from which these data were drawn, the current findings suggest that IPV intervention may be less effective for a significant portion of the men served by the program, specifically young African Americans who are unemployed. Therefore, future research may consider examining the nature of the relationship between these variables and elements of the treatment that is provided to determine if there are ways in which the treatment might better engage this large portion of the participants so as to improve completion and post-treatment recidivism.

Given the extent of damage IPV has on its victims, family members, and community as a whole, offender treatment programs have emerged in most communities. Despite the popularities of these programs, the efficacy of their work is still widely debated. This study has attempted to expand on previous research by identifying

demographic and historical variables associated with both treatment completion and post-treatment recidivism. Findings from this study would suggest that while some are able to complete treatment and remain free of re-assault a significant portion of participants fail to complete treatment successfully and/or recidivate within a year of treatment completion. Understanding the reason why this portion of the population does not improve with treatment could greatly improve treatment efficacy in the future.

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Table 1

Demographic characteristics of the total sample (N=202)

Variable	<i>n</i>	%
Race		
African American	97	48.74
Caucasian	91	45.73
Other	11	5.53
Education		
Did not Complete High School	54	29.67
High School Diploma/GED	72	39.56
Some College	38	20.87
Bachelor/Associate Degree	16	8.79
Graduate Degree	2	1.10
Relationship Status		
Single	73	37.06
Dating	25	12.69
Married	43	21.83
Divorced/Separated	30	15.23
Other	26	13.20
Referral Source		
Legal	170	84.57
Self	6	2.99
Other	25	12.44

Table 1 continue

Employment		
Employed	97	49.74
Unemployed	95	48.72
Disability	3	1.54
Criminal History		
Yes	162	80.20
No	40	19.80
Substance Use History		
Yes	102	50.50
No	100	49.50
Childhood Abuse		
Yes	40	19.80
No	160	79.20
Treatment Outcome		
Successful	102	50.50
Unsuccessful	100	49.50

Table 2

Comparison of Demographic and Historic Characteristics Between Those Who Successfully Completed Treatment and Those Who Did Not

<u>Variable</u>	<u>Successful Completion</u>		<u>Unsuccessful Completion</u>		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Age	38.76	10.47	33.39	8.83	3.95	.001
Number of Sessions	24.84	1.49	8.69	8.10	19.64	.001
Income	1151.15	1779.31	721.00	1177.19	2.03	.04
	<i>n</i>	%	<i>n</i>	%	<i>X</i> ²	<i>p</i>
Race					18.21	.001
African American	39	19.3	58	28.7		
Caucasian	60	29.7	31	15.3		
Other	3	1.5	8	4.0		
Education					5.24	.16
Did not complete High School	21	10.4	32	15.8		
High School Diploma/GED	35	17.3	37	18.3		
Some college /Bachelor /Associates /Graduate Degree	34	16.8	23	11.4		
Referral Source					7.94	.02
Legal	93	46.0	77	38.1		
Other	9	4.5	22	10.9		

Table 2 continue

Relationship Status					10.81	.06
Single	29	14.4	44	21.8		
Dating	10	5.0	15	7.4		
Married	27	13.4	16	7.9		
Divorced/Separated	19	9.4	11	5.4		
Other	13	6.4	13	6.4		
Employment					8.75	.01
Employed	59	29.2	38	18.8		
Unemployed/Disabled	39	19.3	59	29.2		
Criminal History					4.20	.04
Yes	76	37.6	86	42.6		
No	26	12.9	14	6.9		
Substance Abuse History					4.46	.04
Yes	44	21.8	58	28.7		
No	58	28.7	42	20.8		
History of Abuse as Child					8.38	.001
Yes	12	5.9	28	13.9		
No	90	44.6	72	35.6		

Table 3

Classification Analysis for Treatment Outcome and Demographic Factors

		Predicted group membership			
		<u>Successful</u>		<u>Unsuccessful</u>	
Actual group membership	<i>n</i>	<i>n</i>	%	<i>n</i>	%
Successful	102	73	71.6	29	28.4
Unsuccessful	100	33	33.0	67	67.0

Note. Overall percentage of correctly classified cases = 69.3%.

Table 4

Demographic Predictor Variables for Treatment Outcome in Discriminant Function Analysis

Predictor variable	Wilks's λ	Equivalent $F(1, 200)$	p
Age	.93	15.52	.001
Employment	.96	7.71	.01
Race	.97	5.70	.02
Referral source	.97	5.59	.02
Income	.98	4.09	.04
Relationship status	.99	3.09	.08
Education	.99	1.12	.29

Table 5

Classification Analysis for Treatment Outcome and Historic Factors

		Predicted group membership			
		<u>Successful</u>		<u>Unsuccessful</u>	
Actual group membership	<i>n</i>	<i>n</i>	%	<i>n</i>	%
Successful	102	57	55.9	45	44.1
Unsuccessful	100	31	31.0	69	69.0

Note. Overall percentage of correctly classified cases = 62.4%.

Table 6

Historic Predictor Variables for Treatment Outcome in Discriminant Function Analysis

Predictor variable	Wilks's λ	Equivalent $F (1, 200)$	p
History of abuse as a child	.96	8.66	.01
Substance abuse history	.98	4.52	.04
Criminal history	.98	4.23	.04

Table 7

Number and Percentage of Participants by Recidivism Category (n=202)

Type of Recidivism	<i>n</i>	%
No Recidivism	157	77.72
Any Recidivism	45	22.28
Violent ^a	28	62.22
Non-violent ^a	24	53.33
Drug/Alcohol ^a	16	35.56
Multiple Types of Recidivism	23	11.39

Note: ^a These percentages represent the proportion who recidivated ($n = 45$); some participants engaged in more than one category of offense

Table 8

Comparison of Demographic and Historic Characteristics Between Those Who Recidivate 1 Year Post-Treatment and Those Who Do Not

<u>Variable</u>	<u>Recidivism</u>		<u>No Recidivism</u>		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Age	31.53	7.35	37.41	10.34	-4.29	.001
Number of Sessions	14.56	9.86	17.51	9.91	-1.77	.08
Income	698.69	955.49	1006.85	1646.29	-1.20	.23
	<i>n</i>	%	<i>n</i>	%	<i>X</i> ²	<i>p</i>
Race					16.61	.001
African American	32	15.8	65	32.2		
Caucasian	9	4.5	82	40.6		
Other	4	2.0	7	3.5		
Education					3.15	.37
Did not complete High School	14	6.9	39	19.3		
High School Diploma/GED	18	8.9	54	26.7		
Some college/ Bachelor/ Associates/Graduate Degree	8	4.0	49	24.3		
Referral Source					3.71	.16
Legal	42	20.8	128	63.4		
Other	3	1.5	28	13.9		

Table 8 continue

Relationship Status					9.46	.09
Single	24	11.9	49	24.3		
Dating	6	3.0	19	9.4		
Married	6	3.0	37	18.3		
Divorced/Separated	4	2.0	26	12.9		
Other	5	2.5	21	10.4		
Employment					2.20	.33
Employed	19	9.4	78	38.6		
Unemployed/Disabled	23	11.4	75	37.1		
Criminal History					1.53	.22
Yes	39	19.3	123	60.9		
No	6	3.0	34	16.8		
Substance Abuse History					.59	.44
Yes	25	12.4	77	38.1		
No	20	9.9	80	39.6		
Childhood Abuse					.77	.38
Yes	11	5.4	29	14.4		
No	34	16.8	128	63.4		

Table 9

Comparison of Demographic and Historic Characteristics Between Those Who Recidivate Violently and Those Who Do Not

<u>Variable</u>	<u>Violent Recidivism</u>		<u>No Violent Recidivism</u>		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Age	31.79	7.05	36.80	10.29	-3.25	.001
Number of Sessions	13.89	8.98	17.33	10.04	-1.70	.09
Income	783.14	995.39	963.16	1592.54	-.58	.56
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>X</i> ²	<i>p</i>
Race					11.34	.01
African American	20	10.0	76	37.8		
Caucasian	5	2.5	86	42.8		
Other	3	27.3	8	72.7		
Education					3.48	.32
Did not complete High School	7	3.5	46	22.9		
High School Diploma/GED	11	5.5	60	29.9		
Some college/ Bachelor/ Associates/Graduate Degree	5	2.5	52	25.9		
Referral Source					1.91	.39
Legal	26	12.9	143	71.1		
Other	2	1.0	29	14.4		

Table 9 continue

Relationship Status					8.44	.13
Single	16	8.0	56	27.9		
Dating	1	0.5	24	11.9		
Married	6	3.0	37	18.4		
Divorced/Separated	2	1.0	28	13.9		
Other	3	1.5	23	11.4		
Employment					.04	.98
Employed	13	6.5	84	41.8		
Unemployed/Disabled	14	7.0	83	41.3		
Criminal History					.64	.42
Yes	24	11.9	137	68.2		
No	4	2.0	36	17.9		
Substance Abuse History					.53	.47
Yes	16	8.0	86	42.8		
No	12	6.0	87	43.3		
Childhood Abuse					1.53	.22
Yes	8	4.0	32	15.9		
No	20	10.0	141	70.1		

Table 10

Comparison of Demographic and Historic Characteristics Between Those Who Engage in Non-Violent Recidivism and Those Who Did Not Engage in Non-Violent Recidivism

<u>Variable</u>	<u>Non-Violent Recidivism</u>		<u>No Non-Violent Recidivism</u>		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Age	31.33	8.15	36.75	10.11	-2.51	.01
Number of Sessions	14.63	10.43	17.15	9.88	-1.17	.24
Income	498.46	835.96	997.49	1585.52	-1.51	.13
	<i>n</i>	%	<i>n</i>	%	<i>X</i> ²	<i>p</i>
Race					9.82	.02
African American	18	8.9	79	39.1		
Caucasian	4	2.0	87	43.1		
Other	2	18.2	9	81.8		
Education					3.79	.29
Did not complete High School	9	4.5	44	21.8		
High School Diploma/GED	10	5.0	62	30.7		
Some college/ Bachelor/ Associates/Graduate Degree	4	2.0	53	26.2		
Referral Source					1.19	.55
Legal	22	10.9	148	73.3		
Other	2	1.0	29	14.4		

Table 10 continue

Relationship Status					11.28	.05
Single	15	7.4	58	28.7		
Dating	4	2.0	21	10.4		
Married	1	0.5	42	20.8		
Divorced/Separated	2	1.0	28	13.9		
Other	2	1.0	24	11.9		
Employment					3.63	.16
Employed	8	4.0	89	44.1		
Unemployed/Disabled	14	6.9	84	41.6		
Criminal History					2.26	.13
Yes	22	10.9	140	69.3		
No	2	1.0	38	18.8		
Substance Abuse History					.00	.96
Yes	12	5.9	90	44.6		
No	12	5.9	88	43.6		
Childhood Abuse					.02	.89
Yes	5	2.5	35	17.3		
No	19	9.4	143	70.9		

Table 11

Classification Analysis for Recidivism One-Year Post Treatment and Demographic Factors

		Predicted group membership			
		<u>Recidivism</u>		<u>No Recidivism</u>	
Actual group membership	<i>n</i>	<i>n</i>	%	<i>n</i>	%
Recidivism	45	4	8.9	41	91.1
No Recidivism	157	3	1.9	154	98.1

Note. Overall percentage of correctly classified cases = 78.2%.

Table 12

Demographic Predictor Variables for Post-Treatment Recidivism in Discriminant Function Analysis

Predictor variable	Wilks's λ	Equivalent $F(1, 200)$	p
Age	.94	12.70	.001
Relationship status	.98	4.98	.03
Race	.98	4.21	.04
Referral source	.99	2.86	.09
Education	.99	2.00	.16
Income	.99	1.44	.23
Employment	1.00	.01	.94
Number of sessions attended	.99	3.11	.08

Table 13

Classification Analysis for Recidivism One-Year Post Treatment and Historic Factors

		Predicted group membership			
		<u>Recidivism</u>		<u>No Recidivism</u>	
Actual group membership	<i>n</i>	<i>n</i>	%	<i>n</i>	%
Recidivism	45	27	60.0	18	45.0
No Recidivism	157	82	52.2	75	47.8

Note. Overall percentage of correctly classified cases = 50.5%.

Table 14

Historic Predictor Variables for Post-Treatment Recidivism in Discriminant Function Analysis

Predictor variable	Wilks's λ	Equivalent $F(1, 200)$	p
Criminal history	.99	1.52	.22
History of abuse as a child	.99	.78	.38
Substance abuse history	.99	.59	.44

Table 15

Comparison Between Those Who Successfully Completed Treatment and Post-Treatment Recidivism

<u>Variable</u>	<u>Recidivism</u>		<u>No Recidivism</u>		X^2	p
	n	%	n	%		
Treatment Outcome					8.70	.003
Successful	14	6.9	88	43.6		
Unsuccessful	31	15.3	69	31.2		

Appendix

Institutional Review Board Approval Letter

December 10, 2013

K. McRee Lauch 6986 Grace Ave. Cincinnati, OH 45227

Re: Protocol #13-043, Predictors of Treatment Completion and Recidivism among Intimate Partner Violence Offenders

Dear Ms. Lauch:

The IRB has reviewed the materials regarding your study, referenced above, and has determined that it meets the criteria for the Exempt from Review category under Federal Regulation 45CFR46. Your protocol is approved as exempt research, and therefore requires no further oversight by the IRB.

If you wish to modify your study, including the addition of data collection sites, it will be necessary to obtain IRB approval prior to implementing the modification. If any adverse events occur, please notify the IRB immediately.

Please contact our office if you have any questions. We wish you success with your project!

Sincerely,

Morell E. Mullins, Jr., Ph.D. Chair, Institutional Review Board Xavier University

MEM/sb

C : Kathleen Hart, Advisor

Summary

Title: Predictors of Treatment Completion and Recidivism Among Intimate Partner Violence Offenders

Introduction: Reports from recent Center for Disease Control statistics estimate 12 million individuals are impacted yearly by intimate partner violence (Black, et al., 2011). In 1995, approximately 8.7 million couples (1 in 6) reported experiencing intimate partner violence (Cahn, 1996; Holtzworth-Munroe, 1995). Given the large number of individuals and families impacted, it is not surprising that public health officials and the behavioral health community have been involved in developing interventions to address IPV. Since the 1980s, when offender-centered treatment became prevalent, criminal justice agencies have responded to IPV by referring offenders to treatment in order to prevent violence and reoffending (Healey & Smith, 1998). As a result, by 2011 90% of individuals adjudicated for charges related to intimate partner violence were court mandated to participate in offender-centered treatment programs (Barner & Carney, 2011).

Despite the trend in court-mandated treatment, the efficacy of treatment programs has repeatedly been questioned in research. Saunders (2008) evaluated over 35 studies that reviewed batterer intervention programs and found that the range of effective outcomes for these studies varied greatly. Despite Saunders (2008) and other studies that have found mixed results regarding the efficacy of offender treatment, numerous studies have suggested that those men who complete treatment are less likely to re-assault their partners than those men who either drop out or never attend treatment (e.g., Bennett, et al., 2007). Therefore, a current trend in research is to compare those who complete treatment with those who do not, as well as to compare men who engage in crime following treatment with those who do not, with the hope of proactively identifying men who are at a heightened risk for treatment failure and recidivism. Following the current trend in research, this study evaluated individual and combinations of demographic and historical variables to determine their ability to statistically predict treatment completion and recidivism following treatment. The following demographic and historical variables were examined in the current study: age, race, socioeconomic status, education, employment, relationship status, referral source, number of sessions attended, experiencing abuse in childhood, criminal history, and substance abuse history.

Method: Participants were 202 men who participated in a batterers' intervention program in an urban county in the Midwestern region of the U.S. De-identified information on participants from a dataset created by the program was utilized to compare those who completed treatment with those who did not complete treatment, as well as those who engaged in criminal activity following treatment and those who did not. Discriminant function analyses were used to examine which demographic and historical variables predicted successful completion of treatment and post-treatment recidivism.

Results: A significant difference was found between those who completed treatment and those who did not on age, race, employment, and abuse as a child. Those who

successfully completed treatment were more likely to be older, Caucasian, employed, and reported no abuse as a child. A significant function was produced, with age, employment, and abuse as a child found to be significant contributors to predicting successful completion. Statistical analyses were utilized to identify differences between those who engaged in recidivism following treatment and those who did not. The groups were found to significantly differ on age and race, with younger African American participants more likely to recidivate. Discriminant function analysis was utilized to evaluate which variables predicted post-treatment recidivism. A significant function was produced with age identified as a significant contributor. The current study also compared the difference in treatment outcome for those who recidivated one year post-treatment and those who did not. The groups were found to differ significantly, with those who successfully completed treatment less likely to engage in post-treatment recidivism.

Implications: The current study's findings would suggest that while these specific variables are helpful when distinguishing between those who completed treatment and those who did not, the variables alone did not predict treatment outcome at a more than modest level. Therefore, are there other factors that contribute to treatment outcome, and if so the identification of these factors could help to improve treatment efficacy. In addition, this study found that those who did not complete treatment and those who engaged in criminal behavior following treatment were more likely to be younger, African American participants; therefore, might the treatment material be presented in a way that is resonating with one group or culture more than another? If so, treatment programs would benefit from making changes to the presented material so it can be generalized over a wider demographic group. Lastly, age appears to be a significant contributor to both treatment outcome and post-treatment recidivism, which would suggest a maturity affect. If this is in fact the case, this would imply that maturity, and not treatment, may be the agent of change for some participants.