ORIGINAL ARTICLE

Development and Predictive Ability of a Behavior-Based Typology of Men Who Batter

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Abstract This study explores the existence and predictive ability of a behavior-based typology of men who were adjudicated for a domestic violence crime in an urban criminal justice system. Data from 671 men who completed a 2-hour biopsychosocial assessment were analyzed using cluster analysis. Findings indicate a typology of low level criminality (25.6%), dysphoric volatile behavior (42.2%), and dysphoric general violence (32.2%) similar to previous typologies, but with some unique characteristics. The behavior-based typology predicted both program completion and subsequent rearrest. This study provides preliminary support for the development of typological assessment in criminal justice and BIP settings for early identification of men who may need additional interventions.

Keywords Typology · Domestic violence · Batterers · Assessment

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Since Holtzworth-Munroe and Stuart's (1994) theoretical article on development of a tri-fold typology of men who batter, several studies have attempted to replicate the predicted typology of family only, dysphoric/borderline, and generally violent antisocial men (Delsol et al. 2003; Hamberger et al. 1996; Holtzworth-Munroe et al. 2000; Langhinrichsen-Rohling et al. 2000; Murphy et al. 2007; White and Gondolf 2000). Using a variety of typing techniques, most of these studies found continued support for a tri-fold typology of men who batter. The variations between the types and characteristics found are likely due to variations in types of samples (community, martially distressed, and criminal justice), measures utilized, and the clustering techniques.

A few studies have tested the predictive ability of these typologies on BIP completion, with mixed results. Langhinrichsen-Rohling et al. (2000) found their empirically-derived typology classifications using the Minnesota Multiphasic Personality Inventory (MMPI) could not be replicated by clinicians, who agreed with the empirically-derived classifications in only 26.6 % of the cases. The authors' empirically based typology did not differentiate men who completed the program and the study did not include any measures of recidivism. While program completion is one the factors that typologies theoretically should predict, re-offense is also critical both for programmatic reasons and victim safety. Indeed, use of victim reports has been promoted as essential to assessing re-offense due to problems with utilizing either offender self-reports or re-arrest as measure of cessation of violence. Two studies that have examined victim reports have had mixed results. Heckert and Gondolf (2004) found that victim perception of high risk for further violence decreased the likelihood of re-offense. The most likely victims for re-assault were those women who were uncertain of the level of risk. In their recent study,

Murphy et al. (2007) found that profiles based on anger type (Pathological, Low control, and Normal) were both predictive of outcome and post-treatment violence as reported by victim with the pathologically angry men being less likely to compete and more likely to re-assault.

An often overlooked issue is the practicality of the typing methods for criminal justice settings and BIPs. Most of the replication studies have used standardized tests of personality (Millon Clinical Multiaxial Inventory (MCMI; Millon 1983) or Minnesota Multiphasic Personality Inventory (MMPI; Megargee et al. 1967) as either a key factor or the sole factor in determining how the men are grouped. In addition to the measures used in creating the typology, the types are then compared on multiple proximal and distal predictors of violence and psychopathology. The extensive battery of tests (up to five hours reported in one study) creates translational issues for criminal justice systems as well as for BIPs that might want to use these typologies to inform their intervention efforts. While there have been numerous replication attempts, it might be useful to do comparative studies of predictability between various personality-based typologies, behavior to personality-based typologies, or typologies to risk assessment profiles.

This study addresses the issue of assessment by criminal justice and community staff with less training in psychological assessment. Specifically, our original task was to develop a computer-based assessment tool to improve not only assessment, but also supervision of batterer cases in a large urban criminal justice environment. Utilizing an offender assessment protocol for the Social Service Department of the County Court developed in 1996 based on common characteristics of men who batter found in the literature, our study first examined whether a tri-fold typology based in self-reported behavior is similar to those found in previous research on typologies. Previous analysis of a smaller subsample (n=158) provided evidence of a behavior-based typology (low level criminality, dysphoric volatile, and dysphoric general violence) (Stoops 2003). The current study updates that preliminary work and explores the ability of the behavior-based typology to predict BIP compliance, completion, and re-arrest for domestic violence-related charges.

Methods

Participants

A sample of 899 men who batter their intimate female partners provided information in a 1½ to 2-hour biopsychosocial assessment conducted by probation officers who received training from research staff and/or from trained Social Service Department personnel. Subsequently, the majority of the offenders were referred to one of 30 court or community-

based BIPs in an urban county. All programs conform to both the Illinois standards for batterer programs and the County Court reporting requirements. All programs are at least 24 weeks in length, group-based, and co-facilitated. There is no other uniformity between programs, which adds ecological validity to the study since it more closely represents conditions in the field. In a previous paper (Bennett et al. 2007) we reported on analyses that found no statistical differences between programs on either program completion or re-arrest for DV.

All men gave permission at intake to utilize their assessment information in a study evaluating the batterer intervention system. That study utilized a passive consent process approved by the University Institutional Review Board. Passive consent means that men who did not want their information used in the study asked that it not be used, and if they did not make such a request, the information was used. There were two dissents during the data collection period.

A subset of 671 men who had complete data on all key variables used in this study's clustering procedure was utilized in this analysis. This subset of men did not differ significantly on key demographic indicators from the larger sample, except men with missing data were more likely to have completed college (see Table 1). The men with complete data also did not vary on 5 of 6 key clustering variables from the men excluded for incomplete data. Men in the study sample had significantly lower primitive defenses scores (M=18.4, SD=7.0), $\underline{t}$ (1, 873) −2.66, p<.01), than the 204 men who did not have complete data on the clustering variables, but did have complete primitive defenses scores (M=19.9, SD=7.8).

Measures

Data for this study were drawn from three sources; a biopsychosocial assessment completed by probation officers, a county maintained offender database, and a state police maintained database of criminal arrests. Probation staff completed the Offender Assessment Tool (OAT), a 1 ½ to 2 hour structured interview, during the first two months of supervision. The OAT covers demographic information, violence history, psychological characteristics of the offender, and substance use history. Imbedded in the OAT are standard scales for intimate partner violence, psychological maltreatment, psychological symptoms, trait anger, borderline personality orientation, and the effects of alcohol use. The OAT also includes probation officer ratings for motivation and acceptance of responsibility for domestic abuse. Data from the OAT were stripped of identifiers and provided to the researchers electronically by court staff.

Demographic data were measured in a customary way, including: *Age*, in years; *Ethnicity*: African American,

Table 1 Demographics by cluster

Variable	LLC	DVB	DGV	TOTAL
Ethnicity-percent (frequency)				
African American	34.5 (58)	24.8 (70)	44.7 (96)	33.7 (224)
Latino	33.9 (57)	28.4 (80)	20.9 (45)	27.4 (182)
White	26.8 (45)	43.6 (123)	29.8 (64)	34.9 (232)
Other	4.8 (8)	3.3 (9)	4.6 (10)	4.2 (27)
Marital status				
Single	46.2 (79)	37.0 (104)	56.5 (121)	45.6 (304)
Cohabiting	2.3 (4)	0.7 (2)	0.5 (1)	1.1 (7)
Married	32.2 (55)	39.9 (112)	23.8 (51)	32.7 (218)
Divorced	7.6 (13)	14.9 (42)	12.1 (26)	12.2 (81)
Separated	9.4 (16)	7.1 (20)	7.0 (15)	7.7 (51)
Widowed	2.3 (4)	0.4 (1)	0	.8 (5)
Employment				
Full time	58.2 (99)	64.7 (180)	49.1 (104)	58.0 (383)
Part time	7.1 (12)	7.2 (20)	10.4 (22)	8.2 (54)
Unemployed	31.8 (54)	24.5 (68)	39.2 (83)	31.1 (205)
Other	3.0 (5)	3.6 (10)	1.4 (3)	2.8 (18)
Education				
Elementary	23.2 (39)	26.4 (72)	34.6 (74)	28.2 (185)
High school	63.1 (106)	58.6 (160)	56.1 (120)	58.9 (386)
Technical school	4.2 (7)	4.0 (11)	3.7 (8)	4.0 (26)
College	7.7 (13)	8.8 (24)	4.7 (10)	7.2 (47)
Post-college	1.8 (3	2.2 (6)	0.9 (2)	1.7 (11)
Age	34.8 (9.9)	35.4 (10.3)	34.6 (9.2)	34.9 (9.8)
Annual				
Income	19,620 (27,367)	23,626 (26,520)	32,480 (247,557)	25,477 (142, 411)[a]

N varies from 671 due to missing data. No significant demographic differences from N=899, except men with missing data more likely to have completed college

[a] Income Mode=0

Latino, Caucasian, and Other; *Employment*: full time, part time, unemployed, other; *Income*: dollars per year; *Education Level Completed*: Grade School, High School, Technical School, College, Post College; *Marital Status*: Single, Cohabitating, Married, Divorced, Separated, Widowed.

Cluster Variate To approximate Holtzworth-Munroe and Stuarts' (1994) theoretical dimensions along which domestic violence offenders were predicted to vary, this study utilized the following variables in the cluster variate.

Physical Partner Violence during the past year was measured with 16 items from the revised Conflict Tactics Scale (CTS2; Straus et al. 1996). Versions of the CTS have been shown to be valid and reliable measures of intimate aggression. Cronbach's alpha for the CTS2 in the current study is .78. CTS2 items are rated on a 7-point metric indicating the number of physical aggression incidents over the past 12 months (zero, one, two, three to five, six to ten, eleven to twenty, and more than twenty). Each item was re-coded to approximate a continuous variable using midpoint conversion. CTS2 items are summed for a final score, with greater scores indicating more episodes of violence. The CTS2 scores in this sample were positively skewed, and were log transformed to approximate a normal distribution for analysis.

Psychological Maltreatment of a Partner was measured with a 14-tem version of the Psychological Maltreatment of Women Inventory (PMWI; Tolman 1989). This version of the PMWI has excellent internal consistency and has been used in over a dozen studies of psychological maltreatment (Tolman 2005). PMWI items are rated on a 5-point metric (never, rarely, often, frequently, very frequently) and are summed to create a score. Higher scores indicate higher levels of emotional and verbal abuse, dominance, and isolation of the female partner. Cronbach's alpha for the PMWI in the current study was .82.

General Violence/Criminality From the arrest records in the State Police database, the total number of non-DV arrests (other interpersonal violence, drug-related, and other crimes) prior to the OAT assessment date was utilized as a measure of the extent of violence outside the intimate partner relationship and overall criminal activity.

Psychopathology/Personality Research on men who batter has found both short-term psychological symptoms and

longer-term personality characteristics to be risk factors for partner violence (Dutton and Kropp 2000). The participants' level of current *Psychological Symptoms* was measured with the Trauma Severity Index (TSC-33; Briere and Runtz 1989). The TSC-33 includes subscales for depression, anxiety, sex trauma, dissociation, and sleep disorder, but for this report, we used only the summative measure across all items. The TSC-33 consists of 33 symptoms (e.g., sadness, insomnia, anxiety), and men indicate on a 4-point metric (never, occasionally, fairly often, very often) how frequently over the past two months they have experienced these symptoms. Items are summed for a score, with higher scores indicating a greater level of symptom occurrence. Cronbach's alpha for the TSC-33 in the current study is .90.

Personality Characteristics were approximated in this study by two indicators of more long-standing problems: trait anger and primitive defenses. *Trait Anger* is measured with the ten item trait anger sub-scale of the State-Trait Anger Scale (Spielberger et al. 1983). The choice of the Trait Anger subscale of the State Trait Anger scale was based on Speilberger et al's definition of trait anger as a function of state anger, where an individual high in trait anger would find a wider range of situations as provoking anger and to experience more intense feelings of anger. Trait anger is more reflective of personality characteristics and a much more salient link to men's domestic aggression than state anger, which is often linked to proximal issues such as marital conflict and stress. A higher score on the trait anger scale indicates a greater level of characteristic anger. Alpha reliability for the Trait Anger Scale in this study is .85 which is similar to alphas reported by Speilberger et al. of 0.88. The authors also report data on the concurrent validity of the T-Anger Scale. Using samples of college aged males and male Naval recruits, Speilberger et al. report strong significant correlations with the Buss-Durkee Hostility Inventory total score, 0.71 for college aged men and 0.66 with male Naval recruits. The T-Anger Scale also showed moderate concurrent validity with the hostility subscale of the MMPI. Correlations were reported to be 0.59 for college males and 0.49 for Naval recruits.

A second measure of stable personality characteristics is the *Primitive Defenses* sub-scale of the Borderline Personality Orientation Scale (BPO; Oldham et al. 1985). Dutton (1998) has identified borderline personality organization as a key component of the "abusive personality." The Primitive Defenses Scale of the BPO asks men to indicate how well each of eleven statements applies to them. Items are rated on a 5-point metric (Never True to Always True). Higher scores indicate a greater level of primitive psychological defenses. This subscale was chosen because the items appear to reflect attitudes and beliefs men who batter hold that would increase the likelihood for violence and

appear to be applicable to a range of personality disorders such as narcissistic and antisocial. The internal consistency of the Primitive Defenses Scale in the current study is .86. This is similar to internal consistency report by Oldham et al (0.87) and in previous research on a similar sample of men who batter referred for treatment (Dutton et al. 1996; 0.87).

One way to assess the accuracy of a clustering technique is to compare whether the derived clusters vary significantly on variables upon which the clusters are theoretically predicted to vary) (Aldenderfer and Blashfield 1984). The model proposed by Holtzworth-Munroe and Stuart (1994) predicted variation among the types on both proximal and distal predictor variables.

Proximal Variables Both acute and chronic alcohol and drug use are well-established risk factors for intimate partner violence (Pernanen 1991; Wekerle and Wall 2002). Amount and effects of alcohol use were self-reported, along with amount and effects of drug use other than alcohol. *Alcohol Use/Misuse* was indicated by both the frequency of drinking (average days per month) as well as the quantity (average drinks per typical drinking day). For this study, frequency was multiplied by quantity to estimate total monthly alcohol consumption.

Drug Use/Misuse We asked about the number of days cocaine or crack cocaine was used and the number of days marijuana or hashish was used in the past year. Due to extreme variability in both these figures, they were reduced to a single variable totaling the number of days the respondents used either marijuana or cocaine in the past year, from 0 to 365. Due to the extreme distribution, the values were log-transformed.

Alcoholism The chronic effect of alcohol use is indicated by a CAGE score (Mayfield et al. 1974). The CAGE is an alcoholism screening tool widely used in clinical settings outside addiction treatment. The CAGE was selected over other measures due to ease of use and interpretation in a forensic setting. The CAGE is scored 0 to 4, with a point awarded for each positive answer to questions about "Cut-down, Anger, Guilt, and Eye-opener (morning use of alcohol)". For example, the "cut-down" question is "Have you ever felt you should cut down on your drinking?" CAGE scores greater than one usually indicate an alcohol abuse problem. For this report, we use the standard CAGE cutting score of 2 or more (*High CAGE*) to indicate probable alcohol abuse.

Physical Injury to Partner was measured by the self-report of participants on items of the CTS2 injury sub-scale. This subscale consists of six items reflecting increasing severity of injury to an intimate partner within the last year or ever. For this study, the *Physical Injury to Partner*

variable was the total number of injury items indicated within the past year to an intimate partner.

Violation of an Order of Protection was measured by the participants' dichotomized self-report of ever having violated an order of protection.

Distal Variables

Family of Origin Violence The family of origin violence variable was constructed from six dichotomous questions on the OAT that asked about the participant's observing parental violence toward each other and any physical or sexual abuse by a parent-figure during childhood (Father Hit Mother; Mother Hit Father; Witnessed Parental emotional abuse; Physically punished; Physically abused; and Sexually abused). For this report, *Family of Origin Violence* score was the total of positive responses (0 to 6).

Conduct Disorder was an experimental index constructed for use in the OAT to measure the likelihood of early involvement (before age 18) with law enforcement. The Conduct Disorder Index (CDI) was constructed from DSM-IV (APA 1994) diagnostic items for Conduct Disorder. The participants were asked to estimate the number of times they were involved in specific behaviors. For this study, the total number of behaviors on all CDI items was used.

Predictive Ability

To assess the clinical usefulness of the typology, the found types were compared on their level of both program compliance and program completion as well as re-arrest for domestic violence offenses and other crimes.

Program Compliance was measured by whether or not the participants completed the BIP within their initial referral as indicated by data from the county maintained database.

Program Staff at the Community Batterer Intervention Programs Determined Program Completion Initially Program completion is standardized in the county, and based on criteria developed by the abuser services committee of the county family violence coordinating council utilizing Gondolf's (1995) discharge criteria: participation in the program, egalitarian attitude, accepting responsibility for the violence, knowledge about intimate partner abuse, skills, meeting additional program requirements, use of appropriate language, remaining nonviolent, and complying with referrals. Program completion is drawn from the county maintained data, and is a dichotomous variable (1 = Completed, 0 = Not Completed).

Since our study uses systemic program completion, program completion in this study may differ from other published studies. Completing a program while on supervision or conditional discharge at Cook County misdemeanor probation may occur after multiple referrals to the same or different BIPs due to failure to comply with either program or court requirements. Almost all of the work on BIPs has examined either a single program or else compared a few different programs within a community. These studies have considered completion based on involvement within an individual program. This study, because it focuses on a larger batterer intervention system, considers completion based on the end result of a man's court case. A man may be referred to, and fail, one or more programs before finally completing a program at one of the 30 BIPs in the system.

Re-arrest is determined by charges on the state police electronic database. These data were matched to assessment and program completion with a state identification number. Arrest data included charges by the arresting officer, subsequent charges by the states attorney, and final charges at the time of court review. For purposes of this analysis, charges were limited to the initial charge at the time of arrest. Charges were then assigned to one of four categories: (1) domestic violence, (2) other interpersonal violence, (3) drug-related, and (4) other crime. The specific charges that were combined to form the domestic violence arrest category are: aggravated domestic battery, domestic battery, domestic violence act, interference with reporting domestic violence, stalking, and violating an order of protection. DV Recidivism is defined as total DV arrests after the probation intake date.

Data Analysis

A cluster variate was created utilizing Holtzworth-Monroe and Stuart's (1994) model of three descriptive dimensions of variation between types of men who batter: level of domestic violence (CTS & PMWI); generality of violence/criminality (Previous non-DV arrests); and psychological characteristics (TSC-33, Trait Anger; Primitive Defenses). All variables were log transformed. The clustering method used Ward's linkage within SPSS 12.0. ANOVA with post-hoc comparison using Tukey's HSD was used to identify significant differences between clusters. Post-hoc comparisons of the clusters were conducted utilizing ANOVA for continuous variables and X^2 for dichotomous variables with alpha set to .05. The predictive ability of the typology on BIP compliance and completion as well as DV and criminal recidivism was also determined by use of ANOVA with post hoc comparison using Tukey's HSD for continuous variables and X^2 for dichotomous variables with alpha equal to .05.

Results

Cluster analysis confirms our previous analysis and provides additional evidence of a behavior-based tri-fold typology. The men in the clusters also varied as predicted by Holtzworth-Munroe and Stuart (1994), but with some unique characteristics (see Table 2). Given this study's use of self-reported behavior and without the use of standardized personality measure like the MMPI or MCMI used in previous typology studies, the resulting clusters have been labeled without the commonly used personality characteristics. The cluster analysis provided support for a tri-fold typology of low level criminality (LLC: n=172, 25.6%), Dysphoric Volatile Behavior (DVB: n=283, 42.2%), and Dysphoric General Violence (DGV: n=216, (32.2%) types that correspond to Holtzworth-Munroe and Stuart's (1994) prediction of family only, dysphoric/borderline, and generally violent/antisocial types, respectively.

Low-level criminality men were the smallest group, which does not reflect the model's prediction of 50-65% for the family only type. However, like previously predicted Family Only Type, the LLC men had significantly lower levels of psychological abuse, primitive defenses, trauma symptoms, and anger than either the dysphoric volatile behavior (DVB) or the dysphoric general violence (DGV) men. Unlike the predicted type, these LLC men had significantly different moderate levels of both physical abuse and previous criminal arrests compared to either DVB or DGV men.

Dysphoric volatile behavior men were the largest group (42.2%) in this criminal justice sample of men who batter. Similar to the predicted dysphoric/borderline type, the DVB men in this study had a moderate level of psychological abuse that was significantly different from either LLC or DGV men. These DVB men also had significantly higher scores on primitive defenses, trauma symptoms and anger than the LLC men but nearly identical scores on these same variables as the DGV men. Unlike the predicted model, the DVB men were found to have significantly lower levels of physical abuse and previous criminal arrest than LLC and DGV men.

Dysphoric general violence men comprised a third of the sample. Varying as predicted by the generally violent/ antisocial type, the DGV men had significantly higher rates of physical abuse, psychological abuse, and previous criminal behavior than both LLC and DVB men. Additionally, DGV men were found to have significantly higher use of primitive defenses, trauma symptoms, and anger than LLC men. Unlike the model however, DGV men had nearly identical rather than lower levels on these factors than DVB men.

Post-hoc analysis of key proximal and distal variables further confirms the fit of this tri-fold behavior-based typology to the predicted model (see Table 3). The number of men in each cluster varies due to missing data within reported proximal and distal variables. As predicted by the model of family only and generally violent/antisocial types, the LLC and DGV men in this sample were significantly different from each other. LLC men were found to have significantly lower rates on all proximal and distal variables than DGV men. LLC men had significantly lower rates of injury to an intimate partner, violence in the family of origin, and conduct disorder than the DVB men. DVB men varied as predicted by the model except in two cases. First, on drug use were DVB men reported the lowest number of drug use days (M=6.0, SD=32.4) where the model

Table 2 Cluster variate comparison by cluster

Variable	LLC 25.6% (N=172)	DVB 42.2% (N=283)	DGV 32.2% (N=216)	Sample mean (N=671)
Severity of marital violence				
CTS-2	Low*	Moderate-high*	Moderate-high*	
Mean (SD)	4.67 (6.1)[a]	3.3 (4.6)[b]	9.3 (15.2)[c]	5.6 (10.0)
PMWI-SF	Low	Moderate-high	Moderate-high	
	18.8 (4.1)[a]	22.6 (6.3)[b]	24.2 (7.1)[c]	22.1 (6.4)
Generality of violence				
Prior Non-	Low	Low-moderate	High	
DV arrests	4.33 (5.5)[a]	1.0 (1.5)[b]	7.62 (7.4)[c]	4.0 (5.9)
Personality characteristics/Psychopathology				
BPO-PD	Low	High	Moderate	
	14.5 (4.4)[a]	19.2 (7.2)[b]	20.4 (7.1)[b]	18.4 (7.0)
TSC-33	Low-moderate	High	Low	
	1.2 (1.3)[a]	11.7 (9.7)[b]	11.6 (9.6)[b]	9.0 (9.5)
STAS-TA	Low	High	Moderate	
	12.8 (3.2)[a]	15.4 (4.7)[b]	16.1 (4.6)[b]	14.9 (4.5)

*Holtzworth-Munroe & Stuart (1994) predicted levels by type

Clusters with different letters are significantly different from each other, using Tukey HSD

Table 3 Post hoc comparison on proximal and distal variables (ANOVA (Tukey HSD) & X^2)

Variable	LLC	DVB	DGV	$p <$
Proximal variables				
Alcohol	Low*	Moderate-high*	Moderate-high*	
Q x F	12.0 (23.2)[b]	24.2 (78.7)	24.8 (47.9)	.013
Drug days	Low	Moderate-high	Moderate-high	
	6.81 (41.1)	6.0 (32.4)	28.2 (74.6)[c]	.000
CAGE	Low	High	Moderate-High	
% Yes	40.0	53.5	61.7*	.000
CTS injury	Low	Low-moderate	High	
	.42 (0.9)[b]	.68 (1.0)	.85 (1.2)	.004
VOOP	Low	High	Moderate-High	
% Yes	10.7	9.6	19.1*	
Distal variables				
FOV	Low	High	Moderate-High	
	.97 (1.1)[b]	1.4 (1.3)	1.7 (1.4)	.000
CDI	Low-moderate	Low	High	
	.6 (.8)	1.16 (1.3)	1.7 (1.5)[a]	.000

*Cluster significantly different by Chi Square

[a] All clusters significantly different from each other

[b] Cluster 1 significantly different from Clusters 2 & 3

[c] Cluster 3 significantly different from Clusters 1 & 2

predicted moderate to high drug use. Second, DVB men had the lowest rate of self-reported violation of an order of protection (9.6%) where the model predicted high rates.

While the difference in number of referrals to program (one, or more than one) did not vary significantly, the DGV men were more likely to require multiple referrals before completing (25.2% vs. 15.9% for DVB and 19.5% for LLC). The predictive ability of the tri-fold behavior-based typology was confirmed on program completion. The analysis indicates that DGV men were significantly less likely to complete a program (65.1% vs. 84.7% for DVB and 77.8% for LLC). Participants categorized as LLC (26.7%) and DGV (28.2%) were more likely to be re-arrested for DV than participants assigned to DVB (17.3%). This differential pattern continued when we considered the frequency of re-arrest ($F=4.85$, $df=2$, $p<.01$). Post hoc analysis confirmed that mean DV re-arrests for DVB participants ($M=.22$, SD$=.52$) were significantly lower than for either the LLC type ($M=.35$, SD$=.66$) or for the DGV type ($M=.30$ SD$=.64$). (see Table 4). Despite the different rates of DV re-arrest across types, the effect of typing on re-arrest is not large and may be explained by other variables. To explore the relationship between DV re-arrest, personality characteristics, program completion, and typology, we used logistic methods to regress DV re-arrest in three steps: (1) entering the personality features of primitive defenses, trauma symptoms, and trait anger, (2) entering batterer type dummy variables, with LLC as the referent category, and (3) entering program completion. A total of 407 (61%) of the cases were available for this analysis. None of the personality variables entered in the first group of variables predicted DV re-arrest.

In the second group of variables, type as a whole did not predict re-arrest after controlling for personality type, and only the DGV generally violent type was independently associated with re-arrest after controlling for personality. Finally, entering program completion into the model rendered all other variables in the model insignificant. Program completion reduces the likelihood of DV re-arrest by 67% (95% CI$=44$% to 80%). In all likelihood, there are unmeasured correlates of both DV re-arrest and program completion that explain program completion's capacity to predict re-arrest (Jones and Gondolf 2001). Regardless of the explanation, it does not appear that this typology is a strong predictor of re-arrest.

Discussion

This study confirms the results of a previous cluster analysis of a subsample of these men by finding a tri-fold behavior-based typology of low level criminality, dysphoric volatile behavior, and dysphoric general violence men who batter in this criminal justice sample. In addition, this study found that the typology predicted both program completion and re-arrest, although not in the way we would have predicted prior to this research. There is a trend for predicting program compliance. This study provides support for the use of a behavior-based assessment in creating a typology that may have clinical implications for direct practice with men who batter within the criminal justice system and in BIPs.

The three clusters of men found using a behavior-based approach varied largely as predicted by the psychology-

Table 4 Completion, compliance & post-intake arrest comparison (ANOVA (Tukey HSD) & X^2)

Variable	LLC	DVB	DGV	$p <$
Completed	77.8%	84.7%	65.1%*	.000
Multiple				
Referral	19.5%	15.9%	25.2%	.084
DV Rearrest	.35 (.66)	.22 (.52)[a]	.38 (.74)	.008

N for Completed and Multiple Referral were 407 & 509, respectively, due to men still being active in programs

[a] DVB cluster significantly lower than LLC and DGV

based Holtzworth-Munroe and Stuart model. While reporting the least amount of psychological abuse of an intimate partner as well as the lowest levels of mental health and personality problems, the LLC men had more moderate levels than expected of both violence toward an intimate partner and previous criminal activity. This difference may be due in part to our sample being a criminal justice sample rather than a community-based sample used in most previous typology studies. However, this group may be similar to low level-antisocial group of batterers found by Holtzworth-Munroe et al. (2000). In their test of the Holtzworth-Munroe and Stuart (1994) model, the low level-antisocial group had moderate levels of both partner and general violence that fell between family only and generally violent antisocial types while exhibiting low-levels of other abuse and psychopathology. The LLC men were both compliant with program requirements and had a high rate of completion as expected but not nearly as high as DVB men. Their post-intake arrest rate was also higher than expected from the model, but consistent with their previous arrest rate that fell in the moderate range for the types found in this study. While this may be an example of past behavior being the best predictor of future behavior, the continuing moderate levels of re-arrest supports the call for interventions that are more closely tailored to the characteristics of the participants (Cavanaugh and Gelles 2005; Holtzworth-Munroe and Meehan 2004; Lohr et al. 2005). In general, men in our sample have a high level of arrest for both domestic violence and for other crimes. The program completion of some men was nullified by their re-arrest, leading to an artificially large correlation between program non-completion and re-arrest. Unfortunately, the structure of the data does not permit us to disentangle these effects.

The classification of DVB men is fairly consistent with the model predicted by Holtzworth-Munroe and Stuart (1994). With the expected high levels of psychological abuse of an intimate partner, low levels of previous criminal activity, high levels of mental health and personality problems in combination with high rates of alcohol use

and problems, their compliance and completion rates were surprisingly the highest of all three groups. This could be a result of successful assessment that led to better referral to additional services as well as their being involved in a batterer intervention system with a coordinated community response that emphasizes importance of compliance with and completion of mandated services (Bennett et al. 2007; Gondolf 2001a). Given the high rate of alcohol consumption of the DVB group, another possibility is that these men resemble "type 1" alcoholics (Cloninger 1987), or maintenance drinkers with higher levels of neuroticism.

The DGV men in this study are consistent with the generally violent, anti-social types previously found in most other studies. They also most consistently match the characteristics prescribed by the model that predicted poor program compliance, non-completion and high rates of re-arrest (Langhinrichsen-Rohling et al. 2000; White and Gondolf 2000). Early identification of the DGV men who are likely to not complete as well as to reoffend may provide the opportunity for targeted interventions to address their specific needs especially in the area of substance use/abuse and mental health (Cavanaugh and Gelles 2005; Gondolf 2001a). In addition, these men may need stricter and longer supervision that includes frequent monitoring and review by both the programs and court. These men are also likely to need specialized interventions that address their general violence and criminality beyond what is typically offered in current batterer intervention programs (Gondolf 2001b; Holtzworth-Munroe and Meehan 2004). Saunders (2004) suggests exploring a nested-ecological framework that would look at addressing community and sociocultural variables that contribute to the men's choice to be violent. These men may need assistance in areas of education; employment and housing that could lead to more stable lifestyles that lessen the likelihood of continued criminal behavior. In addition, this study supports the clinical utility of this typology because it predicts both program completion and re-arrest. This tri-fold behavior-based typology may have better predictive ability than previously used personality-based typologies (Jones and Gondolf 2001; Langhinrichsen-Rohling et al. 2000). Our findings of two categories of men with significant dysphoric symptoms or qualities is supported in recent research by Westen and Shedler (1999) and Shedler and Westen (1998) who found subtypes of a Dysphoric Personality Disorder that they labeled emotionally-dysregulated and hostile-externalizing. Their description of these categories closely mirrors DVB and DVG, respectively. While providing additional support for Holtzworth-Munroe and Stuart (1994) triparte typology, this behavior-based triparte typology provides a practical alternative in non-research settings to previous extensive personality-based models.

Behavior-based assessments may be more useful to practitioners and increase the utility of typologies in

practice. As indicated in previous theoretical discussions of the utility of behavior-based typologies (Gondolf 1998; Tolman and Bennett 1990; Walker 1995) and supported by the findings of this study, using an extensive assessment that focus on the men's behavior can provide useful information for criminal justice personnel relating to supervision and containment as well as providing BIP practitioners with behavioral categorizations that can influence their clinical and service related decisions early in their interactions with their clients. It may be particularly useful in identifying those individuals that are more likely to need additional services and sanctions in order to successfully complete a program. As Gondolf (2001b) found, earlier entry into BIPs increased the likelihood that they offenders will complete a program as well as reduce the likelihood of re-offense. In addition, shorter assessments utilizing readily available standardized measures that do not require significant training, clinical licensing, and psychological interpretation will increase the likelihood of their use and application in the real world setting of most criminal justice and BIP settings.

As Cavanaugh and Gelles (2005) indicate, there is growing support for the utility of empirically based typologies, whether behavioral or psychological. This study further explored the usefulness of behavior-based typologies. As indicated in the introduction, the utility of this behavior-based typology might be enhanced by direct comparison of predictability to personality-based typologies or risk assessment profiles. In conjunction with the outcome evaluation completed on the same sample of men (Bennett et al. 2007), there needs to be further refinement of the assessment tools utilized in this study. At two hours, the OAT still presents significant challenges to the criminal justice staff to complete in a timely manner given their large caseload that requires them to complete the assessment over multiple sessions. Additional research on this sample using different clustering techniques such as latent class analysis or mixture analysis could be conducted to further confirm this typology. Since performing and interpreting cluster analysis is beyond the scope of most BIPs, it might be useful to explore BIP providers' ability to classify the men based on prototype descriptions developed from this study's typology.

Our findings support the trend toward additional assessment and enhanced interventions for batterers based on that assessment. Response to criminals in general is trending toward specialized treatment of repeat, injurious, non-compliant offenders using risk assessment protocols targeting criminogenic predictors of recidivism (Lowenkamp and Latessa 2005). On the other hand, studies of batterers have found that over half of repeat offenders had no serious mental or personality disorders that could be identified by standard psychological assessment (Gondolf 2001b). Our

study did not find that repeat offenders could be clearly identified using the standard measures available to probation officers and community providers. In the end, categories of batterers may be more useful to researchers than to practitioners. Dimensional assessment of behaviors like program attendance, acceptance of responsibility, and attitude toward gender relationships more easily translate into practice principals than do categories such as low-level criminality.

Limitations of the study must be considered when interpreting these results. First, this is a criminal justice sample consisting primarily of misdemeanor offenders. The inclusion of more serious offenders would likely influence both the types found as well as the resulting completion and recidivism rates. Second, there are significant missing data due largely to this being data collected in a clinical setting rather than a research context. While there was only variation on one key clustering variable (primitive defenses) between the subsample used in this analysis and the larger sample, there is some likelihood that it may have altered the classification of some men within the types. Due to the small difference in the actual scores of the two groups, however, this difference would not have likely altered the types found. Another limitation of this study pertains to the reliance on men's self-report measures of their violent behavior. A number of studies (Heckert and Gondolf 2000a; O'Leary and Arias 1988) indicate a significant tendency of men who batter to under report their use of violence with intimate partners as compared to victim reports. While having victim reports would enhance the reliability of our measurement of violence and abuse, it is atypical of criminal justice settings to have access to or means for obtaining victim reports. Additionally, Heckert and Gondolf (2000a) found that women also under reported compared to police reports based on the women's own words.

In future work, reliability might be enhanced by comparative use of police reports since probation departments have ready access to such data. While the men in our sample may have underreported their level of abuse, Heckert and Gondolf (2000b) found that married white collar men were significantly more likely to under-report. Given the demographic makeup of our sample, the level of violence may be more reliable than previous typology studies. The typological categories might appear significantly different given the suppression of men's reporting.

A fourth limitation relates to the reliability of the data collected by a diverse group of probation officers. The authors had no control over the data collection process. It is likely that the probation officers differed in their interview standards and interpretations. However, all probation officers received standardized training in the implementation of the assessment protocol. A fifth limitation pertains to the issue of program fidelity. It is possible that differing program approaches and lengths may have influenced program out-

comes. Although the authors could not ensure uniform program practices, all BIP operated under the Illinois Protocol Standards for Abuser Treatment Programs.

References

Aldenderfer, M. S., & Blashfield, R. K. (1984). *Cluster analysis*. Beverly Hills: Sage.

Bennett, L., Stoops, C., Call, C., & Flett, H. (2007). Program completion and rearrest in a batterer intervention system. *Research on Social Work Practice, 17*(1), 42–54.

Briere, J., & Runtz, M. (1989). The Trauma Symptom Checklist (TSC-33): early data on a new scale. *Journal of Interpersonal Violence, 4*, 151–163.

Cavanaugh, M. M., & Gelles, R. J. (2005). The utility of male domestic violence offender typologies: New directions for research, policy, and practice. *Journal of Interpersonal Violence, 20*(2), 155–166.

Cloninger, C. R. (1987). Neurogenetic adaptive mechanisms in alcoholism. *Science, 236*, 410–416.

Delsol, C., Margolin, G., & John, R. S. (2003). A typology of martially violent men and correlates of violence in a community sample. *Journal of Marriage and Family, 65*(3), 635–651.

Dutton, D. G. (1998). *The abusive personality: violence and control in intimate relationships*. New York: Guilford.

Dutton, D. G., & Kropp, P. R. (2000). A review of domestic violence risk assessments. *Trauma, Violence, & Abuse, 1*(2), 171–181.

Dutton, D. G., van Ginkel, C., & Landolt, M. A. (1996). Jealousy, intimate abusiveness, and intrusiveness. *Journal of Family Violence, 11*(4), 411–423.

Gondolf, E.W. (1995). Discharge criteria for batterer programs. Unpublished paper, available at http://www.mincava.umn.edu/papers/gondolf/discharg.html.

Gondolf, E. W. (1998). Who are these guys? Toward a typology of batterers. *Violence and Victims, 3*(3), 187–203.

Gondolf, E. W. (2001a). *Batterer intervention systems: issues, outcomes, and recommendations*. Thousand Oaks: Sage.

Gondolf, E. W. (2001b). Batterer program participants who repeatedly re-assault: psychopathic tendencies and other disorders. *Journal of Interpersonal Violence, 16*, 361–380.

Hamberger, L. K., Lohr, J. M., Bonge, D., & Tolin, D. F. (1996). A large sample empirical typology of male spouse abusers and its relationship to dimensions of abuse. *Violence and Victims, 11*, 277–292.

Heckert, D. A., & Gondolf, E. W. (2004). Battered women's perceptions of risk versus risk factors and instruments in predicting repeat re-assault. *Journal of Interpersonal Violence, 19*(7), 778–800.

Heckert, D. A., & Gondolf, E. W. (2000a). Assessing assault self-reports by batterer program participants and their partners. *Journal of Family Violence, 15*(2), 181–197.

Heckert, D. A., & Gondolf, E. W. (2000b). Predictors of under-reporting of male violence by batterer program participants and their partners. *Journal of Family Violence, 15*(4), 423–443.

Holtzworth-Munroe, A., & Stuart, G. (1994). Typologies of male batterers: three subtypes and the differences among them. *Psychological Bulletin, 116*(3), 476–497.

Holtzworth-Munroe, A., & Meehan, J. C. (2004). Typologies of men who are martially violent: scientific and clinical implications. *Journal of Interpersonal Violence, 19*(12), 1369–1789.

Holtzworth-Munroe, A., Meehan, J. C., Herron, K., Rehman, U., & Stuart, G. L. (2000). Testing the Holtzworth-Munroe and Stuart (1994) batterer typology. *Journal of Consulting and Clinical Psychology, 68*(6), 1000–1019.

Jones, A. S., & Gondolf, E. W. (2001). Time-varying risk factors for re-assault among batterer program participants. *Journal of Family Violence, 16*(4), 345–359.

Langhinrichsen-Rohling, J., Huss, M. T., & Ramsey, S. (2000). The clinical utility of batterer typologies. *Journal of Family Violence, 15*, 37–53.

Lohr, J. M., Bonge, D., Witte, T. H., Hamberger, L. K., & Langhinrichsen-Rohling, J. (2005). Consistency and accuracy of batterer typology identification. *Journal of Family Violence, 20*(4), 253–258.

Lowenkamp, C. T., & Latessa, E. J. (2005). Increasing the effectiveness of correctional programming through the risk principle: Identifying offenders for residential placement. *Criminology and Public Policy, 4*(2), 263–290.

Mayfield, D., McLeod, G., & Hall, P. (1974). The CAGE questionnaire: validation of a new alcoholism screening instrument. *American Journal of Psychiatry, 131*, 1121–1123.

Megargee, E. I., Cook, P. E., & Mendelsohn, G. A. (1967). Development and validation of an MMPI scale of assaultiveness in overcontrolled individuals. *Journal of Abnormal Psychology, 72*, 519–528.

Millon, T. (1983). *Millon clinical multiaxial inventory manual*. Minneapolis: Interpretive Scoring Systems.

Murphy, C. M., Taft, C. T., & Eckhardt, C. I. (2007). Anger profiles among partner violent men: differences in clinical presentation and treatment outcome. *Journal of Counseling Psychology, 54*(2), 189–200.

Oldham, J., Clarkin, J., Appelbaum, A., Carr, A., Kernberg, P., Lotterman, A., et al. (1985). A self-report instrument for Borderline Personality Organization. In T. H. McGlashan (Ed.), *The borderline: current empirical research* (pp. 1–18). Washington: American Psychiatric.

O'Leary, K. D., & Arias, I. (1988). Assessing agreement of reports of spouse abuse. In G. Hotaling, D. Finkelhor, J. Kirkpatrick & M. Straus (Eds.), *Family abuse and its consequences: new directions in research*. Beverly Hills: Sage.

Pernanen, K. (1991). *Alcohol in human violence*. New York: Guilford.

Saunders, D. G. (2004). The place of a typology of men who are "martially" violent within a nested ecological model: a response to Holtzworth-Munroe and Meehan. *Journal of Interpersonal Violence, 19*(12), 1390–1395.

Shedler, J., & Westen, D. (1998). Refining the measurement of Axis II: a Q-sort procedure for assessing personality pathology. *Assessment, 5*(4), 333–353.

Spielberger, C. D., Jacobs, G., Russell, S., & Crane, R. (1983). Assessment of anger: The state-trait anger scale. In J. N. Butcher & C. D. Spielberger (Eds.), *Advances in personality assessment* (Vol. 2, pp. 159–187). Hillsdale: Lawrence Erlbaum.

Straus, M. A., Hamby, S. L., Boney McCoy, S., & Sugarman, D. B. (1996). The revised conflict tactics scales (CTS2): development and preliminary psychometric data. *Journal of Family Issues, 17*, 283–316.

Stoops, C. (2003). Testing of a behavior-based typology of men who batter within an urban criminal justice sample. Doctoral Dissertation, University of Illinois at Chicago, United States - Illinois. 2003. Dissertations & Theses: A&I.(Publication No. AAT 3083890).

Tolman, R. M. (1989). The development of a measure of psychological maltreatment of women by their male partners. *Violence and Victims, 4*, 159–177.

Tolman, R.M. (2005). Instructions for scoring PMWI subscales. http://sitemaker.umich.edu/pmwi/instructions_for_scoring_pmwi_subscales. Accessed December 10, 2005.

Tolman, R. M., & Bennett, L. W. (1990). A review of quantitative research on men who batter. *Journal of Interpersonal Violence, 5*, 87–118.

Walker, L. (1995). Current perspective of men who batter women-Implications for intervention and treatment to stop violence against women: comments on Gottman, et al. (1995). *Journal of Family Psychology, 9*(3), 264–271.

Wekerle, C., & Wall, A. (eds). (2002). *The violence and addiction equation: theoretical and clinical issues in substance abuse and relationship violence*. New York: Brunner-Routledge.

Westen, D., & Shedler, J. (1999). Revising and assessing axis II, Part II: toward an empirically based and clinically useful classification of personality disorders. *American Journal of Psychiatry, 156*(2), 273–285.

White, P. J., & Gondolf, E. W. (2000). Implications of personality profiles for batterer treatment. *Journal of Interpersonal Violence, 15*, 467–488.