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STAGES AND PROCESSES OF CHANGE AND ASSOCIATED TREATMENT OUTCOMES IN PARTNER ASSAULTIVE MEN

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ABSTRACT

Given the wide array of negative consequences associated with men's violence toward women, it is essential that assaultive individuals receive appropriate post-adjudication sentences that foster assault cessation. Thus, it is now common for courts to mandate partner-assaultive men to attend batterer intervention programs (BIPs). While some data point to the effectiveness of such programs, other data indicate that between 41-90% of men initially referred for treatment either do not attend or prematurely drop out. Given the relationship between attrition and subsequent recidivism, it is critical to understand the characteristics of men do not complete court-mandated BIP programs. The present project evaluated the effectiveness of court-mandated treatment for partner assault in the context of the *stages of change* that individuals pass through as they attempt to modify a problematic behavior, the change *processes* they implement across the stages of change, and relationships with the "batterer subtype" construct. To investigate these relationships, 199 men ordered by the Dallas County Domestic Violence Court to attend BIP were administered a computer assisted structured interview assessing stages of change, processes of change, psychological distress, relationship conflict, and other characteristics prior to BIP. In addition, 60 female partners of male participants reported on new instances of physical and emotional abuse, perceptions of safety, risk for future violence, and perceptions of male change. Five assessments were conducted over a 13-month period: once prior to BIP, three times during BIP, and six months post-BIP. Results indicated that 40% of men mandated to attend BIP did not complete their program, 27% of men were rearrested, and 62% reported new acts of male-to-female violence. Cluster analyses revealed four to five distinct stages of change groupings, with all but one of those clusters representative of men who were either mildly or reluctantly predisposed toward change. Men of African/American race/ethnicity, and higher Precontemplation scores predicted BIP attrition. High precontemplation, low action, more alcohol problems, and higher levels of anger prior to treatment predicted rearrest. Men in the Borderline/Dysphoric and Generally Violent/Antisocial subtypes were more likely to drop out of treatment and be rearrested. Substantial male attrition from this project prevented us from evaluating changes in study variables over the course of BIP. Implications for optimizing treatment options for abusive men mandated to BIP are discussed.

EXECUTIVE SUMMARY

In an attempt to reduce rates of reassault among partner assaultive men, the criminal justice system has routinely mandated that such men attend a batterers' intervention program (BIP) as part of their post-adjudication probation requirements. Research has indicated that the overall effect of treatment on rates of reassault is small but significant. However, researchers have also consistently indicated that the majority of men who are referred to such treatment either do not attend or drop out prematurely, even if they are legally mandated to attend the treatment programs. Of critical importance, men who drop out of treatment are 13%-15% more likely than completers to reassault their partners (Babcock & Steiner, 1998), usually within the first three months after leaving the program (Gondolf, 1997). Given the higher risk of recidivism among BIP noncompleters, it is important to extend previous findings regarding the effectiveness of treatment and develop a more precise predictive model of which individuals are likely to drop out from or complete court-mandated batterers programs.

While various demographic indicators (e.g., age, education) are associated with premature dropout, more recent data has focused on the congruence between the individuals' readiness to change and the degree of involvement in the intervention process. Using Prochaska et al.'s (1992) Transtheoretical Model of behavior change (TTM), we propose to investigate not just whether people change as a function of treatment, but also when and why this change occurs. According to the TTM, change is not a binary or discrete event; instead, the model predicts that individuals attempting to change any problematic behavior will progress through a series of stages of change readiness (Precontemplation, Contemplation, Preparation, Action, Maintenance) and utilize increasingly more effective behavior change processes (Experiential, Behavioral). This model has successfully been applied to a wide array of problem behaviors (e.g., smoking, alcohol abuse, etc.), and may hold much promise as a model for explaining and predicting the process of partner assault cessation. In addition, one of the more prominent models aiding our understanding of batterers is the "batterer subtype" construct (Holtzworth-Munroe & Stuart, 1994), which suggests that batterers are not a single, homogeneous group of individuals; rather, they may reliably differ of particular characteristics (degree of intimate partner violence, degree of violence outside the family, and degree of psychopathology) and group into particular subtypes of partner violent males.

The goal of the present project was to address several fundamental questions concerning the predictors of BIP attendance and criminal recidivism according to the TTM. We hypothesized that men who were minimally motivated to change would have poor involvement in BIP and would be apt to drop out more rapidly than men starting BIP in more advanced stages of change. In addition, we evaluated whether assessment of readiness to change factors prior to treatment predicts other criminal justice related outcomes including criminal recidivism, occurrence of new partner violence incidents, and occurrence of injury-producing assaultive incidents. We were also interested in evaluating the batterer subtype construct at both the descriptive level (would men in this sample cluster into distinct batterer subtypes?) as well as predictive level (will the subtypes predict criminal justice outcomes?). Finally, we sought to investigate how the stages and processes change over time, and whether particular patterns of change were more or less associated with criminal justice outcomes

Method

Participants

Participants consisted of 199 men convicted of a misdemeanor assault offense involving an intimate female partner. Participants were recruited from the domestic violence court in Dallas, Texas. Inclusion criteria were the ability to read and speak English fluently and being 18 years of age or older. In addition 60 female partners of the male enrollees were recruited to participate.

Men were recruited during the batterer intervention intake orientation at the Family Violence Court. Participants were individually recruited as they entered the central jury room. Research assistants set up a table directly behind the probation officers' sign-in counter and gave potential participants a verbal description of the study, including information that their participation was voluntary. If the male expressed interest in the study, project representatives scheduled the pre-BIP interview during this time and administered a flyer describing the study in detail. To ensure eligibility, the study's courthouse representative screened the participants prior to the orientation session and provided the research assistants with a list of eligible potential participants for each orientation session.

In general, male participants were in their early thirties; predominantly African-American; undereducated;

in blue-collar professions earning less than $30,000/year; equally likely to be married, divorced, or separated; and had at least one child. Female partners were more likely to be white, married, better educated, in higher status occupations, and married.

Procedure

All measures were completed using a computer-assisted interview program designed specifically for this study. The initial interview (Pre-BIP) took place approximately two weeks before the start of the participant's treatment program and took approximately 60 minutes to complete. Male participants were then interviewed three times during their schedules BIP program: once in the first three weeks (early-BIP), a second time during the BIP midpoint (mid-BIP; weeks 10-14) and a third time designed to correspond with the BIP completion (post-BIP; wks. 22-26). Participants were then interviewed six months after their scheduled BIP completion (6-Month F-U).

Female participants were interviewed via telephone at similar time intervals as males. Female participants were initially interviewed as their male partner was scheduled to commence BIP (FINT1). A second interview (FINT2) was administered between weeks 6-8, a third interview (FINT3) was administered between weeks 12-14, and fourth interview (FINT4) was given at the end of treatment (wks. 22-26), and a final interview (FINTF-U) was administered six months post-BIP. Thus, males and females were each administered five assessments, but at slightly different time intervals; females were interviewed four times during their male partners' BIP while males were interviewed three times during BIP. Participants, both male and female, each received a total of $120 for their participation in this study.

Measures: Male participants. Males were administered two stages of change instruments, one which specifically assessed violence-related stages of change (University of Rhode Island Change Assessment Inventory for Domestic Violence [URICA-DV]; Levesque et al., 2000), and one that did not make specific mention of violence (Safe at Home scale [SAH]; Begun et al., in press). Males also completed a Processes of Change scale that partitions behavior change processes into Experiential and Behavioral Processes. Males then completed a host of cognitive (acceptance of violence, hostility toward women), emotional (a general psychopathology screen, trait anger), substance-related (alcohol problems, drug abuse) and behavioral measures (relationship conflict

tactics, emotional abuse).

Measures: Female Participants. Females completed a single item stage of change item, a brief processes of change scale, and measures of conflict tactics and emotional abuse.

Results and Discussion

The dataset was plagued by problems of missing data, as there was 50% missing data or higher at each time point. These problems undermine any attempt to evaluate our longitudinal hypotheses.

With regards to the question of BIP attrition rates in this jurisdiction, 40% failed their court-mandated BIP, primarily for reasons relating to non-attendance. African-Americans had a substantially higher rate of BIP attrition versus men of Latino/Hispanic or White/Caucasian racial/ethnic background. Approximately 27% of men were rearrested for any crime, and 5% were rearrested for an assault-related offense. However, when was asked males and females about new incidents of partner assault during the probationary period, 61% of males perpetrated new acts of partner assault during this time.

Stages of change scales were weakly associated with a variety of pre-BIP characteristics. Individuals who reported higher levels of Contemplation reported higher levels of physical and verbal intimate partner violence (IPV) during the 12 months prior to commencing BIP. Scoring high on Precontemplation covaried with more hostile attitudes toward women. The two Contemplation scales also were related to alcohol problems, drug use, psychopathology, hostility toward women, and anger. Finally, scoring high on the Maintenance prior to BIP was associated with a variety of negative attributes (substance problems, psychopathology, cognitive errors, etc.).

Using cluster analysis, the data suggested that men in treatment for partner assault may cluster into 4-5 groupings based upon URICA-DV and SAH scores: Reluctant men, who are in a Precontemplative phase; Unprepared Action males, who may be "going through the motions" of behavior change; Preparticipation men, who are moderately aware of the problem and making at some minimal change attempts; and Decision Making individuals, who appear to be in the Preparation stage of change and taking steps necessary to actively change their behavior. Analyses using the SAH resulted in similar cluster types with the addition of an Immotive cluster, consisting of men who may be stuck in the Precontemplation stage but exhibiting outward signs of positive

change. In terms of frequencies, between 25-35% of men commencing BIP appear to insufficiently prepared to initiate change attempts (i.e., the Reluctant and Unprepared Action clusters). Another 30-40% of men will perhaps be thinking about change but will have difficulty sustaining behavior change (Preparticipation and Immotive stages). Finally, a paltry 20-25% of men starting BIP appear ready to change (those in the Decision Making cluster),

Stage of change clusters were related to a variety of other indicators. Decision Making and Immotive individuals were more likely to report more assault perpetration that other clusters, more drug use, higher levels of anger, and more hostile attitudes toward women.

Four batterer subtypes were found in accordance with previous research in this area (Holtzworth-Munroe et al,. 2000): Family-Only (FO), Low-Level Antisocial (LLA), Borderline/Dysphoric (BD), and Generally Violent/Antisocial (GVA). BD and GVA men tended to score in the more extreme and disturbed direction on most study measures.

SAH Immotive and Decision Making stage of change clusters, as well as higher scores on measures of Precontemplation, were significantly associated with BIP drop out and rearrest, and the URICA-DV Decision Making cluster predicted self/partner reported recidivism. More consistent relationships were found using batterer subtypes to predict criminal justice outcomes, with BD and GVA males more likely to drop out of treatment, and to be rearrested for any offense. GVA males were more likely to commit unofficial acts of partner violence during their probationary period. Other factors also predicted criminal justice outcomes, with African/American males more likely to drop out of BIP, and BIP drop out, younger age, more alcohol problems, and higher trait anger predicting rearrest.

When asked to evaluate whether and how their male partners were changing, females/victims did not indicate that much change occurred. Rather, female partners consistently indicated that males were either in the Precontemplation or Maintenance stages across males' probationary periods (i.e., males either weren't changing or had already changed), and did not report a significant change in process usage from pre to post on either experiential or behavioral processes of change. Differential usage of experiential and behavioral processes of

change was related to BIP dropouts among female reports of male process usage, which suggest that it may be prudent to assess the stages and processes of change associated with IPV collaterally.

In general, the results were limited by the large number of men who were out of contact from study personnel during the project, which resulted in a wealth of missing data. The readiness to change model was only weakly associated with men in treatment for partner violence, whereas the batterer subtype model performed better at describing these perpetrators and in predicting the outcomes of BIP.

Given the high rates of attrition from batterers' treatment groups and evidence of limited treatment effectiveness, it is clear that interventions directed at men who assault their partners need to be modified (Babcock & La Taillade, 2000). The present results suggest that men in treatment for partner assault are not uniform in their readiness to change their abusive behavior, and usage of behavior change processes is not necessarily guaranteed simply because of their involvement in treatment. It is therefore critical to work together with the prosecutors and judges who routinely mandate group counseling for partner-assaultive men and the agencies providing such services to foster research-informed treatment recommendations.

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TECHNICAL REPORT

Part I.

INTRODUCTION

The costs and consequences associated with male violence toward female intimates are substantial. Each year, approximately 6 million American women experience "minor" aggression (e.g., pushing, grabbing, slapping) at the hands of their husbands or boyfriends, and approximately 2 million women experience severe intimate violence (e.g., being hit with a fist, choked, etc.) (Straus & Gelles, 1986). Lifetime prevalence data indicate that between 21% and 34% of women will be the victims of physical aggression by their husbands or intimate partners (Browne, 1993), and one of every three couples seeking marital therapy report the existence of severe husband-to-wife violence (Holtzworth-Munroe et al., 1992; O'Leary et al., 1989). For victims of intimate violence, the health-related consequences are high, with a fourfold increase in rates of major depression, and a rate of suicide attempts *17 times* that of women who do not experience intimate violence (Straus & Gelles, 1986). Researchers have clearly indicated that the initiation and continuation of intimate violence is best predicted by the characteristics of the male (Hotaling & Sugarman, 1986; Jacobson et al., 1994). In response to these alarming data, social scientists are developing innovative etiological models (e.g., Holtzworth-Munroe & Stuart, 1994a), and evaluating the efficacy of various treatments for perpetrators of intimate violence (e.g., Edleson, Miller, Stone, & Chapman, 1985).

In response to the above, it is also common for judges to impose a treatment regimen for partner assaultive men in order to prevent the abusive individual from (a) engaging in further violent behavior, and (b) reentering the criminal justice system. Despite the criminalization of male abuse against female intimate partners, and the addition of rehabilitative post-adjudication sentences designed to reduce assault continuance, a relatively high rate of men mandated to attend batterers intervention programs continue to reassault their female partners. While some researchers point to an overall positive effect of batterers intervention programs (BIPs) on domestic violence recidivism (e.g., Gondolf, 1999), others note that existing treatment approaches for men who batter do little beyond other potential post-adjudication sanctions (e.g., intensive probation monitoring) (Babcock &

LaTaillade, 2000; Dunford, 2000). In addition, researchers have consistently noted that between 40-90% of men initially mandated by the court to attend batterer intervention programs do not attend or complete such programs (Daly & Pelowski, 1999). These data suggest that the effectiveness of court-mandated BIPs is a complicated issue that is determined by a variety of interdependent factors, including the type of counseling approach espoused by a BIP, the overall community response to domestic violence, sanctions existing within the criminal justice system for BIP non-attendance, and the individual characteristics of the perpetrator (Healey et al., 1998). In this project, we attempted to evaluate the relationship between the characteristics of men referred by the court to attend batterer intervention programs and subsequent attrition and recidivism rates. We evaluated this problem in the context of the relationship between the individual's *readiness to change* their abusive behavior, the *processes of change* used during treatment, and the presence of post-adjudication domestic violence and criminal related outcomes.

Part II

Background and Significance

While the data regarding the general effectiveness of BIPs are not uniformly encouraging, it is also apparent that such programs work well for some men, especially those who attend regularly (Chen et al., 1989), but poorly for others (Edleson, 1996). The search for why this is the case has been the focus of much empirical research. For example, there is little evidence to suggest that the majority of variance in treatment effectiveness is explained by the particular mode of treatment, as a recent meta-analysis indicated that no one intervention is any more effective than others at reducing rates of post-adjudication recidivism (Babcock, Green, & Robie, in press). Other studies have suggested that simply completing BIP may be the key factor predicting treatment outcome, with successful BIP attendance associated with lower rates of domestic violence relative to sporadic or no BIP attendance (Babcock & Steiner, 1999; Chen et al., 1989). For example, in a multisite evaluation of batterer intervention programs, Gondolf (1997) reported that dropouts were 13% more likely than completers to reassault their partners, a finding later replicated by Babcock and Steiner (1999). Highlighting the critical need for early identification of those men at risk for early termination, most assaults (44%) occurred within the first three months following attrition (Gondolf, 1997). The question remains how criminal justice professionals can identify those abusers whose history indicates that treatment as usual is not likely to be effective and are at risk for program dropout and/or recidivism. ***Research efforts thus may be better directed at investigating how and when individuals change, as opposed to the overall effectiveness of such programs.***

In addition, the data suggest that dropping out of treatment is strongly associated with future domestic violence recidivism (Daly & Pelowski, 1999). Overall, at least half of the men who are self- or court-referred for such programs either do not show up for the first session or drop out prior to completing the program. Only 40-60% of batterers who attend the first session of group treatments for violence cessation actually complete the full treatment regimen (Cadsky, Hanson, Crawford, & Lalonde, 1996; DeMaris, 1989; Edleson & Syers, 1991; Pirog-Good & Stets, 1986; Rosenfeld, 1992). For example, Cadsky et al. (1996) initially assessed 526 men referred for a batterer cessation program (90% court-referred). Of these, only 41% attended one of the first two sessions. Of the

first-session attendees, 61% (n = 132) actually completed the prescribed program (only 25% of the original sample). Gondolf and Foster (1991) reported attrition rates of 73% from telephone inquiry to intake assessment, 86% from inquiry to counseling, and 93% from inquiry to 12 sessions, with less than 1% of the inquirers completing the entire treatment program. Thus, most men who assault female intimates do not begin treatment, and fewer complete treatment even if so ordered by others, including the criminal justice system (Rosenfeld, 1992). Of substantial concern is the higher risk of recidivism among men who do not complete treatment (Chen et al., 1989). For example, Gondolf (1997) reported that dropouts were *13% more likely* than completers to reassault their partners, a finding later replicated by Babcock and Steiner (1999). Most assaults occurred within the first three months following attrition (44% of reassaults), highlighting the critical importance to identify those men at risk for early termination. ***Thus, the high attrition rates among batterer treatment programs, even among men legally mandated to attend, translate into a substantial number of women at risk for future assault.***

Explanations for the high rates of attrition from batterer intervention programs fall into two general categories (Cadsky et al., 1996; Wierzbicki & Pekarik, 1993): (a) lifestyle instability variables, and (b) client-treatment congruence variables. The *lifestyle instability* factor evolved from systems-based research examining the demographic characteristics of psychotherapy treatment completers vs. non-completers. Researchers have suggested that having less education, moving frequently, being younger, being un/underemployed, and being in a cohabitating relationship are predictive of attrition (e.g., Hamberger & Hastings, 1989; Tolman & Bennett, 1990). It is interesting to note that these variables also represent identified risk factors for intimate violence (Hotaling & Sugarman, 1986). However, such data have been inconsistently associated with attrition and the resulting effect sizes are small (Brown et al., 1997; Wierzbicki & Pekarik, 1993).

Given this, as well as the intractability of such factors, behavioral science researchers have recently evaluated the second issue of *client-treatment congruence*. The general hypothesis is that clients are more likely to remain in any type of treatment to the extent that they perceive a match between their own goals and those of the therapist or therapeutic approach (Gaston, 1990; Wierzbicki & Pekarik, 1993). Recent data indicated that partner assaultive men were less likely to drop out of treatment if they perceived a match between self-identified

problems and the content of the treatment program (Brown et al., 1997; Cadsky et al., 1996). Men who perceived a mismatch between their own goals and the objectives of treatment – men who denied having hit their wives or who saw little need for treatment – tended to drop out of treatment (Cadsky et al, 1996). In addition, a positive therapeutic alliance between the abuser and the therapist (as reported by the client) was associated with decreased post-treatment mild and severe physical and psychological aggression (Brown & O'Leary, 2000).

To the extent that BIP outcome data affect programmatic efforts at state or national levels concerning the most appropriate post-adjudication sentences for partner assaultive men, there is also concern that those who remain in treatment may be highly motivated to change, thus skewing the results of treatment effectiveness studies. Given this as well as the higher risk of recidivism among treatment non-completers, it is therefore critical to develop a predictive model concerning which individuals are likely to drop out of treatment. It is clear from decades of psychotherapy research that regardless of intervention modality, treatment outcome is due in large part to the extent that clients are ready to receive the intervention being offered (Prochaska, 1979). Thus, one of the important variables that may predict (a) attrition (i.e., whether men are getting an adequate "dose" of treatment), and (b) subsequent recidivism is men's readiness to change their abusive behavior at the commencement of BIP. ***Investigation of the individual's readiness to change can therefore provide critical information to criminal justice and mental health professionals concerning how individuals change in the context of treatment as well as when change (or termination of change) attempts take place.*** In the next section, a well-validated model of behavior change is presented that directly relates to the understanding and modification of batterers' motivation to change.

Stages of Change, Processes of Change, and Completion of Court-Mandated Treatment

The critical issue confronting researchers and practitioners who work with men court-mandated for partner assault treatment concerns how to enhance their lackluster motivation to change. There are at least two ways to approach this dilemma. First, the focus can be put on the *type of treatment* mandated – its theoretical basis, its degree of reflection/directiveness, its empirical basis, etc. The assumption underlying this view is that by

virtue of its principles and practices, a particular type of therapy is more likely than others to facilitate behavior change. However, for any particular treatment outcome study, in addition to evidence showing the percentage of clients reporting therapeutic improvement, there will also be a fairly high percentage of clients who (a) did not respond, (b) dropped out prior to program completion, and (c) relapsed once the therapy was terminated (Prochaska, 1991). Given the recidivism risks associated with batterers who don't respond to treatment, don't complete the treatment, or relapse upon termination, it becomes critical to examine more than just the type of therapy implemented and its omnibus level of effectiveness. A second approach is to investigate *when* and *how* individuals change, regardless of therapy type. According to this approach, behavior change is not viewed as a discrete, change vs. no-change event solely dependent on treatment modality, but rather as an individual's procession through a series of stages leading to successful behavior change. Such an approach allows for a more comprehensive understanding not only of how people change their behavior, but also how and when a given treatment interacts with the client's *readiness* to change their behavior.

In the late 1970's, researchers investigating the mechanisms through which psychotherapy resulted in behavior change posited a common set of processes leading to change, and a common set of stages during which changes occur (Prochaska, 1979). According to this *transtheoretical model (TTM)*, individuals confronted with the task of changing a problematic behavior are not uniformly ready to change that behavior at the commencement of treatment. Some are committed to action, some barely recognize the existence of a problem, others wish to change but aren't sure how. Over the past 15 years, Prochaska and colleagues (e.g., Prochaska et al., 1994) have investigated the stages through which individuals pass as they attempt to change a problematic behavior. Those individuals who successfully change their behavior progress through a series of stages, using a common set of change processes regardless of whether they are in treatment or not. Factor analytic studies suggested the existence of *five stages* through which individuals must pass to successfully change a behavior (see table 1):

(1) Precontemplation – The individual has no intention to change the behavior in the foreseeable future. The person is unaware or underaware of her or his behavior, especially in terms of associated negative

consequences (the causes of which are often misattributed to another source). The person will attempt to change their behavior only if coerced by external forces; once the pressure is removed, the individual typically returns to the problematic behavior.

(2) Contemplation – The individual is aware that a problem exists and is seriously interested in changing, but no commitment to taking action is made. "Contemplators appear to struggle with their positive evaluations of the behavior and the amount of effort, energy, and loss it will cost to overcome the problem" (Prochaska et al., 1992, p. 1102). Those individuals who indicate a desire to change in the next six months are classified as contemplators. However, they may remain in this stage for as long as two years (DiClemente & Prochaska, 1985).

(3) Preparation – The individual is intending to take action within the next month and has unsuccessfully taken action in the previous year. The individual is acutely aware of the problem, is committed to change, and is making decisions about how to facilitate the change process. Typically, some minimal reductions in problem behaviors are observed.

(4) Action – The individual actively attempts to modify his or her behavior, experiences, or environment in order to overcome the problem. There is considerable commitment of time and energy taken to reach some established criterion of success, such as abstinence. Prochaska et al. (1992) suggest that individuals are at the action stage if they have successfully altered the problem behavior for a period of one day to six months.

(5) Maintenance – The individual has successfully worked to eliminate the problem behavior and now endeavors to prevent relapse and consolidate the gains made during the action stage. Rather than the end of the change process, the maintenance stage represents a continuation of change-related behaviors that may last anywhere from six months to a lifetime. Behavior change is now stable and relapse avoidance are central features of the maintenance stage.

Researchers have indicated that individuals do not always progress through the stages in a linear manner toward successful outcomes. It is more typical for change to occur in a spiraling fashion, with successful behavior change followed by relapse, followed by new commitments to change, and so on until the individual maintains the newly changed behavior. Nevertheless, ample research supports the notion of a finite set of behavior change

stages in predicting change in psychotherapy (McConnaughy, DiClemente, Prochaska, & Velicer, 1989; McConnaughy, Prochaska, & Velicer, 1983; Satterfield, Buelow, Lyddon & Johnson, 1995; Smith, Mezydlo & Kalodner, 1995), eating disorders (Ward, Troop, Todd, & Treasure, 1996), smoking cessation (DiClemente et al., 1991), cocaine use, weight control, safer sex, condom use, adolescent delinquency, sunscreen, random gas exposure, high fat diets, exercise acquisition, mammography screening, physicians' preventive practices (Prochaska et al., 1994), and alcohol abstinence (Carbonari & DiClemente, 2000; DiClemente & Hughes, 1990). Across these diverse samples, stages of change predicted client persistence in treatment, willingness to change outside the therapy session, treatment effectiveness, and overall therapy outcome (Prochaska et al., 1992).

The transtheoretical model also posits that individuals will utilize differential *processes* of change depending on their particular stage of change (Prochaska, Velicer, DiClemente, & Fava, 1988). The more that clients are actively committed to change a particular behavior, the more likely they are to use more effective behavior change processes, thus leading to more positive treatment outcomes. In a comparative study of 18 different types of therapies, factor analysis yielded two broad types of behavior change processes, *experiential* and *behavioral* (Prochaska, 1979). Experiential behavior change processes involve thinking about or feeling a particular emotion about one's problematic behavior in terms of how it affects the self and others. Behavioral processes involve active attempts at behavior change or manipulation of the environment in order to foster behavior change. As can be seen in table 2, a total of 10 specific behavior change processes have been identified (five experiential, five behavioral). The five experiential behavior change processes are: (1) **consciousness raising** (increasing awareness of the problem and self); (2) **self-reevaluation** (how one feels and thinks about the self in the context of the problem; value clarification); (3) **dramatic relief** (experiencing and expressing feelings regarding problem behavior); (4) **self-liberation** (awareness and choosing of new alternatives; any commitment enhancing technique); and (5) **environmental reevaluation** (assessing how one's problem affects others; empathy training). The five behavioral processes are: (6) **reinforcement management** (rewarding one's self for making changes); (7) **helping relationships** (social support, opening up to trusted others); (8)

counterconditioning (substituting desirable alternatives to problem behaviors; desensitization, assertion); (9) **stimulus control** (avoiding or countering stimuli associated with problem behavior); and (10) **social liberation** (becoming aware of alternative nonproblem behaviors).

Researchers have indicated that individuals who successfully change their behavior utilize these processes at different stages of change (Prochaska & DiClemente, 1983; Prochaska et al., 1988). During precontemplation, individuals utilize none of the 10 processes; by the time they enter the contemplative stage, they are more likely to become open to consciousness-raising, dramatic relief, and environmental reevaluation (experiential processes). Completion of the contemplation stage is associated with greater self-evaluation, and during the action stage, clients report greater usage of behavioral processes and self-liberation as their willpower increases. In maintaining treatment gains, individuals report using all the processes that were successful in helping them change, especially stimulus control, formation of helping relationships, and reinforcement management (Prochaska et al., 1988; 1992). Of particular relevance to the present project, assessment of clients' stages and processes of change in a psychotherapy setting was associated with 93% accuracy in predicting who would leave treatment prematurely (Prochaska et al., 1992).

Relevance to Batterers. The transtheoretical model would appear to have substantial relevance to the issue of whether batterers comply with court-mandated treatment regimens. Clinicians and researchers (Murphy & Baxter, 1997; Pence & Paymar, 1993) have suggested that domestic abuse perpetrators mandated to attend group counseling may minimize or deny the extent of abusiveness in their relationships (Dutton, 1986), often blaming external factors for their violence (Eckhardt & Dye, 2000) and their presence in the BIP (e.g., a 'raw deal' from the criminal justice system), and often presenting with higher than average levels of psychopathology (Schumacher et al., 2001). Given this characterization, it is unlikely that abuse perpetrators automatically recognize the need to change their behavior solely because of their involvement in the legal process. For example, the man who strikes his wife to "teach her a lesson" or regain power in his marriage seems likely to view his assault conviction as unfortunate – it is embarrassing, disruptive, and costly. It is unlikely, however, that he will

suddenly gain awareness into the wrongfulness of his aggressive behavior, see the need to learn new techniques to control his behavior solely because the court has found him culpable and mandated treatment, or have sufficient motivation to remain in treatment.

The model would also predict that therapeutic programs which presuppose a high degree of readiness to change on the part of its group members are more likely to show high rates of attrition, again since many group members are not even aware of the existence of a problem in need of change. In fact, many clinical writings in the domestic violence literature advocate the usage of highly confrontational and denial-reducing strategies during the early stages of treatment (e.g., Pence & Paymar, 1993), which may run counter to the change-resistant attitudes of court-mandated men and inadvertently increase rates of attrition (Murphy & Baxter, 1997). Dallas-area programs for men who batter indeed espouse variations of the Duluth model, although there is much variability in the degree of confrontation from one program to another. For these general reasons, researchers have hypothesized that the majority of men mandated for treatment for battering are in the precontemplative stage of the change process (Daniels & Murphy, 1997; Murphy & Baxter, 1997), and are not using processes that might otherwise result in behavior change. Clinical research supports the link between therapy outcomes and stage of change, as clients who terminate therapy prematurely are more likely to (a) be in the precontemplative stage of change (Brogan, Prochaska, & Prochaska, 1999), and (b) utilize fewer processes of change at the outset of counseling, relative to nonterminating clients (O'Hare, 1996; Smith, Subich, & Kalodner, 1995). ***Given the risks to partners associated with premature dropout among intimately violent men, it is therefore critical to investigate the relationship between stage of change, usage of change processes, and therapeutic involvement and outcome in this population.***

In a recent empirical investigation of the relationship between readiness to change and partner violence, Levesque, Gelles, and Velicer (2000) administered the University of Rhode Island Change Assessment-Domestic Violence scale (URICA-DV) to 292 males involved in group counseling for partner violence. The URICA-DV consists of four 5-item scales to assess the Precontemplation, Contemplation, Action, and Maintenance stages in individuals with a history of partner violence (pilot-testing of the URICA-DV found that subjects did not

discriminate Preparation from Contemplation and Action thus reducing the number of scales to four). The four URICA-DV scales were psychometrically adequate and formed the expected simplex pattern in which dimensions representing adjacent stages were more highly correlated with each other than with other stages. Cluster analysis of the URICA-DV, using a two-sample cross-validation method, revealed a seven-cluster solution. Approximately 24% of men fell into two clusters reflective of the Precontemplative stage ("Reluctant," "Immotive,"), 63% fell into four clusters suggestive of the Contemplation/Preparation stages ("Non-reflective Action," "Unprepared Action," "Preparticipation," "Decision-Making"), and only 13% of men grouped into a single cluster representing the Action stage ("Participation"). Men in earlier stage clusters were slightly more likely to be new clients, and men in the later stages were significantly more likely to have used violence cessation strategies in the last six months (Levesque et al., 2000).

In a partial replication of Levesque et al. (2000) using a cross-sectional sample of 250 men attending batterer intervention programs, Eckhardt, Babcock, and Homack (in press) found three of the URICA-DV profiles described by Levesque et al. (2000): Immotive (28%), Unprepared Action (17.5%), and Preparticipation (54.5%). Noticeably absent from the Eckhardt et al. clusters was a grouping of men clearly in the Action stage, whereas the Levesque et al. analysis indicated both a transitional stage ("Decision Making") from Contemplation to Action and a "Participation" cluster of men clearly in the Action stage. Surprisingly, stage of change cluster was unrelated to number of treatment sessions attended, although a small but significant relationship emerged between overall readiness to change and the number of sessions attended ($r = .20$).

In addition, Eckhardt et al. (in press) reported on the development and validation of a new scale to assess the processes of change used in BIP, the Processes of Change (POC) scale. Although the TTM predicted that the 10 process dimensions identified by Prochaska et al. (1988) could be evenly split into an Experiential scale and a Behavioral scale, the data suggested that these two scales are best understood in terms of internally or externally focused processes to prevent or cope with their own abusiveness. Internal processes include cognitive and affective reactions to prior abuse, focusing on the impact that the abuse has had on others. The endorsement of more internal processes of change over the course of treatment may indicate increased empathy toward the victim.

External change processes, on the other hand, are comprised primarily of seeking social support and support from the community in attempting to become non-abusive. Men who engaged in more external processes may hold themselves more accountable for their own abusiveness and seek validation for their decision to change. These two processes are not mutually exclusive and were highly intercorrelated (r = .77); in fact, the use of external strategies may be contingent upon the adoption of internal processes of change. In addition, there were clear cluster differences in process of change usage, with men in the Unprepared Action and Preparticipation clusters (i.e., Contemplative men) using significantly more of nearly all the processes of change than Immotive men (i.e. men in the Precontemplative stage). Thus, the POC may be a useful tool in operationalizing and assessing "progress" over the course of treatment and maintenance of post-treatment therapeutic gains. Thus, researchers have reported that approximately 25% of men enrolled in BIPs present with characteristics suggestive of the precontemplative stage of change (Eckhardt, Babcock, & Homack, in press; Levesque et al., 2000). Precontemplative men reported using fewer behavior change processes than men in other stages (Eckhardt et al., 2000) and saw little benefit, relative to the costs, of making a commitment to nonviolence (Levesque et al., 2000).

These data, however, were based upon cross-sectional samples of partner assaultive men; there are no currently published data examining stages of change profiles and associated clinical characteristics among abusive males prior to BIP commencement. In addition, these data focused primarily on acts of physical abuse, which are relatively infrequent even among batterers mandated to treatment and exist within a larger context of emotional abuse, psychological aggression, and relationship distress. While acts of physical aggression may cease in the course of BIP, other perhaps more damaging acts of psychological coercion and emotional aggression may continue. Such acts may not be perceived as forms of "violence" by partner assaultive men. Thus, we believe that any assessment of progress through the stages of change and usage of behavior change processes must include a definition of abuse that encompasses both physical and non-physical forms of abuse, such as verbal aggression, excessive monitoring, economic intimidation, sexual coercion, denigration, and proximity maintenance.

Batterer Psychopathology: Relevance of Partner Violence Subtypes

In addition, partner assaultive men may possess other psychological and behavioral traits that predict a

poor response to treatment (for a review see Schumacher et al., 2001). While Dutton and colleagues (e.g., Dutton & Starzomski, 1993) have maintained that men with certain personality profiles are especially likely to reassault their partners, a recent study by Gondolf (1999) did not find personality traits or psychopathology to predict patterns of dropout or reassault. Theoretically, however, it follows that men who present with certain types of psychopathology and behavioral problems (e.g., psychopathy; anger hyperarousal; heavy alcohol or drug usage) should be less likely to take responsibility for their abusive behavior and glean anything useful from a batterers' treatment program, and therefore would be more likely to be in the precontemplative stage of change.

Indeed, ample data indicate that partner assaultive men are a heterogeneous group of males that may cluster into particular violence subtypes (for reviews, see Holtzworth-Munroe, 2000; Holtzworth-Munroe & Stuart, 1994). While the precise number of subtypes varies according to the researcher, three dimensions typically underlie these subtypes: presence and degree of psychopathology, severity of intimate partner violence, and the extent of general violence (Holtzworth-Munroe & Stuart, 1994). Using a community sample, Holtzworth-Munroe and colleagues (Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000; in press) cluster analyzed these dimensions and suggested the presence of four batterer subtypes: (1) Family-Only (FO) batterers, who evidence minimal family violence, engage in the least violence outside the home, and show little or no psychopathology; (2) Borderline/Dysphoric (BD) batterers, who present with moderate to severe partner assault, moderate general violence, and who present with the most affective distress and personality disturbances related to borderline and dependent personality disorders; (3) Generally Violent/Antisocial (GVA) batterers, who engage in moderate to severe partner violence and the highest levels of violence outside the home, and evidence antisocial and/or psychopathic personality traits; and (4) Low-Level Antisocial (LLA) batterers, who score moderately on measures of partner violence, violence generality, and antisociality. These subtypes, as well as conceptually similar typologies reported by other researchers (e.g., Waltz, Babcock, Jacobson, & Gottman, 2000), have been shown to differ across a variety of cognitive, affective, and behavioral domains in both cross-sectional (Holtzworth-Munroe et al., 2000) and longitudinal (Holtzworth-Munroe et al., in press) studies involving community samples.

Currently, there are few published data that link these partner violence subtypes to men adjudicated for

partner assault offenses (see Hamberger, Lohr, Bonge, & Tolin, 1996; Langinrichsen-Rohling, Huss, & Ramsey, 2000), and additional evidence would add important information on the generalizability of the subtype construct. In addition, there are no published data that examine whether partner violence subtypes relate to readiness to change variables or predict outcomes of BIP. Evidence indicates that (a) individuals who enter treatment at the precontemplative stage show more psychopathology than individuals entering treatment at later stages (McConnaughy, DiClemente, Prochaska, & Velicer, 1989), and (b) those who remain in the precontemplative stage for longer periods are most likely to drop out of treatment (Smith, Subich, & Kalodner, 1995; Steenbarger, 1995). However, little is known about such an interaction among partner assaultive men. For instance, one might predict a linear relationship between the males' degree of psychopathology and the probability of post-adjudication recidivism or dropping out of treatment, such that GVA and BD men would be more likely than other subtypes to have a poor response to BIP. Conversely, one could also hypothesize that FO men, who present with the least amount of intimate partner violence and psychopathology, may not believe they need BIP and may therefore be more likely to prematurely terminate BIP, which in turn may potentiate risk for partner violence continuance.

Part III

Objectives and Hypotheses

The premise of the present project is that by understanding the stages of change and their correlates among men court-mandated to attend batterer intervention programs, it may be possible to predict degree of therapeutic involvement, utilization of effective behavior change processes, and post-therapeutic outcomes of direct relevance to criminal justice organizations.

Hypotheses:

1. **Determine the extent of attrition from, and recidivism following, batterer intervention programs among study participants court-mandated to attend such treatment in Dallas County during a 13-month period.**

   1a. Based upon previous research, it is predicted that be men who do not successfully complete the court-mandated BIP will be younger, occupationally unstable, of non-white racial/ethnic origin, and with a longer history of prior criminal offenses.

2. **Evaluate the relationship of pre-treatment stages of change scores to self- and partner reported behavioral, cognitive, and affective variables**:

   2a. Pre-BIP stages of change scores (as measured by the URICA-DV and Safe at Home scales) will be correlated with the degree of psychological and physical abuse in the previous 12 months, as reported by both participants and available female partners.

   2b. More change resistant individuals will show a greater degree of cognitive (attitudes toward violence, hostility toward women) and affective disturbances (anger, general psychopathology) than those with more change-promoting scores on readiness to change measures.

   2c. Cluster analyses of the stage of change scales will result in a three-to-four cluster solution that can be progressively arranged along the stages of change construct (from Precontemplation to Maintenance).

2d. Individuals in more change resistant clusters will (1) report higher levels of IPV and emotional abuse, and (2) will report higher levels of emotional distress and cognitive disturbance at pre-BIP.

3. **Presence of Batterer Subtypes and Relationships with Stages of Change Variables.**

3a. Male participants will group into four batterer subtypes according to scores on Pre-BIP CTS-2 Physical Assault, Violence Generality, and the MCMI-III subscales of Antisocial, Borderline, and Dependent. The subtypes will correspond to those found previously by Holtzworth-Munroe and colleagues (Holtzworth-Munroe & Stuart, 1994; Holtzworth-Munroe et al., 2000): Family-Only (FO), Borderline/Dysphoric (BD), Generally Violent/Antisocial (GVA), and Low-Level Antisocial (LLA).

3b. The subtypes are hypothesized to align in order of severity in terms of scores on the stages of change measures, with GVA showing less readiness to change than BD men, who in turn will show less readiness than LLA men, who in turn will be less ready to change than FO men.

3c. It is hypothesized that men in more "disturbed" batterer subtypes (BD, GVA) will also group into more change-resistant stages of change clusters.

4. **Relationships among pre-BIP stages of change related variables, batterer subtypes, perpetrator dispositional characteristics, and criminal justice outcomes**.

4a. Using chi-square and logistic regression analyses, stage of change cluster membership as well as individual subscales from stage of change measures will be significantly related to BIP completion, criminal recidivism, and self-partner reported domestic violence recidivism.

4b. Chi-square analyses will reveal that more severe batterer subtypes (BD, GVA) determined by measures administered pre-BIP will predict BIP dropout, criminal recidivism, as well as

self/partner reported domestic violence recidivism .

4c. Logistic regression analyses will be used to evaluate whether other perpetrator characteristics (demographic factors, alcohol/drug usage, cognitive/affective variables) predict BIP completion, criminal recidivism, and self-partner reported domestic violence recidivism. Based on previous research, it is expected that African-American men, men with drug and alcohol problems, and men who positively endorse the use of violence in relationships will be more likely to drop out of treatment and reoffend.

5. Examine patterns of change across the study period (approx. 13 months) for stages of change-and processes of change-related variables.

5a. In terms of stages of change measures, men should exhibit a decrease in Precontemplation, a decrease in Contemplation, an increase in Action, and an increase in Maintenance between the Pre-BIP and post-BIP interviews (approximately 24-27 weeks apart).

5b. In terms of processes of change, between the Pre-BIP and post-BIP interviews (approximately 24-27 weeks apart), men should exhibit a general decrease in Experiential processes of change usage and an increase in Behavioral Processes of Change.

6. Evaluate the relationship among stages of change and processes of change profiles over the 13-month study period and criminal justice outcomes.

6a. Stages of change scale profiles will vary as a function of stages of change cluster membership, with those in more Precontemplative clusters showing a profile with high Precontemplation and low Action, and those in more Action-oriented clusters exhibiting low Precontemplation and high Action.

6b-6e. Relationships among stages of change profiles and criminal justice outcomes (BIP completion, criminal recidivism, self-partner reported domestic violence recidivism, and

self/partner reported assault-related injury) will be examined. It is predicted that for each outcome variable, men in the more problematic outcome category will show a more precontemplative profile with less change over time and a flatter profile shape.

6f-6i. The relationships among processes of change profiles and criminal justice outcomes (BIP completion, criminal recidivism, self-partner reported domestic violence recidivism, and self/partner reported assault-related injury) will be examined, using male as well as female reports of male processes of change usage. It is predicted that for each outcome variable, men in the more problematic outcome category will show little change in process usage over time, and will report using generally fewer processes relative to men in the non-problem categories.

Part IV

RESEARCH DESIGN AND METHODS

Participants

Male participants consisted of 199 men convicted of a misdemeanor assault offense involving an intimate female partner in Dallas County, Texas. Sixty female partners of men in enrolled in this project also participated. Male participants were recruited from the domestic violence court in Dallas, Texas (County Criminal Court #10, a misdemeanor court). Inclusion criteria were a guilty or no contest plea of assault (class A) with a positive finding of family violence toward an intimate partner, the ability to read and speak English fluently and being 18 years of age or older. Female partners were recruited based upon intake information provided by males. Additional details about participant recruitment are presented in a subsequent section. Participants (both male and female) were paid a total of $120 for their involvement in this study. Demographic data for male and female participants can be found in Table 3. In general, male participants were in their early thirties; predominantly African-American; undereducated; in blue-collar professions earning less than $30,000/year; equally likely to be married, divorced, or separated; and had at least one child. Female partners were more likely to be white, married, better educated, in higher status occupations, and married.

Procedure

Recruitment and screening: Males. Men were recruited during the batterer intervention intake orientation at the Domestic Violence Court in Dallas, Texas. This bi-weekly orientation was held in the central jury room of the Dallas County courthouse was instituted in order to increase attendance rates at area BIP programs. Following a presentation by the judge and officer of the domestic violence court concerning probation terms and expectations, a representative from a local BIP agency gave a presentation about their approach to treatment. Following this presentation, men adjudicated in the domestic violence court during the previous two weeks registered at one of five different area agencies and pledged to attend an intake session in the following two weeks. To ensure eligibility, the study's courthouse representative screened scheduled attendees' files prior to the

orientation session and provided the research assistants with a list of eligible potential participants for each orientation session. Research assistants set up a table directly behind the district attorney's sign-in counter and gave potential participants a verbal description of the study, including information that their participation was voluntary and that the study was not connected to the proceedings of the court or the processes of the probation department. If the male expressed interest in the study, project representatives scheduled the pre-BIP interview date/time/location and gave the man a flyer describing the study in detail. Out of the approximately 550 men who were eligible to enroll in this study, 350 expressed interest in participating. Of these, 200 men actually kept their scheduled appointment and/or were able to be rescheduled for a different day or time and are the focus of the present report (data for 1 man was lost due to computer malfunction thus reducing the final dataset to 199). Recruitment lasted for 18 months.

Recruitment and screening: Females. A total of 60 female partners of study participants were also assessed during the course of this project. As there was no allowable mechanism to directly recruit victims or new partners into the study from official records or criminal justice personnel (i.e., victims' names were sealed and unavailable to the research staff), project staff asked men (a) whether they were in a current romantic relationship, and (b) to provide their names and phone numbers for "contact purposes." Less than 50% of male participants indicated that they indeed had a current female romantic partner, and of the 95 contact names and phone numbers, we were able to successfully recruit 60 women into the study. The primary reason the remaining 35 women were not recruited was in ability to contact due to nonworking phone numbers (27 of 35). The remaining three either refused or were encouraged not to participate by research staff for safety concerns. Study interviewers (all female) proceeded with the recruitment phone call to female partners only if the individual answering the phone was female. Telephone contact was then maintained if female partners (a) expressed interest in learning more about the study, and (b) felt sufficiently safe to answer questions concerning their experience as a victim of domestic violence, with safety determined by administration of the Danger Assessment Inventory (Campbell, 1995). If the female expressed interest in participation, project staff indicated they would send a more detailed description of the study to the address of her choosing. This consent packet included a thorough description of the study's

purpose and personnel (e.g., that staff were not connected to the DV court, probation department, or BIP program), an informed consent form, and her desired mechanism of payment (check mailed to address of choice or cash dispersement at some other location) and contact (project interviewers calling her at home, interviewers calling some other phone, or female participant calling the project's toll-free phone line). Area domestic violence resource contacts were also provided. Only after receipt of a signed consent form and clear documentation of her desired method of contact did formal administration of project questionnaires commence. We attempted to keep track of changes in the amount of contact existing between the female and male partners. Again, because we were not granted access to victim information during male recruitment, we have no official information on the number of protective orders or other factors that might have limited the degree of contact between male and female participants. Female participants were paid $120.

Interviews. All measures were completed using a computer-assisted structured interview (CASI) program designed specifically for this study. Pilot testing revealed that a majority of men from this population had difficulty with self-administration of our measures (via paper-and-pencil or computer), largely because of reading difficulties and poor computer navigation skills. The Microsoft Access-based CASI program presented each question from each scale of the project questionnaire battery (see below) to the interviewer to read aloud, who then recorded participant's responses by pointing-and-clicking on the appropriate response option. To facilitate responding, participants provided answers from a spiral notebook containing laminated and enlarged response options for each questionnaire that was administered. All response data were organized in the CASI database on each laptop computer for eventual download into a desktop computer. Computer malfunctions led to the interviews being administered via paper-and-pencil on several occasions. Project interviewers were primarily female and undergraduate or graduate students at Southern Methodist University.

The interviews were timed to approximately coincide with male participants' progression through the 24-week BIPs that are the standard in the state of Texas. However, there was substantial variation across participants and BIP providers regarding the actual start dates of the program, as well as variation in participants' probation terms regarding the BIP expected commencement date (although all programs mandate 24 sessions). In addition,

some of the men did not have BIP assigned as part of their probationary term and/or did not attend a single BIP session. Thus, it is important to keep in mind that this project was not designed to study BIP effectiveness; rather, the goal was to assess important participant and partner factors over a 13-month post-adjudication period, with most of the men attending BIP during the first half of that period. The initial interview (Pre-BIP) took place approximately two weeks before the start of the participant's treatment program at various locations in the Dallas metroplex of convenience to the participant (e.g., public libraries, university lab, probation department office). This initial interview (Pre-BIP) took approximately 60 minutes to complete. Male participants were then interviewed three times during their schedules BIP program: once in the first three weeks (early-BIP), a second time during the BIP midpoint (mid-BIP; weeks 10-14) and a third time designed to correspond with the BIP completion (post-BIP; wks. 22-26). Participants were then interviewed six months after their scheduled BIP completion (6-Month F-U).

Female participants were interviewed via telephone at similar time intervals as males. When possible, we attempted to interview female participants at the same time their male partners were being interviewed at other locations. However, since we did not have access to female partner contact information prior to the Pre-BIP male interview, the first female partner interview did not typically occur until 1-2 weeks after the male Pre-BIP interview. Thus, female participants were initially interviewed as their male partner was scheduled to commence BIP (FINT1), with information assessed during that time worded to correspond to the time frame used in the male Pre-BIP interview. A second interview (FINT2) was administered between weeks 6-8, a third interview (FINT3) was administered between weeks 12-14, a fourth interview (FINT4) was given at the end of treatment (wks. 22-26), and a final interview (FINTF-U) was administered six months post-BIP. Thus, males and females were each administered five assessments, but at slightly different time intervals; females were interviewed four times during their male partners' BIP while males were interviewed three times during BIP. Participants, both male and female, each received a total of $120 for their participation in this study.

Measures

See table 4 for an outline of the administration schedule of the measures used in this study.

Transtheoretical Model Measures -- Males

University of Rhode Island Change Assessment Scale- Domestic Violence (URICA-DV). The URICA-DV is a 20-item questionnaire designed to assess the stages of change according to the dimensions of the Transtheoretical Model (TTM). The scale provides subscale scores for the Precontemplation (e.g., "The violence in my relationship isn't a big deal"), Contemplation (e.g., "I'm beginning to see that the violence in my relationship is a problem"), Action (e.g., "I'm finally doing something to end my violent behavior"), and Maintenance (e.g., "Although I haven't been violent in a while, I know it's possible for me to be violent again") stages, as well as a global Readiness to Change Index (RCI: Contemplation + Action + Maintenance- Precontemplation). There are five items per stage. Participants responses are scored along a 5- point Likert scale with 1=strongly disagree and 5= strongly agree. Principal components analyses suggested that while items from three of the four URICA-DV subscales (Precontemplation, Action, and Maintenance) loaded cleanly on to separate factors, items on the Contemplation scale were not well-differentiated from the Maintenance and Action stages (Eckhardt et al., in press). Levesque et al. (2000) found the following internal consistency estimates (coefficient alpha) for the four subscales: Precontemplation (.72), Contemplation (.73), Action (.81), and Maintenance (.68). Eckhardt et al (in press) reported similar alphas for Precontemplation (.63), Contemplation (.77), Action (.85), and Maintenance (.75) scales. In the present sample of partner assaultive males, the following alpha coefficients were obtained: Precontemplation (.58), Contemplation (.83), Action (.91), and Maintenance (.77).

Safe At Home (SAH; Begun et al., in press). The 35-item SAH was also designed to assess the stages of change. The scale provides subscale scores for the Precontemplation, Contemplation, and Action stages. Furthermore, it also provides a Readiness to Change index (RCI; Contemplation + Action - Precontemplation). Participants responded using a 5- point scale with 1=strongly disagree and 5= strongly agree. The SAH and URICA-DV differ substantially in their wording. Whereas the URICA-DV questions men directly about their usage of physical violence, the SAH makes no mention of physical aggression and instead phrases the questions

concerning the man's current situation, attitudes toward women, and general attitudes toward change (e.g., "I have a problem with losing control", "It's her fault I act this way when we disagree", and "I've been thinking a lot about how to change the way I act"). It has been demonstrated that readiness to change predicts a perpetrator's assumption of personal responsibility for his abusive actions. Specifically, it was found that while the Contemplation stage was positively associated with perpetrators' perception of responsibility ($r = .52$, $p < .001$), the Precontemplation subscale was negatively associated with responsibility ($r = -.38$, $p < .001$) (Murphy, Begun & Strodthoff, 2000). The SAH also includes a one-item stage of change item, wherein the respondent is asked to choose one response from a series of five statements that best describes how far he has progressed in his efforts to change:

a. I am not really making any changes

b. I am thinking about making changes in the future

c. I am getting ready to make changes or I have made some changes already

d. I have made some important changes and I have more to do

e. I have made the changes I needed to make and now I have to keep up the good work

This item is not included in the various summary scores but will be used to compare male-female responses on participant stage of change. Internal consistency estimates were as follows: Precontemplation, $\alpha = .67$; Contemplation, $\alpha = .86$; and Preparation/Action, $\alpha = .72$.

Processes of Change Scale (POC). This 41-item measure assessed usage of experiential and behavior processes by the participant in the last two weeks (Eckhardt et al., in press). The POC is based upon a 40-item Processes of Change Smoking Scale (Prochaska et al., 1988; Velicer et al., 1995). This original scale was reworded with the assistance of "focus groups" consisting of counselors from a local BIP program concerning the transtheoretical model of change and its relevance to partner assaultive men. Four items represent each of the 10 process dimensions, as well as an additional process (Physical Interventions) indexed by a single item to assess whether men report using some type of medication to help them change. All items were scored on a 5-point

frequency scale with 1 = Never and 5 = Repeatedly. Exploratory factor analyses did not support a separate dimension for each of the 10 processes of change. Rather, cross-sectional data indicated that the scale's internal structure best fits a two-factor model, with experiential and behavioral processes loading onto largely separate factors (Eckhardt et al., in press). In addition, the single Physical Intervention/Medication item was negatively correlated with the total score and the Behavioral scale. Thus, it will be removed from all further analyses. In the present sample, the Total POC scale had an excellent internal consistency reliability of α = .96, as did the POC Experiential (α = . 92) and the POC Behavioral (α = .92) scales.

Transtheoretical Model Measures – Females

Single-Item Stage of Change Measure. In order to assess females' perceptions of their male partners' ability to change, female respondents were asked to select one response from a list of five statements at each assessment period:

I. I do not think my partner intends to stop abusing me in this way.

II. I think my partner intends to stop abusing me in this way in the distant future.

III. I think my partner intends to stop abusing me in this way very soon.

IV. While he did not abuse me in the previous ____ weeks/months, I do not think he is ready to stop abusing me altogether.

V. He did not abuse me in the previous ____ weeks/months, and I believe he will not abuse me in the foreseeable future.

These statements were arranged in order from least to most ready to change, and were designed to be a brief collateral measure of male stages of change.

Processes of Change – Short Form. Because we wanted to reduce the amount of time we kept female partners on the phone, we were reluctant to create a parallel version of the 40-item Processes of Change scale for female partners. Thus, using prior internal consistency data with male IPV perpetrators (Eckhardt et al., in press), we examined item-total correlations between each of the four items within the 10 processes of change subscales

on the POC, and selected the item with the highest item-subscale correlation from each subscale. These 10 items in turn were reworded to be relevant to female partners and were administered as a brief collateral assessment of their male partners' usage of change processes.

Partner Abuse Measures – Male & Female

Conflict Tactics Scale - Revised (CTS-2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The CTS-2 was used to determine the frequency and severity of intimate partner violence. The CTS-2 possesses five scales, four of which were interest to the present study: Psychological Aggression (8 items; $\alpha = .70$), Physical Assault (12 items; $\alpha = .77$), Sexual Coercion (7 items; $\alpha = .32$), and Injury (6 items; $\alpha = .66$). Items were scored according to a frequency-weighted scoring system (Straus, 2001), which utilizes a 0 (never), 1 (once in previous year), 2 (twice in previous year), 4 (3-5 times), 8 (6-10 times), 15 (11-20 times), and 25 (more than 20 times) scaling format. We also utilized a scoring algorithm for this scale that provided subscale scores and prevalence data for minor (pushing, shoving, twisting arm/hair, grabbing, slapping) versus severe (punching, hitting, choking, burning, kicking, weapon threat/usage) assault. At the pre-BIP interview, respondents answered CTS-2 items in reference to assaultive behavior that occurred during the previous year. For administrations of the CTS-2 occurring after BIP commencement, item wording was modified to refer to behaviors occurring since the respondent's last interview (e.g., 6-8 weeks during BIP, 6 months at the follow-up interview).

Emotional Abuse Scale (EAS; Murphy, Hoover, & Taft, 1999). The 28-item MEA was used to determine the presence and severity of partner emotional abuse across four dimensions over the past 6 months. The four dimensions are Dominance/ Intimidation (behaviors that produce fear or submission through the display of symbolic aggression); Restrictive Engulfment (behaviors that try to limit perceived threats by increasing partner dependence and availability); Hostile Withdrawal (behaviors that increase partner anxiety and insecurity about the relationship); Denigration (behaviors that reduce the partner's self- esteem and self-worth). The response choices for the EAS are: 0= Never, 1= once, 2=Twice, 3= 3-5 times, 4= 6-10 times, 5= 11-20 times, 6=

more than 20 times, 7= Not in the past six months, but it did happen before. Murphy et al. reported the following internal consistency estimates: Dominance/ Intimidation (.79), Restrictive Engulfment (.83), Hostile Withdrawal (.86), and Denigration (.81). In the present sample of males, we utilized the total score, with higher scores reflecting greater enactment of emotionally abusive behaviors, which had a strong internal consistency estimate (α = .90).

Relationship Satisfaction. Male and female participants were asked two questions concerning their present intimate relationship, adapted from the Dyadic Adjustment Scale (Spanier, 1976). First, respondents were asked to index their current level of relationship satisfaction along a 6-point scale, with 0 = "Extremely Unhappy" and 6 = "Perfect." Second, respondents were asked to select one statement from a list of six response options in order to best characterize the future of their current relationship, ranging from "I want desperately for my relationship to succeed, and would go to almost any length to see that it does," to "My relationship can never succeed, and there is no more that I can do to keep the relationship going."

Other Variables: Males

Millon Clinical Multiaxial Inventory –III (MCMI-III; Millon, 1994). We utilized three scales from the MCMI-III hypothesized to be relevant to the partner violence typology construct: Antisocial, Borderline, and Dependent (Holtzworth-Munroe & Stuart, 1994). The Antisocial subscale consists of 16 items, with high scorers endorsing a variety of illegal, aggressive, irresponsible, and/or psychopathic behaviors. The 16-item Borderline subscale assesses the degree to which respondents endorse a tendency toward intense and variable moods, an unstable identity, and impulsively destructive attempts to secure close relationships. The 15-item Dependent subscale assesses respondents' fear of negative evaluation by a loved one, concerns about being abandoned by a romantic partner, and reliance on others to make important decisions. All items were presented in a True-False format, and were scored using the weighting algorithms provided by Millon (1994).

General Violence Measure (Waltz, Babcock, Jacobson, & Gottman, 2000). Participants were asked to

report the presence of prior aggressive altercations with family members, friends, coworkers/bosses, acquaintances, strangers, police officers, or in military/combat situations. Respondents' reports of the number of people toward whom he was aggressive during the previous year were summed into a total violence generality score (α = .93).

Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). The AUDIT is a brief 10-item screening measure that assesses amount and frequency of alcohol use (3 items), alcohol dependence (3 items), and alcohol-related problems (4 items) over a one-year period of time. Despite its limited number of items, the AUDIT has been shown to possess strong psychometric properties (Bradley et al., 1998; Clements, 1998), with internal consistency estimates (coefficient α) of .87 and higher (McCann, Simpson, Ries, & Roy-Byrne, 2000). Scores of eight and above have traditionally been used to identify those with probable alcohol problems. In the present sample, we obtained a similar internal consistency estimate (α = .89).

Drug Abuse Screening Test (DAST; Skinner, 1982). The 28-item DAST assessed the presence and degree of consequences relating to drug use and abuse. Questions are presented in true-false format and address, for example, the presence of blackouts, flashbacks, legal problems, social/occupational impairments, and drug cessation attempts. The DAST has high internal consistency estimates (α = .92; Skinner, 1982) and principal components analyses suggest that the DAST assesses a unitary construct (McCann et al., 2000). In the present sample, we also obtained a high internal consistency estimate (α = .97).

Hostile Automatic Thoughts Inventory (HAT; Snyder, Crowson, Houston, Kurylo, & Poirier, 1997). The 30-item HAT assesses the presence and degree of automatic thoughts associated with hostility and anger arousal. Items on the HAT are clustered into three factors: Physical Aggression (11 items; e.g., "I want to kill this person!"), Derogation of Others (10 items; e.g., "What an idiot!"), and Revenge (9 items; e.g., "This person needs to be taught a lesson"). Respondents are asked to think about situations that occurred the previous week, including those involving a female intimate partner, and on a 5-point scale, rate the frequency that each

thought occurred. Snyder et al. (1997) reported that the HAT had excellent internal consistency (overall $\alpha = .94$), was more strongly correlated with measures of hostility (r's = .55-.62) than measures of negative emotion (r's = .29-.33), and did not correlate with a measure of positive automatic thoughts ($r = .07$). In the present report, we were only interested in the total score, which had adequate internal consistency ($\alpha = .74$).

Acceptance of Interpersonal Violence (AIV; Burt, 1980). The AIV assessed the degree to which men endorse the use of violence in close relationships ("A man is never justified in hitting his wife"). The six items are scored along a 7-point scale, with 1= Strongly Agree, 4= Unsure, and 7= Strongly Disagree. The items (some reverse scored) are summed such that higher scores indicate greater acceptance of interpersonal violence. The AIV has been used in previous studies of violence-related attitudes in a partner violent sample (Holtzworth-Munroe et al., 2000), with marginal internal consistency estimates ($\alpha = .58$). In the present sample, internal consistency was very poor ($\alpha = .27$).

Hostility Towards Women Inventory (HTWI; Check, Malamuth, Elias, & Barton, 1985). The 30-item HTWI was administered in order to obtain an index of males' attitudes toward women. Item content concerns resentment of women in general ("Women irritate me a great deal more than they are aware of") and a general suspicion of women's motivations ("It is safer not to trust women"). Responses are given in a True/False format (scored 1 and 0, respectively), with higher scores suggestive of hostility towards women. Using a community sample of intimate violence perpetrators, Holtzworth-Munroe et al. (2000) reported that the HTWI's internal consistency to be excellent ($\alpha = .91$). In the present sample, internal consistency was adequate ($\alpha = .82$).

Social Desirability. Male participants completed a short form of the Marlowe-Crowne Social Desirability scale (SDS; Reynolds, 1982) to control for the tendency to "fake good." This version of the Marlowe-Crowne (Form C) contains the 13 items having the highest item-total correlations with the complete 33-item version (Crowne & Marlowe, 1960). As stated by Reynolds (1982), "The [SDS] with 13 items demonstrates an acceptable level of reliability ($r_{KR\text{-}20} = .76$) and compares favorably with the reliability of the standard form ... although it has one-third less items than the latter form" (p. 123). Additionally, scores obtained from the short form of the

MCSD were strongly correlated with scores on the 33-item version (r = .93). In the present sample, internal consistency was adequate (α = .74).

Trait Anger Scale (TAS; Spielberger, 1988). The 10-item TAS was administered to assess the frequency that an individual experiences state anger over time and in response to a variety of situations. The TAS consists of two subscales, Angry Temperament and Angry Reaction, with alpha coefficients of .85 and .73, respectively (Fuqua et al., 1991). Ample evidence has been published concerning the psychometric adequacy and construct validity of the TAS (e.g., Deffenbacher et al., 1996; Eckhardt, Norlander, & Deffenbacher, in press; Spielberger, 1988). The TAS yielded good internal consistency in the present sample (α = .85).

General Health Questionnaire. The GHQ-12 (Goldberg, 1997) was administered as a brief psychopathology screen. The 12 items comprising this scale correspond to concerns about depressed mood, elevations in stress, difficulty concentrating, general adaptation, and satisfaction with life. High scores indicate higher levels of psychopathology. Using a bimodal response scale (0-0-1-1), high scores indicate higher levels of psychopathology with a maximum score of 12. Reliability and validity coefficients for the GHQ-12 were reported as follows (Goldberg & Williams, 1998): split half (0.83), test-retest (0.73), specificity (78.5%), and sensitivity (93.5%). In the present sample, we obtained an internal consistency estimate of .77.

Other Variables: Females

Quality of Life/Safety Perception Assessment. Using items originally developed by Gondolf (1999), we assessed female partners' quality of life ("Since the last interview, Would you say that your life is generally better, worse, or about the same?"), perceptions of safety ("How safe do you feel at this point?" with a five option response ranging from Very Safe to Very Unsafe), and likelihood of future violence ("How likely is it that your partner will hit you in the next few months?" with a five option response choice ranging from Very Unlikely to Very Likely).

Criminal Justice Data

In order to assess BIP attendance and criminal recidivism, study personnel were given full access to the Dallas County probation department's computer records, which provided updated information concerning BIP attendance (as reported by each agency to probation officers on a monthly basis) and arrest history (as compiled by probation staff on a monthly basis). Study personnel reviewed each participant's case during the follow-up period (six months post-BIP completion, which corresponded to approximately 13 months post-adjudication) and recorded relevant information concerning BIP attendance and recidivism on a coding spreadsheet.

BIP Completion. We utilized the dichotomous definition of program completion used by BIP agencies in the Dallas area, wherein successful BIP completion was defined as attendance at all 24 weekly sessions, with up to three excused absences, and attendance at an exit interview. Men who were absent on more than three occasions, regardless of the reason, were considered unsuccessful and in violation of their probation terms. In addition, men who dropped out of the program, who were rearrested for other charges, or who were dismissed from the program for disciplinary or mental health reasons were also coded as unsuccessful. While some researchers (e.g., Chang & Saunders, 2002; Daly et al., 2001) have expressed concerns about dichotomizing BIP attendance given the arbitrary nature of the session cut-offs used to define completion, we nevertheless opted to use a dichotomous definition. The reasoning behind this was that both participants and criminal justice system personnel (BIP staff, probation officers, judges) were acutely aware of, and conceivably made decisions about attendance and attendance-based contingencies using, this admittedly arbitrary cut-off of three or more missed sessions. Thus, failure to satisfy the cut-off invoked the threat of probation revocation, an arrest warrant, or jail, all of which represent important categorical consequences that might be lost if one opted to use a continuous measure of BIP completion (e.g., number of sessions attended). BIP completion data were available on 186 cases.

Rearrests. Recidivism data were based upon Dallas County arrest records obtained from probation department records and were coded according to the nature of the offense. As the state of Texas unfortunately does not have a separate intimate partner assault arrest code, we were only able to classify cases as non-assault rearrest vs. assault-related rearrest. Complete arrest data were available on 181 cases.

Self/Partner-reported partner violence recidivism. In addition to official recidivism records, we created a new binary variable regarding the occurrence of self- or partner-reported physical assault during the 13-month study period. As described earlier, male participants and available female partners were administered the CTS-2 at five points over a 13-month period of time: the Pre-BIP interview, three times during the 24-week BIP (corresponding to early-BIP, mid-BIP, and post-BIP), as well as six months post-BIP. If male participants indicated the enactment of a new act of violence during any interview following pre-BIP, or if a female partner reported being the target of male physical violence (regardless of corroborating evidence for any single IPV event), it was coded in the affirmative as unofficial self/partner reported partner violence recidivism. Of the 199 men in the study, we had complete self-reported partner violence recidivism data on 141 cases, with the remaining cases missing due to inability to contact either dyad member following the pre-BIP interview (38 cases) or the male reporting no post-adjudication contact with a female partner (20 cases).

Part V

RESULTS

Missing Data. Before evaluating study-specific hypotheses, it should be noted that we encountered a significant problem with missing data. In general, we experienced a large drop in participants from the Pre-BIP interview (n=199 with complete data) to the early-BIP interview (n = 88; 44% complete data). Twenty-eight percent of subjects were assessed at the third interview (mid-BIP), 30% at the fourth interview (post-BIP), and 41% at the six-month follow-up. Thirty-one-and-a-half percent were interviewed at Pre-BIP only, 24% provided only two interviews, and 44% were interviewed three or more times. Overall, only 8% of males gave us complete data, i.e., only 16 men have complete data from each interview period. This was a particularly frustrating result, especially given the extensive efforts undertaken by project and county staff to locate missing individuals, which included having participants list three people who might know of there whereabouts, refrigerator magnets with study contact information and the participant's next appointment time, reminder phone calls, letters thanking participants for their involvement in the study, and holiday cards. It is worth noting that almost two out of every three men (61.5%) in this sample were (a) wanted on an outstanding arrest warrant, (b) jailed, or (c) labeled absconders by their probation officers during the 13-month study period. Extensive attempts to locate and contact these individuals were undertaken by project and county probation department personnel. Despite these efforts, 72% of these men provided us with three interviews or less. Thus, most of the men that we were unable to contact were also out of contact from county officials.

The unfortunate result of this missing data problem is that we are unable to evaluate many of the hypotheses involving variables assessed longitudinally (hypotheses 5 and 6), given that the data analytic methods required to evaluate such hypotheses fail in the presence of substantial missing data. Thus, while we recognize the need for such analyses in the context of these variables, we are unable to satisfy the assumptions of these tests. We will instead impute missing data using an EM-based algorithm when it appears that cases were indeed missing at random and the number of missing cases is less than 50%, or approach the data from a purely descriptive standpoint (frequency distributions, profile analyses, etc.).

Objective 1: ***The extent of attrition from, and recidivism following, batterer intervention programs among study participants in Dallas County during a 13-month period.***

Table 5 lists the general findings concerning BIP attrition, criminal recidivism, and other related variables. As a group, the men in this study had difficulty completing the terms of their probation, as 57.6% of the men violated various terms of their probation, 20.8% had their probation revoked, and 17.7% had their revocations pending before the judge. Among those whose probation was revoked or whose revocation was pending during the study period, 39% had active warrants issued for their arrest, 16.9% were considered absconders, and 1.6% were in jail (all others were awaiting the judge's action by the end of the study period).

Regarding BIP attrition and completion, 59.1% of our sample (n = 186 with complete data) completed their mandated 24-week BIP. Reasons for unsuccessful BIP completion were (a) voluntary non-attendance (65.5%), (b) agency dismissal (16.4%), (c) voluntary dropout (14.5%), (d) missing exit interview (1.8%), and nonattendance during appeal of conviction (1.8%).

In terms of general criminal rearrest, 27.1% of the sample were rearrested during the 13-month study period (n = 181 with complete data). Only 5.4% (n = 10) of the total sample were rearrested for an assault-related charge, which represents our only available official index for domestic violence reoccurrence (Texas does not have a separate domestic violence arrest code).

In terms of unofficial self/partner-reported physical assaults during the index period, 61.7% of our male respondents (87 of the 141 respondents with complete CTS-2 Physical Assault scale data) physically assaulted an intimate partner.

BIP attrition was related to the race/ethnicity of the perpetrator, $\chi^2(2) = 12.06$, $p < .002$. Relative to those who completed BIP, African-Americans/Blacks were overrepresented among BIP dropouts (62.2%), and Latinos/Hispanic Americans (13.5%) and Caucasian/Whites (24.3%) were somewhat underrepresented. Overall, 54.1% of African-American/Black individuals dropped out of BIP, relative to 27% of Latinos/Hispanic-Americans, and 30% of whites. Racial/Ethnic background factors were not significantly related to other outcome variables.

BIP attrition was significantly related to post-offense arrests, $\chi^2(1) = 10.50$, $p < .001$. More than twice as many BIP dropouts (39.7%) than completers (17.9%) were rearrested during the 13-month study period. Overall, of those arrested one or more times post-adjudication, 60.4% were BIP dropouts. The relationship between BIP completion and the presence of an assault rearrest approached significance, $\chi^2(1) = 2.70$, $p = .10$, with almost three times as many BIP drop outs (8.1%) being arrested for an assault-related charge during the index period versus BIP completers (2.8%). BIP completion was unrelated to frequency of prior arrests ($\chi^2(2) = 0.01$) and self/partner reported assault recidivism, $\chi^2(1) = 0.25$.

Objective 2: Pre-treatment stages of change: Relationships with self- and partner-reported behavioral, cognitive, and affective variables.

2a. Relationship among pre-BIP stage of change variables and self/partner-reported abuse in the 12 months prior to BIP.

As can be seen in tables 6 and 7, readiness to change variables, as measured by the URICA-DV and SAH, were significantly but weakly correlated with other IPV-related variables as reported by both participants and female partners. The significant correlations that did emerge were largely from male self-reported IPV variables. The exception to this was that higher scores on the URICA-DV Precontemplation scale were correlated with female partner-reported CTS-2 Severe Physical Aggression ($r = .29$). SAH Precontemplation was also positively related to male reports of Severe Physical Aggression ($r = .18$) and Severe Injury to females ($r = .20$), although these relationships explain little variance. SAH scales, especially Contemplation, showed a pattern of more frequent and higher magnitude correlations with abuse-related CTS-2 subscales. SAH Contemplation was significantly related to male reports of Minor Physical Aggression ($r = .38$), Severe Physical Assault ($r = .28$), Minor Injury to females ($r = .32$), and Severe Injury to females ($r = .26$). URICA-DV Contemplation was also related to self-reported Minor Physical Aggression ($r = .26$) and Minor Injury to females ($r = .23$). Interestingly, these correlations were in the positive direction, suggesting higher scores on SAH and URICA-DV Contemplation

as well as the URICA-DV Readiness to Change Index, were associated with more violence and violence-related injury.

Regarding psychological aggression/emotional abuse, a similar pattern emerged (see table 7). In terms of female reports of being the recipient of male emotional abuse, higher scores on female-reported Severe Psychological Aggression and the total score of the Emotional Abuse Scale were significantly associated with higher scores on the URICA-DV Maintenance scale. Interestingly, lower male SAH Action scores were significantly correlated with female reported Severe Psychological Aggression (r = -.30), suggesting that higher levels of female-reported severe psychological abuse are associated with male-reported reluctance to take steps toward change. In terms of male reported psychological abuse, SAH Contemplation was once again associated with all forms of CTS-2 and EAS emotional abuse (r's range = .31 - 32). Similarly, URICA-DV Contemplation scores were positively correlated with self-reported perpetration of emotional/psychological abuse, although the magnitude of these associations were much smaller than those with the SAH (r's range = .16 - .19). Once again, the bulk of significant correlations were in the positive direction, indicating that more positive attitudes toward change were related to more psychological abuse.

2b. Relationships among stages of change subscales and other variables.

Table 8 presents bivariate correlations among stage of change-related variables and other psychological variables. As can be seen, higher scores on both the URICA-DV and SAH Precontemplation scales are significantly associated more negative attitudes toward women on the HTWI. URICA-DV Contemplation was related to alcohol problems on the AUDIT (r = .25, $p < .01$) and increased trait anger levels of the TAS (r = .24). SAH Contemplation was related to a wide assortment of variables, including alcohol use (r = .25), drug use (r = .39), mental health symptoms (r = .22), trait anger (r=.44), and hostility toward women (r =.32). Both scales' Action subscales showed almost no bivariate relationships with the various psychological measures of interest. Interestingly, URICA-DV Maintenance revealed significant relationships of moderate magnitude with all pre-BIP study variables.

2c. Pre-BIP stages of change clusters.

URICA-DV Cluster Analysis. While it is not possible to determine an individual's precise stage of change by looking at a single scale from the URICA-DV, inspection of individuals' pattern of URICA-DV subscale scores may provide information about how their scores cluster together to form stage-like profiles. Toward this end, cluster analysis was used to classify the 199 males who completed the Pre-BIP interview into a smaller number of homogeneous clusters based on URICA-DV subscale profiles. Squared Euclidean distance was selected as the similarity/dissimilarity measure and Ward's (1963) hierarchical agglomeration method was used as the clustering method. Participants' scores on the separate URICA-DV dimensions were first summed and converted to z-scores, and Ward's method was used to cluster individual cases, and then groups of cases, in a manner that minimized within-group error sums of squares. Since there are no completely satisfactory methods available for determining the number of clusters to retain, the decision in this case was based on hierarchical dendogram inspection and profile interpretability. K-means analysis cluster was used in order to confirm the results of the cluster analysis. K-means analysis was conducted using cluster means derived from the hierarchical cluster analysis as seeds for K-means groups.

We had complete URICA-DV data for 166 of the 199 men. Missing data were imputed using an EM algorithm-based multiple imputation method (Rubin, 1987)[1]. The cluster analysis using the fully imputed dataset yielded a 4-cluster solution. URICA-DV Precontemplation, Contemplation, Action, and Maintenance subscale raw scores for each cluster are reported in table 9, and standardized (T-scores: M = 50, SD = 10) mean subscale scores for each cluster are presented in figure 1. The four clusters are described below in an order that appears to

[1] As discussed by numerous authors (e.g., Collins, Schafer, & Kam, 2001; Schafer & Olson, 1998), unnecessary loss of statistical power and increased Type I and Type II error rates can result given the presence of missing questionnaire data. Rather than removing whole cases because they are missing one or two answers on a given questionnaire, the EM algorithm (Expectation-Maximization; Dempster, Laird, and Rubin, 1977) allows for estimation of unobserved values by using properties of observed values. In multiple imputation (Rubin, 1987), each missing value is replaced by a range of possible predicted values based upon existing relationships among observed variables. Each individual dataset is then combined, resulting in an overall estimate for each missing value that takes into account observed relationships among nonmissing values of the variables of interest as well as the inherent uncertainty surrounding missing values. The primary assumption that must be met prior to usage of multiple imputation is that data must be missing at random, or that missing values of the variable under consideration must not be missing because of the variable itself. While it is not possible to completely establish whether truly random reasons underlie missing data (since it would require further information about the unobserved data that are unobtainable), we nevertheless found no significant differences between cases who provided complete data on the URICA-DV and partner violence subtype measures and those who did not on the study's major outcome variables.

represent a progression from the least to the most advanced in the change sequence, using the cluster labels provided by Levesque et al. (2000).

(1) Reluctant Cluster. Thirty-five individuals (17.6%) were in this cluster. These men scored higher than average on Precontemplation and lower than average (1.5 SD's) on Contemplation and Action, suggesting that relative to men in other clusters they were more likely to deny the existence of an abusiveness problem and to be minimally engaged in the change process.

(2) Unprepared Action Cluster. This cluster is composed of 32 individuals (16.1%). In this profile, Contemplation is low (.5 SD) relative to Action, suggesting that while these men may demonstrate an adequate level of change, they may be not be able to sustain the changes they make given the relatively low Contemplation level. Maintenance is low relative to other subscales (.5 SD below the mean, and the lowest score across the four clusters), also suggesting a limited degree of awareness concerning the potential for relapse.

(3) Preparticipation Cluster. The 85 individuals (42.7%) in this cluster displayed a leveling out on Precontemplation, Contemplation, Action, and Maintenance. These men were about average on all URICA-DV subscales, suggesting that they may have acknowledged the existence of a problem and have become somewhat engaged in making or sustaining changes in their abusive behavior.

(4) Decision Making Cluster. This cluster is comprised of 47 men (23.6%). Men in this cluster were characterized by higher than average scores on Contemplation and Action, and average scores on Precontemplation. Men in this cluster had much higher than average Maintenance scores (1.25 SD), and had the highest overall score on this dimension across the four clusters. The profile presents with an average level and a moderate degree of scatter. As suggested by Levesque et al. (2000), this cluster may represent a "transitional stage," whereby men are contemplating the benefits of behavior change, are starting to take action, but are acutely aware of both the difficulty of the task and the probability for relapse.

In stages of change terms, the Reluctant cluster may be akin to the Precontemplative stage, the

Preparticipation cluster is suggestive of the Contemplation stage with some Precontemplation elements, and the Decision Making cluster is parallel to a Preparation-Action hybrid stage. The Unprepared Action cluster is more difficult to characterize in that individuals within this group exhibit elements from later stages of change (average Action stage scores) but also aspects of earlier stages (low Contemplation and low Maintenance).

SAH Cluster Analysis. Using the same cluster analytic and data imputation procedures (20 cases with missing SAH data) described above, we obtained a five-cluster solution using Pre-BIP participant responses to the Safe at Home (SAH) scale (see figure 2 and table 10). The five clusters are described below in ascending order of readiness to change.

(1) Immotive. The 33 men (16.6%) in this cluster were characterized by the highest Precontemplation scores (+1.3 SD above mean), above average scores on Contemplation (+.8 SD above mean), and average scores on Preparation/Action. While this profile is similar to the Reluctant cluster described below, scores are about 1 SD higher. The strong Precontemplation score indicates that this group may be the most resistant to change; they are somewhat aware of why changing may be desirable, and appear to have made at least some minimal attempts at change, but nevertheless report that they have few problems in need of change. As suggested by Levesque et al. (2000), such men "are likely to retain the status quo" (p. 188).

(2) Reluctant. The 26 individuals (13.1%) in this cluster were characterized by average scores on Precontemplation, and below average (-1.3 SD) scores on Contemplation and Action. The general profile shape is similar to the Immotive cluster described above, but with all SAH subscale scores 1 SD lower. The overall below average profile level suggests that such men have not even contemplated the benefits of making changes much less taking steps to change. Nevertheless, the average Precontemplation scores may indicate that such men may not have strong pre-BIP resistance to change and may thus require more intensive consciousness raising efforts.

(3) Unprepared Action. This cluster consisted of 14 individuals (7%), making it the least populous SAH cluster. As with the Unprepared Action cluster obtained from the URICA-DV cluster analysis, men in this group had low Contemplation scores relative to a lower than average Action score. In addition, Precontemplation was average. Together this profile is suggestive of individuals who may attempt behavior change in the absence of

cognitive preparation and in the midst of strong doubts about the need for such change.

(4) Preparticipation. This cluster consisted of 103 individuals (51.8%), making it the most populous SAH cluster. The profile is similar to the Preparticipation cluster obtained from the URICA-DV analyses, with a flat shape and average level. This profile suggests that while individuals are considering making some changes, and may even be taking some small steps in that regard, the changes in thought and action exist in the context of doubts regarding the need for such changes.

(5) Decision Making. This cluster consisted of 36 individuals (18.1%) who presented with a similar profile as seen in the URICA-DV Decision Making cluster: higher than average scores on Contemplation, average scores on Action, and lower than average scores on Precontemplation. Again, men in this cluster are hypothesized to be actively thinking about making changes in the absence of internal resistance against those changes, but have yet to put these plans into definite action.

Thus, SAH cluster analytic findings are largely similar, although not identical, to those obtained using the URICA-DV. Unlike the URICA-DV clusters, there was evidence of two Precontemplative groups (Immotive, Reluctant), a group of men who had a blending of Precontemplation and Contemplation (Preparticipation), a cluster of men in the Preparation stage (Decision Making), and hard-to-define group (Unprepared Action) who may appear to be ready to change but may not be committed to change for the long-term.

2d. Correlates of stages of change clusters.

Relationships among the stage of change measures. Given that the URICA-DV and SAH scales differ substantially in their item content, it was not clear if and to what degree the two scales would intercorrelate. As can be seen in table 11, the corresponding subscales of the SAH and URICA-DV overlapped to a moderate extent. The two Precontemplation subscales demonstrated higher correlations with each other ($r = .40$, $p < .001$) than with other scales or with our measure of social desirability. In addition, URICA-DV Precontemplation was significantly negatively correlated with SAH Contemplation and Action. The URICA-DV and SAH Contemplation subscales were significantly correlated ($r = .52$, $p < .001$). However, the results were less clear concerning the Action subscales. URICA-DV Action appeared to load more strongly on SAH Contemplation ($r =$

.35, $p < .001$) than SAH Action ($r = .22$, $p < .002$). Both measures' Contemplation scales were significantly negatively correlated with social desirability, and these correlations were in turn lower than the intercorrelations of these subscales. These results suggest that while the two measures are moderately intercorrelated, the large degree of non-overlap suggests that the scales should not be aggregated for other analyses.

Overlap among readiness to change clusters across the two measures. One key issue concerning the degree of theoretical overlap between the URICA-DV and SAH concerns the extent to which participants would be placed in the same cluster category following the cluster analyses on each individual scale. A chi-square test for independence confirmed that the two variables were indeed related, $\chi^2(12) = 50.76$, $p = .001$, which can be seen in table 12. It would appear that men listed in the Decision Making cluster on the URICA-DV may also group in the SAH clusters of Preparticipation (40.4%) and Immotive (23.4%), both of which are decidedly less change oriented than the URICA-DV Decision Making cluster. Likewise, a large group of URICA-DV Unprepared Action cluster members group into the SAH Preparticipation cluster (40.6%). Thus, the two scales are thus yielding similar, but not completely overlapping, cluster analytic results.

Demographic correlates. Chi-Square analyses did not reveal relationships among the race/ethnicity of the perpetrator and stage of change cluster for either the URICA-DV clusters ($\chi^2(6) = 8.06$, $p = .23$) or the SAH clusters ($\chi^2(8) = 6.97$, $p = .54$). Likewise, there were no significant relationships between employment status and stage clusters (URICA-DV: $\chi^2(4) = .11$, $p = .99$; SAH: $\chi^2(4) = 2.36$, $p = .67$), and the clusters did not differ in age (URICA-DV: $F(3,181) = .75$, $p = .52$; SAH: $F(4,176) = 1.12$, $p = .35$) or years of formal education (URICA-DV: $F(3,177) = .90$, $p = .44$; SAH: $F(4,176) = 1.07$, $p = .37$). The only significant demographic differences to emerge was on income differences across the Safe at Home stage of change clusters, $F(4,176) = 3.20$, $p = .02$, with Immotive men having significantly lower incomes ($M = 16{,}716.80$; $SD = 15{,}187.22$) than all other SAH clusters. No such differences emerged across URICA-DV clusters, $F(3,178) = .07$, $p = .98$. Taken as a whole, there is little evidence of demographic factors covarying with readiness to change clusters from either the URICA-DV or the SAH.

Stage of change clusters and pre-BIP IPV. A series of oneway ANOVAs were used to examine differences among readiness to change clusters on CTS-2 scales. Following a significant omnibus ANOVA, Fisher's LSD test was used to probe for group differences. As can be seen in table 13, relatively few differences were found. For URICA-DV clusters, the only noteworthy differences were among clusters on the CTS-2 Sexual Coercion-Minor scale, $F(3,190) = 2.69$, $p < .05$. Specifically, LSD tests revealed that men assigned to the Decision Making cluster reported the greatest frequency of minor sexual coercion in the past year relative to other URICA-DV clusters.

Regarding SAH clusters, men in the Decision Making cluster reported the highest levels of previous year severe assault $F(4,190) = 2.98$, $p < .05$, while the Immotive cluster scored highest on CTS-2 Total Physical Assault, $F(4,190) = 2.60$, $p < .07$. The only other significant between cluster differences emerged on CTS-2 Injury, with Decision Making men reporting more incidents that led to their female partners being injured severely $F(4,190) = 2.58$, $p < .05$, as well as more frequently overall, $F(4,190) = 2.98$, $p < .05$

Stage of change clusters and other variables. Using oneway ANOVAs and post hoc LSD group comparison analyses, we examined how the URICA-DV clusters differed on pre-BIP drug/alcohol use and several measures of cognitive and affective processes. See table 9 for descriptive statistics. There were significant differences on self-reported CTS-2 physical assault toward an intimate partner in the 12 months prior to the study, $\chi^2(6) = 33.95$, $p < .001$. More men in the Decision Making cluster (76.1%) reported engaging in severe violence than other forms of violence (next highest was Unprepared Action, with 43.8% of men engaging in severe violence). Relative to men in other clusters, Reluctant cluster males were less likely to report any physical assault (37.1%) or usage of minor violence only (37.1%). The clusters differed on social desirability, with men in the Decision Making cluster scoring significantly lower than men in the three remaining clusters, whom in turn did not differ from each other. Significant differences among the clusters emerged on the HTWI, $F(3,195) = 3.10$, $p<.03$, with the Decision Making cluster exhibiting significantly more hostile attitudes toward women than Unprepared Action ($p < .01$) and Preparticipation ($p < .01$); the AIV, $F(3,195) = 3.11$, $p<.03$, with the Decision Making cluster endorsing significantly more positive views toward intimate partner violence than Unprepared

Action ($p < .01$) and Preparticipation ($p < .03$); Hostile Automatic Thoughts, $F(3,195) = 3.84$, $p<.01$, with the Decision Making cluster exhibiting significantly more hostile ideas than Unprepared Action ($p < .02$) and Preparticipation ($p < .01$) ; Trait Anger, $F(3,195) = 7.17$, $p<.001$, with the Decision Making cluster scoring significantly higher than all other clusters (all p's $< .002$); and on the AUDIT, $F(3,162) = 4.53$, $p<.01$, with the Decision Making and Unprepared Action clusters scoring higher than the Preparticipation and Reluctant clusters (p's $< .02$) .

Regarding SAH clusters (see table 10), there were significant differences on self-reported CTS-2 physical assault severity in the 12 months prior to the study, $\chi^2(8) = 17.73$, $p < .02$. More men in the Decision Making cluster (65.2%) and the Immotive cluster (63.6%) reported engaging in severe violence than other forms of violence (next highest was Unprepared Action, with 50.0% of men engaging in severe violence). Relative to men in other clusters, Reluctant cluster males were less likely to report severe physical assaults (24.0%) and more likely to report no history of prior IPV (32.0%). The clusters differed on social desirability, $F(4,169) = 9.47$, $p<.01$ with men in the Decision Making cluster scoring significantly lower than all other clusters (p's $< .01$), and men in the Immotive cluster scoring lower than men in the Preparticipation and Reluctant clusters (p's $< .03$). Significant differences among the clusters emerged on the HTWI, $F(4,194) = 8.99$, $p<.01$, with the Decision Making and Immotive clusters exhibiting significantly more hostile attitudes toward women than all other clusters ($p < .01$); Hostile Automatic Thoughts, $F(3,195) = 4.56$, $p<.001$, with the Decision Making cluster exhibiting significantly more hostile ideas than all other clusters (all p's $< .05$) and Immotive men in turn scoring higher than Reluctant($p < .01$) and Unprepared Action clusters ($p < .01$); Trait Anger, $F(4,194) = 12.83$, $p<.001$, with the Decision Making and Immotive clusters scoring significantly higher than all other clusters (all p's $< .001$); DAST, $F(4,194) = 8.51$, $p<.001$, with the Decision Making and Immotive clusters reporting more drug usage than all other clusters ($p < .01$) and the Reluctant cluster showing the least relative to the other clusters (p's $< .05$); and on the AUDIT, $F(4,194) = 4.75$, $p<.001$, with the Decision Making cluster scoring higher than all other clusters (p's $< .02$). SAH clusters did not differ significantly on the AIV, $F(4,194) = 1.81$, $p=.13$.

Objective 3: Presence and Correlates of Partner Violence Subtypes

Objective 3a: Determining the number of partner violence subtypes.

Using the same imputation and cluster analytic strategies as were described above, we standardized and entered the three MCMI scales (Antisocial, Borderline, and Dependency), the measure of violence generality, and previous year CTS-2 frequency-weighted Physical Assault scale scores (male-report) into a hierarchical cluster analysis, followed by a K-Means analysis. These procedures resulted in a four-cluster solution, with each cluster discussed below in terms of between-group differences on the clustering variables using oneway ANOVAs and post hoc LSD multiple comparison analyses. Table 14 provides means for each subtype across the grouping variables.

The first cluster consisted of 61 (30.7%) men. These men reported significantly lower levels of intimate partner violence, violence generality, and MCMI Antisocial, Borderline, and Dependent scales relative to the other clusters (all p-values < .01), and are thus similar to Holtzworth-Munroe et al.'s (2000) Family-Only (FO) subtype.

The 86 (43.2%) men in cluster two reported average levels of psychopathology, intimate partner violence, and violence generality. Men in this cluster score significantly higher than FO men on the MCMI Antisocial ($p <$ 001), MCMI Borderline ($p < .001$), MCMI Dependent ($p < .001$) scales, but significantly lower than the remaining two clusters (BD & GVA; see below) on these dimensions. Men in this cluster also scored significantly higher than FO men on CTS-2 Physical Assault ($p < .004$) and violence generality ($p < .004$), but significantly lower than men in the remaining two clusters (BD, GVA). Thus, men in this cluster do not appear to possess distinctive psychopathological traits, although they report engaging in more aggressive acts both within and outside the home relative to than men in the FO cluster, but significantly less than the remaining two clusters. As such, we will label this group Low Level Antisocial (LLA).

The 40 (20.1%) men in the third cluster resemble the Borderline/Dysphoric (BD) subtype reported by Holtzworth-Munroe et al. (2000). While these men scored highest on the MCMI Borderline scale, their mean did not differ significantly from those of the fourth cluster of GVA men (see below; $p = .34$). However, as predicted,

men in this cluster had significantly higher scores on the MCMI Dependency scale relative to all other groups ($p < .001$). They also had significantly ($p < .001$) higher scores on violence generality than all other clusters except the GVA cluster and significantly higher CTS-2 Physical Assault scores than FO and LLA men (p's $< .001$), but significantly lower levels of intimate partner violence than GVA men ($p < .001$). This group also scored significantly lower on the MCMI Antisocial scale than the remaining GVA cluster ($p < .02$), but higher than FO and LLA men (p's $< .001$). Given the higher Dependency scores in conjunction with the high scores on the Borderline measure, men in this cluster can be labeled Borderline/Dysphoric (BD).

The 12 (6.0%) men in the fourth cluster closely resemble Holtzworth-Munroe et al.'s (2000) Generally Violent/Antisocial subtype. These men scored significantly higher than those in other clusters on MCMI Antisociality (1.3 SD's above the mean; p's $< .001$), CTS-2 Physical Assault (3 SD's above mean; p's $< .001$), and violence generality (+1 SD above mean; p's $< .001$). However, there was no significant difference between this cluster's MCMI Borderline scale and that of the BD subtype ($p = .34$). Nevertheless, these men report the highest levels of antisocial traits, intimate partner violence, and violence generality and are thus labeled the Generally Violent/Antisocial (GVA) subtype.

Characteristics of the subtypes. Using chi-square tests for independence, oneway ANOVAs, and post hoc LSD group comparison analyses, we examined how the partner violence subtypes differed on the same variables reported above for the stages of change clusters. See table 14 for descriptive statistics. With regard to demographics, there were no significant differences in racial/ethnic distribution across the four subtypes, $\chi^2(6) = 7.52$, $p = .28$. The subtypes differed significantly in age, $F(3,179) = 4.40$, $p < .01$, with BD and LLA men significantly younger than GVA and FO men ($p < .01$). The relationship between partner violence subtype and educational attainment approached significance, $\chi^2(9) = 16.29$, $p = .06$, with more FO (53.3%) and LLA (40.5%) men reporting at least some college involvement than the other subtypes. Men in the BD and GVA subtypes tended to report completing less than a high school education (BD: 65.8%; GVA: 66.7%). There was no significant relationship between partner violence subtype and occupational status, $\chi^2(3) = 3.74$, $p = .29$. As

predicted, there were significant differences on self-reported CTS-2 physical assault toward an intimate partner in the 12 months prior to the study, $\chi^2(6) = 48.68$, $p < .001$. More men in the GVA subtype (91.7%) reported engaging in severe violence than other forms of violence (next highest was BD, with 70.0% of men engaging in severe violence). Relative to men in other clusters, FO males were more likely to report that did not engage in any physical assault during the previous year (34.4%).

Across the various psychological measures administered, the subtypes differed in predictable directions based upon previous research in this area (Holtzworth-Munroe et al., 2000). Oneway ANOVAs and post hoc LSD tests for group differences revealed that relative to all other subtypes, GVA men reported more hostility toward women ($F(3,195) = 16.84$, $p < .001$), hostile automatic thoughts ($F(3,195) = 9.31$, $p < .001$), alcohol problems ($F(3,195) = 9.29$, $p < .001$), drug usage ($F(3,195) = 14.37$, $p < .001$), and emotional abuse ($F(3,195) = 12.65$, $p < .001$). GVA and BD men scored significantly higher than FO and LLA men on attitudes toward interpersonal violence ($F(3,195) = 7.68$, $p < .001$) and trait anger ($F(3,195) = 25.28$, $p < .001$). GVA and BD men scored significantly lower than FO and LLA men on the measure of social desirability ($F(3,195) = 18.25$, $p < .001$). On every measure reported in table 3 except the AIV and AUDIT, LLA men scored significantly higher than FO men and significantly lower than BD men. Regarding those exceptions, LLA men scored significantly lower than BD men on the AIV ($p < .01$), but were not significantly different from FO men ($p = .42$). There was not a significant difference between BD and LLA participants' scores on the AUDIT ($p = .26$), although LLA men reported significantly more alcohol problems than FO men ($p < .03$).

3b, 3c. Partner violence subtypes and stage of change scales/clusters.

URICA-DV stage of change clusters. We examined the relationships among the four batterer subtypes and four URICA-DV assessed stages of change clusters by first examining stages of change subscale scores across the four subtypes, and then by examining the degree of dependence between URICA-DV clusters and batterer subtypes.

As can be seen in table 15, the four partner violence subtypes did not differ on the URICA-DV subscales

of Precontemplation, $F(3,195) = .36$, $p = .78$, and Action, $F(3,195) = 1.68$, $p = .17$. Oneway ANOVAs revealed significant differences among the subtypes for URICA-DV Contemplation, $F(3,195) = 8.68$, $p < .001$, Maintenance, $F(3,195) = 8.66$, $p < .001$, and the Readiness to Change Index, $F(3,195) = 6.03$, $p < .001$. Fisher's LSD multiple comparisons indicated that FO men scored lower than all other subtypes on URICA-DV Contemplation, Maintenance, and the Readiness to Change Index (all p's $< .003$). LLA males scored significantly lower than GVA men on URICA-DV Contemplation ($p < .009$). There were no other significant between-cluster differences. Because we were concerned about the potential effects of social desirability on these analyses, we reran the ANOVAs using the social desirability measure as a covariate. No substantive changes to the results reported above were found.

Chi-square analyses were used to examine the degree of interdependence between membership in stages of change clusters and batterer subtype categories. Stage of change clusters were nonindependent to batterer subtype, $\chi^2(9) = 22.12$, $p < .009$. As can be seen in table 15 and figure 3, relative to men within the other three partner violence subtypes, twice as many men within the FO subtype (27.9%) were also in the Reluctant cluster. GVA men tended to have more frequent membership in the Unprepared Action cluster (33.3%), and slightly less than twice as many men in the BD subtype also had membership in the Decision Making cluster (42.5%) than other subtypes. Men in the LLA subtype also tended to have membership in the Preparticipation cluster (47.7%).

SAH stage of change clusters. Using the same data analytic strategy as described above, and as can be seen in table 15, oneway ANOVAs revealed that the four partner violence subtypes differed significantly on SAH Precontemplation, $F(3,195) = 3.50$, $p < .02$, and Contemplation, $F(3,195) = 30.20$, $p < .001$. Fisher's LSD multiple comparisons indicated that FO men scored lower than all other subtypes on SAH Precontemplation and Contemplation (all p's $< .05$). GVA men scored higher than LLA males on SAH Precontemplation ($p < .06$) and there were no significant differences between GVA and BD men or BD men and LLA men on SAH Precontemplation. On SAH Contemplation, GVA and BD men (who did not differ from each other) scored significantly higher than LLA men ($p < .01$), who in turn scored significantly higher than FO men ($p < .01$). Because we were concerned about the potential effects of social desirability on these analyses, we reran the

ANOVAs using the social desirability measure as a covariate. No substantive changes to the results reported above were found.

In terms of categorical overlap between batterer subtypes and SAH readiness to change scales, the chi-square analyses again revealed that the two constructs were indeed related, $\chi^2(12) = 62.85$, $p < .001$. As can be seen in table 16 and figure 4, the only clear areas of overlap were between the GVA subtype and Immotive readiness to change cluster (50% of GVA men were Immotive; next highest was BD with 30% Immotive); relative to men within the other three partner violence subtypes, three times as many men within the FO subtype were also in the Reluctant cluster (69.2% of men in Reluctant were FO); more than half (52.2%) of the men in the Decision Making cluster were in the BD subtype (next highest percentage was LLA with 34.8%); and men in the LLA subtype also tended to have membership in the Preparticipation cluster (61.6%). The only cluster that was difficult to interpret was Unprepared Action, with 35.7% of men in this cluster also comprising the LLA group and another 35.7% comprising the FO cluster.

Objective 4: Relationships among pre-BIP stages of change related variables, other perpetrator individual characteristics, and criminal justice outcomes.

4a. Relationship between stage of change cluster membership and criminal justice outcomes.

For each criminal justice variable, we used two strategies to evaluate each dichotomous criminal justice outcome. First, we utilized a categorical approach and examined whether stages of change clusters were related to BIP completion, post-adjudication arrest for any offense over a 13-month period including assault-related arrests, and self-reported recidivism over the same 13-month period. Second, using these same dichotomous outcome variables, we examined the TTM model dimensionally, entering individual URICA-DV and SAH subscales as continuous predictors of the binary criminal justice outcomes in separate logistic regression analyses. See figures 5 and 6 for descriptive statistics.

BIP Completion. URICA-DV stages of change clusters were independent of BIP completion, $\chi^2(3) = .74$,

$p = .87$. Similarly, the four continuous URICA-DV subscales also did not significantly predict BIP completion, $R^2 = .02$, $\chi^2(4) = 3.37$, $p = .50$ (60.4% of cases accurately classified).

SAH stage of clusters were related to BIP completion, $\chi^2(4) = 9.51$, $p = .05$. Men in the Unprepared Action cluster appeared least likely to drop out of BIP, with 83.3% of men in this cluster completing BIP. Men in the Immotive (56.3%) and Decision Making (56.5%) clusters had slightly higher rates of drop out than men in other clusters. The four continuous SAH subscales significantly predict BIP completion, $R^2 = .06$, $\chi^2(3) = 11.25$, $p = .01$ (62.9% of cases accurately classified). Surprisingly, higher scores on SAH Contemplation emerged as a significant, although weak, predictor of BIP dropout, $\beta = .05$, $z = 4.57$, $p < .03$, odds ratio (OR) = 1.06.

Post-Adjudication Arrest. URICA-DV stages of change clusters were independent of post-adjudication arrests, $\chi^2(3) = 2.04$, $p = .56$. However, logistic regression analyses suggested that URICA-DV subscales significantly predicted post-adjudication arrest, $R^2 = .10$, $\chi^2(4) = 12.49$, $p < .02$, with the model correctly classifying 71.8% of the cases. In terms of individual predictors, higher scores on URICA-DV Precontemplation predicted rearrest, $\beta = .21$, $z = 8.31$, $p < .01$, OR = 1.23.

SAH clusters were significantly related to general criminal rearrest, $\chi^2(4) = 15.22$, $p = .04$. No men in the Unprepared Action cluster were rearrested during their probationary term. In contrast, almost half (48.5%) of men in the Immotive cluster were rearrested, which is substantially higher than the overall rearrest rate of 27.1%. The logistic regression analysis also revealed significant predictive relationships among pre-BIP SAH stages of change subscale scores and BIP dropout, $R^2 = .09$, $\chi^2(3) = 16.08$, $p < .001$, with the model correctly classifying 73.5% of the cases. Similar to the URICA-DV analyses, higher scores on SAH Precontemplation predicted rearrest, $\beta = .13$, $z = 9.55$, $p < .01$, OR = 1.13. In addition, lower scores on SAH Action were predictive of rearrest, $\beta = -.10$, $z = 4.04$, $p < .05$, OR = .91.

When we examined the small number of post-adjudication assaults resulting in arrest, URICA-DV stages of change clusters were not significantly related, $\chi^2(3) = 3.25$, $p = .35$. Similarly, there were no relationships among SAH stage of clusters and assault-related rearrests, $\chi^2(4) = 2.17$, $p = .70$. Both logistic regression models

using individual URICA-DV and SAH subscales as predictors of assault rearrests were also nonsignificant: URICA-DV:, $R^2 = .01$, $\chi^2(4) = .92$, $p = .92$; SAH: $R^2 = .02$, $\chi^2(3) = 4.60$, $p = .20$.

Self/Partner-Reported Recidivism. Stages of change clusters were significantly related to self-reported partner assault recidivism, $\chi^2(3) = 15.32$, $p < .001$. Within the Decision Making cluster, 90.6% of men (or female partners of men) reported at least one new episode of partner violence in the 13 months post-adjudication. Men in the Preparticipation cluster were less likely to have assaulted their partners during that time (50% no assaults vs. cross-cluster mean of 38% no assaults). Using the continuous measures, URICA-DV subscales significantly predicted the presence of self/partner-reported violence, $R^2 = .17$, $\chi^2(4) = 18.83$, $p = .001$, with 67.4% of cases accurately classified. Only URICA-DV Maintenance emerged as a significant individual predictor of recidivism, $\beta = .16$, $z = 8.43$, $p < .01$, OR = 1.18, with higher Maintenance scores predicting new incidents of partner violence.

SAH readiness to change clusters were unrelated to self-/partner reported violence recidivism, $\chi^2(4) = 2.67$, $p = .61$. Similarly, the logistic regression analysis using individual SAH scales was also nonsignificant, $R^2 = .02$, $\chi^2(3) = 2.73$, $p = .44$.

4b. Predictive relationships among batterer subtypes and criminal justice outcomes.

Using the same data analytic strategy as outlined in Objective 3a, chi-square analyses examined whether partner violence subtypes were related to BIP completion, post-adjudication arrest (including assault-related arrests), and self-reported recidivism over the same 13-month period, and separate logistic regression analyses examined whether the continuous measures used to form the partner violence subtypes predicted the binary criminal justice outcomes. See figure 7 for descriptive statistics.

BIP Completion. Partner violence subtypes were related to BIP completion, $\chi^2(3) = 26.79$, $p < .001$. GVA (90.9%) and BD (61.5%) men were more likely to have dropped out of BIP relative to other subtypes. FO men (77%) were more likely than other subtypes to have completed the 24-week course of BIP. Dimensionally, while the overall model regressing BIP completion on to partner violence subtype measures was significant, $R^2 =$

.17, $\chi^2(5) = 23.12$, $p < .001$, no individual predictor emerged as significant (p's ranged from .09 for CTS-2 assault to .87 for the MCMI Antisocial scale). The model correctly classified 69.2% of cases.

Post-Adjudication Arrest. Partner violence subtypes were related to post-adjudication arrests, $\chi^2(3) = 9.24$, $p < .03$, with GVA (54.5%) and BD (37.5%) men more likely to have been arrested for any charge relative to other subtypes. FO men (17.5%) were less likely than other subtypes to have been arrested post-adjudication. There was no relationship among partner violence subtypes and post-offense assault-related arrests, $\chi^2(3) = 1.72$, $p = .63$. Logistic regression analyses indicated that partner violence subtype dimensions were significant predictors of post-offense arrest, $R^2 = .14$, $\chi^2(5) = 18.23$, $p < .003$, with the model correctly classifying 72.8% of the cases. Only the MCMI Borderline scale emerged as a significant predictor of arrest, $\beta = .13$, $z = 4.97$, $p < .03$, odds ratio = 1.14. A separate logistic regression analysis revealed no predictive relationship between partner violence subtype dimensions and post-adjudication assault-related arrests, $R^2 = .11$, $\chi^2(5) = 6.54$, $p = .26$.

Self/Partner-Reported Recidivism. Partner violence subtypes were independent of self/partner-reported recidivism during the 13 month post-adjudication period, $\chi^2(3) = 3.23$, $p = .36$. However, it should be noted that of the 12 GVA men, 11 committed an act of partner assault during the study period. A separate logistic regression analysis revealed no predictive relationship between partner violence subtype dimensions and the presence of post-adjudication self-reported partner violence, $R^2 = .06$, $\chi^2(5) = 5.86$, $p = .32$.

4c. Predictive relationships among other individual perpetrator characteristics and criminal justice outcomes.

In order to assess the ability of perpetrator characteristics other than stage of change and batterer subtype-related factors, we evaluated a series of multi-block logistic regression models for each criminal justice-related outcome. Block 1 consisted of demographic factors (age, income, years of education, employment status, and race), block 2 consisted of prior year pre-BIP behavioral factors (AUDIT alcohol use, DAST drug usage, and CTS-2 Physical Assault), and block 3 consisted of pre-BIP attitudinal and affective variables (AIV, HTWI, HAT, TAS, EAS).

BIP Completion. The overall regression model was significant, $R^2 = .19$, $\chi^2(16) = 36.41$, $p = .01$. Of all

the variables entered into the equation, only participant race/ethnicity emerged as a significant predictor, β=-1.57, $z = 9.11$, $p < .03$, OR = .21. Specifically, African/American participants were significantly more likely to drop out of BIP than Latinos/Hispanics or Caucasians/Whites. Overall, 54.1% of African Americans dropped out of BIP.

Criminal Recidivism. In addition to the variables in the general regression model outlined above, we also included BIP drop out as a predictor variable in block 2 given that previous research has implicated BIP drop out as a recidivism risk factor. The overall model was significant, $R^2 = .23$, $\chi^2(16) = 42.40$, $p < .001$, with 80% of cases correctly classified. After the last block of variables was entered, men likely to be arrested for any new criminal offense during their probationary period tended to be younger ($\beta = -.06$, $z = 3.83$, $p < .05$, OR = .94), to have dropped out of BIP ($\beta = -1.03$, $z = 5.28$, $p < .03$, OR = .36), to have more pre-BIP previous year CTS-2 physical assaults against a female intimate partner ($\beta = .03$, $z = 4.73$, $p < .03$, OR = 1.03), more alcohol problems ($\beta = .06$, $z = 5.52$, $p < .02$, odds ratio = 1.07), and higher trait anger ($\beta = .12$, $z = 5.08$, $p < .02$, odds ratio = 1.13).

Assault-Related Recidivism. The logistic regression model failed to predict post-adjudication assault-related recidivism, $R^2 = .03$, $\chi^2(14) = 11.14$, $p = .14$.

Self/Partner Reported IPV Recidivism. The logistic regression model failed to predict self/partner reported IPV recidivism, $R^2 = .13$, $\chi^2(14) = 17.36$, $p = .24$.

Objective 5: Tracking the stages and processes of change over time.

5a. Stages of change over time.

As indicated previously we encountered substantial problems keeping in contact with this probation-based sample of men; 199 men completed the pre-BIP interview, approximately 88 completed the early BIP interview, fewer than 40 completed the mid-BIP interview, and between 40-60 completed the final two interviews. For female partners, 60 women provided us with complete data at the pre-BIP, which then dropped to sample sizes of between 35-45 for all other interview periods. Thus, at each time point after the pre-BIP interview our percentage of missing data exceeds the customary 50% cut-off that would allow for some type of data

imputation technique. Thus, given the risks of making Type I errors when analyzing data with substantial numbers of missing cases, we will not examine longitudinal patterns or trends in our data.

An alternate, albeit unsophisticated, approach to address the question of whether the men empirically changed from before they entered BIP to after their BIP was scheduled to end is to analyze differences for those men who provided complete data Pre-BIP and at to Post-BIP for stages of change-related factors using dependent samples t-tests. Results indicated that for the URICA-DV scale, the only significant pre-post difference was on the Action subscale, $t(49) = 2.39$, $p < .02$, with men at post reporting higher Action scores than at pre-BIP. There were no other significant differences over time on the URICA-DV. For the SAH scale, there was a significant reduction in Precontemplation subscale scores from pre-BIP to post-BIP, $t(54) = 2.07$, $p < .04$. There were no other significant differences on the SAH. Of course, these analyses are suspect given that they are based upon such small samples (n=51 and n=56, respectively).

The same strategy could be used when examining changes from post-BIP to six-month follow-up for the small number of cases with complete data for both scales (n=23). On the URICA-DV scale, the only subscale on which there was significant change was Contemplation, with men reporting lower scores at 6-month follow up versus post-BIP, $t(21) = 3.09$, $p < .01$. All other mean changes for the URICA-DV and SAH from post-BIP to 6-month follow-up were nonsignificant.

We also asked female partners to estimate how much their male partners were changing using a 5-category scale corresponding to the five stages of change. This allowed for a comparison between males' and female partners' perspectives of male stages of change since male participants also completed a single-item, 5-category stages of change item. As can be seen in table 16, which reports data only on female partners and their male partners, there was substantial disagreement at Pre-BIP (the only time there were adequate male data for comparison). Over 40% (42.4) of female partners indicated that their male partners were in the Precontemplative stage, followed next in endorsement frequency by Maintenance (25%). The least frequent stage endorsed by females was Action (3%). In contrast, men were most likely to place themselves in the Action stage (43.2%) and least likely to place themselves in the Precontemplative stage (4.9%). The second most frequently endorsed

category among men was also Maintenance (20.8%). Over time, as can be seen in table 16, female partners were quite consistent in rating males as remaining in the Precontemplative or Maintenance stages.

As an alternate index of how female partners perceived changes in their own lives, we also assessed various quality of life indices, including perceptions on whether things were better/worse/same now vs. last month, their perceptions of safety, and the likelihood of future violence. As can be seen in table 17, most female partners did not perceive their lives to be worse now than in the recent past, approximately 90% felt very safe at each assessment period, and approximately 81% thought it very unlikely that their male partner would be violent towards them in the near future.

5b. Processes of Change over time.

Because of our problems with missing data, we cannot provide change-over-time data for the male POC scale. However, partner reports of male processes of change usage will be reported since patterns of missingness allowed for application of the EM data imputation strategy. While one may question the veracity of having female partners rate male processes of change usage on the grounds that many processes are rather subjective and unobservable, there is also substantial evidence to indicate that the impressions of female partners are quite predictive of violence-related outcomes (e.g., Gondolf, 1999). As can be seen table 18, there was little evidence of much movement in female reports of males' use of either experiential or behavioral processes of change.

5c. Change in other attitudinal and behavioral factors over time.

Due to missing data, these analyses will not be conducted.

Objective 6: The relationships among the stages and processes of change over time and criminal justice-related outcomes.

6a-6e. Stages of change profiles and criminal justice outcomes.

Due to missing data, these analyses will not be conducted.

6f. Processes of change profiles over time as a function of BIP Completion.

According to female partners, BIP dropouts used significantly fewer Experiential processes of change

than completers at pre-BIP, $t(53) = 1.98$, $p < .05$, and mid-BIP, $t(53) = 2.22$, $p < .03$ (see figure 8). BIP dropouts used significantly fewer Behavioral processes than completers pre-BIP, $t(53) = 2.78$, $p < .01$; early-BIP, $t(53) = 2.28$, $p < .03$; mid-BIP, $t(53) = 2.25$, $p < .03$; and at the 6-month post-BIP follow-up, $t(53) = 2.09$, $p < .05$. There no other significant between group differences.

6g. Processes of change profiles over time as a function of Recidivism

Female partner reports did not yield evidence of differential processes of change usage between the rearrested and nonarrested groups (all group differences non-significant), and there were no differences in partner reported process usage among those rerrested for assault related offenses (n=3 in the subsample of men with reporting female partners) (see figure 9).

6h. Processes of change profiles over time as a function of self/partner-reported female partner assault.

Similarly, there were no reliable differences in processes of change usage according to the presence of new incidents of male-to-female partner assault (see figure 10).

Part VI

DISCUSSION

The purpose of the present investigation was to empirically evaluate the ability of the Transtheoretical Model of behavior change (Prochaska et al., 1992) to assist in predicting the following key criminal justice outcomes of relevance to a battering population: (1) BIP completion/dropout; (2) criminal recidivism; (3) new incidents of domestic violence that may not be reported to the authorities; and (4) injuries to female partners that occurred as a result of male abusive behavior. Using a courthouse/probation-based sample of 200 men mandated by the local misdemeanor domestic violence court to attend a 24-week group treatment for partner assault, and 65 participating female partners, we sought to address a number of research objectives. First, we evaluated the presence and extent of attrition from BIPs in the Dallas area, the level of criminal recidivism among men enrolled in the study, and the level of "unofficial" acts of domestic violence as reported by perpetrators and victims. Second, we hypothesized that partner assaultive men would form distinct groupings based upon their URICA-DV scores, with these stage-based clusters in turn having (a) a set of pretreatment affective, cognitive, and behavioral correlates, and (b) predictive relationships with the posttreatment variables of interest. Third, we sought to evaluate whether additional men grouped into particular batterer "subtypes", and whether these factors were correlated with dimensions of the stages, and predicted the outcomes of interest. Finally, we endeavored to monitor the stages and processes constructs as they changed over time in the context of BIP, in hopes that particular profiles or trajectories of change stages and processes might predict BIP attrition and criminal/assault-related recidivism. In the sections below, we will first present an overview of the major findings from this project, and then proceed to discuss their limitations and implications.

Major Findings

The men in this post-adjudication/probation sample had fairly typical BIP drop-out rates as reported in previous reviews of this literature (e.g., Daly & Pelowski, 2000), with 40% of men failing to successfully complete their court-mandated BIP, primarily for reasons relating to non-attendance (rather than being forced to

leave, or leaving after a few sessions). African-Americans had a substantially higher rate of BIP attrition versus men of Latino/Hispanic or White/Caucasian racial/ethnic background. As has been found in previous research (Chen et al., 1996; Daly & Pelowski, 2000), BIP drop-out reliably predicted criminal recidivism. No other demographic factors were reliably correlated with BIP completion. BIP non-attendance emerged as a significant predictor of post-adjudication rearrest for any offense.

Stages of change scales were weakly associated with a variety of pre-BIP characteristics. Individuals who reported higher levels of Contemplation, i.e., who were merely becoming more aware of the need to change their abusive behavior, actually reported higher levels of physical and verbal intimate partner violence (IPV) during the 12 months prior to commencing BIP. This correlation did not substantially change after controlling for social desirability. Thus, as men become more motivated to change they may have better awareness of and access to prior memories of abuse perpetration, thus inflating the correlations among those variables. Indeed, social desirability scores were significantly negatively correlated with both the URICA-DV and SAH Contemplation scales, indicating that males who were strongly contemplating change were more open in describing negative aspects of themselves in general, whereas those who held to the socially desirable response set were less apt to indicate they were even thinking about the notion of change. Not surprisingly, scoring high on Precontemplation covaried with more hostile attitudes toward women. The two Contemplation scales also were related to alcohol problems, drug use, psychopathology, hostility toward women, and anger. Again, perhaps the tendency to consider the possibility of change sets in motion other self-evaluative processes and increased awareness of negative attributes of the self. Finally, scoring high on the Maintenance prior to BIP was associated with a variety of negative attributes (substance problems, psychopathology, cognitive errors, etc.). Interestingly, however, recent research has suggested that scoring high on Maintenance at the commencement of treatment is associated with treatment success (Carbonari & DiClemente, 2000). As URICA-DV Maintenance scale items represent the individual's awareness of the difficulty regarding maintenance of treatment gains over time, it is once again the realistic appraisal of that difficulty that may in turn spark a more realistic appraisal of other aspects of the self. Thus, it is not clear whether scoring high on Contemplation and Maintenance is meaningfully associated with

other clinically relevant factors, or whether it merely reflects greater awareness of these characteristics.

Our next set of predictions concerned the presence of readiness to change clusters or profiles. The URICA-DV cluster analysis suggested the presence of four readiness to change clusters: Reluctant men, who are in a Precontemplative phase; Unprepared Action males, who may be "going through the motions" of behavior change; Preparticipation men, who are moderately aware of the problem and making at some minimal change attempts; and Decision Making individuals, who appear to be in the Preparation stage of change and taking steps necessary to actively change their behavior.

Cluster analytic findings using the SAH scale produced relatively similar groupings, although with some notable differences as well. There was a small sample of Reluctant individuals, a smaller group of men in the Unprepared Action cluster, a larger grouping of Preparticipation men, and a small sample of Decision Making individuals. Noticeably different from the URICA-DV cluster analysis was the presence of a relatively large sample of men in a clustered labeled as Immotive, which are men possessing the highest Precontemplation scores and average to above-average scores on Contemplation and Action. According to Levesque et al. (2000), such individuals are likely to be the most resistant to change, as they are somewhat aware of the need to change and are taking some overt attempts to act like they are changing, but are fundamentally opposed to the idea that they need to change.

The cluster analytic results using the two scales did not necessarily group individuals into same-named clusters. Perhaps reflecting the moderate degree of correlation between the URICA-DV and SAH in general, only the Preparticipation cluster had substantial overlap across the two cluster analytic findings. An equal number of men in the URICA-DV Decision Making cluster were grouped into the SAH Decision Making and Immotive clusters. About 1/3 of men originally grouped in the URICA-DV Reluctant cluster were similarly classified as SAH Reluctant, and only about 25% of men in the URICA-DV Unprepared Action cluster were in the SAH Unprepared Action group. Is one result any more correct than the other? Not necessarily, for the two measures are substantially different in terms of item content (the URICA-DV explicitly mentions physical violence, the SAH does not) and structure (the URICA-DV assesses four stages, the SAH assesses three). However, the ability of the

SAH to localize a group of men with strong resistance toward change and a high likelihood of retaining the status quo (i.e., men in the Immotive cluster) would seem to give at least a partial advantage to the SAH.

Thus, taken as a whole, between 15-35% of men commencing BIP appear to be either steadfastly opposed to the very idea that change is desirable, or will not likely be sufficiently prepared to initiate change attempts (i.e., the Reluctant, Immotive, and Unprepared Action clusters). Another 40-50% of men will perhaps be thinking about change but will most likely neither initiate nor sustain behavior change (Preparticipation stage). Finally, a paltry 20-25% of men starting BIP appear ready to change (those in the Decision Making cluster), and are at the point where they may realize the need for change, are treating the BIP as an opportunity to make those changes, and are likely perceiving the program as at least having the potential to be useful. Noticeably absent from the present set of clusters was a grouping of men clearly in the Action stage, which is in keeping with previous cross-sectional research in this area (Eckhardt et al., in press; Levesque et al., 2000). Thus, in accordance with clinical predictions made by Murphy and colleagues some years ago (Daniels & Murphy, 1997; Murphy & Baxter, 1997), our cluster analysis revealed that the present sample was comprised of men primarily in the Precontemplative and Contemplative stages.

Stage of change clusters were related to a variety of other individual indicators. Men in the Decision Making and Immotive (from the SAH) clusters tended to report more extreme and disturbed scores than men in other clusters, with men in these clusters reporting more severe violence perpetration, drug usage, hostile attitudes toward women, positive attitudes toward interpersonal violence, hostile automatic thoughts, and trait anger. Immotive men from the SAH, and Decision Making and Unprepared Action men from the URICA-DV, reported the most alcohol problems.

We also predicted that the four partner violence subtypes previously identified by Holtzworth-Munroe et al. (2000) using a community sample would also emerge in the present criminal justice sample. This hypothesis was confirmed, as the cluster analysis based upon indices of psychopathology (antisocial, borderline, and dependent personality traits), previous-year intimate partner violence, and frequency of previous-year cross-situational violence revealed four distinct groupings closely aligned with the Holtzworth-Munroe subtypes

(Holtzworth-Munroe et al., 2000; Holtzworth-Munroe & Stuart, 1994): Family Only men (FO), who reported the least amount of partner violence, general violence, and psychopathology; Low Level Antisocial men (LLA), who reported moderate levels of violence toward an intimate partner as well as to others in general, but relatively mild levels of psychopathology; Borderline/Dysphoric men (BD), who evidenced traits consistent with borderline and dependent personality disturbances and relatively high levels of intimate partner violence and general violence; and Generally Violent/Antisocial males (GVA), who exhibited the highest levels of antisocial personality characteristics, intimate partner violence, and general violence relative to the other subtypes. The distribution of men from this sample into subtype categories differs somewhat from previous researchers' reports using similar clustering variables and community volunteers (i.e., Holtzworth-Munroe et al., 2000; Waltz et al., 2000). The percentage of FO men in the present sample (31%) is consistent with the 36% reported by Holtzworth-Munroe et al. (2000), but slightly lower than the 53% reported by Waltz et al. (2000) using different clustering methods. More LLA (43%) and BD men (20%) were present in this sample relative to the 33% and 15% (respectively) reported by Holtzworth-Munroe et al. (2000), with the percentage of BD men similar to that of Waltz et al.'s (2000) "Pathological" subtype (23%). Most striking was the relatively small number of GVA men in the present sample ($\underline{n}$ = 12; 6%) relative to comparable groups in previous research (16/102 reported by Holtzworth-Munroe et al., 2000; 18/75 reported by Waltz et al., 2000). The reasons for this latter differential may be that men with more antisocial tendencies, who are likely to have lengthy criminal histories and prior arrests, may have their partner violence cases adjudicated in felony courts and are thus poorly represented within this sample of misdemeanor offenders. Likewise, GVA men may be less likely to have a treatment condition (i.e., BIP) tagged to their post-adjudication requirements in favor of other options (e.g., jail).

We also predicted that readiness to change clusters would be meaningfully related to partner violence subtypes. Specifically, it was expected that men falling into more change resistant stages of change clusters would also group into the more disturbed batterer subtypes (e.g., GVA and/or BD). While there was indeed a relationship between the readiness to change clusters and partner violence subtypes, it was not necessarily in the predicted direction. FO men scored lower than all other subtypes on the URICA-DV/SAH Contemplation,

URICA-DV Action, and URICA-DV Maintenance scales, and were more likely than other subtypes to group into the Reluctant readiness to change cluster. Thus, FO men report not only relatively infrequent partner violence episodes, but also express little interest in thinking about or doing anything active to modify problems relating to partner assault.

LLA men, who tended to score at the mean level on violence subtype measures, also tended to group into an average or "leveled-out" readiness to change cluster (the Preparticipation cluster). Thus, these men are likely to exhibit some degree of contemplation about the consequences of their intimate partner violence and make moderate attempts to change their behavior.

GVA men were more likely than other subtypes to be categorized in the URICA-DV Unprepared Action and SAH Immotive clusters, which is perhaps in keeping with the idea of men in these clusters "going through the motions" and attempting active behavior change in the absence of sufficient contemplative effort and in the presence of substantial doubts about the need to change in the first place (Levesque et al., 2000).

BD men were more likely to be categorized in the Decision Making cluster, which is surprising in the sense that men in this cluster appear to be the most ready to change, but unsurprising in the sense that they also appear to be emotionally and behaviorally volatile and more likely to report a host of other clinical problems, including alcohol related disturbances, drug use, anger, negative attitudes toward women, positive attitudes toward violence, and increased usage of psychological and physical aggression tactics. One explanation might be a social desirability-related effect, given that Decision Making men scored significantly lower than the other three clusters on the tendency to present one's self in a favorable light. Thus, men in this cluster may be less prone to censor or edit their personal shortcomings, regardless of their self-presentational consequences, and may also be more prone to indicate a positive attitude toward change (which may require an acknowledgement of the existence of problems to change). Similarly, these men might also comprise a subgroup with a history of seeking treatment for a wide range of personal problems. Preliminary evidence (Clements, Holtzworth-Munroe, Gondolf, & Meehan 2002) indeed suggests that BD men were more likely than men in other subtypes to have a lengthy history of seeking mental health services. Thus, while there was no evidence of a direct overlap between readiness to change

and partner violence subtypes, the data suggest linkages between FO men grouping into the precontemplative stage, LLA men in the Contemplative/Preparation stages, GVA men in a stage that suggests action without contemplation, and BD men in a Preparation-like stage with a high probability of assault continuance.

Our next hypotheses concerned the ability of readiness to change variables and partner violence subtypes to predict criminal justice-related outcomes, including BIP completion, rearrest, and partner violence recidivism. Regarding BIP, the results suggested that membership in a particular stage of change cluster pre-BIP was not significantly associated with our BIP completion and recidivism dependent variables. Similarly, we were unable to satisfactorily predict BIP completion from URICA-DV subscales assessed pre-BIP. However, SAH clusters predicted BIP completion, with men in the Immotive and Decision Making clusters more likely to drop out or not attend BIP. Subsequent analyses suggested that higher scores on the SAH Precontemplation and Contemplation subscales predicted drop-out. This latter finding was surprising given that higher Contemplation is typically regarded as a positive attribute. But higher scores on Contemplation can also be associated with increased concern or emotional distress as the individual begins to examine their lives in a different light (Connors, Donovan, & DiClemente, 2001), which in turn may initiate treatment termination.

Partner violence subtypes were also related to BIP completion, with GVA (91%) and BD (62%) men showing higher rates of BIP noncompletion relative to other subtypes. Using logistic regression, we investigated which subtype dimensions uniquely predicted BIP completion. These analyses indicated that while the set of measures used to form the subtypes significantly predicted BIP completion, no single dimension was uniquely related to this outcome. Thus, rather than any one individual attribute, it is the combination of factors (i.e., the subtype) that is important in predicting completion of BIP.

We also examined rearrest for any criminal offense as well as new arrests for an assault offense (the only available charge relevant to intimate partner violence in Texas) during the probationary period. While the small number of new assault-related arrests (n=10) did not allow for sufficient power in our statistical analyses, general rearrest was significantly predicted by SAH cluster membership, with men in the Immotive category being most likely to be arrested for any new offense (48.5%). URICA-DV clusters did not predict rearrest. Higher levels of

SAH and URICA-DV Precontemplation, as well as lower scores on SAH Action were individually related to BIP dropout. Thus, the tendency to deny or minimize the need to change abusive behavior patterns predicted additional contact with law enforcement for new criminal offenses while men were on probation for partner assault. One could hypothesize that men who score high on Precontemplation may not view their involvement in the criminal justice system on a domestic violence charge as particularly serious, and may therefore not approach their probationary terms as conscientiously as those who see it more soberly, resulting in a greater tendency toward rearrest (although we have no direct data to support or refute this idea).

In terms of partner violence subtypes, GVA (54%) and BD (38%) subtypes were once again overrepresented among rearrestees, which is in keeping with their tendency toward impulsive and illegal behaviors. Interestingly, however, only high scores on the MCMI Borderline scale emerged as a unique predictor of rearrest, which again highlights contentions by previous researchers concerning the relationship among borderline personality organization and acts of impulse and aggression among intimately violent males (e.g., Dutton, Bodnarchuk, Kropp, Hart, & Ogloff, 1997; Dutton & Starzomski, 1993).

Self/partner-reported intimate partner violence was frequent during respondents' probationary period, with almost 62% of men assaulting a female intimate partner during this time. The URICA-DV Decision Making readiness to change cluster was related to partner violence recidivism, with almost 91% of men in this cluster committing new acts of intimate partner violence. As discussed earlier, this may have to do with the unstable psychological and behavioral nature of men in this cluster, or it may relate to a tendency toward revealing negative personal information. In addition, partner violence was predicted by higher URICA-DV Maintenance scores (which were highest among men in the URICA-DV Decision Making cluster). The Maintenance scale findings are difficult to interpret given that they are based upon a pre-treatment assessment, although recent research on predictors of alcoholism treatment suggested that scoring high on Maintenance at the commencement of treatment is associated with treatment success (Carbonari & DiClemente, 2000). As URICA-DV Maintenance scale items represent the individual's awareness of the difficulty regarding maintenance of treatment gains over time, it is once again the realistic appraisal of that difficulty that may in turn spark a more realistic appraisal of

other aspects of the self. Thus, it is not clear whether scoring high on Maintenance is meaningfully associated with other clinically relevant factors (such as partner violence), or whether it merely reflects greater awareness that these behaviors are indeed occurring and are problematic.

New incidents of partner violence were not significantly predicted by partner violence subtype or the individual dimensions underlying those subtypes. However, 11 of the 12 men in the GVA subtype assaulted a female intimate partner during their probationary period, which is in keeping with the notion of these men being more prone to violent behavior both within and outside of the home. Obviously, the small sample size of GVA men undermined the power of this analysis.

In terms of the ability of other perpetrator characteristics (demographic factors, alcohol/drug use, hostile attitudes toward women, hostile thoughts in general, positive attitudes toward violence, trait anger) to predicted criminal justice outcomes, results of logistic regression models indicated that BIP dropout was only predicted by perpetrator race/ethnicity (as indicated above). Criminal recidivism was predicted by younger age, attrition from/not attending BIP, more alcohol problems, and higher levels of trait anger. These results suggest that batterers who are likely to be rearrested during their probationary period are those who may have difficulties with behavioral control and coping with anger or other negative emotions. There were no significant predictors of assault-related rearrest or unofficial incidents of intimate partner violence reported by males/females.

Do stages and processes of change variables actually change over time? It is with great regret that we are unable to satisfactorily answer this important question given the high degree of missing data at each measurement period. Most interesting, however, was that when asked to evaluate whether their male partners were changing, females/victims did not indicate that any such changes occurred. Rather, 40-50% of female partners consistently rated male participants as being in the Precontemplative stage, with a somewhat smaller percentage reporting men in the Maintenance stage. As might be expected, males providing data at pre-BIP suggested they were commencing treatment at a more advanced stage, namely the Action stage, with almost none of the males self-staging themselves in the Precontemplative stage.

In terms of processes of change, we were interested in examining whether differential usage of

experiential and behavioral processes of change corresponded with criminal justice-related outcome variables. Unfortunately, we could not use male POC data given our problems with study attrition. However, we were able to use a fully imputed dataset of POC Experiential and Behavioral subscale scores from female partners. According to female partners, men who dropped out of BIP used fewer processes of change at each time point than those who successfully completed BIP. We did not find any relationships between female reports of male processes of change usage and rearrested or self/partner reported incidents of partner violence. Thus, these data, along with the single-item readiness to change data, suggest that it may be prudent to collaterally assess the stages and processes of change associated with IPV.

Methodological Limitations

The findings reported above are attenuated by several methodological shortcomings. First, as has already been mentioned, we experienced substantial attrition in this project. This creates problems relating to external validity, in that the generalizability of these results depends on whether the characteristics of men remaining in the study differed from those with whom we lost contact. There are also problems associated with unstable variance estimates and lowered statistical power for our major statistical analyses (esp. those that involved evaluation of change over time) given the at-times small sample sizes.

The key concern for project staff throughout the project was whether the large number of men who were out of contact was a problem with our retention tactics, or an expected characteristic of this population? We developed a number of innovative ways to keep men hooked into the study – refrigerator magnets with their upcoming appointment days and times, holiday greeting cards, frequent mailings thanking them for their participation, official confidentiality assurances, and a suitable incentive ($120). We worked with the same information available to probation officers and other officers of the court concerning our participants' contact information. However, many men either may not have believed or did not understand that the research team was a separate entity from the bevy of probation, court, and law enforcement staff that they regularly came in contact with. We endeavored to make this point clear (e.g., handing out an NIJ letter of confidentiality assurance), but it

may not have been enough. Thus, given that 40% of our sample dropped out of a court-mandated treatment program, and over 60% of the sample were wanted on an outstanding warrant or considered absconders, we faced an uphill task trying to monitor a group of men who simply did not want to be monitored. Such is the dilemma of using a courthouse sample, in that it undoubtedly provides a more externally valid sample of male IPV perpetrators than if men are recruited from a BIP agency (i.e., recruiting participants from a BIP agency may omit individuals from the sampling plan who have chosen not to attend the program, and who are thus at the highest risk for recidivism), but it also provides a more transient and difficult to track group of individuals.

Second, most of the variables reported herein are based upon the self-reports among men involved in the criminal justice system, which may set the stage for distortion, denial, and inaccurate reporting of sensitive topics. While one could make the decision to simply covary out these social desirability effects for all statistical analyses, we would argue that this self-presentational style is part of their "clinical picture," which is the very clinical picture that criminal justice professionals and BIP counselors must confront daily. Thus, it is important to examine whether and how impression management tactics might relate to clinical decision making rather than statistically eliminating such tendencies.

Third, it should be noted that men in this sample were not randomly selected from the population of men adjudicated on partner assault charges in this jurisdiction. Participation was voluntary, and no doubt some men may have been attracted to, or turned off by, the research project for reasons potentially related to the outcome variables of interest.

Fourth, we were only able to provide general rearrest data for respondents rather than official indices of new incidents of intimate partner violence. This is in part due to the fact that the state of Texas does not have a separate domestic assault charge available to police officers, who must provide narrative in the police report as to whether the assault offense involved a domestic violence incident. Even if domestic violence cases are flagged, it is often difficult to know whether the domestic violence incident involved a child, other family member, or an intimate partner. Nevertheless, only 5% of the present sample were rearrested for an assault-related offense during their probationary period.

Fifth, we were only able to recruit a relatively small number of female partners into the study. One of the advantages to recruiting from a BIP agency is that female partners have typically been contacted by the agency, which provides researchers with a more centralized recruitment and tracking system. But recruiting a courthouse-based sample of men does not afford one those luxuries; we became aware of female partner names and phone numbers at the discretion of the male perpetrators, who could decide whether to keep that information private or share it with the researchers. Once we had that contact information (from about 50% of the men), we still faced difficulties convincing the female partners to participate, and had the usual troubles tracking their whereabouts when phone numbers were suddenly out of service and mail was returned as undeliverable. Nevertheless, we did a good job at keeping those women we could recruit into the project over the long haul.

Practical Implications

While this project yielded a wealth of data that may have useful practical applications, there are several interesting issues worth highlighting at the outset. The first issue concerns the question of who to ask about the stages of change. Our data found different, often stunningly different, stages of change findings depending on whether the male or female partner was being assessed. Males, as a group, tended to see themselves as at least in the Preparation and Action stages of change at treatment onset Female partners, on the other hand, saw things much differently, as most reported that men were either in the Precontemplation or Maintenance stages across the 13 month study period. Thus, women were either apt to indicate that their male partners were making little progress, or that they had made active attempts to change and were now working at maintaining those changes. We also found that women's perceptions of their male partner's usage of various processes of change predicted BIP drop out. This gender effect makes sense given that often times, female partners have the most access to men's attitudes toward change and usage of change processes in the "real world," and their reports of behavior change should be included as often as possible. The key is to assess not just IPV-related behaviors during collateral assessment (i.e., the occurrence of new violent acts), but to also assess specific behaviors related to what they believe their male partners are doing to change. And this issue goes beyond the oft-stated problem of social

desirability; it was not merely the case that men in this study were presenting themselves in a favorable light and female partners were "telling it like it is." Rather, we take the position that men are especially likely to be underaware of the cognitive, emotional, and behavioral processes of interest to BIP counselors, and that female partners may in a sense be an "off-site assessment specialist" who could add invaluable information about the degree of change observed in the relationship.

Second, our data indicate that most men who are assigned to BIP present with little to no motivation to change their abusive behavior. Interestingly, about 20-30% of men will readily reveal their unwillingness to change (being on probation would seem a prime situation for a moderately high baseline level of social desirability), and another 30-40% will merely "go through the motions" – doing some of what was asked of them by their BIP providers but in the absence of any real cognitive change. The significance of this finding was neatly discussed by Murphy and colleagues (Baxter & Murphy, 1997; Murphy & Daniels, 1997) in the first articles applying the TTM to a battering population. Murphy maintained that there is an unfortunate interaction between the male's stage of change at treatment onset and the change-related assumption of the BIP, such that the majority of men present in the Precontemplative stage, but the majority of programs have programmatic content that presumes rapid ascent into the Action stage. Thus, Duluth-model based programs (Pence & Paymar, 1993) often (but not always) include early confrontations with men about issues relating to responsibility for violent actions and admittance of a patriarchal power and control ideology. Similarly, programs that are more cognitive-behavioral in orientation (and less aligned with the Duluth model; e.g., Hamberger, 1997) often presume that men will be ready to implement action-oriented behavior change tactics (cognitive restructuring and mood management) rather immediately. In both cases, there is a critical mismatch between the goals of the program and the change-related attitudes of the clients, which sets the stage for client unhappiness and early termination (O'Leary & Brown, 2000; Taft, Murphy, Elliott, & Morrel, 2001).

Third, while there was limited evidence to suggest that stages of change-related factors assessed pre-BIP predicted criminal justice outcomes one year later (the SAH Immotive and Decision Making clusters more likely to drop out of BIP; scores on both measures' Precontemplation scale predicting rearrest), the overall pattern of

predictive findings was fairly minimal. Thus, there remains a wealth of unanswered questions concerning the TTM as an appropriate model to describe how men change violent behavior under the watchful eyes of the criminal justice system. Where the TTM has been most successfully applied (see Prochaska et al., 1992), the behaviors in need of changing have been those with a high frequency of occurrence with clearly established risks to one's health should they continue (e.g., smoking, alcoholism, overeating, other high risk behaviors). According to most survey research, IPV, while clearly damaging on many different scales, occurs with comparatively little frequency relative to an addictive behavior such a smoking. Predicting the next occurrence, much less the change progression, of an infrequently occurring behavior is notoriously difficult. Likewise, while smokers or alcoholics may have strong resistance toward changing, there is often an acknowledgement that their behavior has put them at physical risk. IPV perpetrators, however, have difficulty even acknowledging that have engaged in violent behavior, much less agreeing that the behavior was wrong, unhealthy, or inappropriate. In addition, most men in BIP are there because they have been coerced by the criminal justice system to attend, which is much different from the smoker who intentionally seeks to stop smoking. Thus, the TTM is best suited as a model of intentional behavior change, and it may or may not be a suitable heuristic to describe how individuals change relatively infrequent behaviors that they had no intention of ever changing before a judge ordered them to do so (Fagan, 1988). While it is tempting to directly overlay the tenets of the TTM on to any and all problematic behaviors that need to be changed, more thoughtful empirical study is needed to establish the very appropriateness of this overlay. Indeed, other models of behavior change may need to be applied (or developed) that better describe and predict how batterers approach the change process and at what point change shifts from coercively motivated to individually motivated. Regardless, however, the present data are very clear in documenting that most men are not motivated to change their violent behavior simply because the system has told them to do so.

In fact, there was more persuasive and consistent evidence linking batterer subtypes to criminal justice outcomes. Indeed, the present findings suggest that the partner violence subtype construct may be important from a treatment planning perspective. As has been extensively documented, partner assaultive men are a heterogeneous group that present with a variety of family-of-origin experiences, economic and societal

circumstances, cognitive capabilities, and emotional/behavioral dysfunction. The notion that one intervention can be successfully applied to such a diverse group may therefore be tenuous, and numerous authors have suggested that interventions can indeed be tailored to fit specific subtypes of intimate partner violence (Holtzworth-Munroe et al., 2000; Saunders, 1996). Thus, BD males, who tend to fit the Decision Making readiness to change profile, may require interventions that more carefully address their various emotional and interpersonal vulnerabilities, whereas GVA males (the Immotive and Unprepared Action readiness to change profiles) may require more structured interventions that are more behaviorally focused and that rely less on cognitive/affective precursors to behavior change attempts (see Saunders, 1996). FO/Reluctant males, who are resistant to change and often oppose the idea that the criminal justice system is telling them how to handle their private lives, present a significant clinical dilemma since they tend to comprise the bulk of BIP clients. One option that is often implemented is to directly confront such denial and "forcibly" move the individual toward a greater readiness to change, but such an approach is highly problematic for a host of reasons. A different and more sensible approach would be to allow the male to establish these cognitive connections through more nonconfrontational approaches that draw upon the extensive literature on motivational interviewing and motivational enhancement interventions (e.g., Connors, Donovan, & DiClemente, 2000; Miller & Rollnick, 1991). In these approaches, the assumption is that the best predictor of movement to an ascending stage is the client's realization that change is desirable and not changing is undesirable. Such realizations can be fostered by counselors who give abusers the chance to discuss these experiences in the context of their goals and aspirations for the short and long-term, and to encourage consideration of whether abusive behavior fits with these goals. When the individual reaches the Contemplative stage, the direction of treatment may then shift toward other forms of self-exploration and more active behavior change processes. Whether these principles can be effectively applied in group counseling formats typically used in BIPs remains to be evaluated.

A final consideration concerns the potential need for more culturally competent or culturally specific interventions for men who batter. Given the high rates of drop out from BIP among men in this sample, and data from more general reviews of this literature (e.g., Daly & Pelowski, 2000), it is clear that more must be done to

meet men "where they're at," which includes consideration of issues specific to culture and race.

Given the high rates of attrition from batterers' treatment groups and evidence of limited treatment effectiveness, it is clear that interventions directed at men who assault their partners need to be modified (Babcock et al., in press). The present results suggest that men in treatment for partner assault are not uniform in their readiness to change their abusive behavior, and that a variety of cognitive, affective, and behavioral factors may impart critical information to criminal justice personnel concerning appropriate post-adjudication interventions for men who assault women. It is therefore critical to work together with the prosecutors and judges who routinely mandate group counseling for partner-assaultive men and the agencies providing such services to foster research-informed treatment recommendations.

Part VI.

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Table 1

Summary of the Stages of Change

1 – Precontemplation: individuals in this stage report no intention to change behavior in the foreseeable future. Many individuals in this stage are unaware or underaware of their problems, and may present with defensiveness, resistance, and passivity when asked to change.

2 – Contemplation: people are aware that a problem exists and are seriously thinking about overcoming it but have not yet made a commitment to take action. Individuals in this stage may appear distressed as they are seriously thinking about the impact of their behavior in themselves and others.

3 – Preparation: a stage that combines intention as well as overt behavior. Individuals in this stage are intending to take action in the next month but have unsuccessfully taken action in the past year. They are engaged in the change process, "ready to change," and prepared to make commitments to follow through on making changes.

4 – Action: the stage in which individuals modify their behavior, experiences, or environment in order to overcome their problems. Individuals in this stage are making the most overt behavioral changes, investing the most commitment of time and energy, and are motivated to try available change strategies.

5 – Maintenance: the stage in which people work to prevent relapse and consolidate the gains attained during action. Individuals in this stage may express fear or concern about the potential for relapse and appropriately understand the difficulties associated with change maintenance. For many behaviors this stage extends from six months to an indeterminate period past the initial action.

Table 2

The Processes of Change

Experiential Processes	
Consciousness raising	Seeking new information to support the change to a non-violent lifestyle
Self-reevaluation	Realizing that being non-violent is an important part of one's identity
Dramatic relief	Experiencing strong negative emotions about one's violence
Social liberation	Realizing that the social norms are changing to support non-violence
Environmental reevaluation	Realizing the negative impact of violence on others
Behavioral Processes	
Reinforcement management	Increasing the rewards for non-violence, and decreasing the rewards for violence
Helping relationships	Seeking and using social support to end one's violence and maintain changes
Counter-conditioning	Substituting violence with healthier behaviors and cognitions
Stimulus control	Removing reminders or cues to engage in violence, and adding cues to engage in healthier behavior
Self-liberation	Realizing one's ability to choose to be non-violent and making a commitment to change

Table 3

Demographic Variables: Means, Standard Deviations, and Frequencies

Variable (n = 200)	Males (n = 65)	Females
M Age (SD)	33.0 (8.8)	30.9 (8.6)
Ethnicity		
% African-American	45.7	37.5
% White	32.3	48.4
% Hispanic	19.9	10.9
% Other	1.1	3.1
Marital Status		
% Single	29.0	28.1
% Living Together	14.5	14.1
% Married	29.0	43.8
% Separated	14.0	6.3
% Divorced	12.9	7.8
M Relationship Length (yrs)	4.2	6.0
Children		
% One or more	81.2	79.7
Education (highest completed)		
% Some high school	46.8	15.6
% GED or HS diploma only	8.1	26.6
% Some college/trade school	40.8	53.1
% College degree	4.3	4.7
Employed		
% Yes	84.7	83.9
Occupational Status		
% Managerial/Profession Specialty	9.3	21.0
% Tech., Sales, & Admin. Support	23.6	33.9
% Service	8.8	16.1
% Precision Produc., Craft, & Repair	22.0	8.1
% Operators, Fabricators, & Laborers	20.9	4.8
% Unemployed/Student/Homemaker	15.4	16.1
M Income (thousands)	29.0	22.1

Table 4

Interview Administration Schedule

	Int1 (pre-BIP)	Int2 (early-BIP)	Int3 (mid-BIP)	Int4 (post-BIP)	Int5 (BIP F-U)
CASI[a] Scales -- Males					
Demographic Interview	X				
Social Desirability Scale	X				
Alcohol Use Dis. Test	X				
Drug Abuse Screening Test	X				
Trait Anger Scale	X		X	X	X
Hostility towards Women	X		X	X	X
Conflict Tactics Scale - 2	X	X	X	X	X
Emotional Abuse Scale	X	X	X	X	X
Relationship Satisfaction	X	X	X	X	X
General Health Questionnaire	X	X	X	X	X
Attitudes toward Violence	X	X	X	X	X
Alcohol Quantity-Freq Index	X	X	X	X	X
URICA-DV[b]	X	X	X	X	X
Safe at Home Scale	X	X	X	X	X
Processes of Change scale	X	X	X	X	X
CASI Scales – Females					
Demographic Interview	X				
Danger Assessment Inventory	X				
Conflict Tactics Scale - 2	X	X	X	X	X
Emotional Abuse Scale	X	X	X	X	X
Relationship Satisfaction	X	X	X	X	X
Stage of Change Item	X	X	X	X	X
Processes of change-Brief	X	X	X	X	X
Quality of Life/Safety Percep.	X	X	X	X	X

[a] CASI = Computer-Assisted Structured Interview

[b] URICA-DV = University of Rhode Island Change Assessment Inventory-Domestic Violence

Table 5

Summary of Criminal Justice-Related Outcomes among Study Participants

Prior Arrests	
% Any	58.4
% Assaults	21.6
Probation Conditions	
% Probation violation	57.6
% Probation revocation	20.8
% Active arrest warrant	17.7
BIP[a] Completion	
% Successful Completion	58.2
Reasons for BIP incompletion	
% Never attended	65.5
% Agency dismissal	16.4
% Voluntary dropout	14.5
% Missed completion interview	1.8
% Condition on appeal	1.8
Recidivism	
% Post offense arrests	27.1
% Post offense assaults	5.4

NOTE: The above data are from the 181 participants from whom we gathered official criminal justice data.
[a] BIP = Batterers Intervention Program

Table 6

Relationships among Pre-BIP Stages of Change Variables and CTS-2 Partner Violence

	Male Reports				Female Reports			
	CTS-2 Minor Phys	CTS-2 Severe Phys	CTS-2 Minor Inj	CTS-2 Severe Inj	CTS-2 Minor Phys	CTS-2 Severe Phys	CTS-2 Minor Injury	CTS-2 Severe Injury
URICA-DV								
Precontemplation	-.01	.12	-.06	.11	.19	.29*	.16	.13
Contemplation	.26**	.02	.23**	-.01	-.04	-.11	-.03	-.04
Action	.16*	-.03	.16*	-.04	.05	-.11	.08	-.14
Maintenance	.18*	.06	.13	-.01	.16	.20	.20	.04
RCI	.22**	-.01	.21**	-.05	.01	-.08	.05	-.08
SAH								
Precontemplation	.13	.18*	.14	.20**	.05	.13	.09	.17
Contemplation	.38**	.28**	.32**	.26**	.07	-.01	-.21	.00
Action	-.03	-.14	.01	-.10	-.21	-.10	-.21	-.03

Table 7

Relationships among Pre-BIP Stages of Change Variables and Psychological/Emotional Abuse

	Male Reports			Female Reports		
	CTS-2 Minor Psych	CTS-2 Severe Psych	EAS Total	CTS-2 Minor Psych	CTS-2 Severe Psych	EAS Total
URICA-DV						
Precontemplation	-.01	.07	-.01	.01	.10	-.05
Contemplation	.19*	.16*	.19*	.09	-.04	.09
Action	.08	.08	.06	-.05	-.03	.01
Maintenance	.22*	.16	.29	.10	.30*	.24*
RCI	.19*	.13	.20**	.05	.06	.14
SAH						
Precontemplation	.02	.13	.14	.21	.06	.17*
Contemplation	.31**	.32**	.31**	.15	.11	.17*
Action	.01	-.12	-.14	-.14	-.30*	-.02

Table 8

Correlations among Stages of Change Subscales and Other Measures

	URICA-DV				SAH		
	Precont.	Contemp	Action	Maintenance	Precontemp.	Contemp.	Action
AIV	.04	.11	-.01	.21**	.18*	.03	.05
AUDIT	-.11	.25**	.22**	.21**	.04	.25**	-.14
DAST	.12	.10	.02	.28**	.14	.39**	-.16
GHQ	.12	.05	-.05	.19*	.26**	.22**	-.09
HTWI	.24**	.06	.00	.21**	.36**	.32**	-.09
TAS	.10	.24**	.06	.46**	.29**	.44**	-.17*
SDS	.07	-.22	-.10	-.40**	-.11	-.37**	.14

Note: AIV = Acceptance of Interpersonal Violence scale. AUDIT = Alcohol Use Disorders Identification Test. DAST = Drug Abuse Screening Test. GHQ = General Health Questionnaire. HTWI = Hostility toward Women Inventory. TAS = Trait Anger Scale. SDS = Social Desirability Scale.

Table 9

Characteristics of Pre-BIP URICA-DV Stages of Change Clusters

	URICA-DV Clusters			
	Reluctant (n=35)	Unprepared Action (n=32)	Preparticipation (n=85)	Decision Making (n=47)
URICA-DV (raw M/SD)				
Precontemplation	**12.0** (3.0)	**7.1** (2.1)	**10.4** (1.2)	**9.6** (3.8)
Contemplation	**12.8** (3.9)	**21.0** (3.1)	**18.1** (1.9)	**22.0** (2.2)
Action	**14.8** (4.1)	**23.8** (1.4)	**20.3** (1.1)	**22.1** (2.4)
Maintenance	**12.9** (3.7)	**12.6** (3.4)	**14.4** (2.8)	**20.2** (2.0)
INDEX	**28.6** (9.0)	**50.3** (5.5)	**42.4** (4.0)	**54.7** (6.9)
SAH (raw M/SD)				
Precontemplation	**20.1** (4.4)	**16.2** (5.2)	**19.2** (3.3)	**19.6** (5.1)
Contemplation	**23.1** (6.5)	**29.8** (6.2)	**26.8** (5.2)	**31.4** (5.6)
Action	**30.5** (3.3)	**32.8** (4.8)	**31.0** (2.9)	**31.8** (4.2)
CTS-2 Assault Severity 12-mos				
% No Assault	37.1	15.6	14.1	2.2
% Minor Assault Only	37.1	40.6	47.4	21.7
% Severe Assault	25.7	43.8	38.5	76.1
MEA Total (M/SD)	38.4 (29.8)	42.0 (25.8)	37.7 (26.6)	47.7 (29.4)
Social Desirability (M/SD)	8.5 (3.0)	8.3 (2.9)	8.1 (3.2)	6.8 (2.6)
AUDIT (M/SD)	7.3 (7.6)	12.6 (12.1)	7.3 (7.6)	12.4 (8.8)
DAST (M/SD)	7.9 (6.8)	8.3 (7.5)	6.9 (6.5)	7.2 (6.0)

Table 9 (continued)

	Reluctant	Unprepared Action	Preparticipation	Decision Making
HTWI (M/SD)	10.9 (6.1)	9.1 (5.6)	9.7 (4.9)	12.2 (4.6)
AIV (M/SD)	19.5 (4.9)	18.1 (5.0)	18.3 (4.1)	20.6 (4.6)
HAT (M/SD)	49.4 (20.4)	45.8 (22.6)	45.9 (20.4)	56.2 (19.1)
TAS (M/SD)	16.6 (4.6)	16.2 (4.5)	16.9 (5.0)	20.6 (5.4)

NOTE: N=199. URICA-DV = University of Rhode Island Change Assessment Inventory for Domestic Violence. CTS-2 = Conflict Tactics Scale, 2nd. Edition. MEA = Measure of Emotional Abuse. AUDIT = Alcohol Use Disorders Inventory. DAST = Drug Abuse Screening Test. HTWI = Hostility towards Women Inventory. AIV = Attitudes toward Interpersonal Violence scale. HAT = Hostile Automatic thoughts Inventory. TAS = Trait Anger Scale.

Table 10

Characteristics of Pre-BIP SAH Stages of Change Clusters

	SAH Clusters				
	Reluctant (n=26)	Immotive (n=33)	Unprepared Action (n=14)	Pre-Participation (n=103)	Decision Making (n=23)
SAH (Raw M/SD)					
Precontemplation	**18.2**	**25.0**	**12.0**		**18.1**
19.4					
	(2.7)	(3.8)	(2.0)	(3.1)	(3.6)
Contemplation	**19.6**	**33.0**	**32.7**	**26.2**	**33.0**
	(4.9)	(4.0)	(4.1)	(4.9)	(3.7)
Action	**27.2**	**32.6**	**36.6**	**32.4**	**26.5**
	(2.0)	(3.6)	(2.8)	(2.0)	(2.8)
URICA-DV (Raw M/SD)					
Precontemplation	**11.4**	**10.9**	**7.2**	**9.8**	**9.3**
	(3.0)	(2.8)	(4.3)	(2.4)	(2.9)
Contemplation	**16.0**	**20.0**	**21.0**	**18.0**	**20.9**
	(3.7)	(5.0)	(5.4)	(3.3)	(3.6)
Action	**17.7**	**20.1**	**22.9**	**20.3**	**21.3**
	(4.1)	(4.1)	(5.3)	(2.9)	(2.5)
Maintenance	**14.1**	**15.8**	**15.7**	**14.7**	**17.8**
	(3.8)	(4.6)	(5.0)	(3.8)	(3.4)
INDEX	**36.4**	**45.2**	**52.3**	**43.2**	**50.7**
	(9.0)	(11.3)	(15.9)	(8.5)	(9.9)
CTS-2 Assault Severity					
12-mos					
% No Assault	**32.0**	**12.1**	**21.4**	**13.5**	
8.7					
% Minor Assault Only	**44.0**	**24.2**	**28.6**	**45.8**	**26.1**
% Severe Assault	**20.4**	**63.6**	**50.0**	**40.6**	**65.2**
Emotional Abuse (M/SD)	**35.3**	**54.4**	**56.1**	**33.3**	**53.0**
	(32.7)	(29.5)	(40.7)	(20.0)	(27.6)
Social Desirability (M/SD)	**10.0**	**7.0**	**8.4**	**8.3**	**5.3**
	(2.1)	(2.9)	(3.2)	(2.8)	(3.0)
AUDIT (M/SD)	**6.9**	**10.3**	**8.5**	**8.5**	**8.2**
	(4.4)	(9.0)	(9.1)	(9.1)	(7.2)
DAST (M/SD)	**3.8**	**9.4**	**6.5**	**6.0**	**10.8**
	(4.2)	(6.4)	(3.6)	(4.4)	(7.1)

Table 10 (continued)

	Reluctant (n=26)	Immotive (n=33)	Unprepared Action (n=14)	Pre-Participation (n=103)	Decision Making (n=23)	
HTWI (M/SD)	**8.1** (5.6)	**13.8** (5.0)	**7.6** (4.3)	**9.7** (4.7)	**13.0** (5.0)	
AIV (M/SD)	**18.4**	**20.7**	**18.0**	**18.6**		
20.4	(4.2)	(5.3)	(5.8)	(4.5)	(6.5)	
HAT (M/SD)	**43.2** (10.3)	**52.2** (20.3)	**40.1** (8.8)	**47.9** (16.0)	(26.5)	**60.6**
TAS (M/SD)	**15.0** (3.7)	**20.6** (6.2)	**15.7** (2.6)	**16.6** (4.1)	(6.1)	**22.2**

NOTE: N=199. URICA-DV = University of Rhode Island Change Assessment Inventory for Domestic Violence. CTS-2 = Conflict Tactics Scale, 2nd. Edition. MEA = Measure of Emotional Abuse. AUDIT = Alcohol Use Disorders Inventory. DAST = Drug Abuse Screening Test. HTWI = Hostility towards Women Inventory. AIV = Attitudes toward Interpersonal Violence scale. HAT = Hostile Automatic thoughts Inventory. TAS = Trait Anger Scale.

Table 11

Correlations among Stage of Change Subscales and Social Desirability

	1	2	3	4	5	6	7
1. SAH Precontemplation							
2. SAH Contemplation	.11						
3. SAH Action	-.06	.10					
4. URICA-DV Precontemplation	**.40****	-.16*	-.17*				
5. URICA-DV Contemplation	-.10	**.52****	.12	-.34**			
6. URICA-DV Action	-.12	.35**	**.22***	-.33**	.73**		
7. URICA-DV Maintenance	.09	.32**	-.06	.11	.49**	.30**	
8. Social Desirability	-.11	-.37**	.14	.07	-.21*	-.10	-.37**

Table 12

Overlap among Readiness to Change Clusters

	URICA-DV Clusters			
	Reluctant	Unprepared Action	Preparticipation	Decision Making
% CLASSIFIED AS				
SAH Reluctant	**31.4**	3.1	14.1	4.3
SAH Immotive	17.1	18.8	11.8	23.4
SAH Unprepared Action	2.9	**25**	1.2	8.5
SAH Preparticipation	42.9	40.6	**65.9**	40.4
SAH Decision Making	5.7	12.5	7.1	**23.4**

Table 13

Pre-BIP Stages of Change Variables and CTS-2 Partner Violence

	URICA-DV Clusters					SAH					
	Decision Making	Pre-Participation	Unprepared Action	Reluctant	F	Decision Making	Pre-Participation	Unprepared Action	Immotive	Reluctant	F
Minor Assault	7.9	7.4	8.4	6.4	.19	9.6	6.9	5.9	10.7	4.5	1.45
Severe Assault 2.98*	2.4	2.4	1.0	1.1		.64	6.0[a]	1.6b	.7[b]	1.8[b]	.6[b]
TOTAL ASSAULT 2.16	**10.2**	**9.8**	**9.4**	**7.5**		**.24**	**14.9**	**14.5**	**9.5**	**21.0**	**18.4**
Minor Psych.	27.3	28.6	34.4	34.9	1.02	28.0	30.5	27.2	35.3	26.6	.57
Severe Psych.	5.4	4.8	5.3	5.1	.04	6.2	5.2	4.2[a]	6.5	1.9	1.08
TOTAL PSYCH	**32.7**	**33.4**	**39.7**	**40.0**	**.70**	**34.2**	**35.8**	**31.4**	**41.8**	**28.5**	**.75**
Minor Injury	2.5	2.0	2.9	2.0	.61	3.9	2.0	2.1	2.8	1.3	1.94
Severe Injury	.6	1.0	.7	.1	.43	2.9[a]	.3[b]	.7[b]	.6[b]	.2[b]	2.58*
TOTAL INJURY	**3.2**	**2.9**	**3.6**	**2.1**	**.37**	**6.8a**	**2.3**	**2.8**	**3.4**	**1.5**	**2.98***
Minor Sexual	7.4[a]	4.0[b]	1.2[b]	5.7[b]	2.70*	5.1	5.4	1.1	5.2	2.5	.83
Severe Sexual 1.56	.3	.7	.01	0.0		.49	2.0	.2	.03	.1	.1
TOTAL SEXUAL	**7.7**	**4.6**	**1.2**	**5.7**		**2.30**	**7.1**	**5.6**	**1.2**	**5.3**	**2.6**

1.00

Table 14

Characteristics of Partner Violence Subtypes

	Partner Violence Subtypes			
	Family Only (n=61)	Low-Level Antisocial (n=86)	Borderline/ Dysphoric (n=40)	Generally Violent/ Antisocial (n=12)
MCMI-III (M T-scores)				
Antisocial	39.6	51.5	58.6	63.4
Borderline	40.1	49.9	62.2	60.3
Dependent	42.2	48.2	64.4	54.4
General Violence (M T-scores)	44.7	48.9	56.7	62.1
CTS-2 Assault Freq. 12-mos (weighted M/SD)	2.8 (3.8)	7.3 (6.8)	11.0 (9.0)	52.7 (28.8)
CTS-2 Assault Severity, 12-mos				
% No Assault	34.4	7.7	7.5	0.0
% Minor Assault Only	47.5	43.6	22.5	8.3
% Severe Assault	18.0	48.7	70.0	91.7
Race / Ethnicity				
% African-American	47.5	35.7	59.0	58.3
% Caucasian	35.6	40.5	23.1	25.0
% Hispanic/Latino	16.9	23.8	17.9	16.7
Age (M)	34.7	30.7	31.6	35.8
MEA Total (M/SD)	30.2 (27.4)	39.1 (23.8)	51.0 (28.5)	72.8 (20.3)
Social Desirability (M/SD)	9.8 (2.3)	7.6 (2.7)	6.4 (3.0)	5.0 (2.7)
AUDIT (M/SD)	5.2 (5.8)	9.7 (8.4)	11.9 (10.6)	17.8 (10.9)
DAST (M/SD)	3.6 (3.3)	6.5 (5.9)	9.6 (6.9)	15.6 (6.7)
HTWI (M/SD)	7.8 (4.8)	10.0 (4.6)	13.2 (4.4)	16.3 (6.2)
AIV (M/SD)	18.4	17.8	21.8	21.2

	(4.8)	(4.0)	(6.0)	(4.2)

Table 14, Continued

	Family Only (n=61)	Low-Level Antisocial (n=86)	Borderline/ Dysphoric (n=40)	Generally Violent/ Antisocial (n=12)
HAT (M/SD)	41.5 (11.4)	49.1 (16.0)	54.8 (19.0)	65.4 (33.5)
TAS (M/SD)	14.2 (3.0)	17.7 (4.1)	21.0 (5.8)	22.4 (7.0)

NOTE: N=199. URICA-DV = University of Rhode Island Change Assessment Inventory for Domestic Violence. CTS-2 = Conflict Tactics Scale, 2nd. Edition. MEA = Measure of Emotional Abuse. AUDIT = Alcohol Use Disorders Inventory. DAST = Drug Abuse Screening Test. HTWI = Hostility towards Women Inventory. AIV = Attitudes toward Interpersonal Violence scale. HAT = Hostility towards Women Inventory. TAS = Trait Anger Scale.

Table 15

Partner violence subtypes and the stages of change.

	Partner Violence Subtypes			
	FO	LLA	BD	GVA
URICA-DV Subscales (raw M/SD)				
Precontemplation	9.9	9.8	10.4	9.9
Contemplation	16.8	18.7	19.8	21.9
Action	19.8	20.5	20.2	22.3
Maintenance	13.2	15.8	16.7	16.4
INDEX	39.9	45.2	46.4	50.7
SAH Subscales (raw M/SD)				
Precontemplation	17.8	19.1	19.8	21.6
Contemplation	22.9	28.6	31.8	33.2
Action	31.2	31.8	30.8	31.7
URICA-DV Clusters				
% Reluctant	**27.9**	12.8	15.0	8.3
% Unprepared Action	14.8	15.1	15.0	**33.3**
% Preparticipation	**47.5**	**47.7**	27.5	33.3
% Decision Making	9.8	24.4	**42.5**	25.0
SAH Clusters				
% Immotive	1.6	16.3	30.0	**50.0**
% Reluctant	**29.5**	7.0	2.5	8.3
% Unprepared Action	8.2	5.8	7.5	8.3
% Preparticipation	57.4	61.6	30.0	25.0
% Decision Making	3.3	9.3	**30.0**	8.3

NOTE: N = 199. URICA-DV = University of Rhode Island Change Assessment Inventory for Domestic Violence. FO=Family Only subtype. LLA=Low-Level Antisocial subtype. BD=Borderline/Dysphoric subtype. GVA=Generally Violent Antisocial subtype.

Table 16

Stages of Change Scores over 13 months Post-Adjudication

	Int1 (pre-BIP) (n=60)	Int2 (early-BIP) (n=38)	Int3 (mid-BIP) (n=35)	Int4 (post-BIP) (n=35)	Int5 (BIP F-U) (n=27)
Male Reports					
Single Item Stage					
% Precontemplation	3.3				
% Contemplation	15.0				
% Preparation	18.4				
% Action	46.8				
% Maintenance	16.7				
Female Partner Reports					
Single Item					
% Precontemplation	42.4	34.2	51.4	51.4	63.0
% Contemplation	10.2	15.8	11.4	8.6	7.4
% Preparation	16.9	15.8	8.3	5.7	7.4
% Action	3.4	15.8	0.0	8.6	0.0
% Maintenance	25.4	18.4	22.9	25.7	22.2

Table 17

Female Partner Quality of Life Data Post-Adjudication to 6-months post male BIP

	Int1 (pre-BIP) (n=60)	Int2 (early-BIP) (n=38)	Int3 (mid-BIP) (n=35)	Int4 (post-BIP) (n=35)	Int5 (BIP F-U) (n=27)
Quality of Life					
% Better	57.6	63.2	54.3	60.0	70.4
% Worse	35.6	31.6	40.0	31.4	25.9
% Same	6.8	5.3	5.7	8.6	3.7
Safety					
% Somewhat/ Very Safe	93.3	87.1	94.3	88.6	96.3
Violence Likelihood					
% Somewhat/ Very Unlikely	81.7	79.5	88.6	82.9	92.6

Table 18

Female Partner-Reported Male Processes of Change (POC) Scale Scores over 13 months Post-Adjudication

	Int1 (pre-BIP)	Int2 (early-BIP)	Int3 (mid-BIP)	Int4 (post-BIP)	Int5 (BIP F-U)
Overall					
POC Experiential	15.1 (4.9)	15.7 (4.5)	15.4 (4.6)	15.0 (4.7)	14.5 (8.1)
POC Behavioral	12.8 (4.3)	14.6 (4.0)	13.8 (4.3)	14.2 (3.3)	14.0 (4.0)

NOTE: Data for each time point were imputed using an EM-based algorithm. Sample size at each time point was 60.

Figure 1.

Stages of Change Clusters for the URICA-DV.

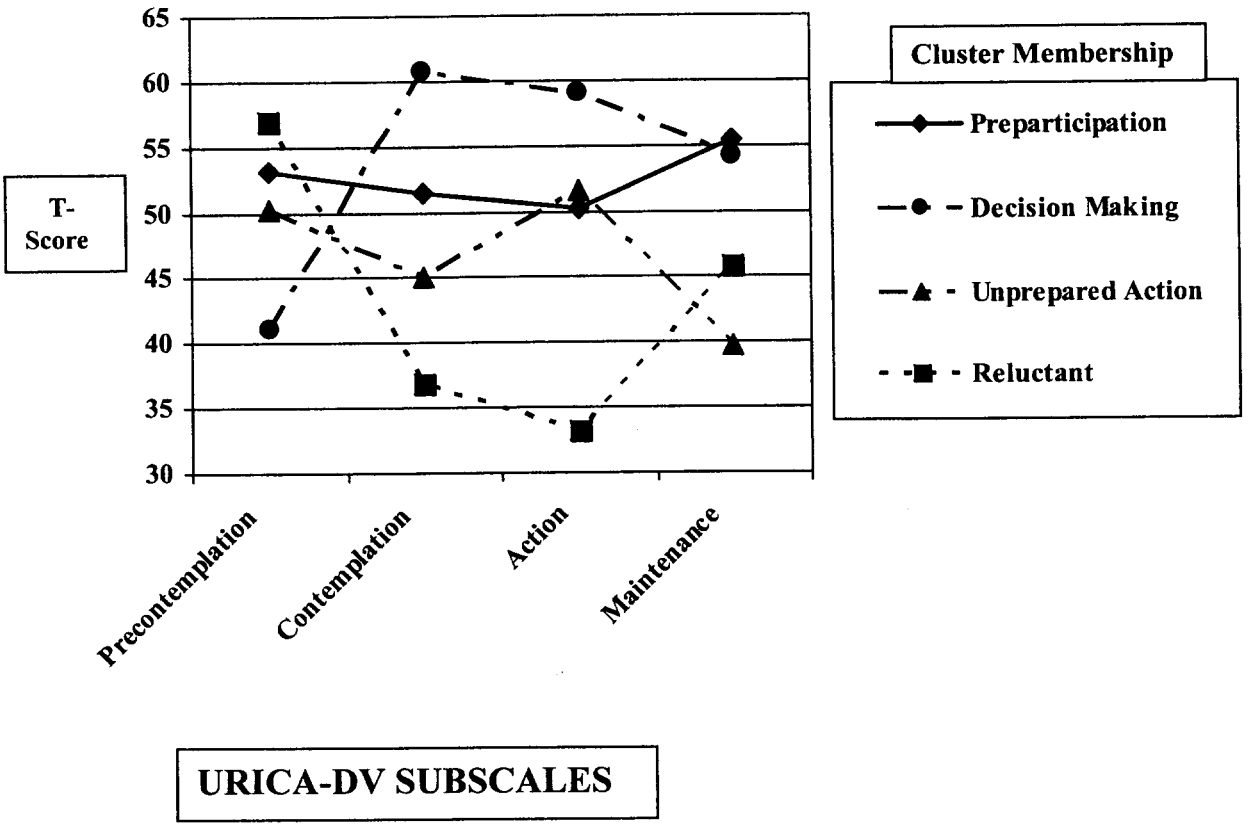

Figure 2

Stages of change clusters for the Safe at Home scale.

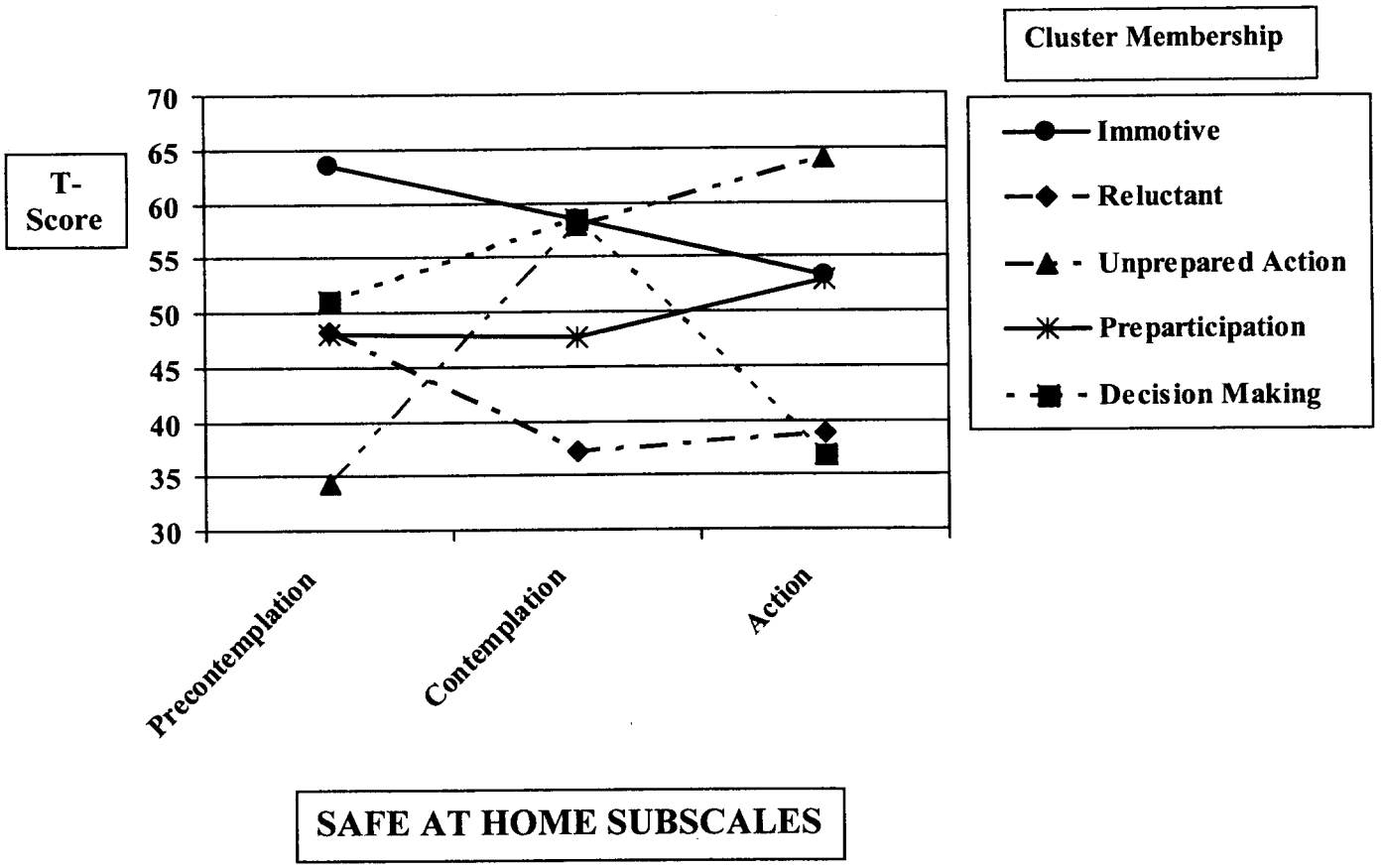

Figure 3

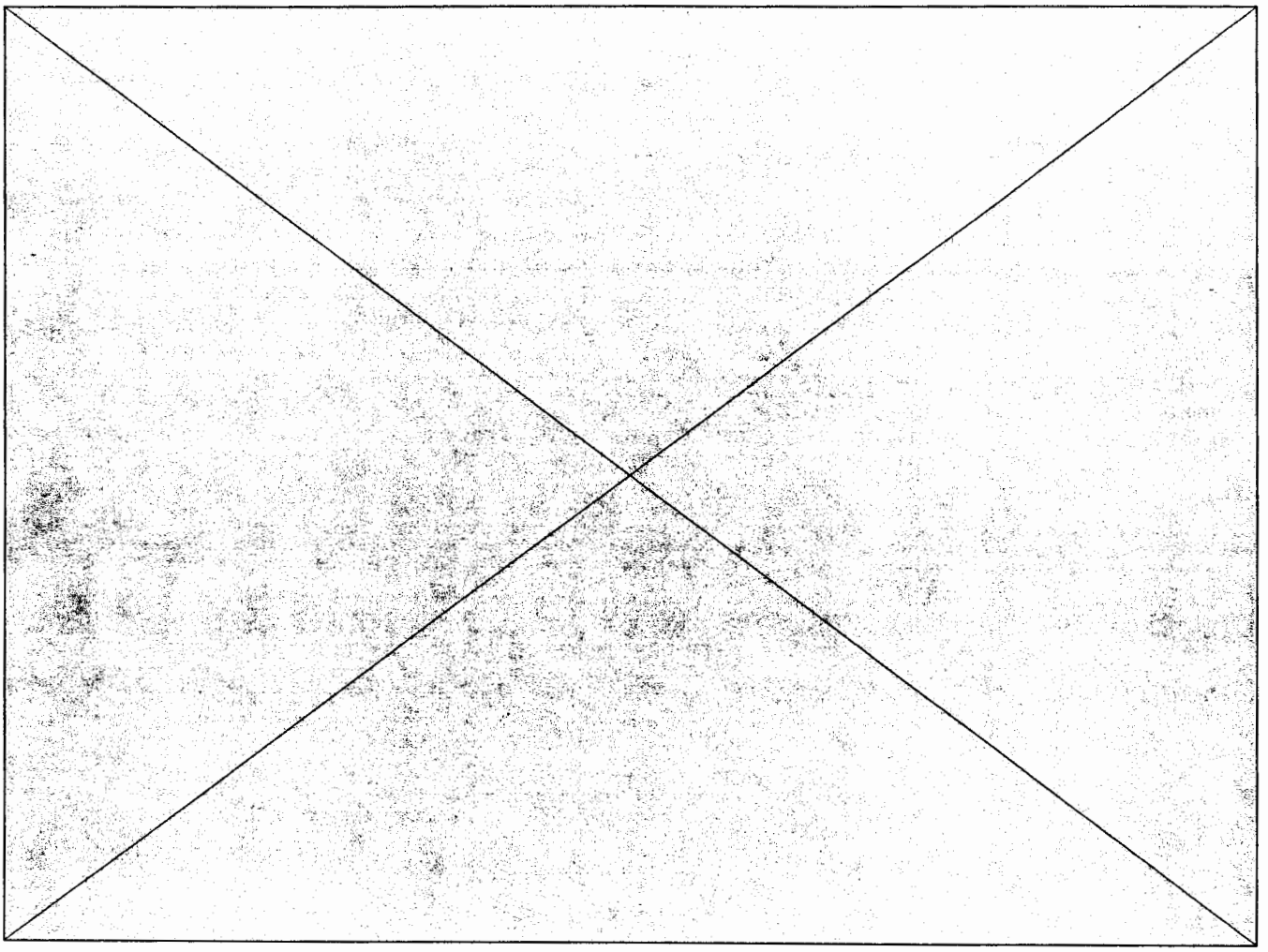

Figure 4

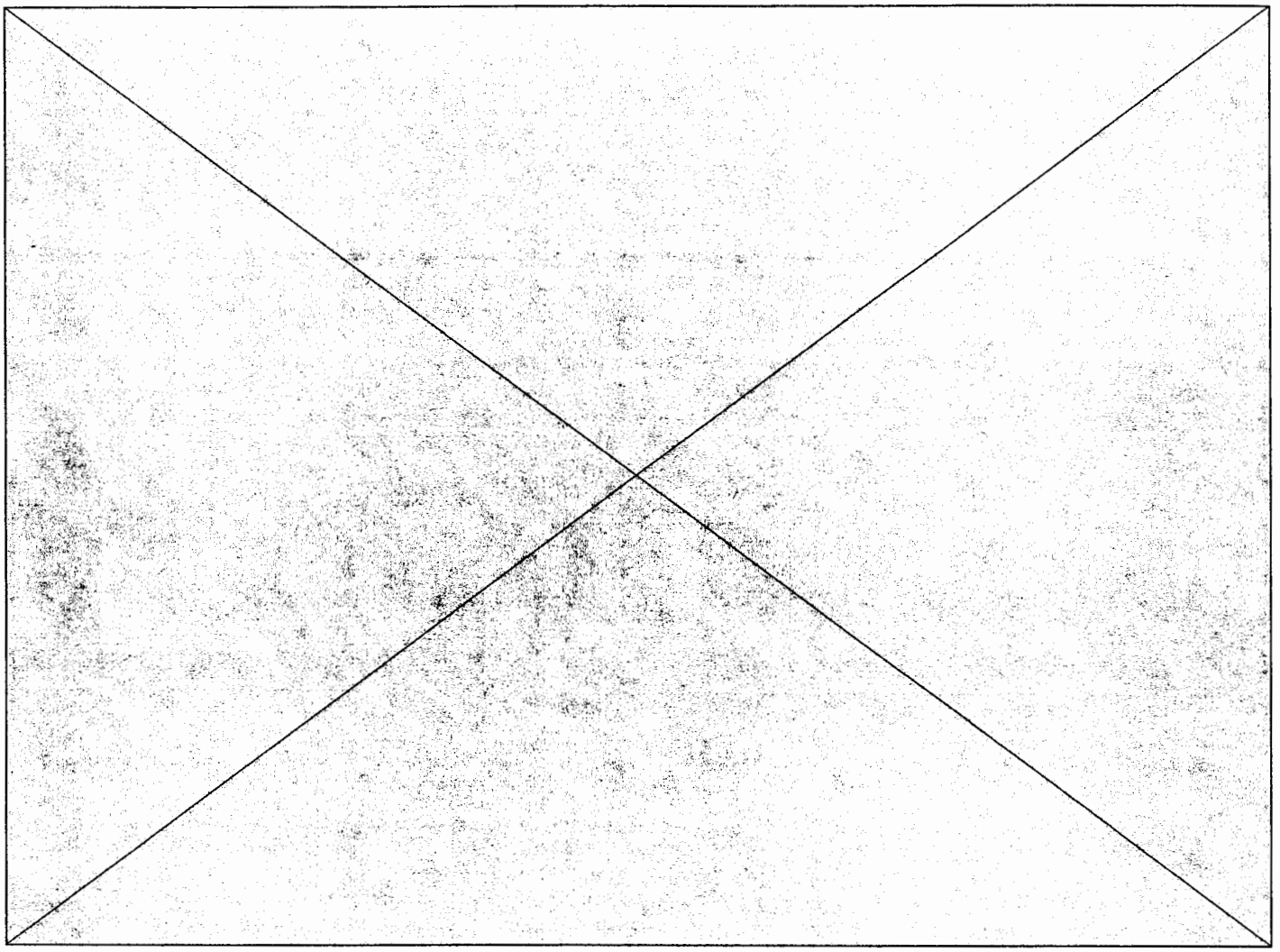

Figure 5

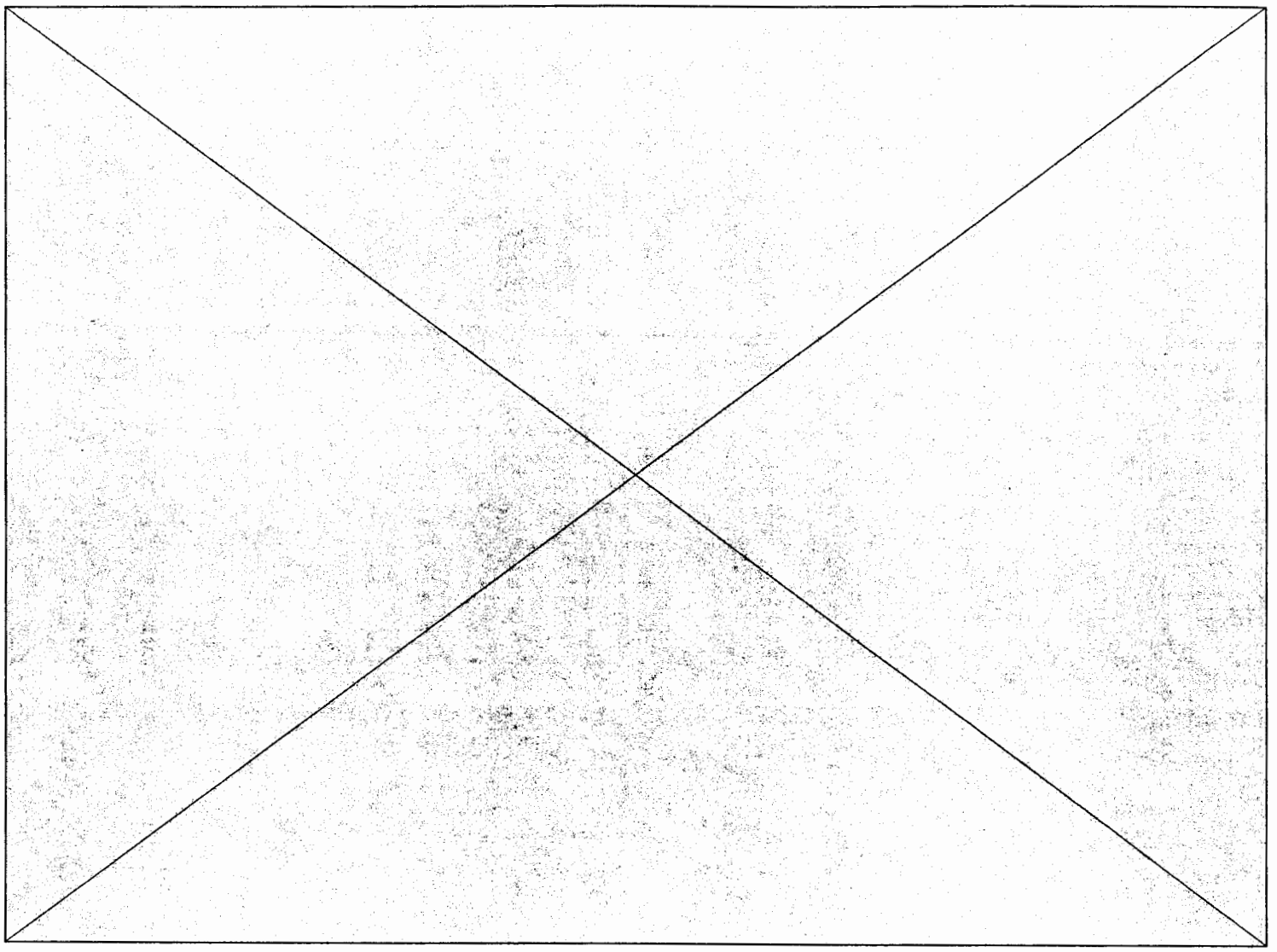

Figure 6

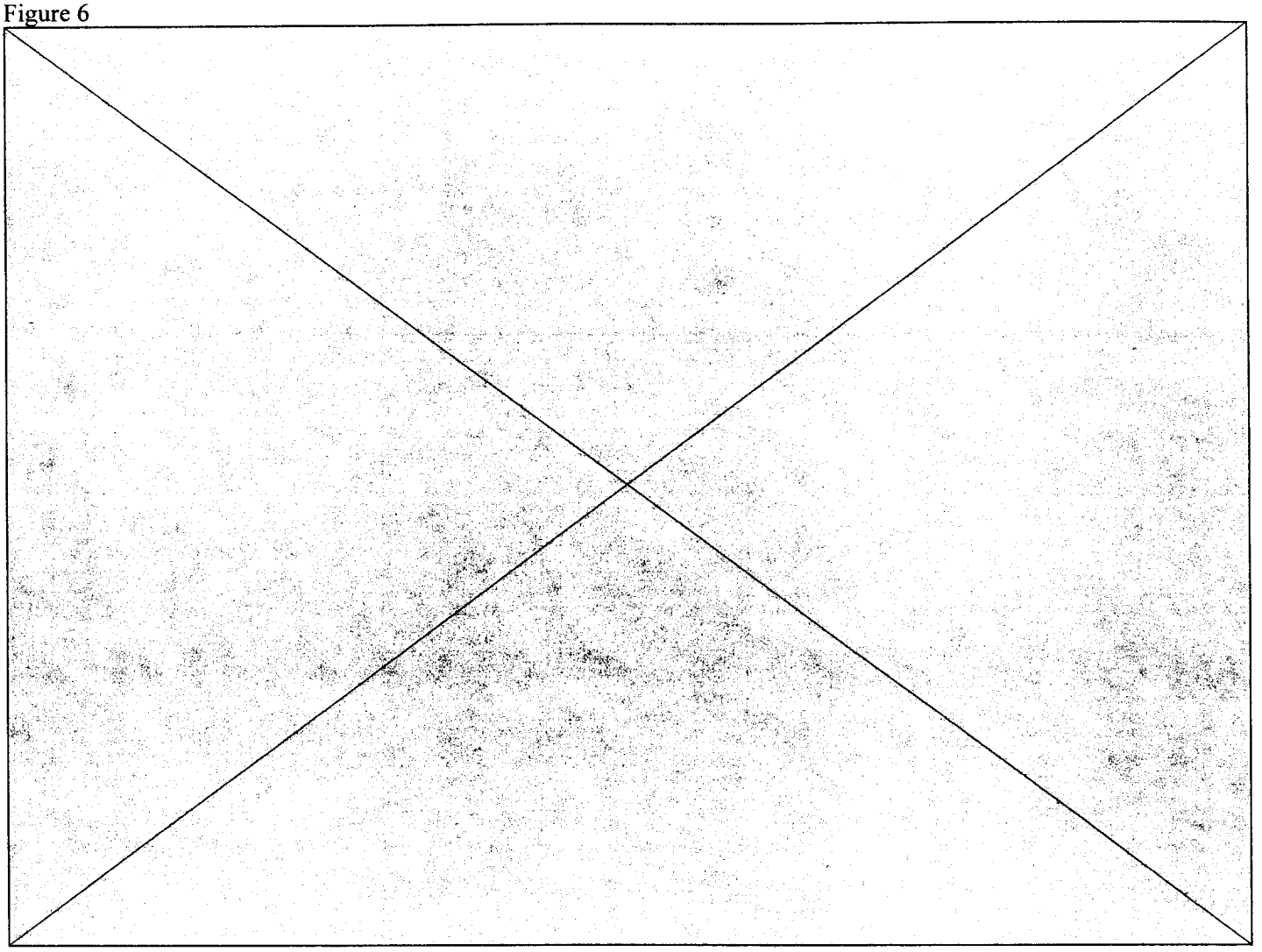

Figure 7

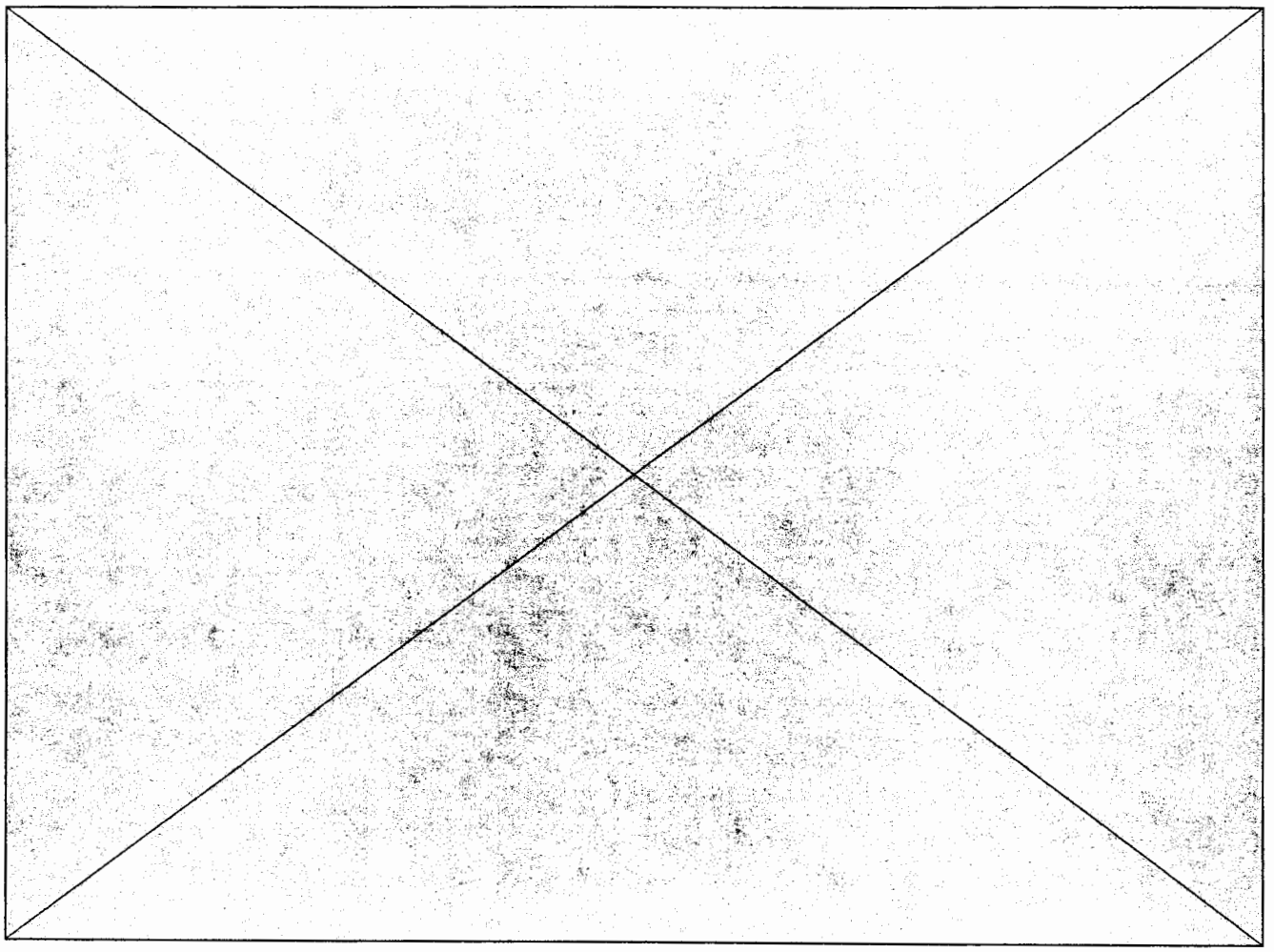

Figure 8. Processes of Change as a function of BIP Completion

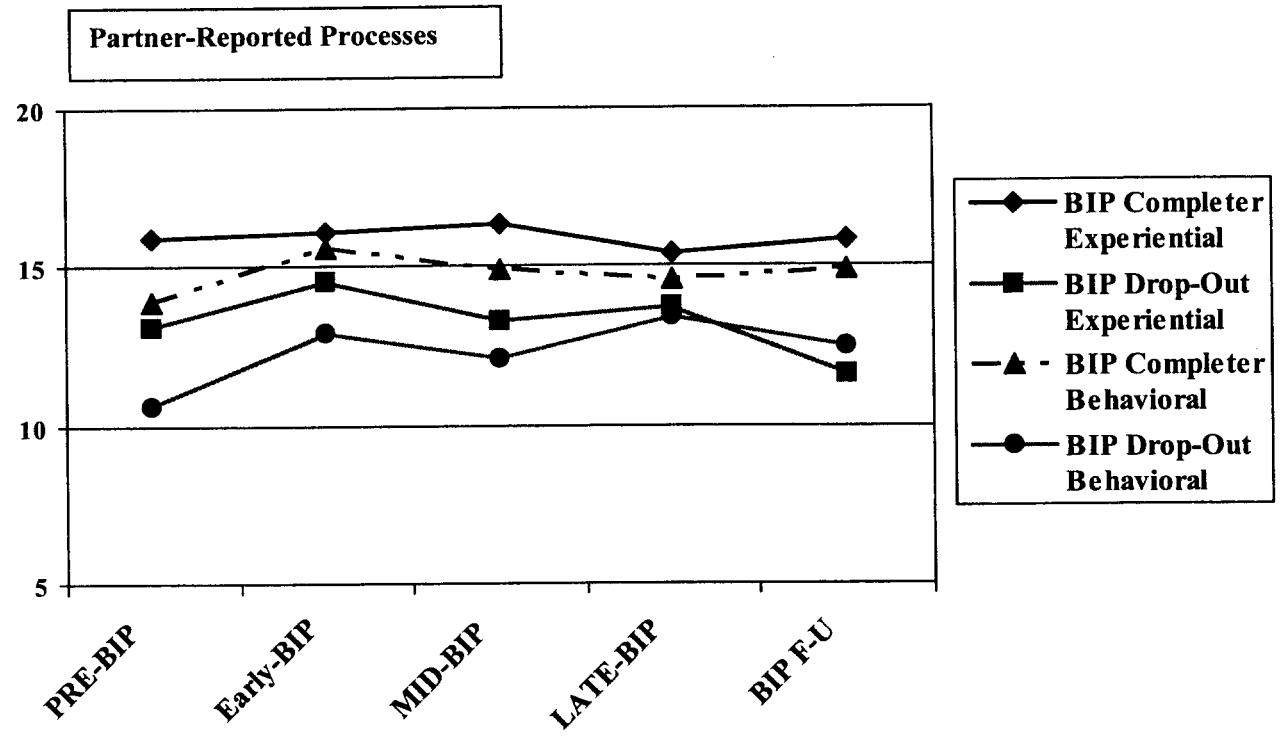

Figure 9. Processes of Change as a function of Rearrest

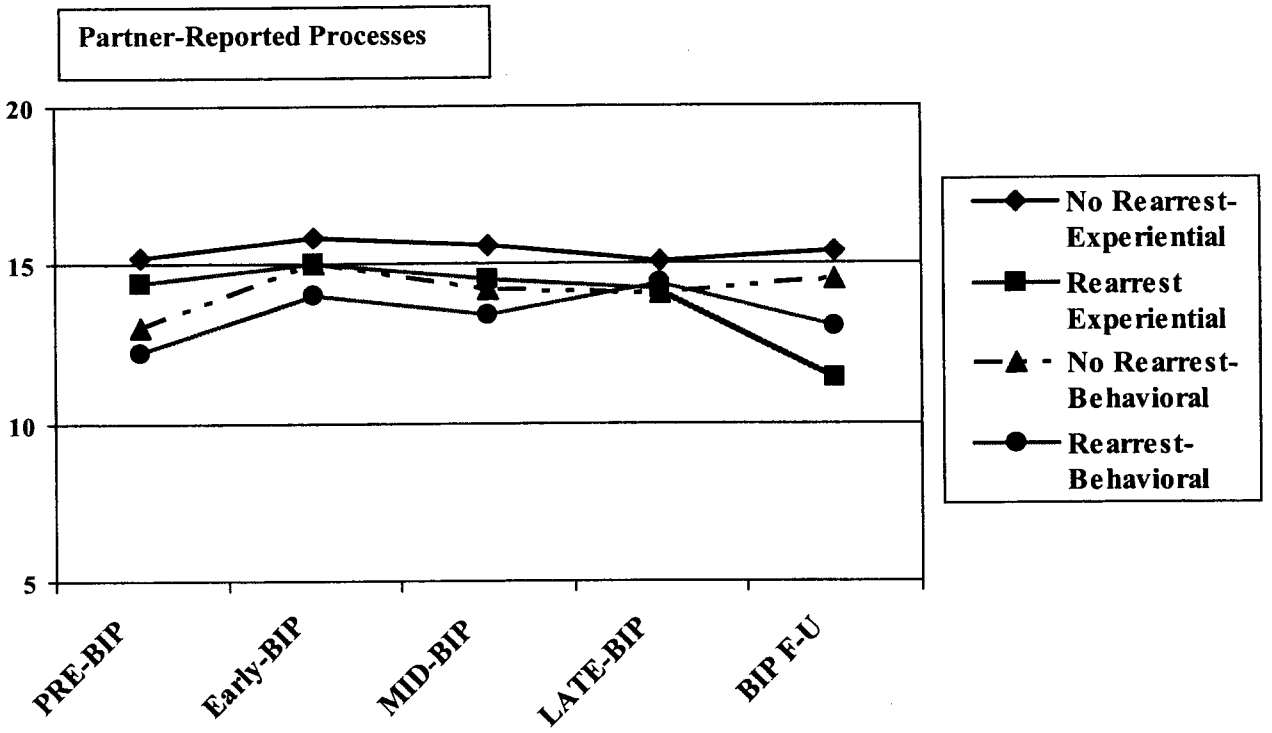

Figure 10. Processes of Change as a function of Domestic Violence Reassault