DATING INTIMATE PARTNER VIOLENCE: A GENDER-SENSITIVE TAXOMETRIC ANALYSIS OF THE ROLES OF AFFECT REGULATION AND CALLOUSNESS

by

JENNIFER J. CERCONE-KEENEY

(Under the Direction of Steven R. H. Beach)

ABSTRACT

The present study was grounded in feminist and behavior analytic theories and sought to examine aspects of gender symmetry and asymmetry in dating intimate partner violence (IPV). Self-report data were collected from 1002 undergraduate men and women at a large Southeastern university. Although physical assault was the primary form of dating IPV of interest, perpetration and victimization rates for psychological and sexual aggression were also generated. These data were notable for greater gender asymmetry than expected among the nonsexual forms of dating IPV and greater gender symmetry than expected for the sexual forms of dating IPV. Male and female perpetrators of physical assault differed in their endorsement of instrumental representations of aggression, but not expressive representations. Taxometric analyses suggested that affect regulation may be better understood as a dimensional construct, while callousness may be better understood as a categorical construct. Overall, the variables under consideration functioned better as predictors of perpetration status than perpetration frequency. Further, gender differences in the patterns of predictors were observed. Taken together, the results suggested that gender-sensitive analyses are crucial to our understanding of dating IPV and that the proximal and distal contexts of this phenomenon must be considered when ascribing meaning and ascertaining function and impact.

INDEX WORDS: Intimate partner violence, dating, expressive violence, instrumental violence, affect regulation, callousness, taxometrics

DATING INTIMATE PARTNER VIOLENCE: A GENDER-SENSITIVE TAXOMETRIC ANALYSIS OF THE ROLES OF AFFECT REGULATION AND CALLOUSNESS

by

JENNIFER J. CERCONE-KEENEY

B.S., The University of Virginia, 1996

M.S., The University of Georgia, 2002

A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2004

DATING INTIMATE PARTNER VIOLENCE: A GENDER-SENSITIVE TAXOMETRIC ANALYSIS OF THE ROLES OF AFFECT REGULATION AND CALLOUSNESS

by

JENNIFER J. CERCONE-KEENEY

Major Professor:	Steven R. H. Beach
Committee:	Nader Amir Lily D. McNair

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
August 2004

DEDICATION

To the three women who had a hand in raising me:

Margaret “Peggy” Kapsiak, my mother,

Jane Coniglio, my maternal grandmother,

and

Angelica “Ann” Meyer, my maternal aunt

ACKNOWLEDGEMENTS

I would like to express appreciation to my committee members, Dr. Steve Beach, Dr. Nader Amir, and Dr. Lily Mcnair, for the guidance they provided and the expertise they shared, not only on this project, but throughout my graduate training.

TABLE OF CONTENTS

LIST OF TABLES

Page

LIST OF FIGURES

Page

Chapter 1

Introduction

In 1981, Makepeace published the first study of intimate partner violence (IPV) in dating relationships. Since that seminal work, numerous studies have documented the widespread prevalence of dating IPV. At least 1/3 of high school and college students have experienced dating IPV, as perpetrators and/or recipients, at one or more times in their dating history (e.g., Arias, Samios, & O'Leary, 1987; Bergman, 1992; Bookwala, Frieze, Smith, & Ryan, 1992; Foo & Margolin, 1995; Jezl, Molidor, & Wright, 1996).

This statistic is alarming. Dating IPV appears to confer negative effects on health and well-being. The negative outcomes associated with dating IPV include, but are not limited to, physical injury and medical attention-seeking (Makepeace, 1986), psychological distress (Coffey, Leitenberg, Henning, Bennett, & Jankowski, 1996), rapid repeat pregnancy (Jacoby, Gorenflo, Black, Wunderlich, & Eyler, 1999), disciplinary problems (Reuterman & Burcky, 1989), and low grade point average (Bergman, 1992).

In addition to these concurrent negative consequences, dating IPV has been implicated as a precursor of marital violence. For example, Walker (1979) indicated that retrospective accounts by battered women revealed instances of minor violence early in their relationships. Similarly, O'Leary, et al. (1989) noted that, for those couples who engaged in physical aggression during courtship, the likelihood that violence would also characterize their marital relationship was high. When dating relationships are conceptualized as the context in which individuals are

socialized for later marital roles, the potential path from dating IPV to marital IPV becomes apparent (Follette & Alexander, 1992; Roscoe & Benaske, 1985).

Symmetry in Perpetration

Evidence of gender symmetry in dating IPV has been available since the early 1980's. In a 1983 survey of high school students, boys and girls reported initiating violence toward their romantic partners at comparable rates (Henton, Cate, Koval, Lloyd, & Christopher, 1983). Likewise, a survey of over 500 college students found evidence of gender symmetry in overall violence (Sigelman, Berry, & Wiles, 1984). This similarity in frequency of violence directed toward a romantic partner is somewhat surprising given robust gender differences in perpetration of violence toward same-sex friends and strangers (Hyde, 1986). Nonetheless, these early reports of symmetry of perpetration in dating relationships have been replicated numerous times (e.g., Arias, Samios, & O'Leary, 1987; Cercone-Keeney, Beach, & Arias, in press Milardo, 1998; Straus, Hamby, Boney-McCoy, & Sugarman, 1996; White & Humphrey, 1994) and are consistent with reports of gender symmetry in marital IPV (e.g., Cascardi, Langhinrichesen, & Vivian, 1992; Margolin, 1987; Straus, 1993).

In the current study, it is predicted that there will be no gender differences with respect to self-reported perpetration and victimization of nonsexual acts (i.e., psychological aggression, physical assault) of dating IPV. In contrast gender asymmetry with respect to sexual acts of dating IPV is predicted, such that more men than women will report perpetration of sexual coercion (e.g., Harned, 2001).

Asymmetries in Consequences of Victimization and Predictors of Perpetration

Despite the strong evidence that men and women engage in equal numbers of discrete acts of nonsexual violence against intimate partners, particularly in nonclinical samples, female

victims of IPV have been repeatedly shown to be at greater risk than male victims for sustaining physical and psychological injury and, in extreme cases, death (e.g., Archer, 2000; Bookwala, et. al., 1992; Cascardi, Langhinrichsen, & Vivian, 1992; CDC, 1996; Foshee, 1996; Molidor & Tolman, 1998; Tjaden & Thoennes, 2000; Vivian & Langhinrichsen-Rohling, 1994).

Differences in the patterns of predictors of male- and female-perpetration of dating IPV have also been identified. Bookwala, et al. (1992), for example, found that more accepting attitudes toward violence and less traditional sex-role attitudes predicted men's dating IPV; in contrast, less accepting attitudes toward violence and more traditional sex-role attitudes predicted women's violence. Similarly, Capaldi and Crosby (1997) found that although antisocial behavior predicted male perpetration of dating IPV, depressive symptomatology and low self-esteem predicted female perpetration.

Further, even when the same predictors are identified for male and female perpetrators, the degree of their usefulness tends to vary by gender. For example, Riggs and O'Leary (1996) found that for both men and women, violence in dating relationships was related to individuals' attitudes toward violence, their history of aggressive behavior, and conflict within the relationship. However, while these variables explained more than 60% of the variance in men's dating IPV, they accounted for only 32% of the variance in women's.

These gendered differences in both the consequences of victimization and the predictors of perpetration highlight the limitations of dating IPV research that focuses more or less exclusively on the frequency with which men and women engage in various forms of violent behavior. In contrast, research that looks beyond frequency to the context, function, and meaning associated with acts of dating IPV by men and women may result in a more

comprehensive understanding of this phenomenon, and may influence our interpretation of gender symmetry in rates of dating IPV.

Feminist Perspectives

Feminist analyses have been widely applied to IPV, particularly violence against women. Although there are many faces of feminism, and therefore variation among these analyses, they are consistent in their assumptions that gender, power, control, and oppression are critical components of this phenomenon. That is, feminist theory highlights the role of a patriarchal social structure in the development and maintenance of male privilege and power, which in turn creates an environment in which violence against women may flourish. For example, Dobash and Dobash (1992) noted, "Women are in a secondary position to men both in society and in the family, and that this [sic] results in numerous problems for women, including economic disadvantage and the use of violence against them (p.17)". Others have further proposed that not only is violence against women a side effect of the hierarchy of patriarchy, as suggested by the preceding quotation, it is in fact one of the tools that men as a class have developed and applied to maintain their position of privilege in society (Lloyd & Emery, 2000).

Despite the historical emphasis on male-perpetrated IPV, feminist researchers have recently begun to acknowledge and address women's use of violence in intimate relationships. In fact, White and Kowalski (1994) debunked the myth of women as passive and nonviolent through their description of numerous aggressive acts frequently found in women's behavioral repertoire. More recently, Renzetti (1999) urged feminists to "own" women's IPV so that the meaning ascribed to it is appropriately contextualized: "By taking ownership of the tasks of researching and theorizing women's use of violence, feminists can at once lay bare women's

strengths and women's suffering, a process that I think will both empower women and harness the backlash (p.52)."

Behavior Analytic Perspective

Behavior analytic approaches, emphasizing overt behaviors and their functions, have been less widely applied to IPV. In fact, Myers (1995) noted that behavior analysts have likely viewed the private nature of IPV as a methodological barrier, given the field's historical emphasis on direct observation as the only reliable means of data collection. Methodological concerns not withstanding, he called for greater attention on violence against women and offered a sophisticated behavior analytic conceptualization of the ways in which the proximal three-term contingency of operant conditioning (i.e., antecedent, behavior, and consequence) can be mapped onto the interactions of a violent couple. Others have considered the concept of punishment with regard to victims' tendency to remain in abusive relationships. For example, Long and McNamara (1989) extrapolated from animal-analog and human research findings to offer three explanations for the development and maintenance of behavior in the face of noxious stimuli that generally evoke avoidant and escapist behavior.

Although often referred to as a unitary perspective, behaviorism, like feminism, actually consists of many, sometimes contradictory, variations on a theme (O'Donohue & Kitchener, 1999). However, common to many forms of behaviorism is the view that, through operant conditioning, features of the environment act to cause or control behavior. Skinner referred to this process as "selection by consequence" and proposed that it was similar to the biological phenomenon of natural selection (Ringen, 1999). Central to this view is the idea that behavior and its environment are a unitary integrated phenomenon. "From this perspective, behavior itself changes as the circumstances of its occurrence change, because the behavior and the

circumstances are two aspects of a single event. Hugging one's lover is a different behavior than hugging one's child because it serves a different function, regardless of the similar movements involved. The meaning of a behavior is linked to its function…(Gifford & Hayes, 1999, p. 293)". Thus, it is not the structural properties of an act that interest behavior analysts, but the context in which the act occurs, and therefore, its presumed function.

Melding Behavior Analytic and Feminist Perspectives

Admittedly, this behavioral analytic perspective may at first glance appear contrary to the feminist perspective of violence against women, which emphasizes the extent to which this violence has grown out of a patriarchal social structure rather than the patterns of interaction within particular couples. However, the apparent differences of the behavior analytic and feminist perspectives can be reconciled. For example, the system of patriarchy can be viewed, as Myers viewed it, as a collection of "overarching, contingency-specifying conditions (Myers, 1995, p.496)" that sets the stage for the violence of men to "work" in a way that women's violence does not. Furthermore, both feminist and behavior analytic perspectives predict that the context, function, and meaning of male- and female-perpetrated dating IPV are different. They also share the belief that these differences may account for the seemingly symmetrical perpetration and yet asymmetrical predictors and outcomes of dating IPV for men and women.

In fact, Gifford and Hayes (1999) noted that feminist theory is a form of descriptive contextualism while behavior analytic theory is a form of functional contextualism. According to these authors, descriptive contextualism works toward the goal of understanding, while functional contextualism works toward the goals of prediction and influence. Perhaps the melding of these two types of contextualism may allow for a more complete solution to the problem of dating IPV (i.e., understanding, prediction, and influence).

Expressive Vs. Instrumental Violence

A promising way of conceptualizing the function and potential dissimilarity in men and women's use of violence was proposed by Campbell, Muncer, and Coyle (1992). They proposed two prototypical social representations or functions of aggression (i.e., instrumental and expressive) and suggested that an examination of how men and women differ on their endorsement of these social representations might be one way of explaining differences in their use of overt behavior. They believed that men would be more likely to endorse an instrumental view of violence, with an emphasis on using violence to exert control over others. Women, on the other hand, would be more likely to endorse an expressive view of violence, with an emphasis on loss of self-control during the use of violence. Several studies with varied samples have confirmed their original hypotheses and suggest that while men and women endorse expressive uses of violence equally, men endorse instrumental uses of aggression to a greater extent than women (Archer & Haigh, 1997; Campbell, Muncer, McManus, & Woodhouse, 1999; Campbell, Saponchnik, & Muncer, 1997; Cercone-Keeney, Beach, & Arias, in press).

Interestingly, although Campbell and colleagues (1992) did not couch these social representations of violence in behavioral terms, it is possible to explain the differences between expressive and instrumental violence in terms of intrinsic and social contingencies. From a radical behavioral perspective, expressive violence may be best conceptualized as negatively reinforced by reduction of an internal, adverse subjective and physiological state of arousal. It seems likely that both men's and women's use of violence may be reinforced in this manner. In contrast, instrumental violence may be more accurately viewed as behavior that is either positively or negatively reinforced by compliance from the partner. Given the larger size and strength of most men compared to most women, and men's position of power and privilege in a

patriarchal society, it seems more likely that men's use of violence will result, intermittently, in the desired changes in the environment (e.g., partner compliance) than will women's. In fact, women's violence may actually be ignored (e.g., partner does nothing) or punished (e.g., partner retaliates).

In the current study, it is predicted that although men and women will endorse expressive representations of physical assault equally, men will endorse instrumental representations of physical assault more strongly than women. It is further predicted that both expressive and instrumental representations of physical assault will be positively related to perpetration of physical assault.

Affect Regulation

When expressive violence is viewed as behavior negatively reinforced by the reduction of internal, adverse subjective and physiological states of arousal, it seems likely that individual differences in the ability to regulate affect will influence the likelihood of such behavior. That is, the likelihood of perpetration of expressive violence should be higher for individuals with poorer ability to manage affective responses.

Affect regulation has been conceptualized in a number of ways. For example, Kopp (1989) defined affect regulation as the processes employed by the individual to cope with his or her strong affect, regardless of the valence of the affect. Campos, Campos, and Barrett (1989) stressed the role of the individual's attributions in affect regulation. Walden and Smith (1997) cautioned against exploring the individual's processes of affect regulation in isolation from the environment in which he or she is present, "…emotion regulation is a social process rather than an intraindividual process which occurs outside the context of social interrelations and social relationships (p. 17)." In addition, although most theorists in this area assume that some means of

affect regulation are more adaptive than others, there is little agreement about the standard of competence (Underwood, 1997). Nevertheless, all these theories share an emphasis on the individual's ability to manage his or her affective state effectively. Accordingly, more competent affect regulation should allow individuals to modulate their affective state, thereby preventing escalation to aggressive behavior.

There is evidence that externalizing responses in general occur more commonly among those with less well-developed affect regulation. For example, Cole and colleagues (Cole, Fox, Zahn-Waxler, Usher, & Welsh, 1996) reported that preschoolers with poorer affect regulation exhibited higher rates of behavior problems than their peers with better affect regulation. Similarly, others (Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994) found that, in young children, poorer affect regulation was positively correlated with the employment of unconstructive methods (e.g., venting) of dealing with anger.

More specifically, there is evidence that affect regulation plays a role in the perpetration of general violence. For example, in a study of impoverished, inner-city children, affect regulation mediated the relationship between maltreatment status and aggressive behavior (Shields & Cicchetti, 1998). In fact, it seems that negative affect motivates individuals to engage in aggression as a means of affect regulation. In a series of laboratory studies, Bushman and colleagues (Bushman, Baumeister, & Phillips, 2001) demonstrated that adult participants aggressed in order to improve an angry affective state, especially those who held beliefs that aggression would feel good.

Of perhaps even greater relevance, affect regulation has been implicated, albeit indirectly, in the perpetration of IPV. Saunders (1992) described three types of men among domestic violence treatment samples, including an “Emotionally Volatile” group. Dutton (e.g., Dutton,

1995; Tweed & Dutton, 1998) has asserted for a number of years that a substantial minority of batterers is characterized by Borderline Personality Organization, which is notable for identity diffusion, use of primitive defense mechanisms, and transient psychotic states. Similarly, Holtzworth and Stuart (1994) proposed that approximately 25% of batterers in treatment samples belong to the "Dysphoric/Borderline" type, which is characterized by high levels of negative affect and impulsivity. Further, Fruzzetti & Levensky (2000) presented preliminary support for the efficacy of Dialectical Behavior Therapy (Linehan, 1993), originally designed to improve affect regulation in women with Borderline Personality Disorder, in the treatment of male batterers. However, because these investigations focused on male, married, and/or clinical samples, the role of affect regulation in male- and female-perpetrated dating IPV has yet to be explicated.

In the current study, it is predicted that there will be no gender differences with respect to self-report of affect regulation. However, it is predicted that the positive relationship between expressive representations of physical assault and perpetration of physical assault will be moderated by affect regulation, such that the relationship will be stronger for those who report poorer affect regulation. Accordingly, for both men and women, it is predicted that individual differences in ability to regulate affect will interact with the endorsement of expressive representations of aggression to predict dating IPV.

Callousness

As stated previously, in contrast to expressive violence, instrumental violence can be understood as behavior that is either positively or negatively reinforced by partner compliance. This use of violence in a deliberate manner to accomplish a specific goal suggests a lack of regard on the part of the perpetrator for the rights, wants, and needs of the victim. It thus seems

likely that individual differences in the ability to experience empathy will influence the likelihood of such behavior. That is, the likelihood of perpetration of instrumental violence should be higher for individuals with higher levels of callousness.

Callousness has been defined as a dispositional lack of empathy, or ability to understand or share in another's emotional state (Eisenberg & Strayer, 1987). Gender differences in have been reported, in both child (e.g., Cohen & Strayer, 1996) and adult (e.g., Giancola, 2003) samples, such that callousness is more common in males than females.

The link between callousness and perpetration of general violence has been recognized for some time. Miller and Eisenberg's (1988) meta-analysis of the relation between empathy and aggression in children found a consistent negative association between the two variables. Similar findings exist in the adult literature. For example, in an investigation of the influence of dispositional empathy on alcohol-related aggression in men and women, men with lower empathy levels exhibited the most aggression (Giancola, 2003).

More recently, callousness has been implicated in the perpetration of IPV, albeit indirectly. Saunders's (1992) description of three types of men among domestic violence treatment samples included a "Narcissistic/Antisocial" group. Similarly, Holtzworth and Stuart (1994) proposed that approximately 25% of batterers in treatment samples belong to the "Generally Violent/Antisocial" type, which is characterized by features of Antisocial Personality Disorder. Further, Gottman and colleagues (Gottman, et al., 1995) observed differential patterns of psychophysiological reactivity among male batterers. The group they labeled "Type 1" exhibited decreases in heart rate during verbal arguments with their intimate partner. However, because these investigations focused on male, married, and/or clinical samples, the role of callousness in male- and female-perpetrated dating IPV has yet to be explicated.

In the current study, it is predicted that, on average, men will report higher levels of callousness than women. Further, it is predicted that the positive relationship between instrumental representations of physical assault and perpetration of physical assault will be moderated by callousness, such that the relationship will be stronger for those who report higher callousness. Accordingly, although an interaction between callousness and instrumental representations of aggression is predicted for both men and women, the interaction should account for more variance in men's perpetration of dating IPV.

Latent Structure of Moderating Variables

As just described, the current study predicts that affect regulation and callousness will moderate the relationship between various representations of physical assault and perpetration of dating IPV. One important consideration when testing moderation is the nature of the moderating variable (i.e., dimensional vs. categorical). That is, dichotomizing a variable that could more appropriately be treated as continuous may have a significant impact on the power of regression analyses. More specifically, such inappropriate dichotomization can result in a loss of power equivalent to reducing sample size by one third or more (Cohen, 1983).

Fortunately, in recent years, there has been increasing recognition in personality and psychopathology research that the distinction between continua and categories is pivotal (Haslam & Kim, 2002). That is, some psychological constructs seem best conceptualized as continuous or dimensional. Accordingly, individual differences in the manifestation of such a construct are understood to reflect only variation with respect to degree, rather than kind. In contrast, other psychological constructs seem best conceptualized as categorical or discrete. In this case, individuals are viewed as members or nonmembers of a qualitatively distinct group or type.

Multivariate taxometric procedures provide a statistical and epistemological means for making this distinction, which has previously too often been determined by theoretical penchant rather than quantitative methods (Schmidt, Kotov, & Joiner, in press). The procedures of taxometrics developed by Meehl and colleagues (e.g., Waller & Meehl, 1998) differ from traditional methods (e.g., cluster analysis) in their emphasis on visual inspection, parameter estimation, and consistency tests. Further, the results of numerous Monte Carlo studies suggest that these procedures are robust in the face of violations of underlying assumptions (Haslam & Kim, 2002).

With regard to the constructs of interest in the current study, affect regulation is commonly described as a personality trait, or dimensional construct, similar to neuroticism. For example, Walden and Smith (1997) asserted, "Emotion regulation is not an all-or-none phenomenon. Rather, it often varies in degree. Thus, it is useful to consider individuals who are more or less well regulated, rather than those who demonstrate emotional regulation or not (p. 17)." However, no known studies have attempted to identify the latent structure of affect regulation using taxometric procedures. The current study seeks to fill this empirical gap. It is predicted that there will be evidence of dimensionality with respect to affect regulation.

In contrast, callousness is generally described as a characteristic of individuals who are qualitatively different from others (i.e., psychopaths; e.g., Hare, 1993). A recent study by Gupta and Beach (2002) using 6 items from a single measure provided preliminary evidence for a low base rate taxon for this construct among college men. The current study seeks to replicate their findings with an increased number of indicators in a new sample including both men and women. It is predicted that there will be evidence of taxonicity with respect to callousness and that more men than women will be classified as members of the taxon.

Summary of Hypotheses

The current study seeks to test a number of hypotheses that support the notion that gender-sensitive analyses are crucial to the understanding of dating IPV. Feminist and behavior analytic theory drive these hypotheses. If supported by the data, the predicted differences among perpetrators of dating IPV may, in part, account for the symmetrical perpetration and asymmetrical outcomes of dating IPV for men and women. Furthermore, support for this hypotheses may impact the quality of future intervention and prevention programs; that is, by taking into account the heterogeneity of dating IPV perpetrators, such programs may be better able to reduce, and perhaps one day eliminate, dating IPV.

H_1: There will be no gender differences with respect to self-reported perpetration and victimization of nonsexual acts (e.g., psychological aggression, physical assault) of dating IPV. More men than women will report perpetration of sexual coercion.

H_2: Men and women will endorse expressive representations of physical assault equally. Men will endorse instrumental representations of physical assault more strongly than women.

H_3: There will be evidence of dimensionality with respect to affect regulation. No gender differences with be observed with respect to self-report of affect regulation.

H_4: There will be evidence of taxonicity with respect to callousness. More men than women will be members of the taxon.

H_5: A comprehensive model (refer to Figure 1) will be supported such that expressive and instrumental representations of physical assault will have a significant main effect on perpetration of physical assault and will also interact significantly with their respective moderators (i.e., affect regulation and callousness). That is, expressive representations of physical assault will be positively related to perpetration of physical assault; this relationship will

be moderated by the dimensional variable affect regulation, such that it will be stronger for those who report poorer affect regulation. Further, instrumental representations of physical assault will be positively related to perpetration of physical assault; this relationship will be moderated by the taxonic variable callousness, such that it will be stronger for members of the taxon. This model is expected to account for greater variance in men's perpetration of physical assault.

Chapter 2

Method

Participants

Data were collected from 1002 undergraduate students (475 men, 527 women) at a large Southeastern university. Participation in this study contributed to fulfillment of introductory psychology course requirements. Given the current investigation's emphasis on IPV within the context of heterosexual dating experiences, participants who endorsed bi/homosexuality (18 men, 9 women) or indicated that they had no dating histories (7 men, 10 women) were excluded from the analyses. Missing data points in the remaining sample were replaced with the mean of the relevant (sub)scale.

The remaining sample included 958 participants (450 men and 508 women). With the exception of age, for which there was a statistically significant difference, male and female participants did not differ on demographic variables. On average, the men were approximately 6 months older (M = 19.52, SD = 1.45) than were the women (M = 18.95, SD = 1.08). Of the men, 88% identified themselves as Caucasian, 5% as African-American, 1% as Hispanic, 4% as Asian-American, and 2% as "other." Of the women, 88% identified themselves as Caucasian, 3% as African-American, 2% as Hispanic, 4% as Asian-American, and 3% as "other." As such, this sample generally reflected the racial make-up of the undergraduate population at this university. The vast majority of participants (83% of the men, 84% of the women) reported that at least one of their parents had earned an undergraduate or graduate degree. With the exception of 3 participants, 2 male and 1 female, who reported that neither parent had completed high

school, the remainder of the sample (17% of the men, 16% of the women) reported that at least one of their parents had earned a high school diploma or partial college credit.

Procedures

Participants were recruited for a study described as an exploration of college students' dating experiences. Data collection was conducted in mixed gender groups of approximately 15-35 individuals. After providing written consent, the participants completed a paper and pencil questionnaire packet containing a demographics inventory and the measures described below. As they finished, participants were debriefed, thanked, and provided with information detailing the availability of mental health services for students. From start to finish, the testing session took no longer than 1 hour.

The potential risks associated with participation in this study were minimal. However, although participants were not at risk for physical harm, it was possible that participants experienced some degree of discomfort or distress as a result of answering questions related to the use of conflict resolution tactics, including psychological, physical, and sexual violence, in their dating relationships. In addition, some of the items on the Revised Conflict Tactics Scale (Straus, et al., 1996) refer to behaviors that may meet the legal definitions of assault and battery or sexual assault. As a result, participants were assured that their participation was voluntary and their responses were anonymous. They were not asked to reveal their identity, other than as signatures on consent forms. Further, consent forms and data were collected and stored separately. It was therefore impossible for disclosures to be linked to a particular participant.

Measures

Measures are described below and presented in full in the appendix.

Negative Mood Regulation Scale (NMRS; Cantanzaro & Mearns, 1990)

The NMRS is a 30-item paper and pencil self-report measure designed to assess participants' perceptions of their ability to manage negative affective states. Items are based on a common stem phrase ("When I'm upset, I believe that...") with a range of completion phrases assessing both general ability to regulate affect and specific behavioral and cognitive strategies used in the service of affect regulation (e.g., "It won't be long before I can calm myself down," "It will be hard to find somebody who really understands," "Telling myself it will pass will help me calm down," respectively). Participants were asked to rate each of the items on a 5-point Likert scale (from 1 = "strong disagreement" to 5 = "strong agreement"). Although the NMRS can yield a full-scale score as well as scores corresponding to the General, Behavioral, and Cognitive subscales, because review of the literature revealed limited psychometric support for the subscales, only participants' full-scale scores were used. In addition, these scores were reflected so that higher scores indicate poorer affect regulation, with a range of possible scores from 1 to 121.

Cantanzaro and Mearns (1990) reported high Cronbach alpha coefficients for the full-scale NMRS across several samples (i.e., α = .86 to .94). Test-retest reliability ranged from .74 (women) and .76 (men) over a three-to-four week period to .78 (women) and .67 (men) over a six-to-eight week period. Further, they established the discriminant validity of the NMRS from social desirability, locus of control, and depression. In addition, Kirsch and colleagues (Kirsch, Mearns, & Cantanzaro, 1990) demonstrated that full-scale NMRS scores predicted coping behavior and had both direct and indirect (via coping behavior) effects on self-reported related outcomes including depression and physiological disturbance. The internal consistency coefficients for male and female participants in this sample were .85 and .87, respectively.

Psychopathic Personality Scale (PPS; Lilienfeld & Andrews, 1996)

The PPS is a 187-item paper and pencil self-report measure designed to assess the core personality traits of psychopathy in noncriminal populations. When administered in its entirety, the scale yields a total psychopathy index as well as scores on eight factor-analytically derived subscales. Lilienfeld & Andrews presented (1996) presented psychometric data obtained from multiple samples of an undergraduate population that provided preliminary evidence for satisfactory internal consistency (i.e., total index α = .90 to .93; subscales α = .70 to .90) and 1-month test-retest reliability (total index r = .95; subscales r = .82 to .94), as well as convergent, discriminant, and incremental validity.

For the purposes of the current study, only the 30 items of the Machiavellian Egocentricity subscale and the 21 items of the Coldheartedness subscale were included. The Machiavellian Egocentricity subscale was designed to assess "ruthless practicality (Lilienfeld & Andrews, 1996, p. 495; e.g., "I always look out for my own interests before worrying about those of the other guy,")", while the Coldheartedness subscale was designed to assess "a propensity toward callousness, guiltlessness, and unsentimentality (Lilienfeld & Andrews, 1996, p. 495; e.g., "When someone is hurt by something I say or do, I usually consider that to be their problem.")". Participants were asked to use a 4-point scale (from 1 = "false" to 4 = "true") to indicate their level of agreement with each of the items, resulting in a range of possible scores from 30 to 120 on the Machiavellian Egocentricity subscale and 21 to 84 on the Coldheartedness subscale, with higher scores representing greater callousness. In an investigation of construct validity, both the Machiavellian Egocentricity and the Coldheartedness subscales correlated negatively and significantly with a measure of empathic tendencies (Sandoval, Hancock, Poythress, Edens, & Lilienfeld, 2000).

Internal consistency coefficients for male participants in this sample were .82 and .64 for the Machiavellian Egocentricity and the Coldheartedness subscales, respectively. Parallel internal consistency coefficients for female participants in this sample were .87 and .65.

Emotional Toughness Scale (ETS; Gupta & Beach, 2002)

The ETS is self-report paper and pencil measure designed to assess participants' level of callousness. Although the scale was originally intended to include 10 items, in a preliminary sample of 174 undergraduate males, an initial internal consistency coefficient of .65 was improved to .70 by the removal of 4 items. Subsequent analyses in that study were therefore based on the yielded 6-item scale.

However, for the current study, it was determined that the larger, mixed gender sample provided an opportunity to conduct additional psychometric analyses. Participants were therefore presented with each of the original 10 items and asked to use a 7-point scale (from 0 = "strongly disagree" to 7 = "strongly agree") to indicate their level of agreement with the statements describing characterological insensitivity to the distress of others (e.g., "Seeing someone in pain doesn't bother me too much."). Across variations of the current sample (i.e., mixed gender, men only, and women only), internal consistency analyses revealed that exclusion of item 5, "I have noticed that people do a lot of fake crying to get what they want," reliably improved Cronbach's alpha (i.e., .65 to .68, .60 to .63, .52 to .58, respectively). This was not true of other items, whose removal weakened Cronbach's alpha. In addition, factor analysis of the remaining 9 items revealed one factor with an eigenvalue of 2.78, accounting for 30.79% of the variance. As a result, subsequent analyses were based on the 9-item scale, with possible scores ranging from 0 to 54 and higher scores indicating higher levels of callousness.

Expagg (Campbell, et al., 1999)

The Expagg questionnaire was designed to assess participants' conceptualizations of their own physically aggressive behavior as expressive and/or instrumental. The current study included the recently revised Expressive (e.g., "During a physical fight, I feel out of control.") and Instrumental (e.g., "I believe that physical aggression is necessary to get through to some people.") Scales. Both are 8-item pencil and paper self-report measures that ask participants to indicate, on a 5-point scale (from 1 = "strongly disagree" to 5 = "strongly agree"), the extent to which they agree with each of the items. Since the 2 scales were used together, the items were interspersed, as recommended by Campbell and colleagues (1999). Participants' scores were derived for each of the two scales, with possible scores ranging from 8 to 40 and higher scores reflecting stronger endorsement of the respective conceptualizations of physical aggression.

Adequate Cronbach's alpha coefficients have been reported for both the Expressive (α = .64) and the Instrumental (α = .80) Scales (Campbell, et al., 1999). Internal consistency coefficients for male participants in this sample were .63 and .76 for the Expressive and Instrumental Scales, respectively. Parallel internal consistency coefficients for female participants in this sample were .72 and .73.

Revised Conflict Tactics Scales (CTS2; Straus, et al., 1996)

The CTS2 is a 78-item paper and pencil self-report measure designed to assess participants' behaviors during conflict in romantic relationships. It is composed of 5 scales, each of which is further divided into 2 subscales: Negotiation (e.g., "I showed my partner I cared even though we disagreed [Emotional]"; "I suggested a compromise to a disagreement [Cognitive]"), Psychological Aggression (e.g., "I insulted or swore at my partner [Minor]"; "I destroyed something belonging to my partner [Severe]"), Physical Assault (e.g., "Slapped my partner

[Minor]"; "Beat up my partner [Severe]"), Sexual coercion (e.g., "Insisted on sex when my partner did not want to, but did not use physical force [Minor]"; "I used threats to make my partner have sex [Severe]"), and Injury (e.g., "I felt physical pain that still hurt the next day because of a fight with my partner [Minor]"; "I went to a doctor because of a fight with my partner [Severe]"). Items are presented twice, first with respect to the participants' own behavior and then with respect to romantic partners' behavior. Thus, the CTS2 yields perpetration and victimization data on 5 scales (10 subscales).

Participants were asked to think about their dating histories and to indicate on a 7-point scale (from 1 = once to 6 = more than 20 times; 7 = never) the frequency with which they and their dating partner(s) engaged in the various topographies or types of conflict resolution behavior. Participants' responses resulted in perpetration and victimization prevalence and frequency scores corresponding to the 5 scales (10 subscales) of the CTS2. Frequency scores were derived by using the midpoint of the frequency range associated with a given response (e.g., if a participant indicates 4 for the item, "I slapped my partner," this was scored as an 8, because 8 is the midpoint of 6-10 times).

Straus and colleagues (1996) presented psychometric data obtained from a student population, the majority of whom were involved in dating, rather than marital, relationships. These data provided preliminary evidence for high internal consistency (i.e., α = .79 to .95), extensive construct validity, and moderate discriminant validity. Internal consistency coefficients for this sample are displayed in Table 1.

Chapter 3

Results

Apriori Analyses

Topography of Violence

Prevalence of perpetration and victimization. Dating IPV prevalence data were generated based on participants' report on the CTS2. Participants were considered perpetrators of a particular type of violence (e.g., minor psychological aggression) if they reported engaging in one or more of the behaviors comprising the relevant subscale. Victims were classified in a similar manner. These data are presented in Table 2. Contrary to predictions, there were a number of statistically significant gender differences with regard to self-reported prevalence of perpetration and victimization of nonsexual acts of dating IPV. More specifically, although observed rates of psychological aggression were generally symmetrical, a greater percentage of male participants (30%) than female participants (24%) reported being perpetrators of severe acts of this type of violence ($\chi 2 = 4.969$, $p = .028$). With regard to physical assault, although there were no differences in reported rates of perpetration, a greater percentage of male participants than female participants reported being victims of both minor and severe acts of this type of violence (38 and 30%, respectively; $\chi 2 = 6.264$, $p = .014$; 17 and 9%, respectively; $\chi 2 = 4.904$, $p = .027$). With regard to injury, more male participants (4%) than female participants (1%) reported being perpetrators of severe acts ($\chi 2 = 4.904$, $p = .027$). However, more male participants (5%) than female participants (2%) also reported being victims of this type of injury ($\chi 2 = 7.085$, $p = .012$). With regard to sexual coercion, consistent with predictions, a greater

percentage of male participants than female participants reported being perpetrators of both minor and severe sexual coercion (34 and 18% respectively, $\chi 2 = 30.006$, $p = .000$; 7 and 3%, respectively; $\chi 2 = 11.045$, $p = .001$). However, there were no differences in reported rates of victimization, for either minor or severe acts of sexual coercion.

Frequency of perpetration and victimization. For each type of violence, frequency data were generated for those participants identified in the manner described above as perpetrators and/or victims. Accordingly, means for a particular type of violence represent the average frequency with which this occurred among those who reported at least one act of that particular type of violence. This was done so that the large number of participants with scores of zero did not inappropriately skew the distribution of scores (Straus, et al., 1996). These data are displayed in Table 3 and were consistent with predictions that male participants and female participants identified as perpetrators and/or victims would not differ in reported frequency of nonsexual acts of dating IPV, with two exceptions. First, among perpetrators of minor psychological aggression, male participants reported significantly fewer acts, on average, than did female participants ($t = -2.017$, $p = .044$). Second, among perpetrators of severe physical assault, male participants reported significantly more acts, on average, than did female participants ($t = 3.136$, $p = .003$). Contrary to expectations, no statistically significant gender differences were observed in reported frequency of sexual acts of dating IPV.

Function of Physical Assault. An examination of responses to the Expagg indicated that, as expected, male and female participants differed significantly on the extent of their endorsement of instrumental representations of physical aggression, with male participants endorsing instrumental representations more strongly than female participants ($t = 18.756$, $p = .000$). In contrast, expressive representations were endorsed equally by male participants and

female participants. This same pattern of results was observed when the sample was restricted to only those who reported perpetration of physical assault against a dating partner.

Affect Regulation.

The latent structure of affect regulation was evaluated through the application of taxometric procedures developed by Paul Meehl and colleagues (Waller & Meehl, 1998). The reflected responses of participants on the 30 items of the NMRS formed the basis for this analysis. Items were summed in groups of 5, in the order in which they were presented in the questionnaire packet, to produce 6 indicators. Indicator characteristics, including mean, standard deviation, skew, kurtosis, and correlations among the indicators are presented in Table 4.

In taxometrics, the use of a series of multiple procedures based on mathematically independent methods provides tests of consistency (Waller & Meehl, 1998). For that reason, the data were subjected, in NATAX (Amir & Seals, 2002), to four procedures: MAXCOV, MAXEIG, MAMBAC, and L-MODE. The results of these analyses are presented in Table 5 and Figures 2 - 5.

In MAXCOV, the conditional covariances of the 15 possible combinations of the 6 indicator variables were averaged and plotted. Visual inspection of the resultant overall graph revealed that it was virtually flat across slabs. This is inconsistent with a taxonic solution, which is expected to include a pronounced peak formed by negligible correlations of two indicators at the low (comprised of mostly complement members) and high (comprised of mostly taxon members) ends of a third indicator and higher correlations of the same two indicators at mid-range of the third variable (where the mixture of complement and taxon members is highest [for a 50% base rate taxon]; Schmidt, Kotov, & Joiner, in press). Further, when a numerical criterion of a change of .15 or more in conditional covariance between adjacent slabs was applied to the

individual graphs, only 1 of 15 (7%) was judged to be consistent with a taxonic latent structure. Moreover, the base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were disparate (.62 and .37, respectively).

MAXEIG is a multivariate version of MAXCOV in which conditional eigenvalues, rather than covariances, are averaged and plotted. As such, this procedure is only partially independent from MAXCOV. However, it requires selection of fewer parameters and may therefore serve as a corroboration of the investigator's decision-making process. Visual inspection of the overall graph produced by this procedure revealed that the curve exhibited the requisite initial upward, albeit unstable, slope, but even with 100 overlapping windows, did not ever take on the downward slope expected of a taxonic solution. In contrast to MAXCOV, however, the base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were comparable (.41 and .39, respectively).

In MAMBAC, one indicator is chosen as the input indicator and each of the others serves as an output indicator. In each individual graph, a series of cut-points are made in the input indicator such that the average score on the output indicator of the group below the cut-point can be calculated and subtracted from the average score of the group above the cut-point. These differences scores are then plotted against the input indicator. Thus, MAMBAC is based on methodology unique from that used in the MAXCOV and MAXEIG procedures and therefore provides a stringent external consistency test. Visual inspection of overall graph produced by this procedure revealed a bowl-shaped curve which is soundly inconsistent with the inverted U indicative of a taxonic solution. The base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were comparable (.57 and .54, respectively).

Finally, L-MODE serves as an additional stringent external consistency test because it utilizes the factor-score density plot of the indicators. Visual inspection of overall graph produced by this procedure revealed a unimodal smoothed curve, not a bimodal one, as would be expected in a taxonic solution. The base rate estimates from this overall graph were .55 and .48.

Consistent with predictions, there was not enough evidence to support rejection of the null hypothesis of dimensionality. That is, although base rate estimates did not vary widely within procedures (with the exception of those derived from MAXCOV), estimates varied by more than 20 points across procedures and the shape of the overall graphs for all four procedures were inconsistent with a taxonic solution. As a result, in all subsequent analyses, affect regulation was treated as a continuous variable. Contrary to predictions, male participants reported significantly poorer affect regulation, on average, than did female participants (t = 2.354, p = .019). However, when the sample was restricted to only those who reported perpetration of physical assault against a dating partner, this gender difference disappeared.

Callousness.

The latent structure of callousness was evaluated using the procedures described above. The summed scores of the ETS and the Machiavellian Egocentricity and Coldheartedness subscales of the PPI were proposed as indicators for this investigation. However, an examination of the correlations among these variable revealed that while the ETS correlated well with both Egocentricity and Coldheartedness (r = .503 and .434, respectively), Egocentricity and Coldheartedness correlated less well with one another (r = .244). As such, it seemed that while the ETS was capturing elements of both Egocentricity and Coldheartedness, the latter two were not capturing overlapping content, which is not surprising given that these subscales of the PPI were developed to represent a least partially orthogonal constructs. Accordingly, because

indicators are best suited for taxometric analyses when they capture overlapping content, we decided to focus our taxometric analysis of callousness on individual items drawn from the ETS. Indicator characteristics, including mean, standard deviation, skew, kurtosis, and correlations among the indicators are presented in Table 5. The results of these analyses are presented in Table 6 and Figures 6 – 9. Taxometric analyses based on Egocentricity and Coldheartedness may be found in Appendix A.

In MAXCOV, the conditional covariances of the 36 possible combinations of the 9 indicator variables were averaged and plotted. Visual inspection of the resultant overall graph revealed that the curve is relatively flat until just before the hitmax interval (.18), where it reaches maximum covariance, and then declines somewhat. Further, when a numerical criterion of a change of .15 or more in conditional covariance between adjacent slabs was applied to the individual graphs, 12 of 36 (33%) were judged to be consistent with a taxonic latent structure. Moreover, the base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were identical (both .29).

Visual inspection of the overall graph produced by MAXEIG revealed that, with 100 overlapping windows, the curve exhibited the requisite initial upward, albeit unstable, slope until it reached the hitmax interval (1.28), after which it declined slightly. Further, the base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were comparable (.39 and .43, respectively).

In MAMBAC, visual inspection of the overall graph produced by this procedure revealed a negatively skewed inverted U, which is indicative of a taxonic solution. The base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were comparable (.39 and .30, respectively).

Finally, keeping in mind the range of base rate estimates from the other procedures, visual inspection of the overall graph in L-MODE graph revealed a possibly bimodal smoothed curve, as would be expected in a taxonic solution. When the lower and upper modes were selected as -.22 and 59, respectively, the base rate estimates were .25 and .26.

In summary, consistent with predictions, when the items of the ETS served as indicators of callousness, there was sufficient evidence to reject the null hypothesis of dimensionality. Base rate estimates were quite stable within procedures and fairly stable between procedures. In addition, the shape of the overall graphs were generally consistent with a taxonic solution across procedures. As a result, in all subsequent analyses, callousness was treated as a dichotomous variable. Also consistent with predictions, significantly more male participants than female participants were members of the taxon group, as identified by L-MODE, both for the sample in its entirely (43 and 10%, respectively; $\chi 2 = 135.131$, $p = .000$) and for the sample restricted to only those who reported perpetration of physical assault against a dating partner (55 and 15%, respectively; $\chi 2 = 60.785$, $p = .000$).

Predicting Perpetrator Status. The remaining hypotheses, as depicted in Figure 1, were addressed through logistic and multiple regressions for male participants and female participants separately. These complementary analyses allowed flexibility with respect to the question under consideration.

In the logistic regression analyses, the criterion variable was a dichotomous, categorical variable in which participants were classified as either nonperpetrators or perpetrators based on their scores on the Physical Assault Scale of the CTS2. As described previously, participants were considered perpetrators if they reported engaging in one or more of the behaviors that comprise the Physical Assault Scale. These analyses allowed us to examine the degree to which

the variables under consideration function as predictors of perpetration status. That is, they yielded an estimate of the odds that an individual was a perpetrator given the predictors under consideration. Correlations among the predictor and criterion variables for male participants and female participants in the unrestricted sample are presented in Tables 8 and 9.

Following Baron and Kenny's (1986) guidelines for testing moderation, these analyses were conducted in two steps. First, the dichotomous criterion variable (i.e., perpetration status) was regressed on the predictor (i.e., expressive and instrumental representations) and moderator (i.e., affect regulation and callousness) variables simultaneously. Note that affect regulation was treated as a continuous variable and callousness as a dichotomous variable as determined by the taxometric analyses. Second, the criterion variable was regressed on the predictor variables, the moderator variables, and the product variables (i.e., expressive representations*affect regulation, instrumental representations*callousness) simultaneously. Note that predictor and moderator variables were centered, per the recommendations of Aiken and West (1991). Although centered and non-centered approaches yield identical overall regression model statistics and tests for the interaction effect, centering reduces multicollinearity between the predictors and the product term, thereby rendering more meaningful interpretations of the regression coefficients.

As shown in Table 10, for male participants, callousness had a significant main effect on perpetration status, such that membership in the callousness taxon was associated with increased odds of positive perpetration status. In addition, the relationship between instrumental representations and perpetration status depended on callousness. To explicate the nature of this significant interaction, the zero-order correlations between instrumental representations and perpetration status were examined separately for nonmembers (r = .184, p = .003) and members (r = -.104, p = .150) of the callousness taxon. This revealed that the moderation occurred in the

direction opposite to predictions, such that instrumental representations only significantly increased odds of positive perpetration status for those who were not members of the callousness taxon. For female participants, as shown in Table 11, affect regulation, instrumental representations, and callousness all had significant main effects on perpetration status, such that each of these was associated with increased odds of positive perpetration status, but there were no significant moderations.

Predicting Perpetration Frequency. In contrast to the logistic regression analyses, which utilized a dichotomous criterion variable, in the multiple regression analyses, the criterion variable was a continuous variable based on a logarithmic transformation (to correct for high levels of skew due to outliers) of the frequency scores on the Physical Assault Scale of the CTS2 for those participants previously been identified as perpetrators. These analyses therefore allowed examination of the degree to which the variables under consideration functioned as predictors of the extent of perpetration, given that perpetration occurred. In all other respects, these analyses were identical to those described in logistic regression. Correlations among the predictor and criterion variables for male participants and female participants in the sample restricted to perpetrators of physical assault against a dating partner are presented in Tables 12 and 13.

As shown in Table 14, for male participants, contrary to predictions, none of the variables under consideration functioned as significant predictors of perpetration frequency. For female participants, as shown in Table 15, only callousness had a significant main effect, such that membership in the callous taxon was associated with greater frequency of perpetration.

Post Hoc Analyses

As described above, the interaction between instrumental representations and callousness was a significant predictor of perpetration status for male participants, but not for female participants. In addition, affect regulation and instrumentality had significant main effects on perpetration status for female participants, but not for male participants. In order to determine if these gender differences represented reliable findings, additional analyses were conducted as follows. In logistic regression, with a mixed gender sample, steps 1 and 2 were identical to those previously described. In step 3, gender was added. In step 4, the interactions between gender and affect regulation and gender and instrumentality were added. Finally, in step 5, a three-way interaction between gender, instrumentality, and callousness was added. As shown in Table 16, although affect regulation and callousness had significant main effects, and the interaction of instrumentality by callousness was also significant, the interactions between gender and affect regulation and gender and instrumentality were not significant. However, the three-way interaction between gender, instrumentality, and callousness was significant, suggesting that, for male participants only, instrumental representations significantly increased odds of positive perpetration status for those who were not members of the callousness taxon.

Similarly, callousness had a significant main effect on perpetration frequency for female participants, but not for male participants. Once again, in order to determine if this gender difference represented a reliable finding, an additional analysis was conducted as follows. In this multiple regression analysis, steps 1, 2, and 3 were identical to those described previously. In step 4, the interaction between gender and callousness was added. As shown in Table 17, although affect regulation and callousness had significant main effects, and the interaction of instrumentality by callousness was also significant, the interaction between gender and callousness was not significant.

Chapter 4

Discussion

The current investigation was designed to explore the extent to which gender-sensitive approaches are crucial to the understanding of dating IPV. Broadly, it was asserted that gender symmetry at the level of a topographical analysis masks gender asymmetry at the level of a functional analysis. That is, drawing from feminist and behavioral analytic approaches, it was proposed that the patterns of predictors of dating IPV, particularly physical assault, would be different for male participants and female participants. Although the specific hypotheses of this study were not always supported by the data, a number of potentially important gender differences were noted, thereby strengthening the overarching notion that male- and female-perpetrated dating IPV may be different constructs.

The results of the current investigation replicated previous studies in finding that the dating histories of heterosexual, undergraduate men and women commonly include violent experiences. In fact, the high rates of minor psychological aggression suggest that this form of violence is actually normative in dating relationships. Fully 82% percent of men and 85% of women reported perpetration of minor psychological aggression. Although the rates of severe psychological aggression were lower, they were far from rare, with 30% of men and 24% of women reporting perpetration of severe psychological aggression. Acts of minor physical assault were also rather prevalent, as 34% of both men and women reported perpetrating such acts. In addition, 9% of men and 12% of women reported perpetration of severe physical assault.

Finally, 34% of men and 18% of women reported perpetration of minor sexual coercion, while 7% of men and 3% of women reported perpetration of severe sexual coercion.

Contrary to predictions, there was some evidence of gender asymmetry at a topographical level with regard to nonsexual acts of dating IPV. More specifically, although observed rates of psychological aggression were generally symmetrical, a greater percentage of men than women reported being perpetrators of severe acts of this type of violence. With regard to physical assault, although there were no differences in reported rates of perpetration, a greater percentage of men than women reported being victims of both minor and severe acts of this type of violence. With regard to injury, more men than women reported being perpetrators of severe acts. Notably, however, more men than women also reported being victims of this type of injury. With regard to frequency of dating IPV, given that it occurred, there were only two instances of gender asymmetry. First, among perpetrators of minor psychological aggression, men reported significantly fewer acts, on average, than did women. Second, among perpetrators of severe physical assault, men reported significantly more acts, on average, than did women. These topographical asymmetries at the levels of prevalence and frequency, although unexpected, may be attributed to the nature of the investigation, as the participants in this study were not couples reporting on shared experiences, but individuals reporting on their own experiences.

Predictions of gender asymmetry at a topographical level with regard to sexual coercion were only partially supported. Although a greater percentage of men than women reported being perpetrators of both minor and severe sexual coercion, there were no differences in reported rates of victimization, for either minor or severe acts of sexual coercion. Further, among perpetrators and victims, there were no gender differences with regard to frequency of acts of sexual coercion. The high rate of reported male sexual victimization warrants attention. In previous

research, sexual coercion has been the one area of IPV consistently characterized by gender asymmetry at a topographical level (O'Leary, 2000). Harned (2001) did recently report that 30% of the men in her sample experienced sexual victimization in dating relationships, but partially attributed this surprisingly high rate to the inclusion of homosexual and bisexual individuals. However, that explanation is untenable in this case because only heterosexual individuals were included. As the present data do not allow more than speculation, future studies should attend to this issue.

As predicted, male perpetrators were equally likely as female perpetrators to endorse expressive representations of violence, but more likely to endorse instrumental representations of violence. Expressive representations highlight a loss of self-control during the use of physical aggression and may therefore be conceptualized as negatively reinforced by reducing an internal, adverse emotional and physiological state of arousal. It seems likely that both men's and women's use of violence may be reinforced in this manner, resulting in equal endorsement of these representations. In contrast, instrumental representations focus on the use of physical aggression to control others. Given the larger size and strength of most men compared to most women, and men's experience of power and privilege in a patriarchal society, it seems more likely that men's use of violence will result in the desired changes in the environment (e.g., partner compliance). In contrast, women's violence may be ignored (e.g., partner does nothing) or punished (e.g., partner retaliates). It therefore is not surprising that men are more likely to endorse instrumental views of physical aggression. From a behavior analytic perspective, this observed gender difference must be accounted for in our understanding of dating IPV, as an act and its function are meaningful only when considered together.

Taxometric analyses revealed that, as predicted, affect regulation may be better understood as a continuous variable, while callousness may be better conceptualized as a dichotomous variable. That is, individual differences in the manifestation of affect regulation seem to reflect only variation with respect to degree, rather than kind. In contrast, with regard to callousness, individuals are either members or nonmembers of a qualitatively distinct group or type. Surprisingly, there was a gender difference with regard to affect regulation in the sample in it's entirely, such that men had poorer affect regulation, on average, than did women. However, when the sample was restricted to only those who reported perpetration of physical assault against a dating partner, this gender difference disappeared. Consistent with predictions, a much larger percent of men than women were members of the callousness taxon, both within the sample in its entirety and in the sample restricted to only those who reported perpetration of physical assault against a dating partner.

The proposed model of physical assault perpetration status was only partially substantiated by the data. For men, callousness had a significant main effect on perpetration status, such that membership in the callousness taxon was associated with increased odds of positive perpetration status. In addition, the relationship between instrumental representations of physical assault and perpetration status depended on callousness such that instrumental representations only significantly increased odds of positive perpetration status for those who were not members of the callousness taxon. Although the nature of the observed interaction was not as predicted, it is nevertheless consistent with the theoretical foundation of the study. That is, it seems that men who evidence a dispositional lack of empathy, or ability to understand or share in another's emotional state, do not need to hold instrumental representations of physical assault in order to resort to such behavior. In contrast, for men who are capable of empathy, an

understanding of physical assault as a means to a desired end is necessary in order for them to be prepared to overlook the likely negative impact of their violence on a dating partner. The other variables under consideration were not significant predictors of men's perpetration status.

For women, affect regulation, instrumental representations, and callousness all had significant main effects on perpetration status in the expected direction, but there were no significant moderations among the variables. That is, women who perceive themselves as having difficulty modulating internal, adverse subjective and physiological states of arousal appear to be at risk of resorting to physical assault as an affect regulation strategy. This is consistent with the work of Bushman, Baumeister, and Phillips (2001), who found that negative affect motivates individuals to engage in aggression as a means of affect regulation. Similarly, consistent with the literature, women who have strong beliefs about the instrumental value of aggression may be at risk for engaging in physical assault against a dating partner. However, it is important to note that because women hold these beliefs less strongly, on average, than men, possibly due to the conjectured differences in learning histories presented previously, it is likely that a minority of women with unusually high endorsement of these beliefs are responsible for this finding. Finally, women who are members of the callousness taxon are more likely than nonmembers to be perpetrators of physical assault dating IPV. However, only a small percentage of women are members of this taxon and so this finding does not likely inform our understanding of the majority of female perpetrators of dating IPV.

The proposed model of physical assault perpetration frequency was very poorly supported by the data. Among male perpetrators, none of the variables under consideration were significantly associated with frequency of acts of physical assault against a dating partner. For women, only callousness was a significant predictor, such that membership in the callous taxon

was associated with higher frequency of perpetration. The relative greater of utility of the variables under consideration in predicting status of perpetration over frequency of perpetration may suggest that individual differences are of greater importance in determining who becomes a perpetrator while contextual and dyadic variables, such as relational conflict, may play a larger role in the amount of violence perpetrated. In addition, it is possible that frequency of perpetration is a less reliable criterion variable because it is more likely impacted by factors such as memory bias and social desirability. That is, it may be easier to recall and admit that violence has ever happened than to accurately convey the extent of the violence.

Finally, it is important to consider the reliability of the gender differences predictors of perpetration status and frequency presented here. Post hoc analyses suggested that the gender differences with regard to the main effects of affect regulation and instrumentality on perpetration status and callousness on perpetration frequency may be less stable than the gender difference with regard to the interaction of instrumental representations and callousness on perpetration status. That is, this interaction may be one key way in which male-perpetrated dating IPV differs from female-perpetrated IPV. Perhaps it is differences like these that set the stage for similar behavior to reflect different constructs.

The findings reported here have a number of potentially useful clinical implications. For example, the results of the taxometric analyses suggest that clinicians may be well-served by taking the latent structure of affect regulation and callousness into account during the assessment and treatment of individuals whose presenting problems may be characterized or exacerbated by difficulties in either of these areas. That is, there is likely no sharp differentiation between clients with varying degrees of competence in the domain of affect regulation. As such, strategies to improve affect regulation may be more generally applicable in clinical settings than previously

believed. The recent adaptation of Dialectical Behavior Therapy, originally developed for clients with Borderline Personality Disorder, a condition characterized by extreme deficits in affect modulation (Linehan, 1993), in the successful treatments of a wide range of presenting problems (e.g., ADHD, Hesslinger, et al., 2002; distressed couples, Fruzetti & Fruzetti, 2003; eating disorders, Telch, Agras, & Linehan, 2001; etc.) is consistent with this supposition. In contrast, the domain of callousness is likely one in which clients are either above or below a clinically significant threshold. For clients below the threshold, intervention in this area is likely not warranted; for clients above the threshold, this may very well be an appropriate target of therapy, although the form such treatment would best take remains unclear at this time.

More specifically with regard to dating IPV, it seems that the findings related to if and how predictors of positive perpetration status differ for men and women have implications for prevention efforts. That is, because there is some support for divergent developmental pathways to perpetration of dating IPV, perhaps related to the conjectured differences in learning histories presented previously, it seems likely that gender-sensitive prevention strategies (e.g., public service messages, school-based education programs) may have greater efficacy and effectiveness than cookie-cutter prevention strategies. Of course, this is a matter of speculation at this time and future research in this area is warranted.

Finally, the results of this investigation must be considered within the context of its limitations. First, the sample consisted exclusively of undergraduate students whose experiences are most accurately described as low level, mutual violence. As a result, the generalizability of these findings is limited, particularly with respect to symmetry of perpetration. Certainly they should not be extended to clinical samples, such as women seeking asylum at shelters. Second, participants were asked to report retrospectively on their experiences throughout their dating

history. The length of the referent period most likely introduced error variance related to memory biases. Third, a correlational design was employed. Therefore, although theoretical considerations prompted the direction of the relationships in the tested models, inferences about causal relationships should not be drawn.

Nevertheless, taken together, the findings presented here call into question the conclusion drawn by others (e.g., Johnson, 1995, p. 291) that common couple violence should be described as nongendered. Future research must continue to adopt a gender-sensitive approach if we are to effectively understand, treat, and prevent dating IPV.

Chapter 5

References

Aiken, L. & West, S. (1996). *Multiple regression: Testing and interpreting interactions.* Newbury Park, CA: Sage Publications.

Amir, N. & Seals, K. (2002). NATAX: A user-friendly program for taxometric analyses. Manuscript in review.

Archer, J. & Haigh, A. M. (1997). Do beliefs about aggressive feelings and actions predict reported levels of aggression? *British Journal of Social Psychology, 36,* 83-105.

Archer, J. (2000). Sex differences in aggression between heterosexual partners: A meta-analytic review. *Psychological Bulletin, 126,* 651-680.

Arias, I., Samios, M. & O'Leary, K. D. (1987). Prevalence and correlates of physical aggression during courtship. *Journal of Interpersonal Violence, 2,* 82-90.

Baron, R. M. & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical consideration. *Journal of Personality and Social Psychology, 51,* 1173-1182.

Bergman, L. (1992). Dating IPV among high school students. *Social Work, 37,* 21-27.

Bookwala, J., Frieze, I. H., Smith, C., & Ryan, K. (1992). Predictors of dating IPV: A multivariate analysis. *Violence and Victims, 7,* 297-311.

Bushman, B. J., Baumeister, R. F., & Phillips, C. M. (2001). Do people aggress to improve their mood? Catharsis beliefs, affect regulation opportunity, and aggressive responding. *Journal of Personality and Social Psychology, 81,* 17-32.

Campbell, A., Muncer, S., & Coyle, E. (1992). Social representation of aggression as an explanation of gender differences: A preliminary study. *Aggressive Behavior, 18,* 95-108.

Campbell, A., Sapochnik, M., & Muncer, S. (1997). Sex differences in aggression: Does social representation mediate form of aggression. *British Journal of Social Psychology, 36,* 161-171.

Campbell, A., Muncer, S., McManus, I. C., & Woodhouse, D. (1999). Instrumental and expressive representations of aggression: One scale or two? *Aggressive Behavior, 25,* 435-444.

Campos, J. J., Campos, R. G., & Barrett, K. C. (1989). Emergent themes in the study of emotional development and emotion regulation. *Developmental Psychology, 25,* 394-402.

Cantanzaro, S. J. & Mearns, J. (1990). Measuring generalized expectancies for negative mood regulation: Initial scale development and implications. *Journal of Personality Assessment, 54,* 546-563.

Capaldi, D. M. & Crosby, L. (1997). Observed and reported psychological and physical aggression in young, at-risk couples. *Social Development, 6,* 18-206.

Cascardi, M., Langinrichsen, J., & Vivian, D. (1992). Marital aggression: Impact, injury, and health correlates for husbands and wives. *Archives of Internal Medicine, 152,* 1178-1184.

Center for Disease Control and Prevention (1996). Physical violence and injuries in intimate relationships: New York, behavioral risk factor surveillance system, 1994. *Morbidity and Mortality Weekly Report, 45,* np.

Cercone-Keeney, J. J., Beach, S. R. H., & Arias, I. (in press). Gender symmetry in dating intimate partner violence: Does similar behavior imply similar constructs? *Violence and Victims*.

Coffey, P., Leitenberg, H., Henning, K., Bennet, R. T., & Jankowski, M. K. (1996). Dating violence: The association between methods of coping and women's psychological adjustment. *Journal of Research in Childhood Education, 11*, 227-238.

Cohen, D. & Strayer, J. (1996). Empathy in conduct-disordered and comparison youth. *Developmental Psychology, 32*, 988-998.

Cohen, J. (1983). The cost of dichotomization. *Applied Psychological Measurement, 7*, 249-253.

Cole, P. M., Zahn-Waxler, C., Fox, N. A., Usher, B. A., & Welsh, J. D. (1996). Individual differences in emotion regulation and behavior problems in preschool children. *Journal of Abnormal Psychology, 105*, 518-529.

Dobash, R. E. & Dobash, R. P. (1992). The rise of the movement: Orientations and issues. In *Women, violence, and social change* (pp. 15-59). London: Routledge.

Dutton, D. G. (1995). Male abusiveness in intimate relationships. *Clinical Psychology Review, 15*, 567-581.

Eisenberg, N., Fabes, R. A., Nyman, M., Bernzweig, J., & Pinuelas, A. (1994). The relations of emotionality and regulation to children's anger-related reactions. *Child Development, 65*, 109-128.

Eisenberg, N. & Strayer, J. (1987). *Empathy and its development*. Cambridge, England: Cambridge University Press.

Follette, V. M., & Alexander, P. C. (1992). Dating IPV: Current and historical correlates. *Behavioral Assessment, 14*, 39-52.

Foo, L. & Margolin, G. (1995). A multivariate investigation of dating IPV. *Journal of Family Violence, 10,* 351-377.

Foshee, V. A. (1996). Gender differences in adolescent dating abuse prevalence, types and injuries. *Health Education Research, 11,* 275-286.

Fruzzetti, A. E., & Fruzzetti, A. R. (2003). Partners with borderline personality disorder: Dialectical behavior therapy with couples. In D. K. Snyder, & M. A. Whisman (Eds.), Treating difficult couples: Managing emotional, behavioral, and health problems in couple therapy. New York: Guilford.

Fruzzetti, A. E. & Levensky, E. R. (2000). Dialectical behavior therapy for domestic violence: Rationale and procedures. *Cognitive and Behavioral Practice, 7,* 435-447.

Giancola, P. R. (2003). The moderating effects of dispositional empathy on alcohol-related aggression in men and women. *Journal of Abnormal Psychology, 112,* 275-281.

Gifford, E. V. & Hayes, S. C. (1999). Functional contexualism: A pragmatic philosophy for behavioral science. In W. O'Donohue & R. Kitchener (Eds.), *Handbook of behaviorism* (pp. 287-328). San Diego, CA: Academic Press.

Gottman, J. M., Jacobson, N. S., Rushe, R., Short, J. W., Babcock, J., La Taillade, J. J., & Waltz, J. (1995). The relationship between heart reactivity, emotionally aggressive behavior, and general violence in batterers. *Journal of Family Psychology, 9,* 116-121.

Gupta, M. & Beach, S. R. H. (2002). Animal abuse and callousness: predicting frequency and severity of partner-directed physical violence in men. Unpublished thesis.

Hare, R. D. (1993). *Without conscience: The disturbing world of the psychopaths among us.* New York, NY: Pocket Books.

Harned, M. S. (2001). Abused women or abused men? An examination of the context and outcomes of dating IPV. *Violence and Victims, 16,* 269-285.

Haslam, N. & Kim, H. C. (2002). Categories and continua: A review of taxometric research. *Genetic, Social, and General Psychology Monographs, 128,* 271-320.

Henton, J., Cate, R., Koval, J., Lloyd, S., & Christopher, S. (1983). Romance and violence in dating relationships. *Journal of Family Issues, 4,* 467-482.

Hesslinger, B., Tebartz van Elst, L., Nyberg, E., Dykierek, P., Richter, H., Berner, M., Ebert, D. (2002). Psychotherapy of attention deficit hyperactivity disorder in adults: A pilot study using a structured skills training program. *European Archives of Psychiatry and Clinical Neuroscience, 252,* 117-184.

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

Hyde, J. S. (1986). Gender differences in aggression. In J. S. Hyde & M. C. Linn (Eds.), *The psychology of gender: Advances through meta-analysis* (pp. 51-56). Baltimore: Johns Hopkins Press.

Jacoby, M., Gorenflo, D., Black, E., Wunderlich, C. & Eyler, A. E. (1999). Rapid repeat pregnancy and experiences of interpersonal violence among low-income adolescents. *American Journal of Preventive Medicine, 16,* 318-321.

Jezl, D. R., Molidor, C. E., & Wright, T. L. (1996). Physical, sexual and psychological abuse in high school dating relationships: Prevalence rates and self-esteem issues. *Child and Adolescent Social Work Journal, 13,* 69-87.

Kirsch, I., Mearns, J., & Cantanzaro, S. J. (1990). Mood regulation expectancies as determinants of depression in college students. *Journal of Counseling Psychology, 37,* 306-312.

Kopp, C. B. (1989). Regulation of distress and negative emotions: A developmental review. *Developmental Psychology, 25,* 343-354.

Lilienfeld, S. O. & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal populations. *Journal of Personality Assessment, 66,* 488-524.

Linehan, M. M. (1993). Cognitive-behavioral treatment of borderline personality disorder. New York: Guilford Press.

Lloyd, S. A. & Emery, B. C. (2000). A framework for understanding physical and sexual aggression in courtship. In *The dark side of courtship: Physical and sexual aggression* (pp. 11-44). Thousand Oaks, CA: Sage Publications, Inc.

Long, G. M. & McNamara, J. R. (1989). Paradoxical punishment as it relates to the battered woman syndrome. *Behavior Modification*, 13, 192-205.

Makepeace, J. M. (1981). Courtship violence among college students. *Family Relations, 30,* 97-102.

Makepeace, J. M. (1986). Gender differences in courtship violence victimization. *Family Relations, 35,* 383-388.

Margolin, G. (1987). The multiple forms of aggressiveness between marital partners: how do we identify them? *Journal of Marital and Family Therapy, 13,* 77-84.

Milardo, R. M. (1998). Gender asymmetry in common couple violence. *Personal Relationships, 5,* 423-438.

Miller, P. A. & Eisenberg, N. (1988). The relation of empathy to aggressive and externalizing/antisocial behavior. *Psychological Bulletin, 103,* 324-344.

Molidor, C., & Tolman, R. M. (1998). Gender and contextual factors in adolescent dating

violence. *Violence Against Women, 4,* 180-194.

Myers, D. L. (1995). Eliminating the battering of women by men: Some considerations for behavior analysis. *Journal of Applied Behavior Analysis, 28,* 493-507.

O'Donohue, W. & Kitchener, R. (1999). Introduction: The behaviorisms. In W. O'Donohue & R. Kitchener (Eds.), *Handbook of behaviorism* (pp. 1-15). San Diego, CA: Academic Press.

O'Leary, K. D., Barling, J., Arias, I., Rosenbaum, A., Malone, J., & Tyree, A. (1989). Prevalence and stability of physical aggression between spouses: A longitudinal analysis. *Journal of Consulting and Clinical Psychology, 57,* 263-268.

Renzetti, C. (1999). The challenge to feminism posed by women's use of violence in intimate relationships. In S. Lamb (Ed.), *New versions of victims: Feminists struggle with the concept* (pp.42-56). New York: New York University Press.

Reuterman, N. A., & Burcky, W. D. (1989). Dating IPV in high school: A profile of the victims. *Psychology: A Journal of Human Behavior, 26,* 1-9.

Riggs, D. S. & O'Leary, K. D. (1996). Aggression between heterosexual dating partners: An examination of a causal model of courtship aggression. *Journal of Interpersonal Violence, 11,* 519-540.

Ringen, J. (1999). Radical behaviorism: B. F. Skinner's philosophy of science. In W. O'Donohue & R. Kitchener (Eds.), *Handbook of behaviorism* (pp. 160-179). San Diego, CA: Academic Press.

Roscoe, B. & Benaske, N. (1985). Courtship violence experienced by abused wives: Similarities in patterns of abuse. *Family Relations: Journal of Applied Family and Child Studies, 34,* 419-424.

Sandoval, A. R., Hancock, D., Poythress, N., Edens, J. F., & Lilienfeld, S. (2000). Construct validity of the psychopathic personality inventory in a correctional sample. *Journal of Personality Assessment, 74,* 262-282.

Saunders, D. G. (1992). A typology of men who batter: Three types derived from cluster analysis. *American Journal of Orthopsychiatry, 62,* 264-275.

Schmidt, N. B., Kotov, R., & Joiner, T. E. (in press). *Taxometrics: Toward a diagnostic scheme for psychopathology*. Washington, D.C.: American Psychological Association.

Shields, A. & Cicchetti, D. (1998). Reactive aggression among maltreated children: The contributions of attention and emotion dysregulation. *Journal of Clinical Child Psychology, 27,* 381-395.

Sigelman, C. K., Berry, C. J., & Wiles, K. A. (1984). Violence in college students' dating relationships. *Journal of Applied Social Psychology, 5,* 530-548.

Straus, M. A. (1993). Physical assaults by wives: A major social problem. In R. J. Gelles & D. R. Loseke (Eds.), *Current controversies on family violence* (pp. 67-87). Newbury Park, CA: Sage Publications.

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

Telch, C. F., Agras, W. S., & Linehan, M. M. (2001). Dialectical behavior therapy for binge eating disorder. *Journal of Consulting and Clinical Psychology, 69,* 1061-1065.

Tjaden, P. & Thoennes, N. (2000). Prevalence and consequences of male-to-female and female-to-male intimate partner violence as measured by the National Violence Against Women Survey. *Violence Against Women, 6,* 142-161.

Tweed, R. G. & Dutton, D. G. (1998). A comparison of impulsive and instrumental subgroups of batterers. *Violence and Victims, 13,* 217-230.

Underwood, M. K. (1997). Top ten pressing questions about the development of emotion regulation. *Motivation and Emotion, 21,* 127-146.

Vivian, D. & Langhinrichsen-Rohling, J. (1994). Are bi-directionally violent couples mutually victimized? A gender-sensitive comparison. *Violence and Victims, 9,* 107-124.

Walden, T. A. & Smith, M. C. (1997). Emotion regulation. *Motivation and Emotion, 21,* 7-25.

Waller, N. G. & Meehl, P. E. (1998). *Multivariate taxometric procedures: Distinguishing types from continua*. Thousand Oaks, CA: Sage Publications.

Walker, L. E. (1979). *The battered woman*. New York, NY: Harper & Row.

White, J. W. & Humphrey, J. A. (1994). Women's aggression in heterosexual conflicts. *Aggressive Behavior, 20,* 195-202.

White, J. W. & Kowalski, R. M. (1994). Deconstructing the myth of the nonaggressive woman: A feminist analysis. *Psychology of Women Quarterly, 18,* 487-508.

Chapter 6

Measures

Negative Mood Regulation Scale

This is a questionnaire to find out what people believe they can do about upsetting emotions or feelings. Please answer the statements by giving as true a picture as you can of your own beliefs as possible. Of course, there are no right or wrong answers. Remember, the questionnaire is about what you believe you can do, not about what you actually or usually do. Be sure to read each item carefully and show your beliefs by marking the appropriate letter.

Strongly Disagree -- Disagree -- Neither Agree Nor Disagree -- Agree -- Strongly Agree
1 2 3 4 5

When I'm upset, I believe that…

1. I can usually find a way to cheer myself up.

2. I can do something to make myself feel better.

3. Wallowing in it is all I can do. [REVERSE]

4. I'll feel ok if I think about more pleasant times.

5. Being with other people will be a drag. [REVERSE]

6. I can feel better by treating myself to something I like.

7. I'll feel better when I understand why I feel bad.

8. I won't be able to get myself to do anything about it. [REVERSE]

9. I won't feel much better by trying to find some good in the situation. [REVERSE]

10. It won't be long before I can calm myself down. [REVERSE]

11. It will be hard to find someone who really understands. [REVERSE]

12. Telling myself it will pass will help me calm down.

13. Doing something nice for someone else will cheer me up.

14. I'll end up feeling really depressed. [REVERSE]

15. Planning how I'll deal with things will help.

16. I can forget about what's upsetting me pretty easily.

17. Catching up with my work will help calm me down.

18. The advice friends give me won't help me feel better. [REVERSE]

19. I won't be able to enjoy the things I usually enjoy. [REVERSE]

20. I can find a way to relax.

21. Trying to work the problem out in my head will only make it seem worse. [REVERSE]

22. Seeing a movie won't help me feel better. [REVERSE]

23. Going out to dinner with friends will help.

24. I'll be upset for a long time. [REVERSE]

25. I won't be able to put it out of my mind. [REVERSE]

26. I can feel better by doing something creative.

27. I'll start to feel really down about myself. [REVERSE]

28. Thinking that things will eventually be better won't help me feel any better. [REVERSE]

29. I can find some humor in the situation and feel better.

30. If I'm with a group of people, I'll feel "alone in a crowd." [REVERSE]

Psychopathic Personality Inventory

This test measures differences in personality characteristics among people – that is, how people differ from each other in their personality styles. Read each item carefully, and decide to what extent it is false or true as applied to you. Then mark your answer using the scale provided below.

False--Mostly False--Mostly True--True
1 2 3 4

Even if you feel that an item is neither false nor true as applied to you, or if you are unsure about what response to make, try to make some response in every case. If you cannot make up your mind about the item, select the choice that is closest to your opinion about whether it is false or true as applied to you.

Here's a sample item.

Sample. I enjoy going to movies.

If it is true that you enjoy going to movies, choose 4. If it is mostly false that you enjoy going to the movies, choose a 2, and so on. Try to be as honest as you can, an be sure to give your own opinion about whether each item is false or true as applied to you.

11. Being rich is much less important to me than enjoying the work I do. [EGOCENTRICITY - REVERSE]

13. I sometimes worry about whether I might have accidentally hurt someone's feelings. [COLDHEARTEDNESS - REVERSE]

20. I tell many "white lies." [EGOCENTRICITY]

21. I often hold on to old objects or letters just for their sentimental value. [COLDHEARTEDNESS - REVERSE]

24. I am so moved by certain experiences (e.g., watching a beautiful sunset, listening to a favorite piece of music) that I feel emotions that are beyond words. [COLDHEARTEDNESS - REVERSE]

25. I often find myself resenting people who give me orders. [EGOCENTRICITY]

28. I hate having to tell people bad news. [COLDHEARTEDNESS - REVERSE]

32. When I am faced with a decision involving moral matters, I often ask myself, "Am I doing the right thing?" [COLDHEARTEDNESS - REVERSE]

38. If someone mistreats me, I'd rather try to forgive him or her than get even. [EGOCENTRICITY - REVERSE]

39. It would bother me to cheat on an examination or assignment even if no one got hurt in the process. [EGOCENTRICITY - REVERSE]

40. I become deeply upset when I see photographs of starving people in Africa. [EGOCENTRICITY - REVERSE]

44. I become very angry if I do not receive special favors or privileges I feel I deserve. [EGOCENTRICITY]

45. I often find myself worrying when a friend is having serious personal problems. [COLDHEARTEDNESS - REVERSE]

47. Keeping in touch with old friends is very important to me. [COLDHEARTEDNESS - REVERSE]

51. I could make an effective "con artist" if the situation required it. [EGOCENTRICITY]

53. I have had "crushes" on people that were so intense they were painful. [COLDHEARTEDNESS - REVERSE]

58. I am a guilt-prone person. [COLDHEARTEDNESS - REVERSE]

65. I always look out for my own interests before worrying about those of the other guy. [EGOCENTRICITY]

70. If I want to, I can influence other people without their realizing they are being manipulated. [EGOCENTRICITY]

74. It bothers me greatly when I see someone crying. [COLDHEARTEDNESS – REVERSE]

75. Frankly, I believe that I am more important than most people. [EGOCENTRICITY]

78. I often place my friends' needs above my own. [COLDHEARTEDNESS – REVERSE]

81. I often become deeply attached to people I like. [COLDHEARTEDNESS – REVERSE]

88. When someone is hurt by something that I say or do, I usually consider that to be their problem. [COLDHEARTEDNESS]

93. Ending a friendship is (or would be) very painful for me. [COLDHEARTEDNESS - REVERSE]

95. I often do favors for people even when I know that I will probably never see them again. [COLDHEARTEDNESS - REVERSE]

96. I have sometimes "stood up" a date or a friend because something that sounded like more fun came up. [EGOCENTRICITY]

100. I can't imagine being sexually involved with more than one person at the same time. [EGOCENTRICITY - REVERSE]

103. I often feel very nostalgic when I think back to peaceful moments in my childhood. [COLDHEARTEDNESS - REVERSE]

109. I feel very bad about myself after telling a lie. [EGOCENTRICITY - REVERSE]

110. I enjoy watching violent scenes in movies. [EGOCENTRICITY]

122. In school or at work, I sometimes try to "stretch the rules a little bit just to see how much I can get away with. [EGOCENTRICITY]

128. While watching a sporting event on TV, I sometimes wince when I see an athlete get badly injured. [COLDHEARTEDNESS - REVERSE]

129. I'm good at flattering important people when it's useful to do so. [EGOCENTRICITY]

130. I sometimes become deeply angry when I hear about some of the injustices going on in the world. [COLDHEARTEDNESS - REVERSE]

132. Seeing a poor or homeless person walking the streets at night would really break my heart. [COLDHEARTEDNESS - REVERSE]

133. When someone tells me what to do, I often feel like doing exactly the opposite just to spite them. [EGOCENTRICITY]

137. I usually enjoy seeing someone I don't like get into trouble. [EGOCENTRICITY]

140. I like to (or would like to) wear expensive, "showy" clothing. [EGOCENTRICITY]

143. I don't take advantage of other people even when it's clearly to my benefit. [EGOCENTRICITY - REVERSE]

150. To be perfectly honest, I usually try not to help people unless I think there's some way that they can help me later. [EGOCENTRICITY]

152. I sometimes lie just to see if I can get someone to believe me. [EGOCENTRICITY]

153. I have to admit that I'm a bit of a materialist. [EGOCENTRICITY]

158. I often tell people only the part of the truth they want to hear. [EGOCENTRICITY]

163. Some people probably think of me as a "hopeless romantic." [COLDHEARTEDNESS - REVERSE]

166. I often lose my patience with people to whom I have to keep explaining things. [EGOCENTRICITY]

170. To be honest, how much I like someone depends a lot on how useful that person is to me. [EGOCENTRICITY]

173. I sometimes try to get others to "bend the rules" for me if I can't change them any other way. [EGOCENTRICITY]

175. I sometimes become so involved in my daydreams or fantasies that I momentarily forget about everything else. [COLDHEARTEDNESS - REVERSE]

179. I quickly become very annoyed at people who do not give me what I want. [EGOCENTRICITY]

182. I will sometimes break a promise if it turns out to be inconvenient to keep. [EGOCENTRICITY]

Emotional Toughness Scale

We know that people have different opinions about pain. The following questions are designed to help us understand how YOU generally think about pain. Please fill in the choice on your answer sheet that indicates how much you agree or disagree with each opinion.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

1. Seeing someone in pain doesn't bother me too much.

2. If someone I know dies, it doesn't really matter to me.

3. If someone is crying, I can't help but feel bad, too. [REVERSE]

4. It's OK to treat another person however you want.

5. I have noticed that people do a lot of fake crying to get what they want. [DELETED]

6. I find the idea of violence disturbing. [REVERSE]

7. I would never use force with someone to let them know I am in control. [REVERSE]

8. Seeing a friend of mine hit their partner wouldn't bother me.

9. If I caused someone else physical pain, I would feel pretty bad about it. [REVERSE]

10. If I hit a partner in anger, I would feel very guilty about it. [REVERSE]

Expagg

Please read each statement and then circle the number that best describes how much you agree or disagree with each statement.

Strongly Disagree -- Disagree -- Neither Agree Nor Disagree -- Agree -- Strongly Agree
1 2 3 4 5

1. I believe that physical aggression is necessary to get through to some people. [INSTRUMENTAL]

2. During a physical fight, I feel out of control. [EXPRESSIVE]

3. If I hit someone and I hurt them, I feel as if they were asking for it. [INSTRUMENTAL]

4. I am most likely to get physically aggressive when I've been under a lot of stress and some little thing pushes me over the edge. [EXPRESSIVE]

5. I am most likely to get physically aggressive when I feel another person is trying to make me look like a jerk. [INSTRUMENTAL]

6. After a physical fight, I feel drained and guilty. [EXPRESSIVE]

7. In an argument, I would feel more annoyed with myself if I cried than if I hit the other person. [INSTRUMENTAL]

8. After I lash out physically at another person, I would like them to acknowledge how upset they me and how unhappy I was. [EXPRESSIVE]

9. The best thing about physical aggression is that it makes the other person get in line. [INSTRUMENTAL]

10. I believe that my aggression comes from losing my self-control. [EXPRESSIVE]

11. If someone challenged me to a fight in public, I'd feel cowardly if I backed away. [INSTRUMENTAL]

12. I am more likely to hit out physically when I am alone with the person who is annoying me. [EXPRESSIVE]

13. After I lash out physically at another person, I would like them to make sure to never annoy me again. [INSTRUMENTAL]

14. When I get to the point of physical aggression, the thing that I am most aware of is how upset and shaky I feel. [EXPRESSIVE]

15. I am more likely to hit out physically when another person shows me up in public. [INSTRUMENTAL]

16. In a heated argument, I am most afraid of saying something that I can never take back. [EXPRESSIVE]

Revised Conflict Tactics Scale

No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have spats or fights because they are in a bad mood, are tired, or for some other reason. Couples also have many different ways of trying to settle their differences. Below is a list of things that might have happened when you and your dating partners had differences. Please circle how many times you and your dating partners did each of these things.

1 = Once in my dating history
2 = Twice in my dating history
3 = 3 – 5 times in my dating history
4 = 6 – 10 times in my dating history
5 = 11 – 20 times in my dating history
6 = More than 20 times in my dating history
7 = Never

1. I showed my partner I cared even though we disagreed. [EMOTIONAL NEGOTIATION]

2. My partner showed care for me even though we disagreed.

3. I explained my side of a disagreement to my partner. [COGNITIVE NEGOTIATION]

4. My partner explained his or her side of a disagreement to me.

5. I insulted or swore at my partner. [MINOR PSYCHOLOGICAL AGGRESSION]

6. My partner did this to me.

7. I threw something at my partner that could hurt. [MINOR PHYSICAL ASSAULT]

8. My partner did this to me.

9. I twisted my partner's arm or hair. [MNOR PHYSICAL ASSAULT]

10. My partner did this to me.

11. I had a sprain, bruise, or small cut because of a fight with my partner. [MINOR INJURY]

12. My partner had a sprain, bruise, or small cut because of a fight with me.

13. I showed respect for my partner's feelings about an issue. [EMOTIONAL NEGOTIATION]

14. My partner showed respect for my feelings about an issue.

15. I made my partner have sex without a condom. [MINOR SEXUAL COERCION]

16. My partner did this to me.

17. I pushed or shoved my partner. [MINOR PHYSICAL ASSAULT]

18. My partner did this to me.

19. I used force (like hitting, holding down, or using a weapon) to make my partner have oral or anal sex. [SEVERE SEXUAL COERCION]

20. My partner did this to me.

21. I used a knife or gun on my partner. [SEVERE PHYSICAL ASSAULT]

22. My partner did this to me.

23. I passed out from being hit on the head by my partner in a fight. [SEVERE INJURY]

24. My partner passed out from being hit on the head in a fight with me.

25. I called my partner fat or ugly. [SEVERE PSYCHOLOGICAL AGGRESSION]

26. My partner called me fat or ugly.

27. I punched or hit my partner with something that could hurt. [SEVERE PHYSICAL ASSAULT]

28. My partner did this to me.

29. I destroyed something belonging to my partner. [SEVERE PSYCHOLOGICAL AGGRESSION]

30. My partner did this to me.

31. I went to a doctor because of a fight with my partner. [SEVERE INJURY]

32. My partner went to a doctor because of a fight with me.

33. I choked my partner. [SEVERE PHYSICAL ASSAULT]

34. My partner did this to me.

35. I shouted or yelled at my partner. [MINOR PSYCHOLOGICAL AGGRESSION]

36. My partner did this to me.

37. I slammed my partner against a wall. [SEVERE PHYSICAL ASSAULT]

38. My partner did this to me.

39. I said I was sure we could work out a problem. [EMOTIONAL NEGOTIATION]

40. My partner was sure we could work out a problem.

41. I needed to see a doctor because of a fight with my partner, but I didn't. [SEVERE INJURY]

42. My partner needed to see a doctor because of a fight with me, but didn't.

43. I beat up my partner. [SEVERE PHYSICAL ASSAULT]

44. My partner did this to me.

45. I grabbed my partner. [MINOR PHYSICAL ASSAULT]

46. My partner did this to me.

47. I used force (like hitting, holding down, or using a weapon) to make my partner have sex. [SEVERE SEXUAL COERCION]

48. My partner did this to me.

49. I stomped out of the room or house or yard during a disagreement. [MINOR PSYCHOLOGICAL AGGRESSION]

50. My partner did this to me.

51. I insisted on sex when my partner did not want to (but did not use physical force). [MINOR SEXUAL COERCION]

52. My partner did this to me.

53. I slapped my partner. [MINOR PHYSICAL ASSAULT]

54. My partner did this to me.

55. I had a broken bone from a fight with my partner. [SEVERE INJURY]

56. My partner had a broken bone from a fight with me.

57. I used threats to make my partner have oral or anal sex. [SEVERE SEXUAL COERCION]

58. My partner did this to me.

59. I suggested a compromise to a disagreement. [COGNITIVE NEGOTIATION]

60. My partner did this to me.

61. I burned or scalded my partner on purpose. [SEVERE PHYSICAL ASSAULT]

62. My partner did this to me.

63. I insisted my partner have oral or anal sex (but did not use physical force). [MINOR SEXUAL COERCION]

64. My partner did this to me.

65. I accused my partner of being a lousy lover. [SEVERE PSYCHOLOGICAL ABUSE]

66. My partner accused me of this.

67. I did something to spite my partner. [MINOR PSYCHOLOGICAL ABUSE]

68. My partner did this to me.

69. I threatened to hit or throw something at my partner. [SEVERE PSYCHOLOGICAL AGGRESSION]

70. My partner did this to me.

71. I felt physical pain that still hurt the next day because of a fight with my partner. [MINOR INJURY]

72. My partner felt physical pain the next day because of a fight we had.

73. I kicked my partner. [SEVERE PHYSICAL ASSAULT]

74. My partner did this to me.

75. I used threats to make my partner have sex. [SEVERE SEXUAL COERCION]

76. My partner did this to me.

77. I agreed to try a solution to a disagreement my partner suggested. [COGNITIVE NEGOTIATION]

78. My partner agreed to try a solution I suggested.

1 = I hit first
2 = My partner hit first
3 = This never happened

79. If you ever slapped, grabbed, shoved, or hit your partner, or if your partner ever slapped, grabbed, shoved, or hit you, who was the first one to do this the last time it happened? [INITIATION]

Appendix A

Additional Taxometric Analyses

Egocentricity.

The latent structure of egocentricity was evaluated through the application of taxometric procedures developed by Paul Meehl and colleagues (Waller & Meehl, 1998). The responses of participants on the 30 items of the Egocentricity subscale of the PPI formed the basis for this analysis. Items were summed in groups of 5, in the order in which they were presented in the questionnaire packet, to produce 6 indicators. Indicator characteristics, including mean, standard deviation, skew, kurtosis, and correlations among the indicators are presented in Table 18. The results of these analyses are presented in Table 19 and Figures 14 - 17.

In MAXCOV, the conditional covariances of the 15 possible combinations of the 6 indicator variables were averaged and plotted. Visual inspection of the resultant overall graph revealed that the curve is relatively flat until just before the hitmax interval (.23), where it reaches maximum covariance and ends before declining. However, when a numerical criterion of a change of .15 or more in conditional covariance between adjacent slabs was applied to the individual graphs, only 3 of 15 (20%) were judged to be consistent with a taxonic latent structure. Moreover, the base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were disparate (.15 and .37, respectively).

Visual inspection of the overall graph produced by MAXEIG revealed that the curve exhibited a farily flat, albeit unstable, slope, and even with 100 overlapping windows, did not ever take on the initial upward, then downward slope expected of a taxonic solution. In contrast

to MAXCOV, however, the base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were comparable (.64 and .61, respectively).

In MAMBAC, visual inspection of the overall graph produced by this procedure revealed a negatively skewed inverted U, which is indicative of a taxonic solution. The base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were comparable (.50 and .53, respectively).

Finally, visual inspection of the overall graph in L-MODE graph revealed a possibly bimodal smoothed curve, as would be expected in a taxonic solution. However, the base rate estimates were widely disparate (.50 and 1.00).

Thus, there was some evidence consistent with taxonicty. In particular, the shapes of the overall graphs in MAXCOV, MAMBAC, and possibly L-MODE were generally consistent with a taxonic solution. However, the shape of the graph in MAXEIG was inconsistent with a taxonic solution. Further, the nose count in MAXCOV was poor. Finally, the base rate estimates varied widely within the MAXCOV and L-MODE procedures and also across procedures. As a result, it was determined that there was not enough evidence to reject the null hypothesis of dimensionality.

Coldheartedness.

The latent structure of coldheartedness was also evaluated through the application of taxometric procedures. The responses of participants on the 21 items of the Coldheartedness subscale of the PPI formed the basis for this analysis. Items were summed in groups of 5 (or 6 in the case of the last grouping), in the order in which they were presented in the questionnaire packet, to produce 4 indicators. Indicator characteristics, including mean, standard deviation,

skew, kurtosis, and correlations among the indicators are presented in Table 20. The results of these analyses are presented in Table 21 and Figures 18 - 21.

In MAXCOV, the conditional covariances of the 6 possible combinations of the 4 indicator variables were averaged and plotted. Visual inspection of the resultant overall graph revealed that it was virtually flat. A numerical criterion of a change of .15 or more in conditional covariance between adjacent slabs was applied to the individual graphs, 2 of 6 (33%) were judged to be consistent with a taxonic latent structure. The base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were comparable (.29 and .33, respectively).

Visual inspection of the overall graph produced by MAXEIG revealed that, with 100 overlapping windows, the curve exhibited the requisite initial upward, albeit unstable, slope until it reached the hitmax interval (.75), after which it declined slightly. Further, the base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were identical (.23).

In MAMBAC, visual inspection of the overall graph produced by this procedure revealed a negatively skewed inverted U, which is indicative of a taxonic solution. The base rate estimate derived from the overall graph and the average of the base rates for the individual graphs were also identical (.45).

Finally, visual inspection of the overall graph in L-MODE graph revealed a unimodal smoothed curve, not a bimodal one, as would be expected in a taxonic solution. The base rate estimates from this overall graph were widely disparate (.50 and 1.00).

Thus, similar to egocentricity, there was some evidence consistent with taxonicty. In particular, the shapes of the overall graphs in MAXCOV and MAMBAC were generally

consistent with a taxonic solution. Further, with the exception of L-MODE, the base rate estimates were consistent both within and across procedures. However, the shape of the graphs in MAXEIG and L-MODE were inconsistent with a taxonic solution. Further, the nose count in MAXCOV was poorer than expected for a taxonic solution. As a result, it was determined that there was not enough evidence to reject the null hypothesis of dimensionality.

Appendix B

Tables

Table 1.

Internal Consistency Coefficients for the Relevant Subscales of the CTS2.

	α Perpetration		α Victimization	
Scale	Male	Female	Male	Female
Psychological Aggression				
Minor	.74	.79	.74	.76
Severe	.70	.56	.37	.77
Physical Assault				
Minor	.62	.63	.65	.69
Severe	.77	.35	.78	.82
Sexual Coercion				
Minor	.52	.24	.40	.43
Severe	.62	.61	.53	.59
Injury				
Minor	.39	.35	.36	.63
Severe	.59	.96	.70	.82

Table 2.

Prevalence Rates.

	% of Sample Perpetrators		% of Sample Victims	
Scale	Male	Female	Male	Female
Psychological Aggression				
Minor	82.22	85.43	81.78	82.87
Severe	30.00	23.62*	28.22	22.83
Physical Assault				
Minor	33.78	34.45	37.78	30.12**
Severe	9.11	12.20	17.11	9.06**
Sexual Coercion				
Minor	33.78	18.31**	33.78	31.30
Severe	7.11	2.56**	7.11	6.89
Injury				
Minor	11.11	8.27	12.22	8.86
Severe	4.22	.98*	5.11	1.97**

* $p \leq .05$, ** $p \leq .01$

Table 3.

Frequency of Violent Acts Experienced by Perpetrators and Victims.

	Perpetrators		Victims	
	Male	Female	Male	Female
Scale	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Psychological Aggression				
Minor	16.21 (17.07)	18.87 (20.37)*	17.75 (18.19)	17.26 (18.97)
Severe	5.71 (10.92)	4.68 (7.49)	7.62 (8.98)	5.72 (10.78)
Physical Assault				
Minor	7.84 (11.11)	7.14 (10.55)	10.56 (12.46)	8.60 (13.03)
Severe	12.32 (18.03)	3.26 (5.06)*	11.09 (18.02)	6.83 (13.93)
Sexual Coercion				
Minor	10.86 (13.36)	8.66 (10.37)	9.71 (11.48)	8.30 (10.11)
Severe	9.72 (11.53)	17.38 (18.56)	10.84 (11.37)	8.63 (13.30)
Injury				
Minor	7.72 (9.94)	7.98 (4.87)	4.47 (6.01)	6.67 (9.63)
Severe	12.33 (13.32)	2.00 (10.67)	14.78 (16.17)	10.40 (19.85)

* $p \leq .05$, ** $p \leq .01$

Table 4.

Characteristics of Indicators of Affect Regulation.

Indicator	Mean	Standard Deviation	Skew	Kurtosis	1.	2.	3.	4.	5.	6.
1. 1_5	6.70	3.09	1.05	1.84	--	.478**	.545**	.506**	.486**	.522**
2. 6_10	8.21	2.24	.60	.97	--	--	.417**	.276**	.305**	.347**
3. 11_15	8.63	2.95	.27	.14	--	--	--	.537**	.475**	.579**
4. 16_20	9.59	2.90	.15	-.06	--	--	--	--	.533**	.569**
5. 21_25	8.42	3.08	.18	.16	--	--	--	--	--	
6. 26_30	8.90	3.22	.15	-.18	--	--	--	--	--	--

* $p \leq .05$, ** $p \leq .01$

Table 5.

Base Rate Estimates for Affect Regulation.

Procedure	Overall	Average	Hitmax
MAXCOV	.62	.37	.11
MAXEIG	.41	.39	2.05
MAMBAC	.57	.54	N/A
L-MODE	.48	.55	N/A

Table 6.

Characteristics of Indicators of Callousness.

Indicator	Mean	Standard Deviation	Skew	Kurtosis	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. ETS1	2.21	1.31	1.33	1.55	--	.306**	.325**	.164**	.268**	.150**	.099**	.253**	.063
2. ETS2	1.42	.95	3.11	11.21	--	--	.214**	.127**	.155**	.176**	.119**	.198**	.103**
3. ETS3R	3.16	1.67	.58	-.69	--	--	--	.112**	.289**	.280**	.052	.354**	.253**
4. ETS4	1.84	1.09	1.64	3.30	--	--	--	--	.078*	.083*	.058	.123**	.091**
5. ETS6R	3.49	1.87	.25	-1.10	--	--	--	--	--	.443**	.042	.457**	.204**
6. ETS7R	2.81	1.92	.67	-.94	--	--	--	--	--	--	.070*	.479**	.279**
7. ETS8	1.85	1.86	2.13	2.95	--	--	--	--	--	--	--	.039	.099**
8. ETS9R	2.11	1.54	1.34	.82	--	--	--	--	--	--	--	--	.501**
9. ETS10R	1.57	1.27	2.51	6.00	--	--	--	--	--	--	--	--	--

* $p \leq .05$, ** $p \leq .01$

Table 7.

Base Rate Estimates for Callousness.

Procedure	Overall	Average	Hitmax
MAXCOV	.29	.29	.18
MAXEIG	.40	.43	.26
MAMBAC	.39	.30	N/A
L-MODE	.26	.25	N/A

Table 8.

Correlations among Predictor and Criterion Variables for Logistic Regression for Men.

Variable	1.	2.	3.	4.	5.
1. Perpetration Status	--	-.009	.101*	.064	.177**
2. Expressive Representations	--	--	.375**	.156**	-.083
3. Instrumental Representations	--	--	--	.036	.247**
4. Affect Regulation	--	--	--	--	.070
5. Callousness	--	--	--	--	--

* $p \leq .05$, ** $p \leq .01$

Table 9.

Correlations among Predictor and Criterion Variables for Logistic Regression for Women.

Variable	1.	2.	3.	4.	5.
1. Perpetration Status	--	.125**	.191**	.141*	.115**
2. Expressive Representations	--	--	.464**	.087	-.074
3. Instrumental Representations	--	--	--	.188**	.077
4. Affect Regulation	--	--	--	--	.101*
5. Callousness	--	--	--	--	--

* $p \leq .05$, ** $p \leq .01$

Table 10.

Predicting Physical Assault Perpetration Status for Men.

Step	*b*	*SE*	Odds Ratio
1. Perpetration Status *on*			
Expressive Representations,	-.015	.023	.986
Instrumental Representations,	.027	.019	1.027
Affect Regulation,	.009	.008	1.009
Callousness	.645**	.212	1.906
2. Perpetration Status *on*			
Expressive Representations,	-.018	.023	.982
Instrumental Representations,	.048*	.021	1.049
Affect Regulation,	.011	.008	3.058
Callousness,	1.118**	.266	.999
Expressive Representations * Affect Regulation,	-.011	.002	.897
Instrumental Representations * Callousness	-.108**	.036	.404

* $p \leq .05$, ** $p \leq .01$

Table 11.

Predicting Physical Assault Perpetration Status for Women.

Step	*b*	*SE*	Odds Ratio
1. Perpetration Status *on*			
Expressive Representations,	.026	.023	1.026
Instrumental Representations,	.055**	.019	1.056
Affect Regulation,	.017*	.008	1.017
Callousness	.029*	.212	1.962
2. Perpetration Status *on*			
Expressive Representations,	.027	.020	1.028
Instrumental Representations,	.061**	.021	1.063
Affect Regulation,	.017*	.007	1.017
Callousness,	.772**	.335	2.164
Expressive Representations * Affect Regulation,	-.002	.001	.998
Instrumental Representations * Callousness	.047	.053	1.048

* $p \leq .05$, ** $p \leq .01$

Table 12.

Correlations among Predictor and Criterion Variables for Multiple Regression for Men.

Variable	1.	2.	3.	4.	5.
1. Perpetration Frequency	--	.046	.046	.178*	.146
2. Expressive Representations	--	--	.462**	.119	-.118
3. Instrumental Representations	--	--	--	.030	.048
4. Affect Regulation	--	--	--	--	.174*
5. Callousness	--	--	--	--	--

* $p \leq .05$, ** $p \leq .01$

Table 13.

Correlations among Predictor and Criterion Variables for Multiple Regression for Women.

Variable	1.	2.	3.	4.	5.
1. Perpetration Frequency	--	.050	.189*	.052*	.075
2. Expressive Representations	--	--	.272**	-.032	-.096
3. Instrumental Representations	--	--	--	.090	.144
4. Affect Regulation	--	--	--	--	.055
5. Callousness	--	--	--	--	--

* $p \leq .05$, ** $p \leq .01$

Table 14.

Predicting Physical Assault Perpetration Frequency for Men.

Step	β	R^2
1. Perpetration Frequency *on*		
Expressive Representations,	.039	
Instrumental Representations,	.002	
Affect Regulation,	.134	
Callousness	.133	.043
2. Perpetration Frequency *on*		
Expressive Representations,	.034	
Instrumental Representations,	.045	
Affect Regulation,	.134	
Callousness,	.210	
Expressive Representations * Affect Regulation,	.022	
Instrumental Representations * Callousness	-.127	.052

* $p \leq .05$, ** $p \leq .01$

Table 15.

Predicting Physical Assault Perpetration Frequency for Women.

Step	β	R^2
1. Perpetration Frequency *on*		
Expressive Representations,	.015	
Instrumental Representations,	.149	
Affect Regulation,	.084	
Callousness	.154*	.064
2. Perpetration Frequency *on*		
Expressive Representations,	.023	
Instrumental Representations,	.136	
Affect Regulation,	.086	
Callousness,	.146	
Expressive Representations * Affect Regulation,	-.004	
Instrumental Representations * Callousness	-.096	.073

* $p \leq .05$, ** $p \leq .01$

Table 16.

Testing Gender Moderations as Predictors of Perpetration Status.

Step	*b*	*SE*	Odds Ratio
1. Perpetration Status *on*			
Expressive Representations,	.017	.014	1.017
Instrumental Representations,	.018	.012	1.018
Affect Regulation,	.013**	.005	1.013
Callousness	.503**	.166	1.653
2. Perpetration Status *on*			
Expressive Representations,	.017	.015	1.017
Instrumental Representations,	.021	.012	1.022
Affect Regulation,	.013**	.005	1.013
Callousness,	.617**	.175	1.854
Expressive Representations * Affect Regulation,	-.001	.001	.999
Instrumental Representations * Callousness	-.046*	.024	.955
3. Perpetration Status *on*			
Expressive Representations,	.008	.015	1.009
Instrumental Representations,	.045	.014	1.046
Affect Regulation,	.013**	.005	1.014
Callousness,	.769**	.183	2.158
Expressive Representations * Affect Regulation,	-.001	.001	.999
Instrumental Representations * Callousness,	-.050*	.024	.951
Gender	.599**	.175	1.821
4. Perpetration Status *on*			
Expressive Representations,	.008	.015	1.008
Instrumental Representations,	.029	.019	1.029
Affect Regulation,	.009	.008	1.009
Callousness,	.765**	.182	2.148
Expressive Representations * Affect Regulation,	-.001	.001	.999
Instrumental Representations * Callousness,	-.040	.025	.961
Gender,	.573**	.175	1.773
Affect Regulation * Gender,	.007	.011	1.007
Instrumental Representations * Gender	.031	.026	1.031

Step	*b*	*SE*	Odds Ratio
5. Perpetration Status *on*			
Expressive Representations,	.007	.015	1.007
Instrumental Representations,	.038*	.020	1.039
Affect Regulation,	.010	.008	1.010
Callousness,	.995**	.210	2.706
Expressive Representations * Affect Regulation,	-.001	.001	.999
Instrumental Representations * Callousness,	-.092**	.033	.912
Gender,	.608**	.180	1.837
Affect Regulation * Gender,	.007	.011	1.007
Instrumental Representations * Gender,	.032	.027	1.032
Instrumental Representations * Callousness * Gender	.153*	.064	1.165

* $p \leq .05$, ** $p \leq .01$

Table 17.

Testing Gender Moderations as Predictors of Perpetration Frequency.

Step	β	R^2
1. Perpetration Frequency *on*		
Expressive Representations,	.003	
Instrumental Representations,	.005	
Affect Regulation,	.004*	
Callousness	.151*	.036
2. Perpetration Frequency *on*		
Expressive Representations,	.036	
Instrumental Representations,	.070	
Affect Regulation,	.116*	
Callousness,	.187**	
Expressive Representations * Affect Regulation,	.012	
Instrumental Representations * Callousness	-.117*	.058
3. Perpetration Status *on*		
Expressive Representations,	.023	
Instrumental Representations,	.105	
Affect Regulation,	.113*	
Callousness,	.209**	
Expressive Representations * Affect Regulation,	.016	
Instrumental Representations * Callousness,	-.122*	
Gender	.074	.062
4. Perpetration Status *on*		
Expressive Representations,	.023	
Instrumental Representations,	.107	
Affect Regulation,	.113*	
Callousness,	.224**	
Expressive Representations * Affect Regulation,	.017	
Instrumental Representations * Callousness,	-.128*	
Gender,	.077	
Callousness * Gender	-.019	.062

* $p \leq .05$, ** $p \leq .01$

Table 18.

Characteristics of Indicators of Egocentricity.

Indicator	Mean	Standard Deviation	Skew	Kurtosis	1.	2.	3.	4.	5.	6.
1. 1_5	11.07	2.51	.139	-.328	--	.483**	.532**	.484**	.494**	.488**
2. 6_10	11.79	2.58	-.013	-.411	--	--	.535**	.484**	.519**	.521**
3. 11_15	9.86	2.71	.333	-.575	--	--	--	.412**	.462**	.488**
4. 16_20	12.74	2.50	-.001	-.081	--	--	--	--	.486**	.523**
5. 21_25	10.69	2.43	.122	-.140	--	--	--	--	--	
6. 26_30	10.61	2.75	.293	-.175	--	--	--	--	--	--

* $p \leq .05$, ** $p \leq .01$

Table 19.

Base Rate Estimates for Egocentricity.

Procedure	Overall	Average	Hitmax
MAXCOV	.15	.37	.23
MAXEIG	.64	.61	.95
MAMBAC	.50	.53	N/A
L-MODE	.50	1.00	N/A

Table 20.

Characteristics of Indicators of Coldheartedness.

Indicator	Mean	Standard Deviation	Skew	Kurtosis	1.	2.	3.	4.
1. 1_5	8.65	2.31	.641	.182	--	.420**	.462**	.422**
2. 6_10	10.25	2.41	.147	-.079	--	--	.492**	.416**
3. 11_15	9.01	2.21	.386	.083	--	--	--	.333**
4. 16_21	12.70	2.91	.197	.036	--	--	--	--

* $p \leq .05$, ** $p \leq .01$

Table 21.

Base Rate Estimates for Callousness.

Procedure	Overall	Average	Hitmax
MAXCOV	.29	.33	.21
MAXEIG	.23	.23	.75
MAMBAC	.49	.49	N/A
L-MODE	.50	1.00	N/A

Appendix C

Figures

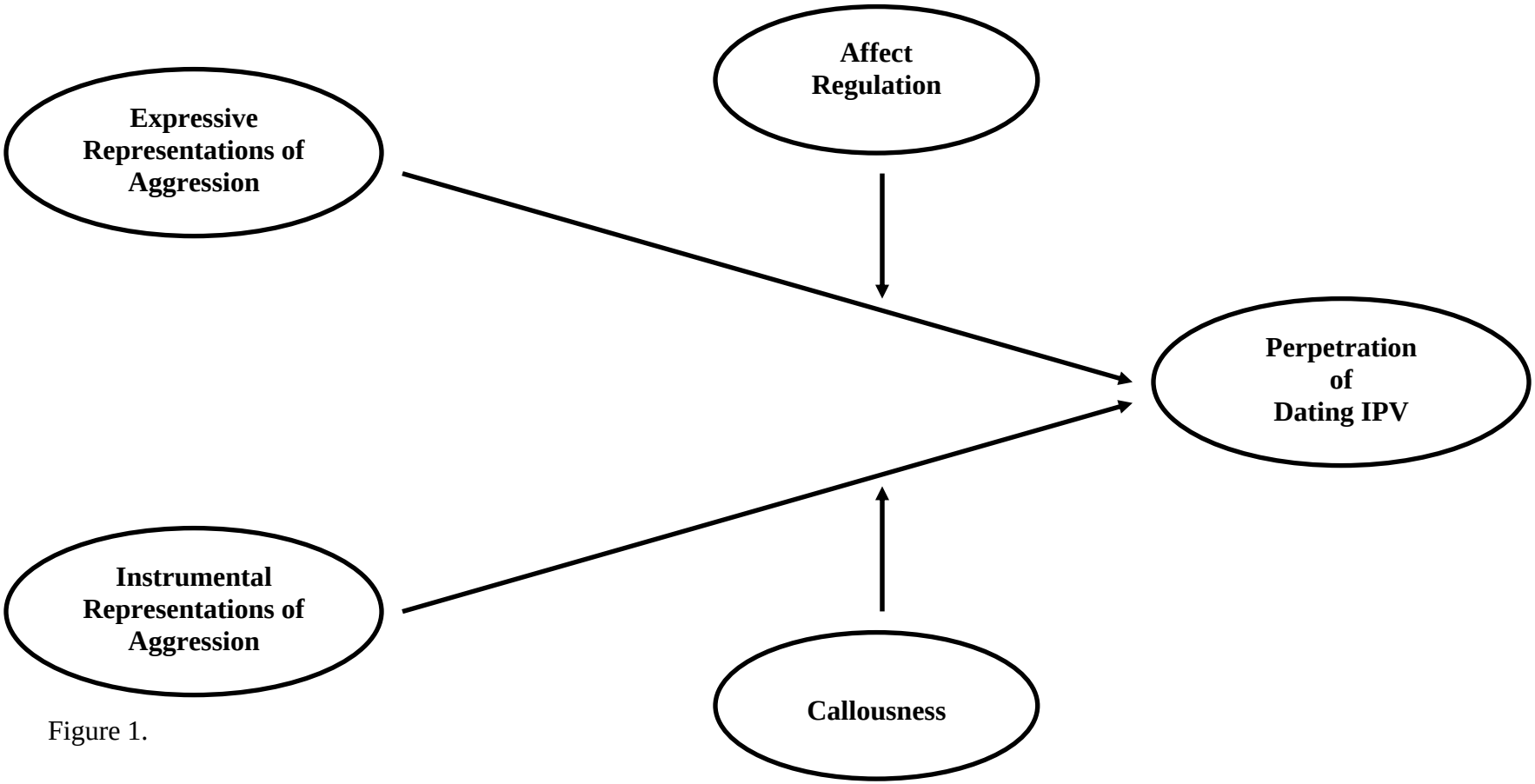

Figure 1.

Predicted Model.

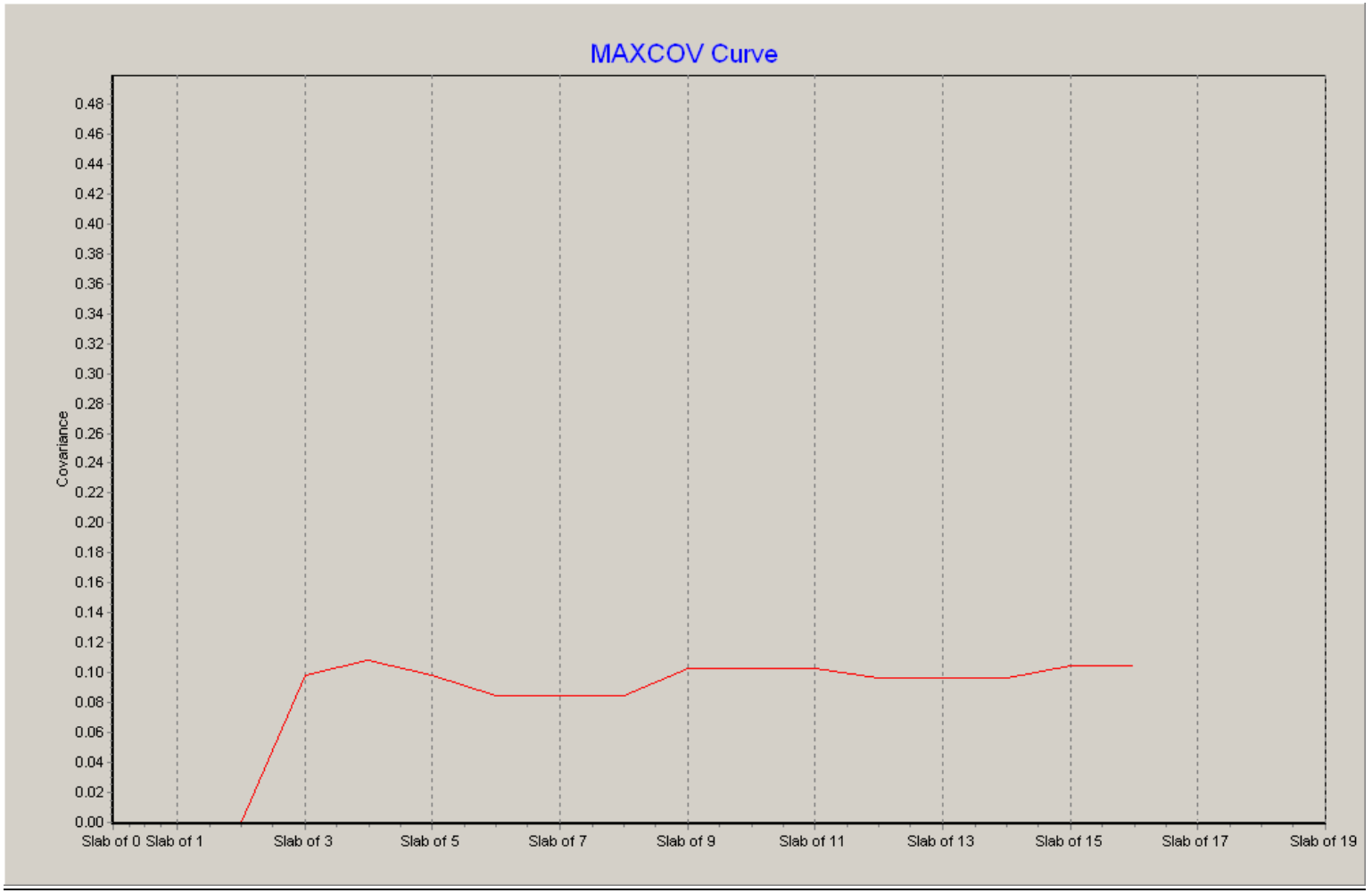

Figure 2.

Affect Regulation in MAXCOV.

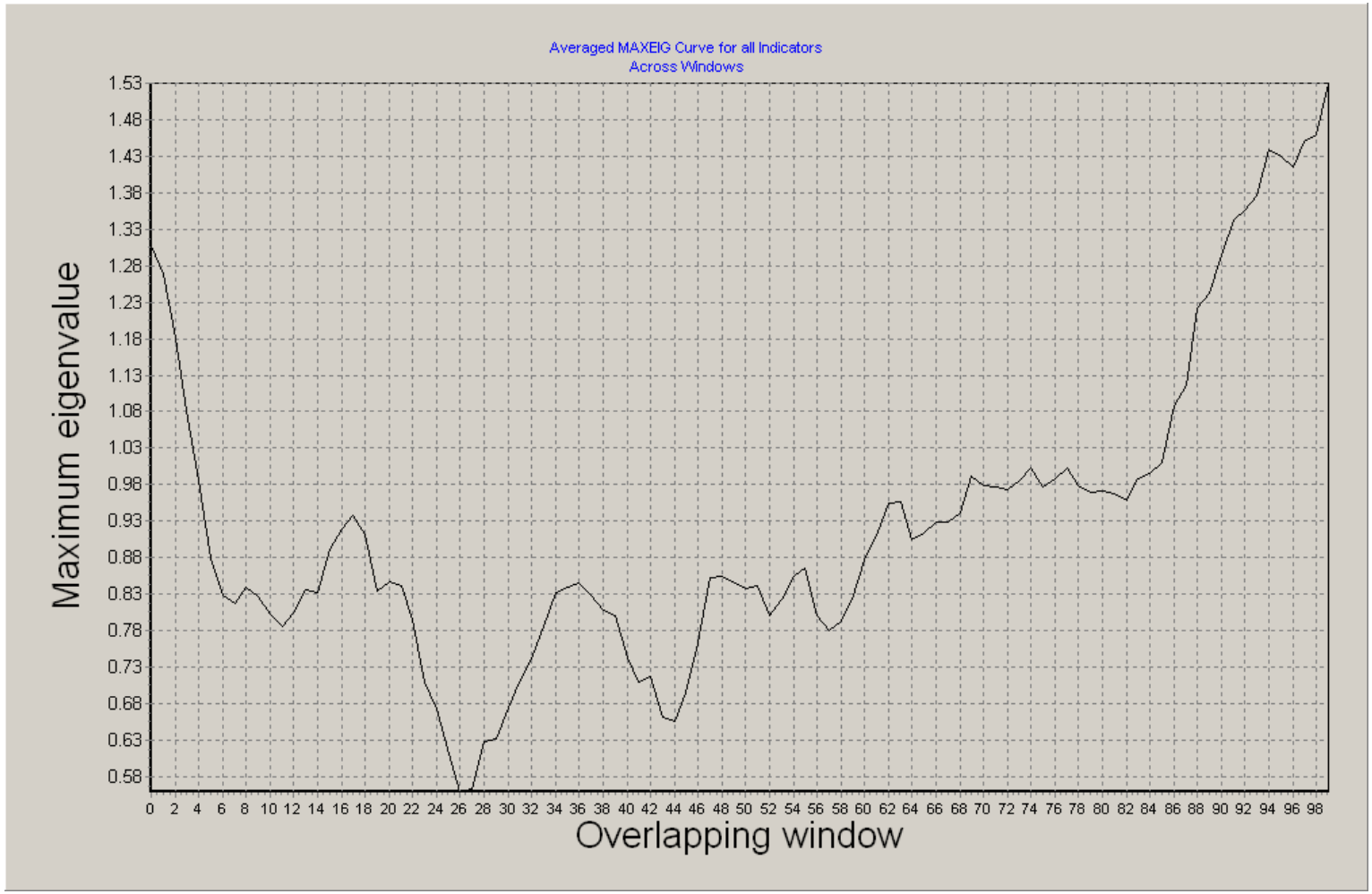

Figure 3.

Affect Regulation in MAXEIG.

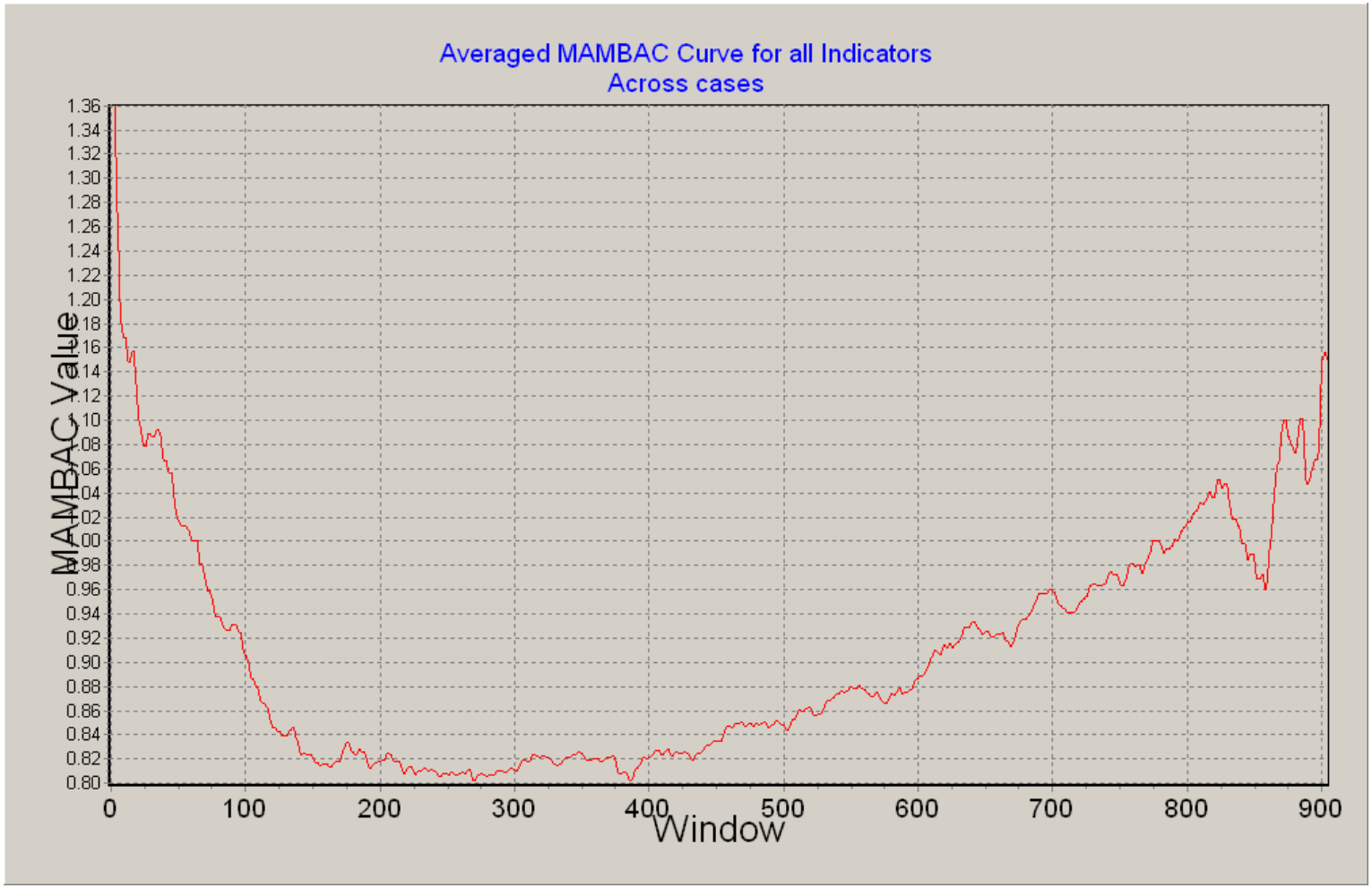

Figure 4.

Affect Regulation in MAMBAC.

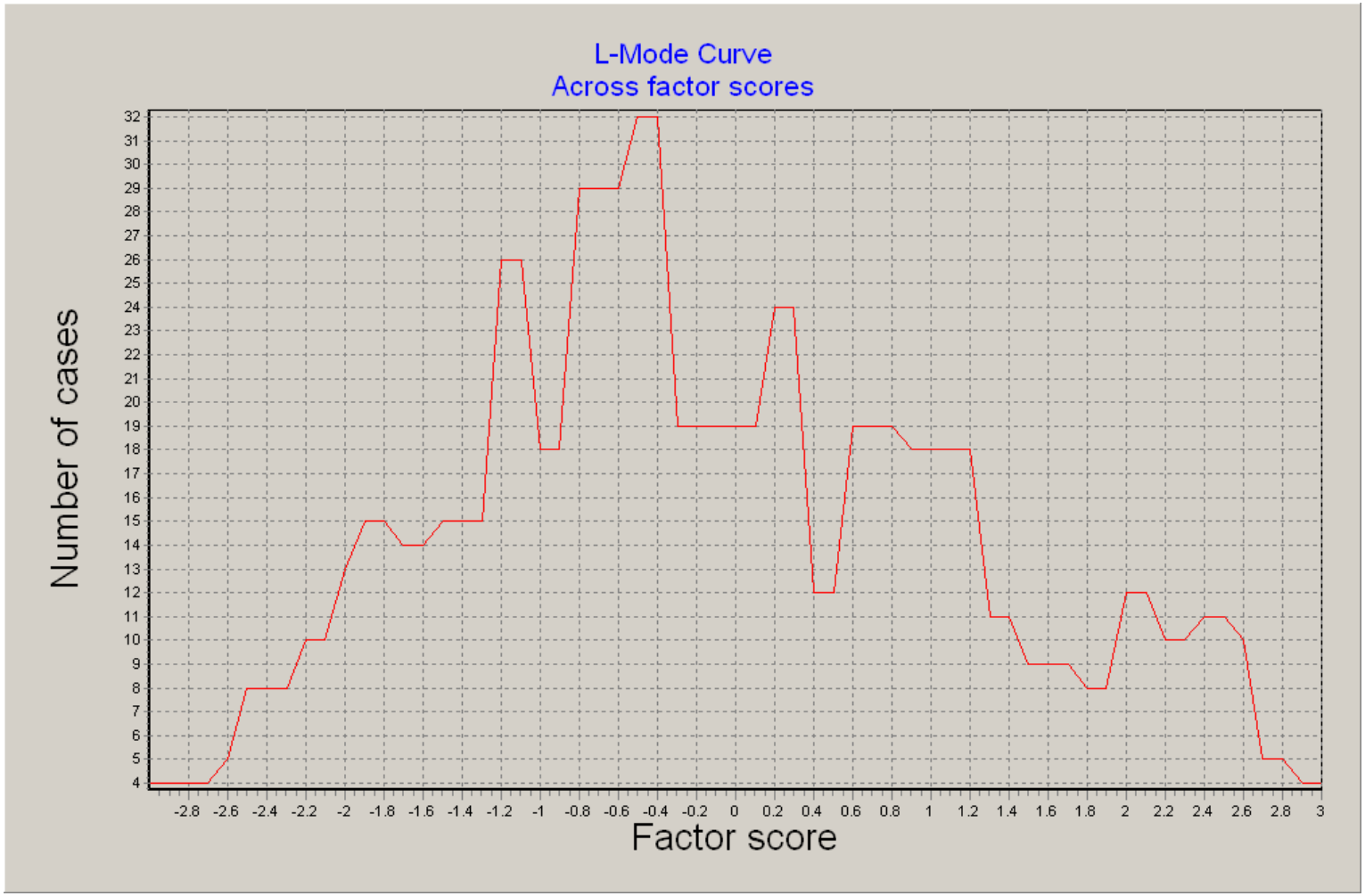

Figure 5.

Affect Regulation in L-MODE.

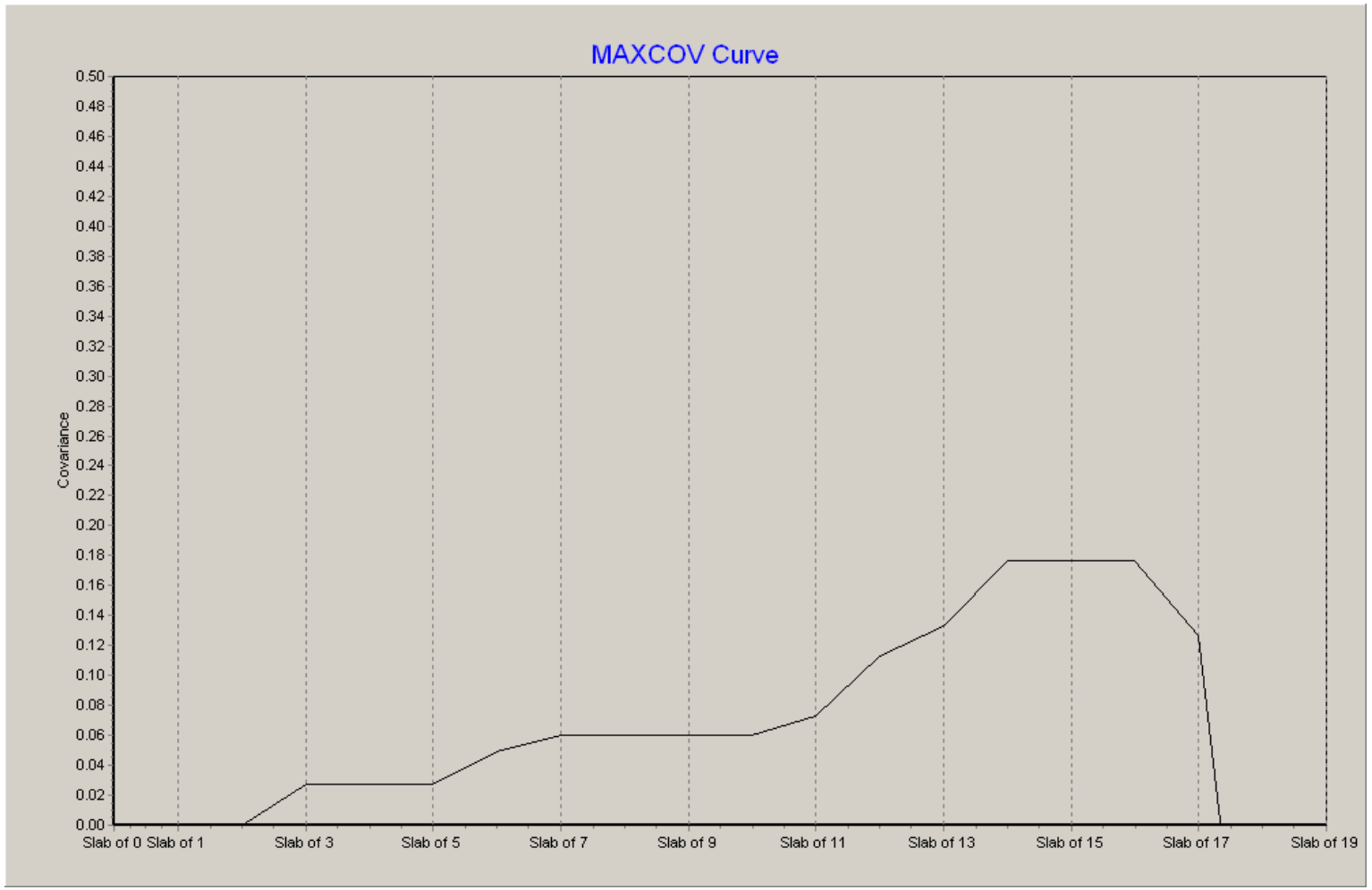

Figure 6.

Callousness in MAXCOV.

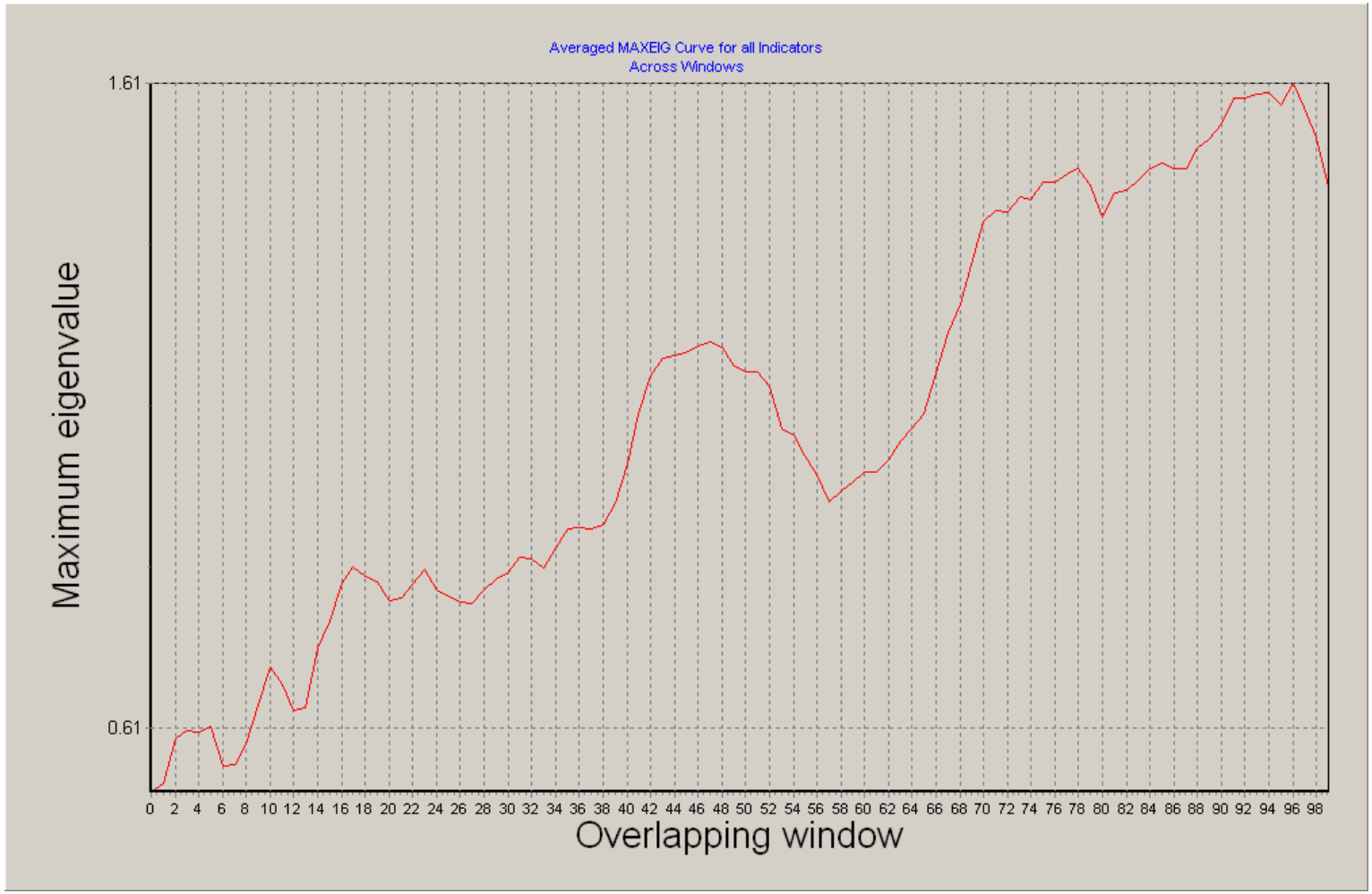

Figure 7.

Callousness in MAXEIG.

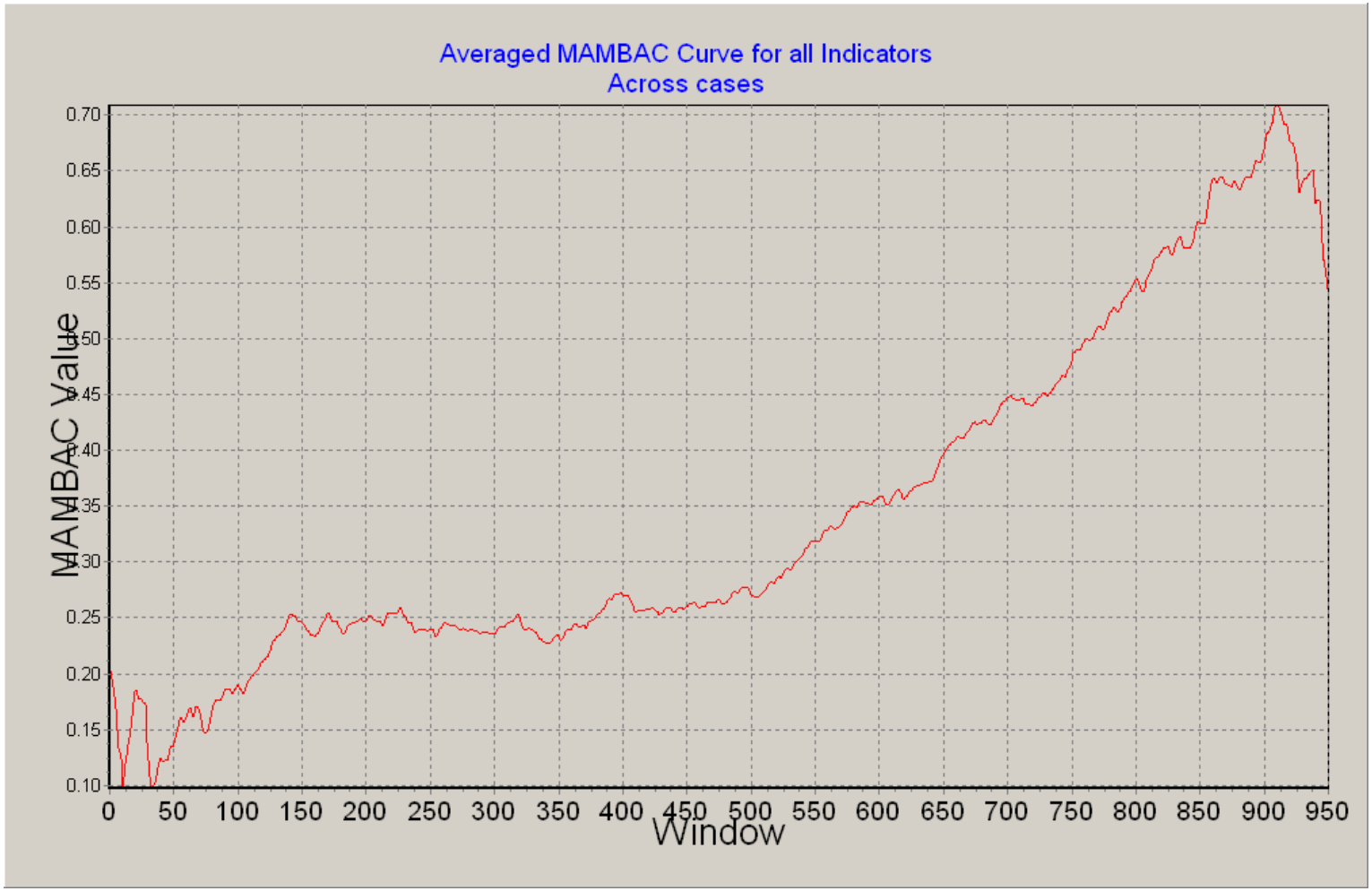

Figure 8.

Callousness in MAMBAC.

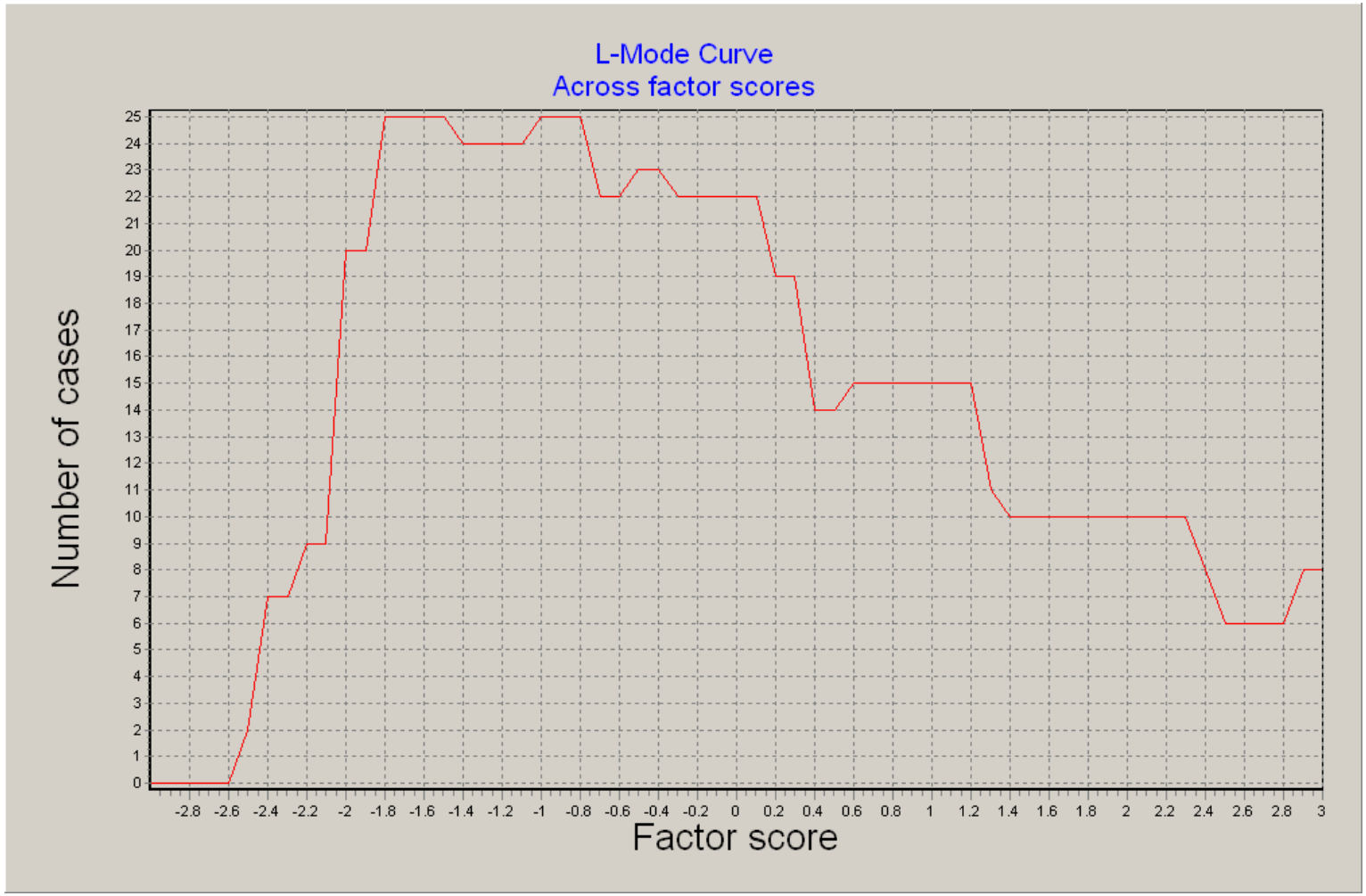

Figure 9.

Callousness in L-MODE.

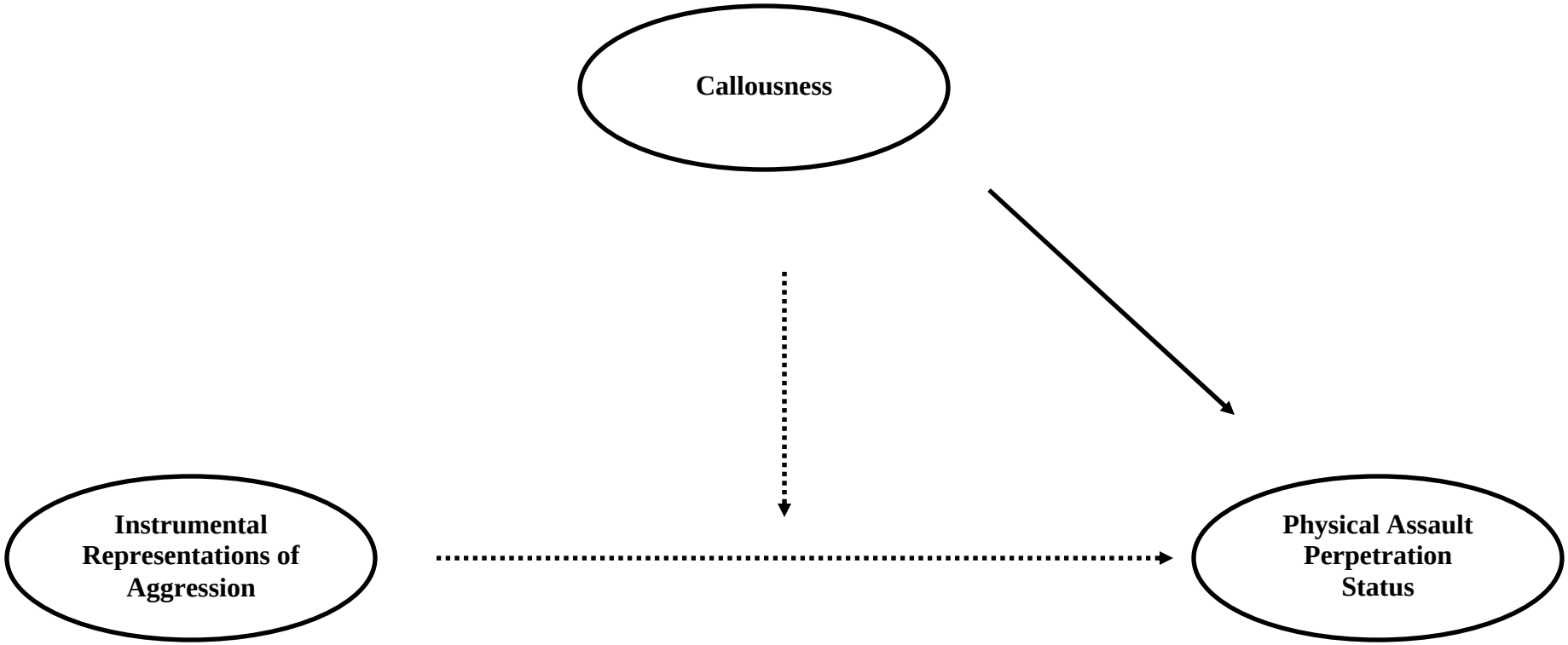

Figure 10.

Observed Model of Physical Assault Perpetration Status for Men.

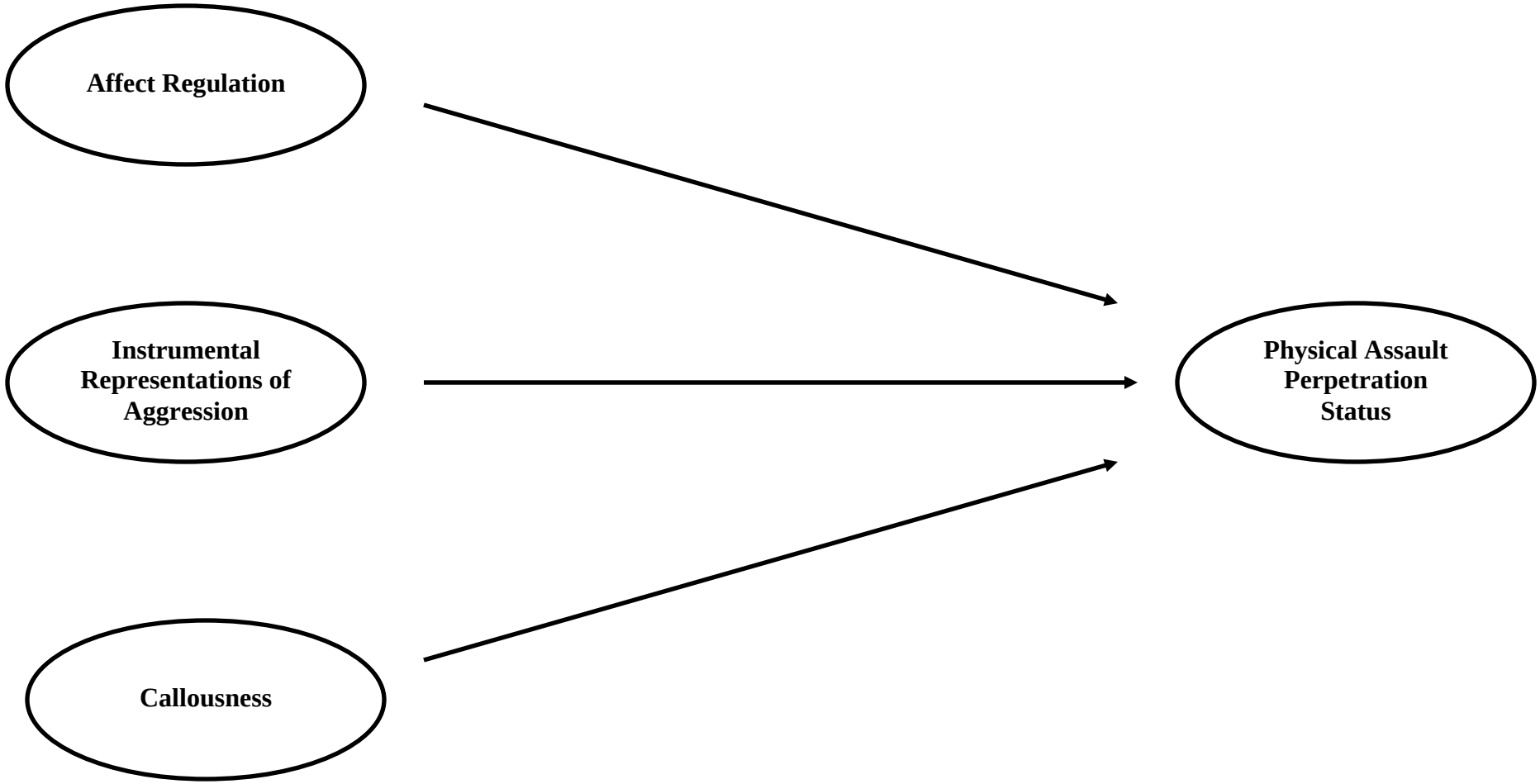

Figure 11.

Observed Model of Physical Assault Perpetration Status for Women.

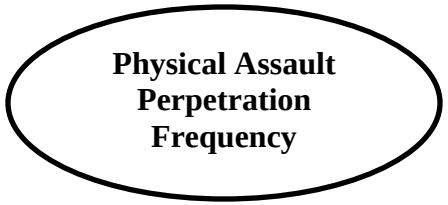

Figure 12.

Observed Model of Physical Assault Perpetration Frequency for Men.

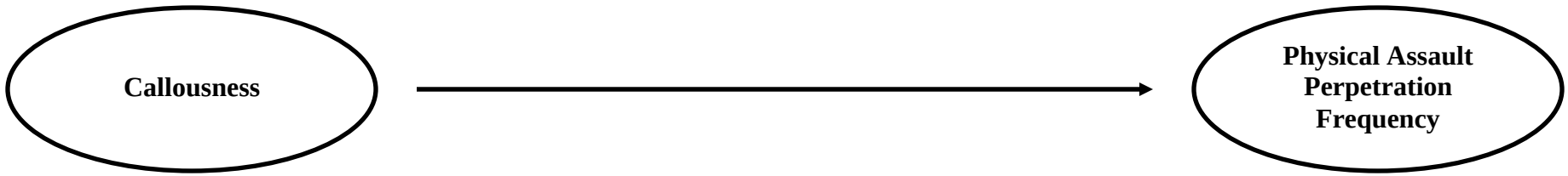

Figure 13.

Observed Model of Physical Assault Perpetration Frequency for Women.

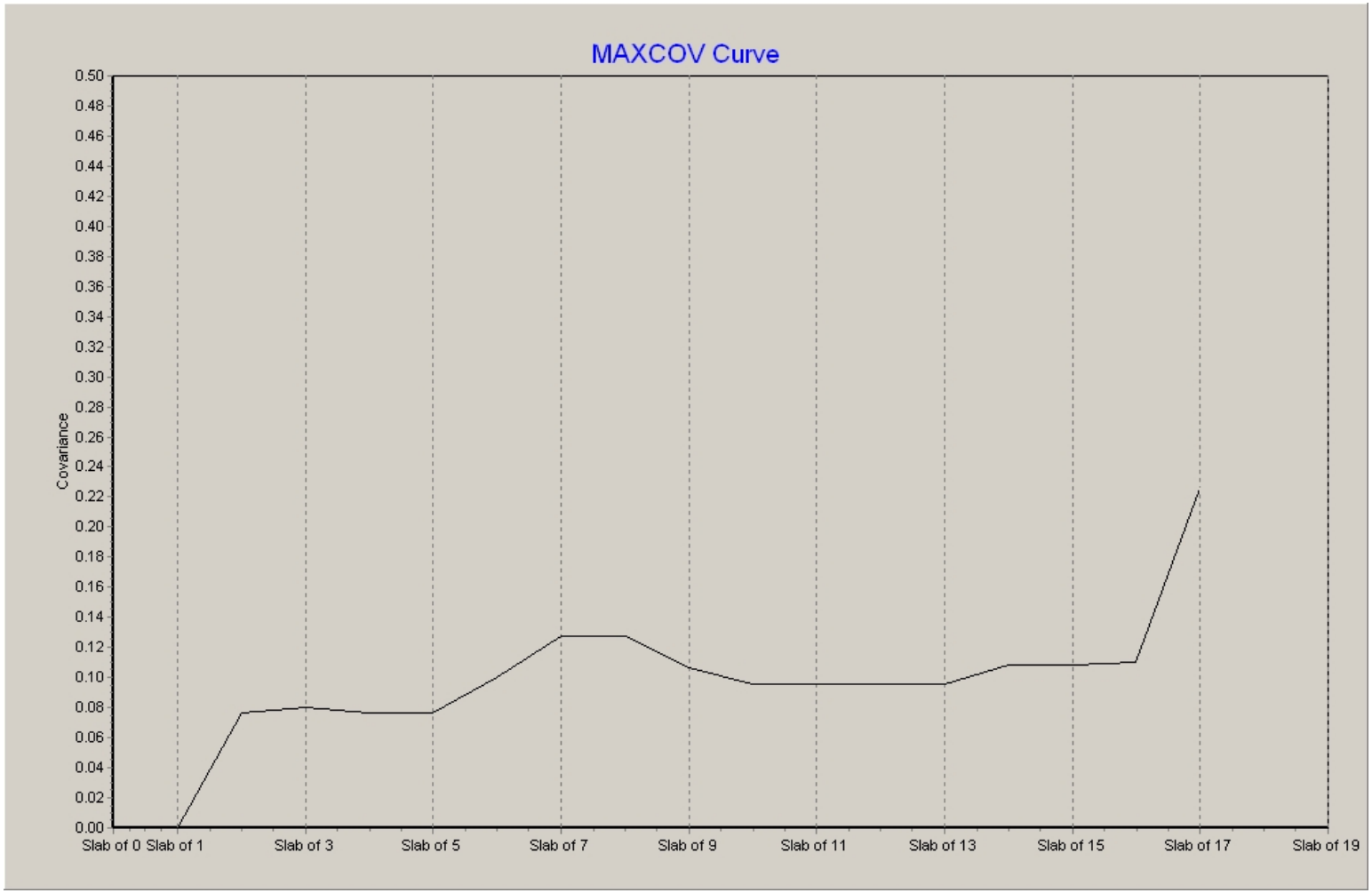

Figure 14.

Egocentricity in MAXCOV.

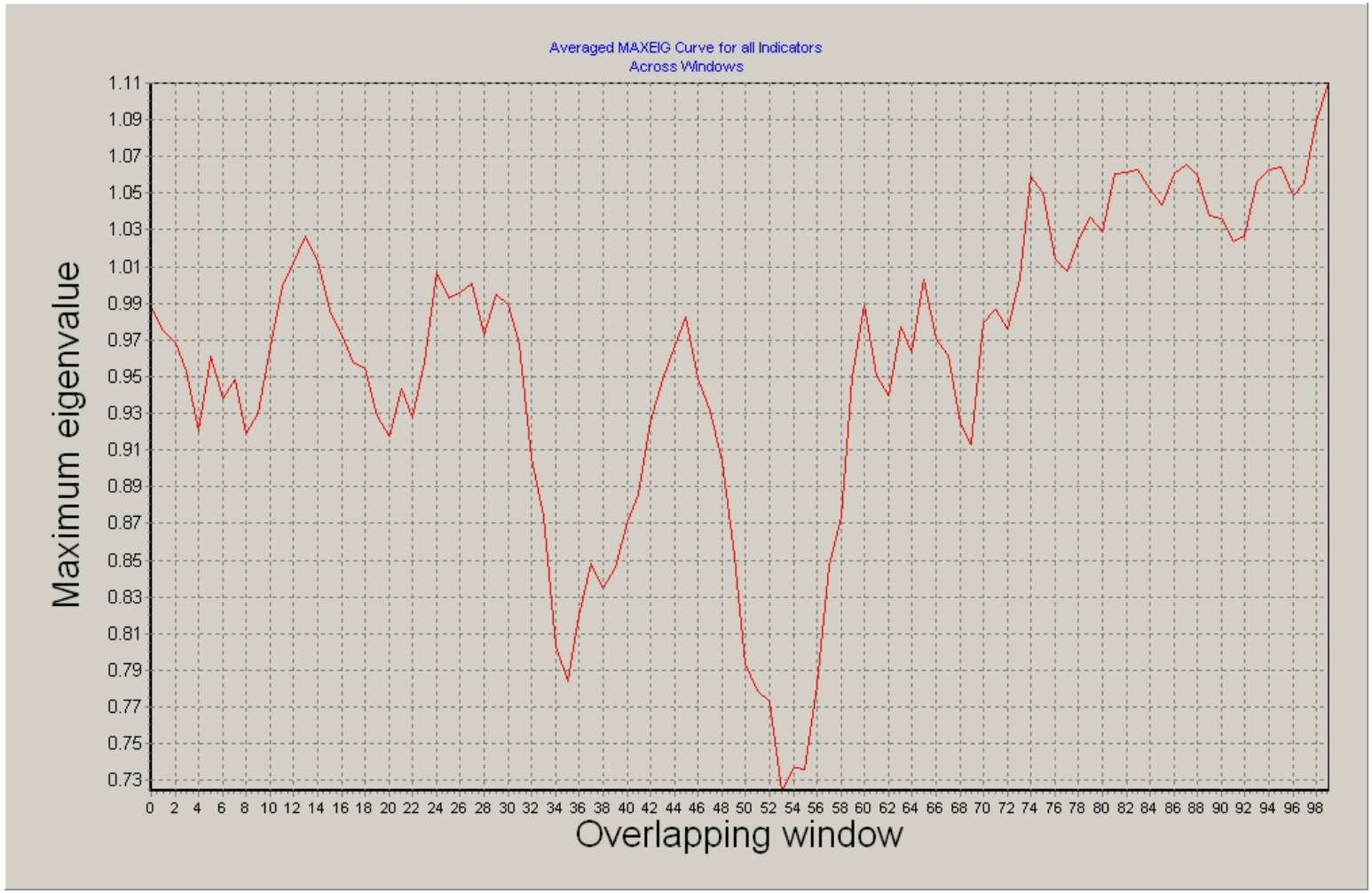

Figure 15.

Egocentricity in MAXEIG.

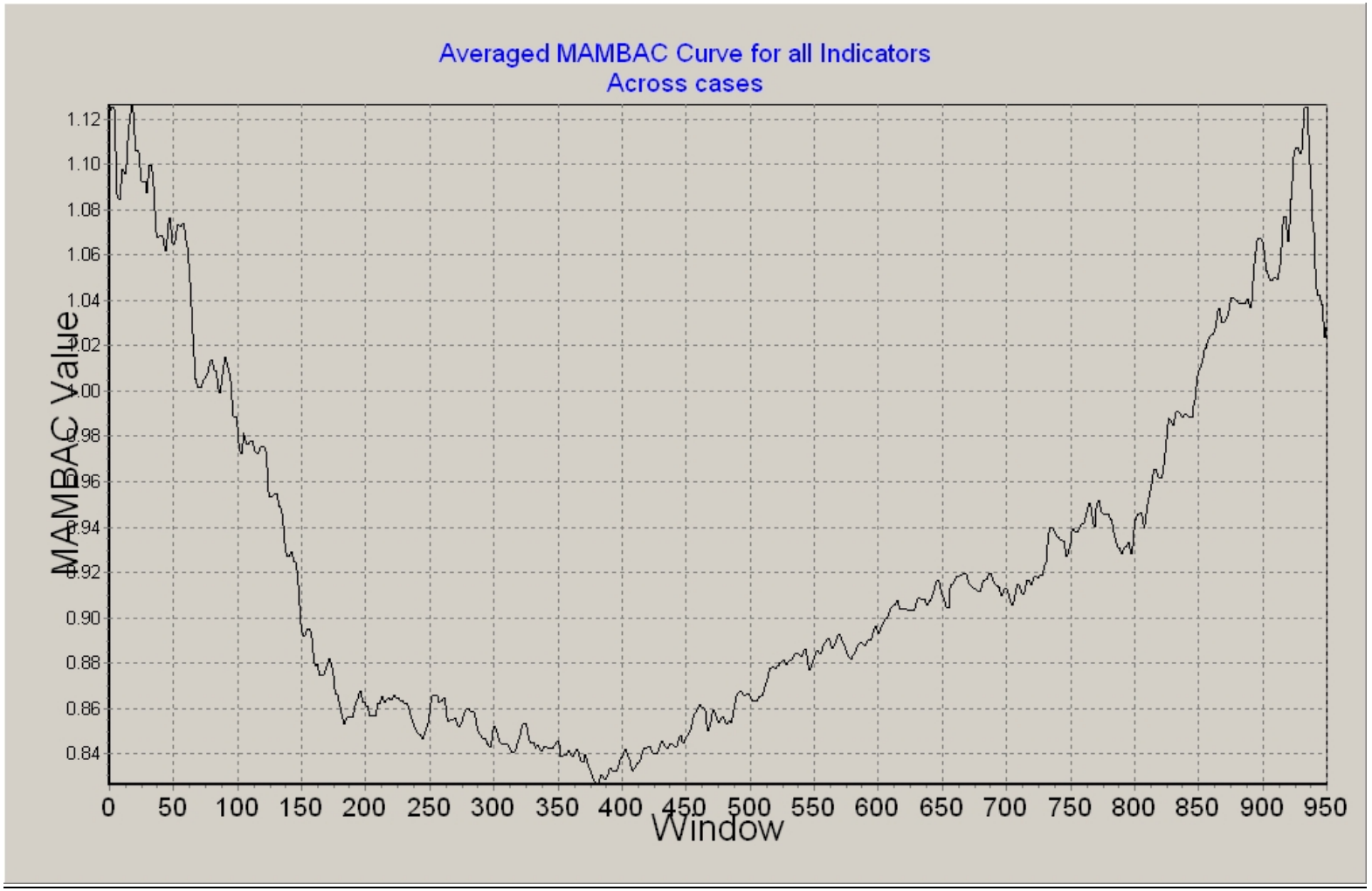

Figure 16.

Egocentricity in MAMBAC.

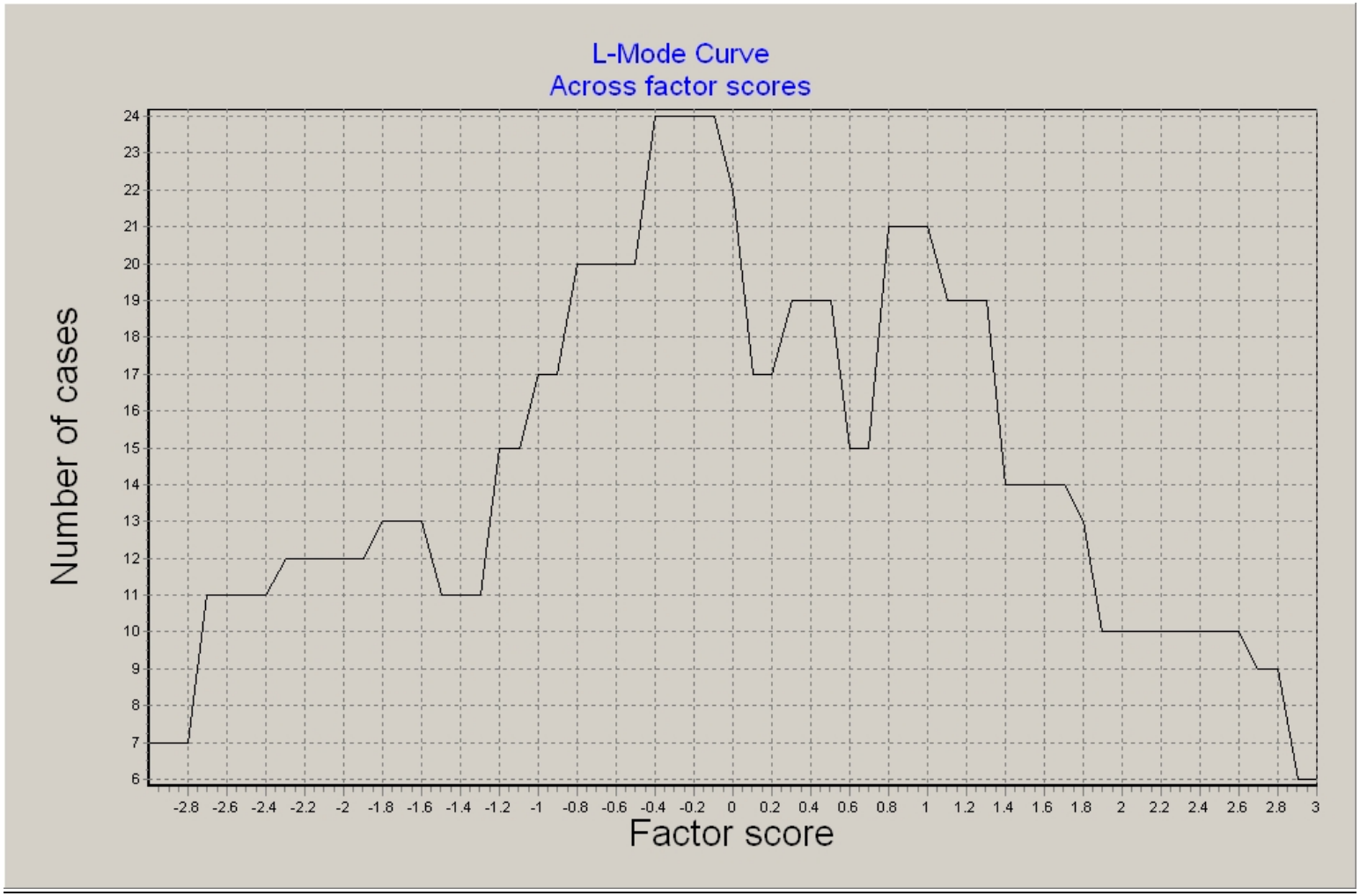

Figure 17.

Egocentricity in L-MODE.

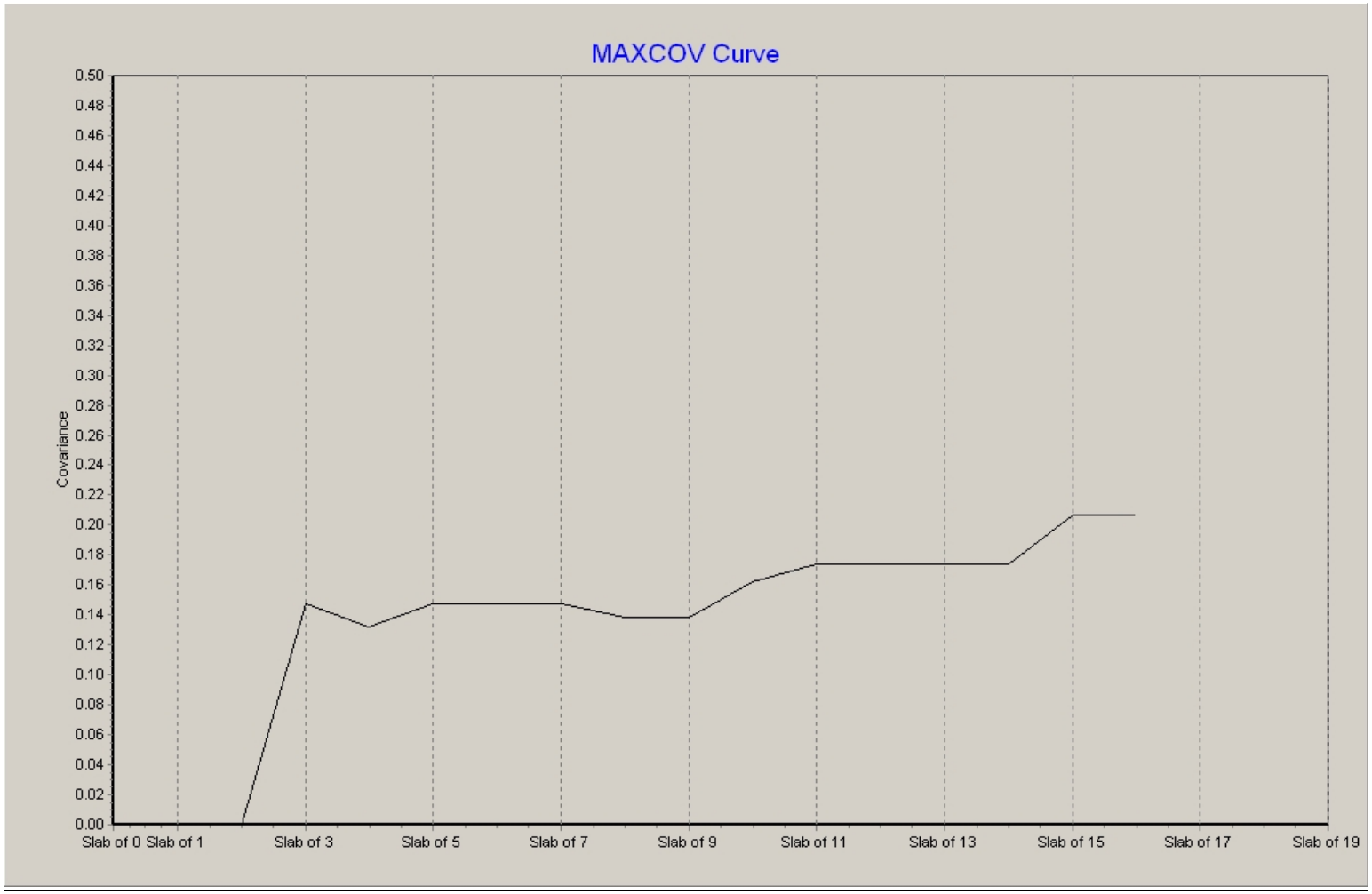

Figure 18.

Coldheartedness in MAXCOV.

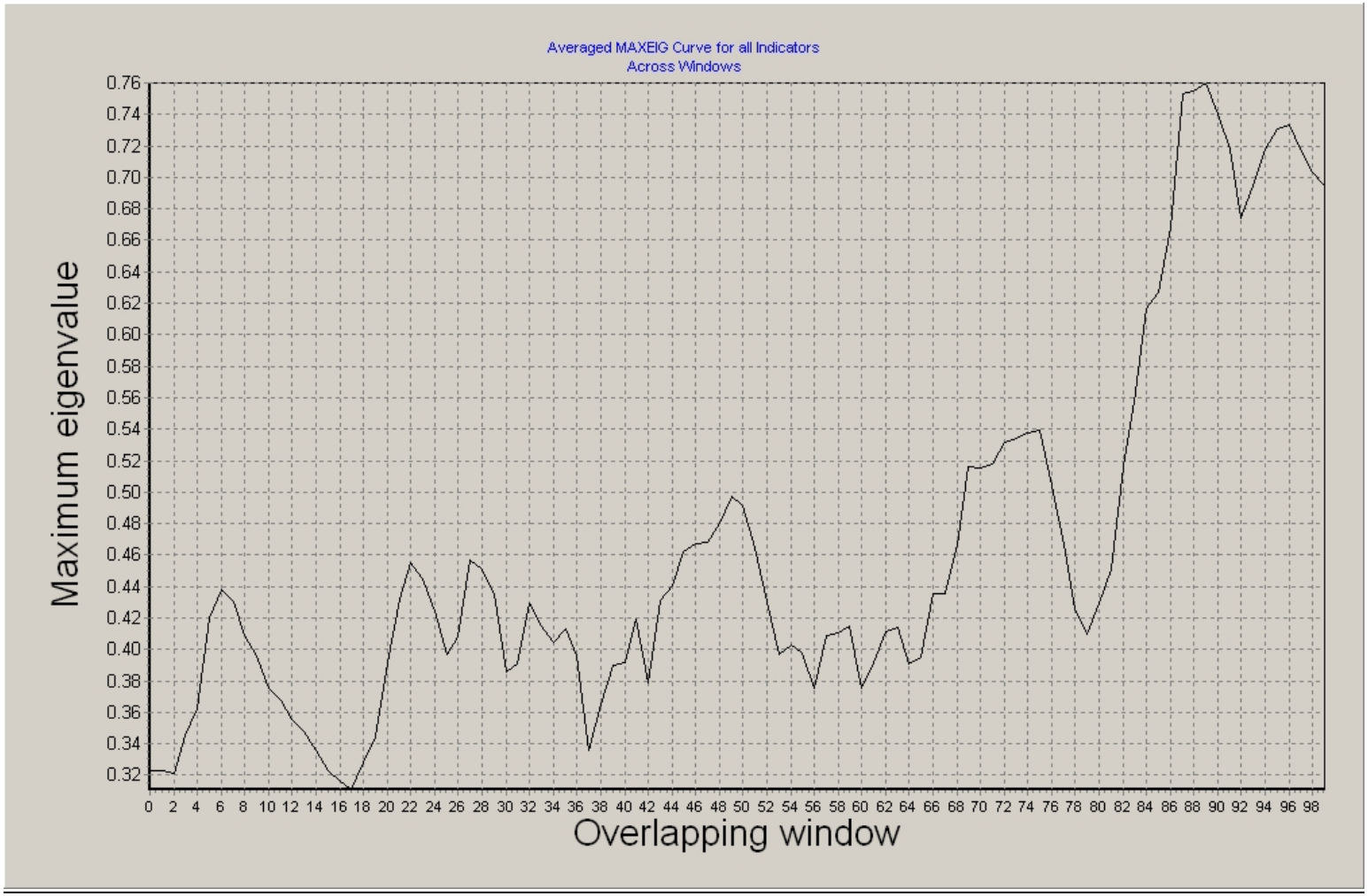

Figure 19.

Coldheartedness in MAXEIG.

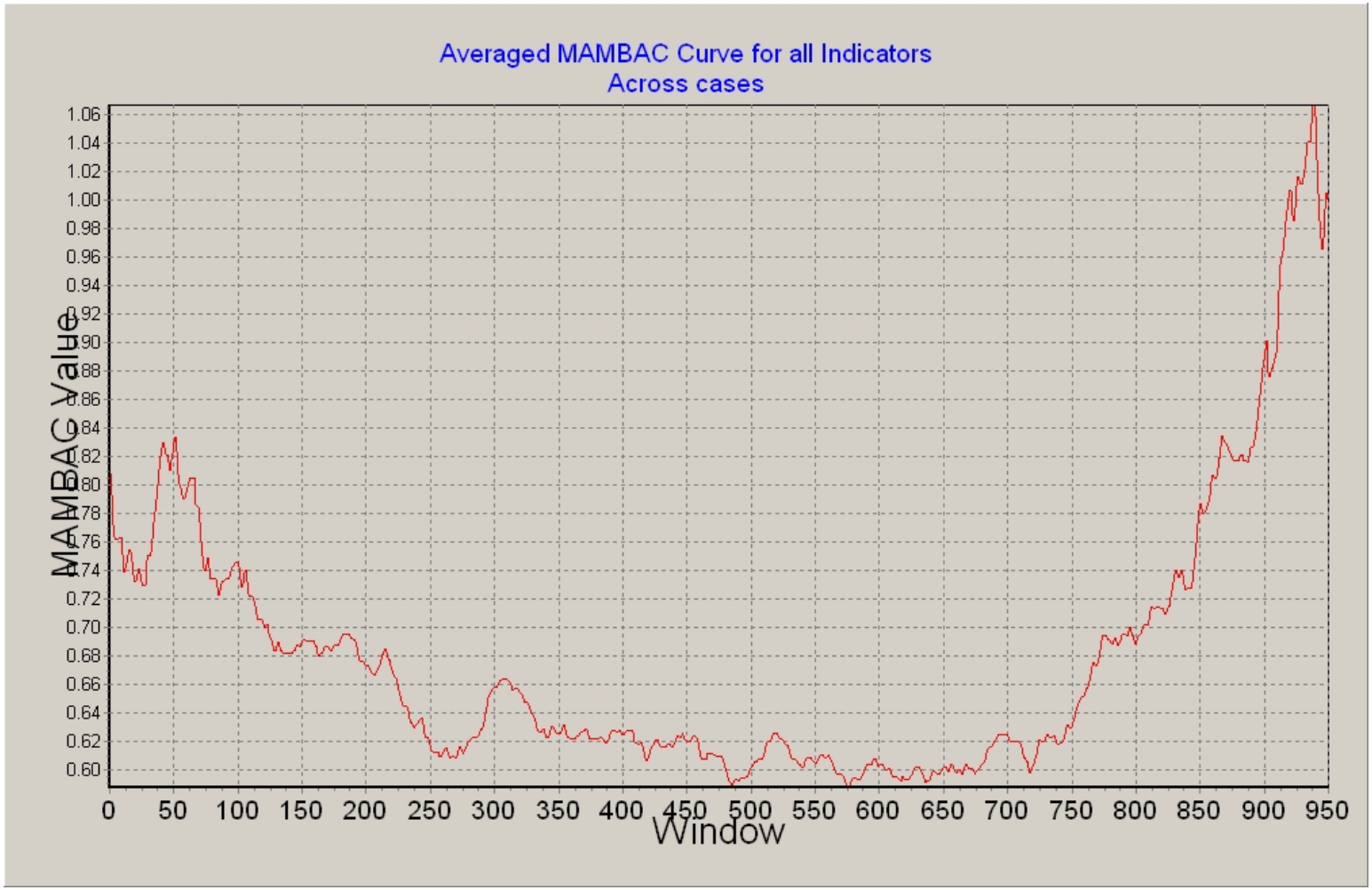

Figure 20.

Coldheartedness in MAMBAC.

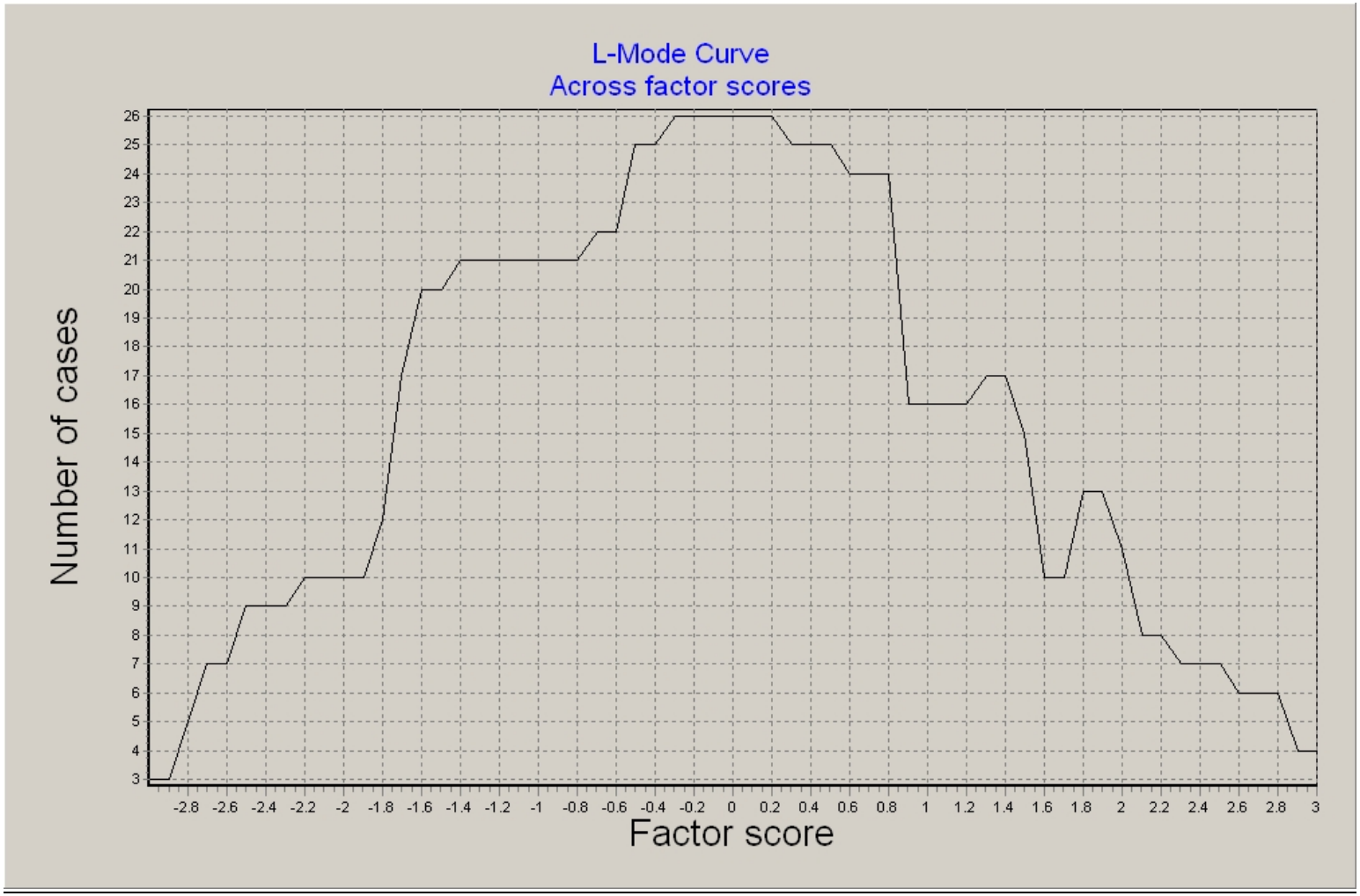

Figure 21.

Coldheartedness in L-MODE.