EFFECTS OF PARTNER VIOLENCE AND PSYCHOLOGICAL ABUSE ON WOMEN'S

MENTAL HEALTH OVER TIME

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Dissertation Prepared for the Degree of

DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

August 2006

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Temple, Jeff R. <u>Effects of partner violence and psychological abuse on women's mental health over time.</u> Doctor of Philosophy (Counseling Psychology), August 2006, 108 pages, 6 tables, 29 figures, references, 141 titles.

This study examined the distinct effects of partner violence and psychological abuse on women's mental health over time. Latent growth modeling was used to examine stability and change over time, evaluating the course and consequences of each form of abuse. The size of women's social support network was examined as a mediator. The sample consisted of 835 African American, Euro-American, and Mexican American low-income women. Participants who completed Waves 1, 2, 3, and 5 were included in the study ($n = 585$).

In general, partner violence decreased over time for all groups, while psychological abuse decreased over time for only Euro-American women. Whereas initial and prolonged exposure to psychological abuse was related to and directly impacted women's mental health, partner violence was only related to initial levels of mental health. Surprisingly, social support was only related to initial violence and distress and had no impact on the rate of change over time.

These results have important implications for researchers and health care professionals. First, differences in the pattern of results were found for each ethnic group, reaffirming the notion that counselors and researchers must be sensitive to multicultural concerns in both assessment and intervention. For example, psychological abuse had a greater impact on the mental health of African American and Mexican American women than it did for Euro-American women, suggesting a shift in focus depending on the ethnicity of the client may be warranted. Second, this longitudinal study highlights the importance of future research to considerer individual differences in treating and studying victimized women. Understanding factors that contribute to individual trajectories will help counselors gain insight into the problem and in devising plans to prevent or reduce the occurrence and negative health impact of partner abuse.

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CHAPTER I

LITERATURE REVIEW

Intimate partner violence has been identified as a major public health concern, with
research consistently concluding that violence inflicted by intimate partners adversely affects
women's mental and physical health (Golding, 1999; Temple, Weston, & Marshall, 2005;
Temple, Weston, Rodriguez, & Marshall, in press). Indeed, the Department of Health and
Human Services has identified prevention of violence as one of the top 28 national priorities
(USDHHS, 2005). The prevalence of partner violence is overwhelming with one-fifth to one-
third of American women sustaining violence from a partner or ex-partner during their lifetime
(American Medical Association's Council on Scientific Affairs, 1992; Heise, Ellsberg, &
Gottemuller, 1999; Watts & Zimmerman, 2002). Two to four million women are victims of
physical and/or emotional assault by an intimate partner every year in the United States
(Greenfeld, 1998; McCauley, Yurk, Jenckes, & Ford, 1998; Novello, Rosenberg, Saltzman, &
Shosky, 1992; Rennison & Welchans, 2000; Tjaden & Thoennes, 2000). At the extreme, 30% to
50% of all women murdered in the United States were killed by their current or former intimate
partners (Fildes, Reed, Jones, Martin, & Barrett, 1992; Rennisan & Welchans, 2000) and partner
violence is the leading cause of death due to injury among pregnant women (Fildes et al., 1992).

Although less measurable and not as immediately evident as the impact on physical
health, partner abuse has consistently been shown to harm women's mental health (Campbell,
2002; Crowell & Burgess, 1996; Golding, 1999; Goodman, Koss, & Russo, 1993). Psychological
consequences include more anxiety, depression, and post-traumatic stress disorder (PTSD) than
women in nonviolent relationships (Cascardi, Langhinrichsen, & Vivian, 1992; Christian,
O'Leary, & Vivian, 1994; Golding, 1999; Langhinrichsen-Rohling, Neidig, & Thorn, 1995;

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Silva, McFarlane, Soeken, Parker, & Reel, 1997). Although a majority of this research has focused on the effects of physical violence, there is increasing interest on the impact of psychological abuse on women's mental health (Coker et al., 2002; Marshall, 1996; 1999; Vitanza, Vogel, & Marshall, 1995; Vogel & Marshall, 2001).

To facilitate understanding, a brief overview of the terms used and a description of the model follow. The term *violence* refers to acts of physical violence. In contrast, *psychological abuse* refers to emotional and mental abuse that tends to undermine women's sense of self. When referring to both violence and psychological abuse, the term *abuse* or *partner abuse* is used.

The Model

The model in Figure 1 was tested in the present study. The longitudinal design is a major contribution to the literature as very few studies have examined effects of partner abuse over time. Another major contribution results from differentiating the effects of violence and psychological abuse in different tests of the model, rather than using a measure that combines these types of abuse. With longitudinal data to test this model, the use of latent growth modeling (LGM) allowed determining whether initial differences in physical violence (psychological abuse) were maintained over time, with resulting long-term effects on women's mental health. Curved arrows describe correlations among the variables and are not considered to be paths, while straight arrows represent paths.

As can be seen in the figure, prolonged exposure to partner violence (psychological abuse) was expected to be associated with women's mental health. Logically, however, the patterns of violence (psychological abuse) vary across women. These were expected to differentially affect mental health, increasing or decreasing psychological symptoms. The model in Figure 2, which considers the role of social support, was also tested. Women's perceived size

of their social support network was expected to partially explain the individual differences in the trajectory of abuse and psychological distress. In this figure, social support was considered a mediator.

<center>Impact of Partner Abuse on Mental Health</center>

Reviews consistently conclude that violence inflicted by intimate partners adversely affects women's mental health (Bohn & Holz, 1996; Campbell, 2002; Campbell & Lewandowski, 1997; Crowell & Burgess, 1996; Golding, 1999; Goodman et al., 1993). A variety of psychological and emotional symptoms have been associated with partner violence. For example, the rate of depression among victimized women ranges from 21% (Kessler et al., 1994) to 83% (Campbell, Sullivan, & Davidson, 1995), and consistently distinguishes abused women from nonabused women (Campbell, 2002; Coker et al., 2002; Golding, 1999; Stets and Straus, 1990; Tolman & Rosen, 2001; Watson et al., 1997). A meta-analysis of 18 studies showed the prevalence of depression to be 48% among women in violent relationships (Golding, 1999). Anxiety (Coker et al., 2002; Swett & Halpert, 1993; Tolman & Rosen, 2001) and suicidal ideation (Gleason, 1993; Orava, McLeod, & Sharpe, 1996; Simon, Anderson, Thompson, Crosby, and Sacks, 2002; Thompson et al., 2000) have also been linked to partner violence. For example, Carlson, McNutt, Choi, and Rose (2002) found that women with a history of abuse were significantly more likely to report anxiety symptoms than were women without a history of abuse. In addition, rates of PTSD symptoms among women in violent relationships range from 31% (Gleason, 1993) to 84% (Kemp, Rawlings, & Green, 1991), with symptoms found among community women who sustain partner violence (Gelles & Harrop, 1989; Saunders, 1994; Vogel & Marshall, 2001) and those seeking services from battered women's shelters (Astin, Lawrence, & Foy, 1993; Gleason, 1993; Jones, Hughes, & Unterstaller, 2001).

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A majority of the research focuses solely on physical violence, usually either ignoring psychological abuse or combining the different types of abuse into one measure (Archer, 2000; Dutton et al., 1994). When measured independently, psychological abuse often has been addressed as verbal aggression, threats of violence, control, dominance and/or isolation (Murphy & Cascardi, 1993; Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Tolman, 1989). Yet subtle acts that may not even be recognized as abusive may be harmful (Marshall, 1994; 1999). Indeed, many women report that psychological abuse is as or more harmful than physical violence (Follingstad, Rutledge, Berg, Hause, & Polek, 1990). Although psychological abuse often accompanies (Follingstad et al., 1990; Stets, 1990) or precedes (Murphy & O'Leary, 1989; O'Leary, 1999; Star, 1982; Stets, 1990) partner violence, the mental health associations give sufficient reason to consider it a distinct type of abuse (Marshall, 1999).

Sustained psychological abuse has been associated with negative mental health outcomes such as PTSD symptoms (Vitanza et al., 1995), depression (Coker, et al., 2002), and other psychological symptoms (Coker, Smith, McKeown, & King, 2000; Geffner & Pagelow, 1990; Marshall, 1996; 1999; Tolman & Bhosley, 1991). For example, Arias and Pape (1999) found that the frequency and severity of psychological abuse, but not physical violence, predicted PTSD symptomatology. Similarly, Baldry (2003) found psychological abuse to be a stronger predictor of anxiety, depression, and low self-esteem than physical violence. In addition, psychologically abused women may lose feelings of self-worth and assertiveness (Aguilar & Nightengale, 1994; Cascardi & O'Leary, 1992), which undermines their decision making processes (Cascardi & O'Leary, 1992) and, ultimately, their ability to leave a relationship (Arias & Pape, 1999).

These studies suggest the course and effects of partner violence and psychological abuse are distinct. Discriminating between the two forms of abuse is important as the interventions

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likely vary. For example, many mental health professionals likely interpret violence as more traumatic than psychological abuse on women's mental health. Consequently, there may be a strict focus on the physical nature of the abuse, while ignoring the psychological abuse. If psychological abuse does indeed impact women's mental health above and beyond that of physical violence, there may also be legal implications. For example, in a child custody hearing, a woman claiming she was abused by her partner, may not be taken as serious if the abuse was "only" psychological, despite the research that suggests it may be as or more harmful to mental health than physical violence. Thus, a major advantage to this study is the independent examination of the long-term effects related to sustaining partner violence and psychological abuse.

Longitudinal Impact of Partner Abuse on Mental Health

Despite the abundance of literature detailing the negative impact of abuse on mental health, there has been very little longitudinal research. Campbell et al. (1995) studied 141 women who had used a battered women's shelter over three time periods (i.e., immediately post-shelter, 10 week, and 6 month follow-ups). Women still in an abusive relationship at 10 weeks had a higher rate of depression (68%), including severe depression (20%) than women who were no longer in an abusive relationship (50% and 12%, respectively). Similar rates were found at 6 months, with 71% of women remaining with their partner depressed compared to 49% of women no longer in abusive relationships. The high rate of depression among nonabused women implies that initial symptoms may linger or the stress of coping with a new living situation takes a toll on women or a combination of many factors. Campbell and Soeken (1999) measured partner violence, depression, and stress at three different times over 3.5 years. In general, women

remaining with a violent partner had more symptoms of depression and stress than women whose relationship had ended.

Studies on the frequency of partner violence and/or multiple victimizations are additional avenues to consider long-term effects on women's mental health. Research has consistently posited a "dose-response" relationship, in that frequency and severity of abuse is related to increasing psychological symptoms (Astin et al., 1993; Cascardi, O'Leary, & Schlee, 1999; Orava et al., 1996). In addition, women abused for a longer period of time are more likely to develop symptoms of PTSD and depression than are women with less exposure (Campbell & Soeken, 1999; Houskamp & Foy, 1991; Kemp, Green, Hovanitz, & Rawlings, 1995). Quigley and Leonard (1996) found women's depression persisted through 3 years of marriage when their partners continued inflicting violence. Once a woman is away from the abuse, her symptoms often decrease (Astin et al., 1993; Campbell et al., 1995; Follingstad, Brenan, Hause, Polek, & Rutledge, 1991). These results are supported by the stress literature, in which there is a general consensus that exposure to multiple stressful situations increases the risk for developing psychological problems (Segerstrom & Miller, 2004).

Another reason to believe abuse would have a long-term impact on women's mental health derives from research showing marital discord and marital stressors (e.g., divorce, separation, abuse) precipitate depressive symptoms in women (Beach & O'Leary, 1993; Cano & O'Leary, 2000; Fincham, Beach, Harold, & Osbourne, 1997). For example, Christian-Herman, O'Leary, and Avery-Leaf (2001) administered measures to women with no prior history of major depression 2 to 4 weeks (Time 1) after experiencing a severe negative marital event and again at 10 to 12 weeks (Time 2) post event. Marital discord at Time 1 was significantly associated with depressive symptoms at Time 2 even after controlling for depression at Time 1. Because

nonviolent events affect women's psychological distress over time it is likely that violence may have a stronger and/or longer impact.

The course of abuse in relationships is also important. Although early studies suggested partner violence increased in frequency and severity over time (Pagelow, 1981), more recent research suggests a decrease over time (Feld & Straus, 1990; O'Leary et al., 1989; Woffordt, Mihalic, & Menard, 1994). For example, using data from Waves 1 and 2 of the National Survey of Family Households, Jasinski (2001) found 69% of males who were violent stopped the abuse over a five-year period. Moreover, in a study of 188 newlywed couples in which the males were violent, Quigley and Leonard (1996) found that 23% of husbands were not violent in years 2 and 3 of marriage.

Taken together, results of longitudinal research support the proposed model. Although women's symptoms of psychological distress likely continues or increases when partner violence continues, symptoms may remain even when the violence ceases. As this study will be conducted with a large sample of women, some are likely to have a pattern of increasing abuse while others report decreasing or ceased abuse and still others will report no abuse over the course of the study. Use of LGM will allow for average and individual differences in initial rates and changes in violence/psychological abuse, distress, and social support to be studied.

<center>Ethnicity and Partner Abuse</center>

The relationship between ethnicity and partner abuse is unclear. However, the possibility of ethnic differences should be examined. Women of color appear to have higher prevalence and frequency of partner violence than do Euro American women (Adler, Boyce, Chesney, Folman, & Syme, 1993; Gelles, 1997; Greenfield, 1998; Jasinski & Kaufman Kantor, 1997; Tjaden & Thoennes, 2000). However, other research has found that ethnicity is not associated with partner

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violence (Bachman & Saltzman, 1995). Indeed, Bachman's (1994) study using the National Crime Victimization Survey found that Euro-Americans were as likely as African Americans to be victims of partner violence. Another problem is that Hispanics or Latinos are often considered as a homogeneous group, despite differences found in some studies (Carillo & Gouband-Reyna, 1998; Kaufman Kantor, Jasinski, & Aldarondo, 1994; West, 1998). No conclusions can be drawn about the increased or decreased likelihood of abuse among any ethnic group.

Ethnicity may also be related to patterns of abuse. For example, Nelson, McGrath, and Zhou (2004) found that while men's violence decreased over a 5-year span for African Americans, Euro-Americans, and Hispanic Americans, African American and Hispanic American women reported more stability and the incidence remained higher than for Euro-Americans. However, another study found that African American men were more likely to have stopped using violence over a five-year period than their Euro-American counterparts (Jasinski, 2001). These findings suggest that ethnicity may be a moderating variable.

One reason for conflicting findings on abuse and ethnicity may be due to a confound between ethnicity and poverty. The proportion of people of color who live in or near poverty is higher than that for Euro-Americans (US Census Bureau, 2001) and the positive association between poverty and partner abuse is clearly established (Bachman & Saltzman, 1995; Greenfield, 1998; Jasinski & Kaufman Kantor, 1998; Rennison & Welchans, 2000; Russo, Denious, Keita, & Koss, 1997). Women receiving public aid are more likely to have a history of partner violence than are women not seeking aid (Coker et al., 2000; Cokkinides & Coker, 1998; Muelleman, Lenaghan, & Pakieser, 1996). However, socio-economic status (SES) differences may be the result of methodology. These uncertainties illustrate the importance of studying partner violence across three ethnic groups.

Social Support

A great deal of research has addressed social support as one way individuals cope with stress. Meta-analyses have consistently found mental health benefits (Salazar, Wingood, DiClimente, Lang, & Harrington, 2004; Schwarzer & Leppin, 1992). Just as social support decreases the risk of developing psychological distress and psychiatric disorders (Cohen & Syme, 1985; Vaux, 1988; Veiel & Baumann, 1992), a lack of support has been associated with increased depression, somatization, and anxiety in traumatized victims (Cook & Bickman, 1990). In a recent prospective study of risks and protective factors associated with partner violence, Wenzel, Tucker, Elliott, Marshall, and Williamson (2005) found that poor social support at baseline predicted partner violence at 6 month follow-up, even after controlling for baseline violence.

Some research suggests battered women are isolated from sources of support (Dobash & Dobash, 1998; El-Bassel, Gilbert, Rajah, Foleno, & Frye, 2000; Mitchell & Hodson, 1983; Nurius, Furrey, & Berliner, 1992; Thompson et al., 2000). The low self-esteem, low self-efficacy, and depression associated with partner violence may make it difficult to initiate and maintain support and may cause women to decrease or withdraw from their social contacts (Nurius et al., 1992; Tan, Basta, Sullivan, & Davidson, 1995). Tolman's (1989) measure of psychological abuse has a dominance-isolation dimension, reflecting the prevalent belief that violent men isolate their partners from others who would provide support. Until fairly recently it was generally believed women did not tell others about the abuse, thereby preventing them from receiving social support (Landenburger, 1989; Mills, 1985; Mitchell & Hodson, 1983). In contrast, it is now clear that abused and battered women disclose the violence and actively seek social support (Fraser, McNutt, & Clark, 2002; Horton & Johnson, 1993; Kurz, 1990). For

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example, a recent study found that 70% of partner violence victims reportedly discussed their first encounter of abuse with someone (Fraser et al., 2002). The same study showed that a vast majority (90%) of women with a history of partner violence would be comfortable in seeking support from members of their social support networks.

When available, social support has been found to be an effective coping mechanism for abused women (Heron, Twomey, Jacobs, & Kaslow, 1997; Sutherland, Bybee, & Sullivan, 1998). For example, using structural equation modeling, Thompson et al. (2000) found that partner violence was associated with decreased social support, while lower perceived support was associated with increased depressive symptomatology. In another study, using a large sample of women recruited from family practice clinics, Coker, Watkins, Smith, and Brandt (2003) found that social support was negatively associated with mental and physical health, anxiety, depression, PTSD symptoms, and suicidal ideation and behaviors. Additionally, women with a history of partner violence are more likely to recover and restore their psychological health if they have a viable social network (Campbell et al., 1995; Tan et al., 1995). It is likely that social support enhances psychological well-being, increases self-esteem, provides additional coping strategies, and positively influences perceptions of stressful events, all of which may protect women from the negative effects of partner violence (Coker et al., 2003; Zimet, Dahlem, Zimet, & Farley, 1988). For example, Kaslow et al. (1998) found that women in violent relationships were not as likely to attempt suicide if they had sufficient social support.

Inconsistencies and inaccuracies exist on the precise way in which social support influences the relationship between stress (e.g., violence/psychological abuse) and mental health. Direct effects as well as moderation (Kaslow et al., 1998; Rook, 1987; Sarason & Sarason, 1985; Seeman & Syme, 1987; Uchino, Cacioppo & Kiecolt-Glaser, 1996; Uchino & Garvey, 1997) and

mediation (Ensel & Lin, 2000; Ritter, Hobfoll, Lavin, Cameron, & Hulsizer, 2000; Thompson et al., 2000) have been found. A full analysis of this conflicting literature is beyond the scope of this paper. However, the model tested in this study proposes that social support is one aspect of coping that mediates the relationship between abuse and changes in mental health.

Summary

The models in Figure 1 (violence/psychological abuse and distress) and Figure 2 (violence/psychological abuse, distress, and social support) will be tested in this study. It is important to take ethnicity into account due to possible differences in abuse and social support. Consequently, ethnicity will be treated as a moderator, with the models tested separately for women in each ethnic group. This approach mirrors recent research using path models with ethnically diverse samples that measured the same model for each group (Schafer, Caetano, & Cunradi, 2004). Based on previous research (including research with this sample), differences between groups are expected (Salazar et al., 2004; Temple et al., 2005; Temple et al., in press).

Four hypotheses will be tested. First, it is expected that variability across women will exist in initial psychological distress and change over time. Second, the initial rates of partner violence (psychological abuse) are expected to affect the trajectory of psychological distress. Third, individual differences in psychological distress will be partially mediated by the size of women's social support network. Finally, it is expected that the models will differ by ethnicity.

CHAPTER II

METHOD

Participants

Eight hundred and thirty-five low income women from the southwest area of Dallas County participated in a longitudinal study known as Project HOW: Health Outcomes of Women. Data for this study are from Waves 1, 2, 3, and 5. The variables of interest were not measured at Wave 4. To participate, women had to be between the ages of 20 and 48, involved in a long-term heterosexual relationship of at least one-year duration, and live within 200% of poverty and/or receive public assistance. Wave 1 was two and a half hours with incentives of $15, a totebag and t-shirt with the project logo, and bus passes. Wave 2 consisted of a three-hour interview with a $35 incentive and bus passes. Wave 3 consisted of a three-hour interview and included a $45 incentive and bus passes. Finally, Wave 5 was three and a half hours, with incentives of $60, bus passes, a new t-shirt, and gift bag. There was an average difference of almost one year ($M = 11.26$ months) between interview waves, with a minimum average of 8.01 months and a maximum average of 23.57 months.

Rather than the broader group of Hispanics, only Mexican American women were included because of likely differences in socialization and acculturation of women whose families were from different areas (e.g., Puerto Rico, Cuba, South America). Moreover, only women who were born and/or attended school in the United States were included for two reasons. First, it is likely that immigrant women differ in unknown ways than native born/educated women. Second, the use of the rating scales is likely to be relatively familiar only to fairly acculturated women. The 10 nonnative Mexican American women were educated in the United States.

At Wave 1, women self-identified as African American ($n = 302$, 36.2%), Euro-American ($n = 273$, 32.7%), or Mexican American ($n = 260$, 31.1%). Table 1 shows the ethnic breakdown for women who completed each wave. On average, women were 33.2 years old, had been with their partners for 7.71 years and had incomes including public aid equivalent to 107% of poverty (i.e., 7% above the poverty threshold). Women were dating ($n = 201$, 24.1%), cohabiting ($n = 288$, 34.5%), or legally married ($n = 346$, 41.4%).

To determine the representativeness of the sample, Honeycutt, Marshall and Weston (2001) compared the sample to the 1990 5% Public Use Microdata Sample (PUMS) and to the 1994 American Housing Survey (AHS) from the Census Bureau. Women in Project HOW were generally representative of low-income women of the same ethnicity. The exceptions were that African Americans and Mexican Americans in the AHS sample were more likely to be married than women in Project HOW. Additionally, African American and Euro-American women in this sample had more education than the comparison samples. Women in this study were also more likely to be receiving public assistance, likely because public assistance was used for poverty screening.

The initial sample of 835 women was reduced to 585 (70.1%) when only those who completed Waves 1, 2, 3, and 5 were included. There were 228 African Americans (75.5% of African American women completing Wave 1), 169 Euro-Americans (62.0% of the initial group), and 188 Mexican Americans (72.3% of the initial group) in the final sample. Slightly over half of the sample ($n = 283$, 52.9% of completers) remained with their Wave 1 partners throughout the four interviews. For present purposes, however, the identity of the partner is not relevant because the primary variable was abuse, not abuse by a specific man.

Procedure

Recruitment. Women were recruited to participate in a longitudinal study of factors that impact their health. Recruitment began in May, 1995, and was completed in December, 1996. Women were recruited through personal contact, distribution of flyers, a mass mailing, announcements, and were referred by other participants. Flyers, in Spanish and English, were distributed throughout the community (e.g., churches, schools, libraries, convenience stores, and other businesses). A mass mailing of over 18,000 letters also went to women in the low income census tracts from a list purchased from an independent company. The mailing consisted of a letter and two to three flyers inviting women to call the office. Participants were also recruited through announcements at churches, schools, community gatherings, social service and health care agencies. Public service announcements were made on local radio stations and newspapers describing the study.

The interviewers were trained to do street recruiting. Students went to places in the community such as stores, clinics, laundromats, social service agencies, and health fairs. To maintain anonymity, the contact sheets only included women's first name and telephone number. Names of friends and family members whom women felt might be willing to participate were also obtained. After initial information was collected, the contact sheets were taken to one of two offices in Oak Cliff.

Screening. When office workers received the contact sheets they made follow-up telephone calls to the women listed on the forms. These women also answered telephone calls from prospective participants responding to the mailing or flyers. Women were told the purpose of the study was to help improve women's health. To participate, women committed to a series

of four interviews over the course of two years. They were told each interview would last about three hours and would cover all aspects of their lives that might affect their health.

Screening consisted of asking women how long they had been in their relationship, their household income, the number of people dependent on that income, and their ethnicity. Income was matched to federal tables with women reporting greater than 175% of poverty eliminated. Because women's tendency was to initially underreport their income, this helped ensure the final sample would consist of those who lived within 200% of poverty according to government figures. Twice the poverty threshold was chosen because some types of public assistance designed to alleviate the effects of poverty were available at this level. Receipt of public aid itself was considered evidence of poverty. In addition, Mexican American women were asked whether they were born in the United States. Immigrants were asked the number of years they had gone to school in the United States. Qualified women who agreed to participate were then asked their full name, address, and telephone number before scheduling a first interview.

Interviewers. Given the sensitive material in the interviews, only female interviewers collected the data to foster rapport and feelings of security among participants. Structured interviews were conducted by well-trained and monitored undergraduate and graduate students. Students were paid ($25 per completed interview), received course credit, or volunteered.

Doctoral students in psychology trained interviewers. Training consisted of going through the interview, item by item, explaining how each question should be asked and when to ask conditional questions. Moreover, standardization, confidentiality, and other relevant issues (e.g., response bias) were emphasized. Trainees were instructed to spend time practicing the interview aloud and role playing with one another, friends, and/or family.

When a student believed she was ready to begin interviewing, she was assessed by one of the doctoral students. This consisted role-playing a session with the doctoral student playing the part of a participant. The doctoral students assessed whether the student knew the interviews, knew when to ask conditional question, whether she was able to handle extraneous questions and comments appropriately, whether her pacing was adequate, etc.

If a student did not pass this part of the training, she was asked to continue practicing and return for an additional role play. This procedure was repeated until the doctoral student believed the interviewer was sufficiently competent to begin collecting data. Only one woman was told after several role-play sessions that she would not be able to conduct interviews (Wave 1). Continual feedback was given to the interviewers as the study progressed to ensure accuracy of the data.

Confidentiality. Strict procedures of confidentiality were devised for the study. A Certificate of Confidentiality was obtained from the Public Health Service to protect women's anonymity and the data they provided. With this certificate, neither women's names nor their answers can be released even to a court of law. A Privacy Certificate from the Department of Justice was added for Wave 5.

Interviewers could not discuss participants' answers with anyone except other interviewers, the principal investigator and the graduate students in charge of data. In addition, they could not discuss the content of interviews with office workers. Interviewers did not have access to identifying information, such as the participants' last names or addresses. In addition, interviewers and office workers were naïve to the actual purposes of the study, hypotheses, and research questions.

When a woman arrived for her interview, a registration form was completed to acknowledge informed consent and provide information to match subjects to their data (Appendix A). Women were given a copy of the informed consent information in two ways. One was written in technical terms and hand signed by the principal investigator. In the other form, simple English was used and the information was organized into summary points. Women also completed Permission to Contact forms to facilitate retention in later waves (Appendix B). This enabled researchers to more efficiently locate and contact subjects for future interviews. Interviewers were not allowed to be in the waiting area while the registration and permission to contact forms were being completed to ensure that participant last name or address would not be overheard.

Office workers assigned membership numbers that did not correspond to subject numbers used with the data. These numbers were assigned to facilitate tracking. When completed interviews were taken to UNT, subject numbers were assigned to the data. During the interviews, women gave their mother's first name, their birth date, birthplace, and mother's oldest child to allow matching of data across the waves. Only one doctoral student and the principal investigator had access to both women's answers and the registration forms containing identifying information. The master list matching membership numbers, subject number, and women's identity, and registration forms was stored in a locked room at UNT.

Measures

Participants completed a structured interview containing open-ended questions as well as items that utilized rating scales. Questions were read and responses recorded by the interviewers. Only the measures included in this study are described here. It was anticipated that many women in the sample would have less than a high school education. Therefore, care was taken to ensure

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their understanding. This was done by making minor wording changes to some items and using 7-point rating scales whenever possible to lessen confusion for women not accustomed to this type of task. Reliability using Cronbach alpha for the sample and the three ethnic groups are reported in Table 2.

Demographic information (i.e., age, education, and length of relationship) and Wave 1 measures (i.e., number and satisfaction with social support, initial violence, initial psychological abuse, and psychological distress) were used to determine if attrition was related to violence and distress variables. Poverty status was determined by the number of adults and children in the household and monthly income divided by the income set for the 1995 or 1996 poverty level depending on the date of the first interview.

Measures

Violence. Items from the Severity of Violence Against Women Scales (SVAWS; Marshall, 1992) assessed the frequency of physical aggression committed by participants' current partners. The SVAWS is a 46-item measure that differentiates threats of violence (symbolic violence, threats of mild, moderate, and serious acts), acts of violence (minor, mild, moderate, and serious), and sexual aggression inflicted by a male partner. These subscales are listed in Appendix C. Items were organized in order of perceptions of severity among community women in the scale development study. In this study, women reported how often their current partner had inflicted each of the physical violence acts during the entire relationship on a 6-point scale (*0*, *never* to *5*, *a great many times*). The mean for these 21 items measured violence at Wave 1. These items also measured violence between waves (*0*, *never* to *9*, *almost daily*).

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Psychological Abuse. Psychological abuse was measured with a 35-item version of the Subtle and Overt Psychological Abuse Scale (Marshall, 2001). These items are shown in Appendix D. Marshall (1994; 1996; 1999) argues that everyday acts and comments not necessarily perceived as controlling or hostile may have the effect of undermining women's sense of self (e.g., inducing guilt). These subtle acts may be as harmful as obvious acts from a partner (e.g., put downs, verbal aggression, dominating behaviors). Prior to answering the questions, the women were instructed that "men may do these acts in a loving way, a joking way, or a serious way" to capture a variety of styles. Women reported how often their partners had expressed each behavior since their relationship began using a 10-point scale ranging from *never* (*0*) to *almost daily* (*9*). The mean of these items measured psychological abuse.

Mental Health. The Symptom Checklist-90 (SCL90; Derogatis, Lipman & Covi, 1973) was used to measure women's mental health. The SCL90 was a precursor to the SCL90-R (Derogatis, 1994). Women were asked how much they had been bothered by 90 symptoms in the past month on a scale ranging from *not at all* (*0*) to *extremely* (*4*). Means from the global score will represent Distress (Appendix E). The global scale is composed of nine dimensions (Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, Psychoticism). Derogatis et al. (1973) reported solid reliability for the subscales. For example, initial measures of factor internal consistency ranged from .77 for the Psychoticism scale to .90 for the Depression scale. Moreover, the test-retest correlation coefficients ranged from .78 for Hostility to .90 for Phobic Anxiety administered 1-week apart.

Social Support. Social support was measured by assessing women's perceived size of their social support network. The three-item short form of the Social Support Questionnaire (SSQ3; Sarason, Sarason, Shearin, & Pierce, 1987) and items derived from Belle (1982) were used for a total of 13 items (Appendix F). The sum represented social support. For the attrition analysis, the same items were used to measure women's perceived satisfaction with social support. A 6-point response scale ranging from *extremely dissatisfied* (*1*) to *extremely satisfied* (*6*) was used. The mean score was used for women's perceived satisfaction with social support. The number of people in women's social support network was used in the longitudinal analyses because perceived satisfaction with social support was not measured on a consistent basis across the interview waves.

CHAPTER III

DATA ANALYSIS

Demographic information was used to describe the sample of women involved with this study. Attrition analyses examined the differences between completers and noncompleters for all four interviews. In addition, MANOVAs using ethnicity as the independent variable were conducted on all variables in the model to identify any ethnic differences.

Using structural equation modeling (AMOS 5.0), a latent trajectory modeling (LTM) analysis was used to estimate individual trajectories of change in partner violence (psychological abuse), women's distress, and social support (Figures 1 and 2). The trajectories describe intraindividual change over time by estimating the intercept (i.e., initial level) and slope (i.e., rate of change). Two latent constructs corresponding to the initial level (n1) and rates of change (n2) are defined to investigate the trajectories of individual change in a variable. For example, the initial (Time 1) level of partner violence in Figure 1 is represented by the ellipse labeled "Initial Violence." The rate of change is represented by the ellipse labeled "Change in Violence." The variables were measured at four different time points (yt1, yt2, yt3, and yt5) and represent multiple indicators of the three latent constructs (violence/psychological abuse, psychological distress, and social support). With Figure 2 as an example, partner violence is a latent construct measured by four indicators: Partner violence at Times 1, 2, 3, and 5. Psychological distress is a latent construct measure for four indicators: Distress at Times 1, 2, 3, and 5. Finally, social support is a latent construct measured by four indicators: social support at Times 1, 2, 3, and 5.

The latent construct representing the intercept (e.g., Initial Violence) is defined by the earliest measurement of y (i.e., Time 1), with factor loadings for all indicators fixed to 1. Factor loadings for the slope will vary on the type of model being predicted (e.g., linear vs. quadratic),

and is usually based on hypotheses drawn from previous research or is theoretical in nature (McArdle, 1986; Willet & Sayer, 1994). For this study, a linear approach was used, making the loadings for the slope, 0, 1, 2, and 4. A linear approach was chosen based on the expectation that changes in sustained abuse would lead to corresponding changes in psychological distress.

For a participant (p), the four observed measurements of a variable at four different times (i.e., t1, t2, t3, and t5) are represented by a vector where p0p and p1p are the intercept and slope parameters for the person, p = 1, 2, 3, … The error terms for the four measurements are e1, e2, e3 and e5. Intraindividual change, initial level, and rate of change will likely vary from person to person. The mean of the intercept represents average initial abuse and variance represents individual variability in the initial rate of abuse. The mean of the slope represents average change over time with variance representing how individual trajectories differ from the mean growth trajectory.

Figure 3 is an example to explain LTM. As can be seen with 6 randomly chosen participants, there appears to be considerable variability across women in their initial reports of distress. However, LTM estimates are necessary to empirically determine if significant variability exists. That is, to determine whether women differ in their initial rates of distress. Across women, the trajectory or pattern of distress seems to vary from the sample mean. By using LTM, if significant variability exists, then women differ in their trajectories of distress. If this is indeed the case, it is possible that certain variables such as partner abuse (initial rates and change over time) and/or social support may affect the trajectories of distress. If so, these variables will be associated with and/or directly impact initial rates and change in psychological distress. Thus, although the sample mean is important for understanding the average rate of change, it does not tell the whole story. For example, why did some women's distress increase,

while others decreased, and still others stayed the same? If only the mean was interpreted, it would appear that there were low and unchanging levels of distress. In contrast, there appears to be a great deal of variability in distress.

Several indices of model fit were used. Hu and Bentler (1995) noted absolute fit indices compare observed and expected variances and covariances, whereas comparative fit indices measure the proportionate improvement in fit by comparing a target model with a more restricted model. Absolute fit indices include χ^2 (Bollen, 1989) and root-mean square error of approximation (RMSEA). A nonsignificant χ^2 indicates the specified model does not significantly differ from the normal distribution of models that are obtainable with the data; thereby indicating the model fits the data well. However, as noted by Weston & Gore (in press), because the χ^2 statistic measures whether or not there is an exact fit to the data, it may be too sensitive for real world data. Moreover, as the sample size increases, so too does the sensitivity of χ^2, which frequently results in significance (Hu & Bentler, 1995). Thus, a significant χ^2 does not necessarily account for close, albeit not exact, fits of the model to the data. RMSEA is an estimate of the difference between model-implied and actual variances and covariances (Steiger, 1980). As RMSEA values approach zero, a better fit to the data is indicated. Good fit is evident with values less than .05 (Kline, 1998), but with more complex models, values closer to .10 are acceptable (Weston & Gore, in press). Bentler's (1989; 1990) comparative fit index (CFI) has a range of zero to 1.0, with values closer to 1.0 indicating better fitting models. Acceptable CFI values are generally over .90 (Hu & Bentler, 1995; Kline, 1998).

Until the model adequately fits the data, modifications are made. This involves adjusting the estimated model by freeing or fixing parameters as suggested by inadequate fit of the model to the data. Provided there is an acceptable theory based rationale for the suggested

modifications, a model is respecified, estimated, and evaluated for goodness of fit in an interactive process. Dashed lines in the multivariate figures represent freed paths.

Prior to testing the model, the data were examined for missing data, multicollinearity, outliers, and nonnormality. Depending on the effect, missing data are usually deleted listwise or imputed (mean substitution). Multicollinearity occurs when variables are highly correlated. Indicators loading on the same latent variable should correlate more highly with each other than with indicators loading on different latent variables. If correlations are greater than .85 the two indicators are redundant, suggesting one indicator should be dropped from the model. Univariate and multivariate outliers must be examined. Outliers are univariate if scores are extreme only on one variable. When cases have two or more extreme scores or an unusual configuration, they are multivariate outliers. Outliers are usually transformed or excluded. Univariate distributions were also examined for skewness and kurtosis. For the skewness index, values greater than 3.0 are considered extreme (Chou & Bentler, 1995; West, Finch, & Curran, 1995). For the kurtosis index, values over 10.0 indicate a problem and values over 20.0 are considered extreme (Kline, 1998).

CHAPTER IV

RESULTS

Because only women who completed all four waves were used in the analyses, it was important to consider attrition. Thus, these women ($n = 585$) were compared to the women who either dropped out of the study or missed an interview ($n = 250$) on several relevant variables. No significant differences occurred for education, size of social support network, satisfaction with social support, or psychological distress. Significant differences did occur for age, $F (1, 833) = 17.38$, $p < .001$, relationship length, $F (1, 832) = 11.19$, $p < .002$, and sustained physical violence, $F (1, 833) = 7.02$, $p < .01$. Sustained psychological abuse approached significance, $F (1, 830) = 2.81$, $p = .09$. On average, women who completed all four waves were more than two years older ($M = 33.55$) and had been in their relationship more than two years longer ($M = 8.21$) at the time of the initial interview than non-completers ($Ms = 31.14$ and 6.56, respectively). Women who stayed in the study had been victimized less frequently ($M = .42$) and tended to sustain less psychological abuse ($M = 2.11$) during their relationship than non-completers ($Ms = .54$ and 2.43, respectively). Of the participants who completed all four interviews, there were no significant differences between African American, Euro-American, or Mexican American on any of the variables used in the model, except for sustained violence, $F (2) = 5.39$, $p < .006$. African American women ($M = .50$) were victimized more frequently than Mexican American women ($M = .35$).

The data for the sample as a whole and for each of the three ethnic groups were screened for outliers, univariate skewness, and kurtosis across all four waves. Two variables (partner violence and social support) had kurtosis values over ten and skewness values over three indicating nonnormality. Inspection of the distributions of these variables revealed outliers in

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both instances. The square root transformation was used to adjust for the positive skewness in partner violence. This increased normality while preserving a sense of the extremes found in violence research using community samples. In addition to using the square root transformation, social support was recoded to the fourth standard deviation beyond the mean. This increased normality while also accounting for the variation in the size of women's social support network. The descriptive statistics for all variables after these modifications are reported in Table 3. To assess the possibility of multicollinearity, bivariate correlations were calculated. As shown in Table 4, correlations were in the expected direction. With the highest correlation of .75, few over .60, and most correlations below .50, multicollinearity does not appear to be a problem. Although figures are provided for all univariate (measurement) and multivariate (structural) models, Tables 5 and 6 provide a more concise format for examining the fit indices and correlations of the models. For additional interpretation, see Figure 4.

<div align="center">Univariate Models</div>

Violence

  Sample. In the model for violence (Figure 4), χ^2 (4, 585) = 5.99, p = .20, a comparative fit index (CFI) of .99 and root mean square error of approximation (RMSEA) of .03 indicated the model fit well. In order for the model to successfully run, the path from the slope to Time 5 violence had to be freed, suggesting a non-linear change in violence. A significant correlation between initial violence and change in violence (r = -.76, p < .001) indicated initial rates of violence were related to rates of changes over time. The negative covariance between intercept and slope indicated smaller decreases over time. In other words, violence decreased at a lower rate among women who were victimized most frequently at Wave 1. A positive covariance between intercept and slope would have indicated greater decreases over time. The estimated

mean intercept ($M = 0.42$, $SE = .02$) was significant at $p < .001$, indicating mean violence at Wave 1 was greater than 0 for the sample. The estimated mean slope was also significant ($M = -.10$, $SE = .01$) at $p < .001$, indicating there was an average decrease in violence over time. Variance was significant for the intercept (.17, $SE = .02$, $p < .001$) and slope (-.02, $SE = .01$, $p < .001$), indicating substantial variability around the mean in initial violence and rate of change over time. Thus, there were differences among women with regard to initial rate of violence and change in violence.

  African American. The violence model for African American women, $\chi 2$ (4, 228) = 3.09, $p < .54$, also fit the data well, CFI of .99, RMSEA of .01. As with all proposed violence models, in order for the model to successfully run, the path from the slope to violence at time 5 had to be freed. As shown in Figure 5, the model was structurally and functionally similar to the model for the sample.

  Euro-American. The violence model for Euro-American women, $\chi 2$ (4, 169) = 1.41, $p = .84$, had a CFI of .99 and a RMSEA of .01, indicating a good fit of the data to the model. As shown in Figure 6, the model was structurally and functionally similar to the models for the sample and African American women.

  Mexican American. The violence model for Mexican American women (Figure 7), $\chi 2$ (4, 188) = 2.39, $p = .67$, had a CFI of .99 and a RMSEA of .01 indicating a good fit of the data to the model. Unlike the models for African American and Euro-American women, initial violence was not related to changes in violence over time ($r = -.27$, ns). Additionally, although the variance for the slope was not significant, variance was significant for the intercept (.08, $SE = .02$, $p < .001$), indicating substantial variability around the mean in initial violence but not in the rate of change

over time. Thus, there were differences among Mexican American women with regard to initial rate of violence but not for change in violence.

Psychological Abuse

Sample. For psychological abuse (Figure 8) a CFI of .98 and RMSEA of .07 indicated the model fit well. Although χ^2 was significant, χ^2 (5, 585) = 19.10, $p < .003$, it was likely due to the large sample size. A significant correlation between initial psychological abuse and change in psychological abuse ($r = -.64$, $p < .001$) indicated initial rates of psychological abuse were related to changes over time. The negative covariance between intercept and slope indicated smaller decreases over time. Psychological abuse decreased at a slower rate for women who were victimized more frequently at Time 1 compared to their less frequently victimized counterparts. The estimated mean intercept ($M = 2.19$, $SE = .09$) was significant at $p < .001$, indicating mean psychological abuse at Wave 1 was greater than 0 for the sample. The estimated mean slope was also significant ($M = -.08$, $SE = .08$) at $p < .003$, indicating there was an overall decrease in psychological abuse over time. Variance was significant for the intercept (3.93, $SE = .31$, $p < .001$) and slope (.15, $SE = .01$, $p < .03$), suggesting substantial variability around the mean in initial psychological abuse and rate of change over time. Thus, there were differences among women with regard to initial rate of psychological abuse and in change of psychological abuse.

African American. The psychological abuse model for African American women (Figure 9), χ^2 (5, 228) = 3.09, $p = .54$, had a CFI of .97 and a RMSEA of .08, indicating a good fit of the model to the data. With one exception, the model was similar to the psychological abuse model for the sample. The estimated mean slope was not significant, indicating there were no changes in psychological abuse over time for African American women.

Euro-American. The psychological abuse model for Euro-American women (Figure 10), $\chi2$ (5, 169) = 4.94, *p* = .42, had a CFI of .99 and a RMSEA of .01, indicating a good fit of the model to the data. This model was comparable to the one estimated for the sample. Interestingly, of all the psychological abuse models, this was the only one with a significant mean slope (*M* = -.18, *SE* = .04) at *p* < .001, indicating an overall decrease in psychological abuse over time.

Mexican American. As shown in Figure 11, the psychological abuse model for Mexican American women, $\chi2$ (5, 188) = 11.32, *p* < .05, had a CFI of .98 and a RMSEA of .08, indicating a good fit of the data to the model. Unlike the relationships for violence for Mexican Americans, a significant correlation between initial psychological abuse and change in psychological abuse (*r* = -.51, *p* < .002) was found, indicating initial rates of psychological abuse were related to rates of change over time. The estimated mean slope was not significant, indicating that, as a group, there were no substantial decreases or increases in psychological abuse for Mexican American women over time. Variance was significant for the intercept (3.44, *SE* = .50, *p* < .001) and slope (.12, *SE* = .05, *p* < .04), indicating substantial variability around the mean in initial psychological abuse and rate of change over time from woman to woman. Thus, there were differences among Mexican American women with regard to the initial rate as well as changes in psychological abuse.

Psychological Distress

Sample. For psychological distress (Figure 12), χ^2 (3, 585) = 18.06, *p* < .001, a CFI of .99 and a RMSEA of .09 indicated the model fit well. However, in order for the model to run successfully, it was necessary to free the paths from the slope to violence at times 2 and 3 and fix the paths from slope to violence at time 1 and time 5 violence to 0 and 1 respectively, thus imposing a linear relationship. A nonsignificant correlation between initial distress and change in

distress ($r = -.60$, ns) indicated initial rates of distress were unrelated to changes over time. The estimated mean intercept ($M = 1.08$, $SE = .03$) was significant at $p < .001$, indicating mean distress at Wave 1 was greater than 0 for the sample. The estimated mean slope was also significant ($M = -.25$, $SE = .15$) at $p < .001$, indicating there was an overall decrease in distress over time. Variance was significant for the intercept (.56, $SE = .15$, $p < .001$), indicating substantial variability around the mean in initial distress. The variance of the slope approached significance (.29, $SE = .15$, $p = .05$), indicating a trend for rate of change over time. Thus, there were differences between women with regard to initial rate of distress and a trend for change in distress.

African American. As shown in Figure 13, the psychological distress model for African American women, $\chi2$ (3, 228) = 27.10, $p < .001$, had a CFI of .95 and a RMSEA of .16, indicating the data fit the model acceptably. In order for the model to successfully run, the path from the slope to violence at time 5 had to be freed, suggesting a non-linear change in distress. With one exception, the model was similar to the model for the sample. Although variance was significant for the intercept (.46, $SE = .06$, $p < .001$), the slope was not significant. Thus, as with the other groups, there were differences between African American women with regard to initial rate of distress but unlike the other groups, there were no significant differences among African American women in change in distress. Indeed, this finding counteracted the Euro-American and Mexican American models, resulting in only a trend for distress to be related to change in distress for the sample.

Euro-American. In the Euro-American model for psychological distress (Figure 14), $\chi2$ (4, 169) = 4.04, $p = .26$, a CFI of .99 and a RMSEA of .15 indicated an acceptable fit of the data to the model. As with the models for the sample and African American women, although there

was an overall decrease in distress, initial rates of distress were unrelated to changes over time. However, unlike the model for African American women, variance was significant for the both the intercept (.33, *SE* = .05, *p* < .001) and slope (.29, *SE* = .01, *p* = .05) indicating substantial variability around the mean in initial distress and in the rate of change over time. Thus, there were differences between Euro-American women with regard to initial rate of distress and change in distress.

Mexican American. The psychological distress model for Mexican American women (Figure 15), χ2 (4, 188) = 14.18, *p* < .008, had a CFI of .98 and a RMSEA of .12, indicating an acceptable fit of the data to the model. As with Euro-American women, the variance was significant for the intercept (.40, *SE* = .06, *p* < .001) and slope (.03, *SE* = .01, *p* < .03), indicating substantial variability around the mean in initial distress and in the rate of change. Thus, there were differences among Mexican American women with regard to initial rate of distress and change in distress.

Social Support

Sample. In the model for social support (Figure 16), χ^2 (5, 585) = 23.61, *p* < .001, a CFI of .98 and a RMSEA of .08, indicated the model fit well. A nonsignificant correlation between initial social support and change in social support (*r* = -.48, ns) suggested initial rates of social support were not related to changes over time. The estimated mean intercept (*M* = 2.08, *SE* = .03) was significant at *p* < .001, indicating mean social support at Wave 1 was greater than 0 for the sample. The estimated mean slope was not significant, indicating that, on average, there were no changes in social support over time. Variance was significant for the intercept (.40, *SE* = .04, *p* < .001) but not slope, indicating substantial variability around the mean in initial social support but not in the rate of change over time.

As shown in Figures 17, 18, and 19, the social support models for African American, χ^2 (5, 228) = 15.35, $p < .01$, Euro-American, χ^2 (5, 169) = 12.02, $p < .04$, and Mexican American, χ^2 (5, 188) = 4.26, $p = .51$, women were structurally and functionally similar to the sample and each other. The CFIs (.96, .98, and .99) and RMSEAs (.09, .09, and .01) demonstrated good fit of the data to the models for African American, Euro-American, and Mexican American women, respectively. It should be noted that women's perceived satisfaction with social support was only moderately related to their initial size of social support network ($r = .24$, $p < .001$) and in the size of their social support network at Wave 2 ($r = .15$, $p < .001$), Wave 3 ($r = .17$, $p < .001$) and Wave 5 ($r = .13$, $p < .002$).

Multivariate Models

Three sets of parameter estimates were of interest in the multivariate models. First, the mean intercept and slope were re-inspected to determine initial rate and change over time in the dependent variable (distress) when considered in conjunction with the independent variable (violence/psychological abuse). Second, covariance estimates were examined to determine the relationships among intercepts and slopes. Four estimates were obtained for each multivariate model. One of the estimates described the relationship between the intercept and slope for distress. A positive correlation between intercept and slope indicated greater change over time, while a negative correlation represented more gradual change over time. Correlations between intercepts and between slopes were also examined, with significance indicating associations for initial rates of the factors and for change over time. Finally, I was also interested in estimating the effect of the initial rate of violence (psychological abuse) on the slope of women's distress. Positive coefficients indicated higher initial rates were associated with greater change over time,

while negative coefficients indicated higher initial rates were associated with less change over time.

Violence and Distress

In the multivariate model considering violence and distress (Figure 20), χ^2 (23, 585) = 128.87, $p < .001$, a CFI of .95 and a RMSEA of .09, indicated a good fitting model. The intercept ($M = 1.03$, $SE = .03$) and slope ($M = -.11$, $SE = .02$) for distress were significant at $p < .001$. Variance for distress was also significant for the intercept (.39, $SE = .03$) and slope (.02, $SE = .01$). A negative correlation between the intercept and slope for distress, $r = -.32$, $p < .02$, indicated initial distress was related to the rate of change in distress. That is, higher initial distress was associated with smaller decreases in distress over time. The intercepts for violence and distress were correlated, $r = .32$, $p < .02$, indicating women who reported sustaining higher levels of violence tended to report more symptoms of distress at Wave 1. Surprisingly, the slopes for the two factors were not correlated, indicating that changes in sustained violence were not associated with changes in distress. Moreover, initial rates of violence did not directly impact changes in distress as predicted. In summary, there was a tendency for distress to decrease over time, although there was variability in rates of change. Moreover, although initial violence was related to initial distress, there did not appear to be an association between changes in violence and changes in distress.

As shown in Figure 21, the model for African American women (Figure 21), χ^2 (23, 228) = 79.10, $p < .001$, had a CFI of .92 and a RMSEA of .10, indicating an acceptable fit of the data to the model. The model was structurally and functionally similar to the model for the sample.

The model for Euro-American women (Figure 22), $\chi2$ (23, 169) = 42.32, $p < .001$, also fit

the data well, CFI = .97, RMSEA = .07. The model was similar to the model for African

American women, except that initial distress was not related to changes in distress ($r = -.35$, ns).

Although the model for Mexican American women (Figure 23), $\chi2$ (23, 188) = 62.50, $p <$

.001, fit the data well, CFI = .94, RMSEA = .10, it had little descriptive power and deviated from

the models for African American and Euro-American women. The relationship between initial

violence and initial distress was the only significant finding. Initial violence was unrelated to

changes in violence, initial distress was unrelated to changes in distress, and changes in violence

were unrelated to changes in distress.

Psychological Abuse and Distress

In the multivariate model considering psychological abuse and distress (Figure 24), χ^2

(23, 585) = 188.31, $p < .001$, a CFI of .93 and a RMSEA of .11, indicated an acceptable fitting

model. The intercept ($M = 1.03$, $SE = .03$) and slope ($M = -.07$, $SE = .02$) for distress was

significant at $p < .001$. Variance was also significant for the intercept (.39, SE = .03, $p < .001$)

and slope (.02, SE = .01, $p < .005$). Interestingly, unlike the model considering violence, the

relationship between initial distress and change in distress was not related in the model

considering psychological abuse, $r = -.11$, ns. The intercepts for psychological abuse and distress

were strongly correlated, $r = .57$, $p < .001$, indicating women who reported sustaining higher

levels of psychological abuse reported more symptoms of distress at Wave 1. As predicted, the

slopes for the two factors were also strongly correlated, $r = .50$, $p < .001$, indicating that

decreases in sustained psychological abuse were strongly associated with decreases in distress.

Moreover, initial rates of psychological abuse had a negative impact on change in distress ($\beta = -$

.25, $p < .008$), accounting for 6.2% of the variance. This implied higher initial psychological

abuse predicted smaller decreases in distress over time. In summary, initial psychological abuse and changes in psychological abuse were highly related to initial distress and changes in distress, respectively. A small amount of variability in distress was explained by initial rates of psychological abuse.

The psychological abuse and distress model varied considerably when tested with each ethnicity. The model for African American women (Figure 25), $\chi 2$ (23, 188) = 97.83, $p < .001$, acceptably fit the data, CFI = .91, RMSEA = .12. In general, the model was structurally and functionally similar to the model for the sample, with one noteworthy distinction. The path from initial psychological abuse to change in distress was sizably higher ($\beta = -.53$, $p < .004$), accounting for 27.7% of the variance in change in distress. This indicated that higher initial psychological abuse predicted smaller decreases in distress over time.

For Euro-American women, the psychological abuse and distress model (Figure 26), $\chi 2$ (23, 169) = 67.34, $p < .001$, acceptably fit the data, CFI = .94, RMSEA = .11. Compared to their African American counterparts, psychological abuse seemed to play a much less important role in distress. This was evidenced by a weak and nonsignificant relationship between the slopes of the two factors ($r = .19$, ns) and a nonsignificant path from initial psychological abuse to change in distress ($\beta = .12$, ns). Indeed, Euro-American women's initial rate of distress was the only significant correlate of their change in distress ($r = -.40$, $p < .05$).

For Mexican American women, the psychological abuse and distress model (Figure 27), $\chi 2$ (23, 188) = 62.12, $p < .001$, fit the data well, CFI = .95, RMSEA = .10. In general, the model was similar to the model for African American women. Specifically, initial psychological was strongly associated with initial distress ($r = .62$, $p < .001$) and change in psychological abuse was strongly associated with change in distress ($r = .72$, $p < .001$). In addition, initial psychological

abuse negatively impacted Mexican American women's change in distress, ($\beta = -.42$, $p < .006$) accounting for 17.5% of the variance. This indicated that higher initial psychological abuse predicted smaller decreases in distress over time.

Social Support as a Mediator

Baron and Kenny (1986) have discussed four steps in establishing mediation. First, the independent variable (initial violence/psychological abuse) must affect the outcome variable (changes in psychological distress). Second, the independent variable must affect the mediator (changes in social support). Third, the mediator must affect the outcome variable. Fourth, in order to show partial or full mediation, the effect of the independent variable on the outcome variable must be reduced or become nonexistent, respectively. Thus, because initial violence did not impact changes in distress, I was unable to test for mediation in the violence model. However, I was interested in how the social support model would look in conjunction with violence and distress. The model for the sample (Figure 28), $\chi2$ (57, 585) = 179.09, $p < .001$, fit the data well, CFI = .96, RMSEA= .06. In general, although initial social support was slightly related to initial violence ($r = -12$, p < .003) and initial distress ($r = -.21$), change in social support was not related to change over time and it did not appreciably alter the relationship between violence and distress. The model for Euro-American women was structurally and functionally similar to the model for the sample. However, despite several modifications, the models for African American and Mexican American women were unable to be estimated.

In contrast to violence, initial psychological abuse impacted changes in distress, thereby meeting the first requirement for mediation. However, initial psychological abuse did not have an impact on changes in social support for any of the models, thus failing to meet the second step of mediation. Moreover, despite several modification attempts, the model for the sample, African

American women, and Mexican American women could not be estimated. However, the model

for Euro-American women (Figure 29), $\chi2$ (56, 169) = 105.92, $p < .001$, fit the data well, CFI =

.95, RMSEA = .07. Initial social support was related to initial psychological abuse ($r = -.22$, $p <$

.007) and initial distress ($r = -.21$, $p < .02$), but was unrelated to change in psychological abuse or

change in distress. Although the inclusion of social support in the model reduced the association

from initial distress to change in distress to a trend ($r = -.39$, $p = .06$), social support did not

appear to appreciably alter the relationship between psychological abuse and distress.

CHAPTER V

DISCUSSION

The primary purpose of this study was to extend previous research on the negative

association between partner abuse and women's mental health (Campbell, 2002, Golding, 1999)

by examining this relationship over time, considering a mediating role for social support, and

moderating affects for ethnicity. An additional unique aspect of this study was the independent

examination of physical violence and psychological abuse. Not only have few studies considered

the long-term impact of partner abuse on health, there is little empirical research on the

longitudinal course of abuse. Thus, in addition to examining the longitudinal relationship

between variables (i.e., multivariate models/structural models), this study also examined the

course of individual variables (i.e., univariate models/measurement models).

Univariate Models

Violence

Consistent with a growing body of research (Nelson, McGrath, and Zhou, 2004; Quigley

& Leonard, 1996), partner violence decreased over time. This general decrease in violence may

be partially explained by learning theory. Specifically, the behavior of violent men may

continuously go un-reinforced, resulting in a reduction of future violent behaviors. Alternatively,

victimized women may learn to shape their behavior and environment in such a way that reduces

future victimization. The finding that sustained violence decreased for all ethnic groups

conflicted with the limited existing literature. In one longitudinal study, African American

women sustained less partner violence over a five-year span than Euro-American women

(Jasinski, 2001). Another study found the reverse; African American and Mexican American

women's rate of partner violence was more stable and decreased less than it did for Euro-

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American women (Nelson et al., 2004). The similarity in partner violence among the three groups in this study suggest that differences between groups found in previous research (e.g., Greenfield, 1998; Tjaden & Thoennes, 2000) may be less a function of ethnicity and more a function of low socio-economic status (Bachman & Saltzman, 1995).

Interestingly, the rate of decrease for all groups appeared to plateau between interviews 3 and 5. This finding may reflect varying typologies or patterns of violent relationships. Abuse in relationships characterized by frequent, severe, and injurious violence has been described as more persistent than abuse in relationships characterized by low-level, less severe violence (Holtzworth-Monroe & Stuart, 1994). It is possible that the decrease in violence across the earlier interviews was reflective of women in less violent relationships to begin with, possibly leaving mostly women in persistently violent relationships at Time 5. This notion is supported by the finding that although partner violence generally decreased, the rate of decrease was slower among women victimized most frequently at Wave 1. Future research should address whether the type or pattern of an abusive relationship influences the course of violence in that relationship. For example, are relationships characterized by severe, injurious, and persistent violence more hopeless than less violent relationships? If so, the primary clinical intervention should be on the termination of these relationships as opposed to any attempts at reconciliation.

Psychological Abuse

As with violence, women significantly differed in their initial and change in rates of sustained psychological abuse. However, unlike the violence model, psychological abuse was generally stable over time for African American and Mexican American women. This has important implications for counselors and other health care professionals, as it appears that even with the desistance of partner violence, psychological abuse persists and continues to negatively

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impact women. Indeed, as demonstrated by the finding in this study, psychological abuse may be more detrimental to women's mental health than physical violence. Thus, once women are no longer in immediate physical danger, the focus of therapy should be shifted to helping women reduce and/or cope with psychological abuse. For Euro-American women, psychological abuse did decrease over time. However, because Euro-American women tended to sustain more initial psychological abuse, this finding may be an artifact of the data, with their level of psychological abuse regressing to the mean.

Psychological Distress

Unlike the models for violence and psychological abuse, initial levels of distress did not predict the rate of change in distress. Thus, women who initially had high levels of distress were no more likely to have increasing or decreasing distress over time than women with relatively little initial distress (and vice versa). On average, however, women's psychological distress decreased over time for all groups. For the present study, the most important finding was that women showed significant variability with respect to initial levels of distress and in change over time. Indeed, as discussed below, partner psychological abuse accounted for some of the changes in distress. Of note, the variability in women's distress was most evident with Euro-American women and least evident with African American women.

Social Support

The size of women's social support was a fairly static variable. For all groups, the only significant finding was that women differed in the initial size of their social support network. Social support did not change over time, nor was there variability among women in rates of change. In addition, initial rates of social support did not predict changes in social support. It is possible that while the size of social support is constant, women's satisfaction with this social

support is variable. As an example, Woman X may name 5 close friends she can rely on, but increasing stressors (e.g., abuse) may overwhelm these resources, limiting their effectiveness and the women's satisfaction with them (Carlson et al., 2002). Thus, although she would continue to rely on the same 5 friends, her satisfaction with these women may be reduced. This scenario may be especially relevant to women in psychologically abusive relationships, as a primary motive for psychological abuse is the suppression of women's contact with others. Strengthening this notion was the finding that women's satisfaction with their perceived social support was only moderately related to the size of their social support network.

<div align="center">Multivariate Models</div>

Longitudinal Abuse and Mental Health

A somewhat surprising and interesting pattern was identified in the multivariate models of abuse and distress. As expected, and consistent with previous research (Campbell, 2002; Golding, 1999), partner violence at Wave 1 was positively related to women's distress at Wave 1 for all groups. That is, a higher level of partner violence was associated with a higher level of distress. However, the prediction that changes in violence would be related to corresponding changes in distress was not supported. Moreover, initial violence did not predict women's change in distress.

Psychological abuse, on the other hand, had a substantially greater impact on women's distress. First, reported psychological abuse at Wave 1 was strongly and positively related to women's distress at Wave 1 for all groups. Second, change in sustained psychological abuse was strongly related to change in distress. Specifically, as partner's psychological abuse decreased, so did women's symptoms of psychological distress. Even more impressively, psychological abuse at Wave 1 had a direct negative impact on changes in distress. That is, a high initial level of

<div align="center">41</div>

partner psychological abuse predicted a slow decrease in distress over time, implying that partner psychological abuse has a persistent impact on women's mental health. Collectively, these results suggest that psychological abuse had a greater impact on women's distress than did partner violence. This is consistent with a recent study (Baldry, 2003) in which psychological abuse was a stronger predictor of anxiety, depression, and low self-esteem than physical violence.

It should be noted that the importance of psychological abuse varied by ethnic group. For African American women, psychological abuse explained more variance (28%) for change over time in women's distress than it did for Mexican American women (18%). Moreover, for Euro-American women, initial psychological abuse and changes in psychological abuse were unrelated to changes in distress.

Social Support over Time

Based on results from the univariate (measurement) models, it was not surprising that social support did not play a more substantial role in the multivariate models. However, the overall unimportance of social support was surprising. In the models that could be estimated, social support did not mediate the relationship between partner abuse and distress as predicted, nor did it have an impact on changes in distress. Of all coping resources, social support is the most researched and has previously been shown to lessen the negative effects of abuse on mental health (Coker et al., 2003). As previously noted, the size of women's network may be less important than the satisfaction women have from their social support network. For exploratory purposes, the same models were tested using women's initial perceived satisfaction with their social support. No appreciable differences were found between size of and perceived satisfaction with social support. An alternative explanation is that women in abusive relationships are so

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overwhelmed with stress that social support and other protective factors are not enough to counteract the negative health effects (Carlson et al., 2002). This may be especially true for the low-income women in this study, as they are likely dealing with several life stressors (e.g., financial, neighborhood safety) in addition to the stress of being in an abusive relationship.

Limitations

Several limitations are worth noting. First, the use of archival data requires utilizing preconceived measures that may not be optimal for the specific study undertaken. For example, despite the likelihood that perceived satisfaction with social support is a more valid measure than the size of one's social support network, it was only assessed at 2 interviews. Second, the problems inherent with doing self-report research including social desirability and the Hawthorne effect should be considered. It is possible that some women answered favorably as they did not want to scare or alienate themselves from the interviewer. This may have been exacerbated because the interviewers were college students who may have appeared innocent and privileged to the participants. By responding in a socially acceptable way, women reduce the risk of feeling ashamed or embarrassed. It is also possible that the interviews served as an intervention resulting in the improvement of women's mental health (Pennebaker, 2000). Third, a convenience sample, rather than a random sample was used to ensure women met the requirements of the study. This raised the possibility that partners of nonvolunteers may have prevented their participation. Thus, this sample may not accurately reflect women who are severely abused by their partners. However, 31% of the women had experienced severe, potentially life threatening physical violence (Marshall, 1999). This prevalence was greater than what is usually found in community samples (Gleason, 1993; Resnick, Kilpatrick, Dansky, Saunders & Best, 1993). Fourth, women with health problems may have been attracted to the

title of the project (i.e., Health Outcomes of Women), thus biasing the data toward women with more illnesses. Fifth, the length of the interview may have caused women to find shortcuts to finishing the study, potentially resulting in response bias.

Another limitation of this study is that significantly more violence was reported by women who dropped out or missed an interview wave than by women who completed all interviews. Although the differences in partner abuse were small, there may have been some unknown impact of attrition on the results. A similar issue is that the range of time between waves may have influenced the results. For example, the longer the time between waves, the more opportunity there was for violence to occur. Additional attrition differences suggested that completers tended to be more stable (e.g., older, in relationships longer) than non-completers. Thus, generalizability may be limited to women in stable, committed relationships, although almost half of the sample ended their initial relationship. Also, the use of a low-income sample necessarily limits generalizability to similar populations.

This study was also limited by using a measure that considered a range of psychological symptoms. For example, although decreases in partner physical violence may be related to decreases in women's specific psychological symptoms (e.g., anxiety, depression, post-traumatic stress disorder), the inclusion of other, possibly unrelated psychological symptoms (e.g., disassociation, obsessive-compulsive, somatization) may have masked this finding. Future research should examine the long-term impact of partner abuse and the role of social support on specific symptoms.

Conclusions and Implications

Despite these limitations, this is one of the few studies to examine the longitudinal relationship between partner abuse and women's mental health. Perhaps the most important and

interesting finding was that psychological abuse had a much more substantial role in its relationship with and impact on distress than did physical violence. These findings have extensive implications for health care professionals in the identification and treatment of abused women. For example, psychological abuse and physical violence should be considered as separate aspects of domestic relationships. Moreover, counselors and physicians should be aware that regardless of whether physical violence is present, patients may still be experiencing psychological abuse, and as demonstrated in this study, psychological abuse may have a stronger impact on women's mental health. As a profession, we need to realize that the adage, "sticks and stones may break my bones, but words will never hurt me," is simply not true. Additionally, because of the health impact of partner violence, there has been a recent push to encourage physicians and other health care professional to screen their patients for physical and sexual abuse. Based on the findings of this and previous research, women should also be screened for their experiences with psychological abuse and appropriately referred.

Women's ethnicity was also important. For example, whereas psychological abuse was a major factor in women's distress and change in distress for African American and Mexican American women, it appeared less important for Euro-American women. Perhaps Euro-American women have developed unique coping skills for or are more tolerant of psychological abuse. Also important was the finding that African American and Mexican American women differed on several variables. This suggests that researchers and counselors should be sensitive to multicultural concerns, rather than categorizing women of diverse backgrounds as "not-white."

Based on the plethora of previous research showing the beneficial effects of social support, it is likely that the nonsignificant findings in this study were due to methodological problems. Because understanding factors related to decreases or increases in abuse and

associated mental health is essential for counselors to treat abused women, future longitudinal research should consider several mediators, including more sensitive and accurate measures of social support. For example, it may be that a decrease in violence over time is the result of decreases in risk factors for violence (e.g., substance abuse).

These results have important implications for both researchers and health care professionals. First, the finding that partner abuse was related to women's mental health is consistent with previous research and highlights the importance of routinely screening patients for intimate partner abuse. Second, psychological abuse should not be perceived as the least harmful form of abuse simply because victimized women are not in immediate physical danger. Indeed, as demonstrated by this study, psychological abuse may have the most detrimental and long-term impact on women's mental health. Third, to be effective, counselors need to focus on the removal of partner abuse from the relationship to alleviate the psychological problems as opposed to focusing solely on the psychological problems through symptom-focused techniques or medication. The final, and arguably most meaningful implication of this study relates to the importance of considering individual and group differences in treating and studying victimized women. For example, although partner abuse and psychological distress generally decreased over time, there was significant variability in the rate of change from woman to woman, suggesting the importance of considering other factors (e.g., substance abuse, coping resources, relationship termination) that may help explain this variability in individual trajectories.

Table 1

Ethnicity at Each Interview Wave

	N	% of previous Wave	African American		Euro-American		Mexican American	
			n	*%*	*n*	*%*	*n*	*%*
Wave 1	835		302	36.2%	273	32.7%	260	31.1%
Wave 2	697	83.5%	273	39.2%	208	29.8%	216	31.0%
Wave 3	658	94.4%	252	38.3	194	29.5%	212	32.2%
Wave 5	647	106.4%	252	38.9%	193	29.8%	202	31.2%

Reflective of all participants. The present study considered only women who completed Waves 1, 2, 3, and 5.

Table 2

Reliability Analyses for the Repeated Measures (Cronbach Alpha)

	Sample	African American	Euro-American	Mexican American
Physical Violence				
Wave 1	.97	.97	.97	.96
Wave 2	.97	.97	.97	.96
Wave 3	.94	.94	.93	.95
Wave 5	.97	.98	.94	.97
Psychological Abuse				
Wave 1	.98	.98	.99	.98
Wave 2	.98	.98	.98	.98
Wave 3	.99	.98	.99	.99
Wave 5	.98	.98	.98	.99
Psychological Distress				
Wave 1	.98	.98	.98	.98
Wave 2	.98	.98	.98	.98
Wave 3	.98	.98	.98	.98
Wave 5	.98	.98	.98	.98
Social Support				
Wave 1	.92	.94	.87	.91
Wave 2	.90	.91	.86	.89
Wave 3	.93	.94	.93	.92
Wave 5	.92	.93	.90	.90

Table 3

Means and Standard Deviations of Violence, Psychological Abuse, Psychological Distress, and Social Support for the Sample and each

Ethnic Group

	Sample (N = 585)		African American (n = 228)		Euro-American (n = 169)		Mexican American (n = 188)	
	M	SD	M	SD	M	SD	M	SD
Physical Violence								
Wave 1	.41	.59	.50	.66	.38	.55	.35	.52
Wave 2	.31	.47	.35	.53	.31	.48	.26	.39
Wave 3	.21	.35	.22	.37	.20	.32	.20	.33
Wave 5	.25	.40	.26	.44	.20	.32	.26	.40
Psychological Abuse								
Wave 1	2.11	2.38	2.00	2.35	2.43	2.39	1.95	2.40
Wave 2	2.23	2.36	2.32	2.40	2.45	2.33	2.07	2.32
Wave 3	2.00	2.00	2.11	2.05	2.16	2.03	1.70	1.83
Wave 5	1.84	2.27	1.97	2.36	1.73	2.00	1.79	2.40
Psychological Distress								
Wave 1	1.08	.75	1.06	.79	1.08	.68	1.08	.75
Wave 2	.85	.73	.84	.78	.84	.64	.88	.73
Wave 3	.85	.71	.83	.76	.83	.64	.88	.72
Wave 5	.80	.72	.77	.72	.81	.69	.83	.73
Social Support								
Wave 1	2.08	.84	2.14	.92	2.09	.78	1.99	.80
Wave 2	2.15	.86	2.25	.95	2.17	.81	2.02	.78
Wave 3	2.04	.73	2.12	.78	2.05	.71	1.94	.67
Wave 5	2.14	.95	2.23	1.07	2.16	.90	2.01	.82

Physical violence was measured with a 6-point scale anchored by never (0) and a great many times (5).
Psychological abuse was measured with a 10-point scale anchored by never (0) and almost daily (9).
Psychological distress was measured with a 5-point scale anchored by not at all (0) and extremely (4).
Social support was measured by asking participants the number of people they could rely on for support.

Table 4

Correlations among Indicators for Sample (N = 585)

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Violence															
1. Wave 1	.44*	.39*	.31*	.47*	.40	.37*	.27*	.32*	.30*	.28*	.25*	-.09*	-.09	-.08	.00
2. Wave 2	--	.46*	.36*	.44*	.68*	.41*	.31*	.26*	.40	.32*	.27	-.10*	-.10*	-.13*	-.09*
3. Wave 3		--	.51*	.37*	.41	.57	.38*	.23*	.28*	.30*	.26*	-.11*	-.13*	-.09*	-.04*
4. Wave 5			--	.27*	.29*	.35*	.63*	.24*	.27*	.32*	.38	-.09*	-.13*	-.08	-.09*
Psychological Abuse															
5. Wave 1				--	.67*	.58*	.41*	.52*	.44*	.41*	.32*	-.12*	-.15*	-.15*	-.04
6. Wave 2					--	.58*	.42*	.41*	.52*	.43*	.35*	-.11*	-.14*	-.14*	-.07
7. Wave 3						--	.50*	.37*	.46*	.50*	.36	-.14*	-.14*	-.16*	-.08*
8. Wave 5							--	.29*	.34*	.35*	.44*	-.09*	-.09*	-.07	-.07
Psychological Distress															
9. Wave 1								--	-.69*	.62*	.56*	-.13*	-.11*	-.14*	-.11*
10. Wave 2									--	.75*	.64*	-.15*	-.17*	-.19*	-.14*
11. Wave 3										--	.69*	-.16*	-.17	-.20*	-.16*
12. Wave 5											--	-.10*	-.15*	-.14*	-.16*
Social Support															
13. Wave 1												--	.59*	.60*	.51*
14. Wave 2													--	.56*	.49*
15. Wave 3														--	.52*
16. Wave 5															--

*p < .05

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Table 5

Fit Indices, Correlations, Means, and Variances for the Univariate (Measurement) Models

	χ2	df	CFI	RM	A	B	C	D	E
Violence									
Sample	5.99	4	.99	.03	-.76*	.42*	.17*	-.10*	-.02*
African American	3.09	4	.99	.01	-.85*	.49*	.22*	-.14*	-.02*
Euro-American	1.41	4	.99	.01	-.79*	.39*	.16*	-.09*	-.03*
Mexican American	2.39	4	.99	.01	-.27	.34*	.08*	-.07*	ns
Psychological Abuse									
Sample	19.10*	5	.98	.07	-.64*	2.19*	3.93*	-.08*	.15*
African American	3.09	5	.97	.08	-.68*	2.12*	3.88*	ns	.18*
Euro-American	4.94	5	.99	.01	-.70*	2.50*	4.33*	-.18*	.18*
Mexican American	11.32*	5	.98	.08	-.51*	1.96*	3.44*	ns	.12*
Distress									
Sample	18.06*	3	.99	.09	-.60	1.08*	.56*	-.25*	.29*
African American	27.10*	4	.95	.16	-.44	1.02*	.46*	-.11*	ns
Euro-American	4.04	4	.99	.15	-.34	1.03*	.33*	-.12*	.29*
Mexican American	14.18*	4	.98	.12	-.29	1.04*	.40*	-.09*	.03*
Social Support									
Sample	23.61*	5	.98	.08	-.48	2.08*	.40*	ns	ns
African American	15.35*	5	.96	.09	.52	2.15*	.40*	ns	ns
Euro-American	12.02*	5	.98	.09	-.25	2.09*	.39*	ns	ns
Mexican American	4.26	5	.99	.01	-.02	1.99*	.39*	ns	ns

*p < .05
RM = RMSEA
A = Correlation of the intercept and slope
B = Mean of the intercept
C = Variance of the intercept
D = Mean of the slope
E = Variance of the slope

Table 6

Fit Indices and Correlations for the Multivariate (Structural) Models

	$\chi2$	df	CFI	RM	A	B	C	D	E	F
Violence and distress										
Sample	128.87*	23	.95	.09	-.32*	.32*	.12	--	--	.02
African American	79.10*	23	.92	.10	-.48*	.28*	.01	--	--	.11
Euro-American	42.32*	23	.97	.07	-.35	.28*	.09	--	--	.02
Mexican American	62.50	23	.94	.10	-.26	.48*	.16	--	--	-.05
Psychological Abuse and distress										
Sample	188.31*	23	.93	.11	-.11	.57*	.50*	--	--	-.25*
African American	97.83*	23	.91	.12	-.02	.62*	.66*	--	--	-.53*
Euro-American	67.34*	23	.94	.11	-.40*	.45*	.19	--	--	.12
Mexican American	62.12*	23	.95	.10	-.05	.62*	.72*	--	--	-.42*
Violence, social support, and distress										
Sample	179.09*	57	.96	.06	-.32*	.32*	.12	-.21*	-.66	--
African American	Model could not be estimated.									
Euro-American	79.79*	57	.97	.05	-.33	.29*	.11	-.21*	-.17	--
Mexican American	Model could not be estimated.									
Psychological abuse, Social Support, and distress										
Sample	Model could not be estimated.									
African American	Model could not be estimated.									
Euro-American	105.92*	56	.95	.07	-.39	.41*	.22	-.21*	-.13	.11
Mexican American	Model could not be estimated.									

*p < .05
RM = RMSEA
A = Correlation of the intercept and slope for distress
B = Correlation of the intercepts for violence/psychological abuse and distress
C = Correlation of the slopes for violence/psychological abuse and distress
D = Correlation of the intercepts for social support and distress
E = Correlation of the slopes for social support and distress
F = Beta weight of the path from initial violence/psychological abuse to change in distress
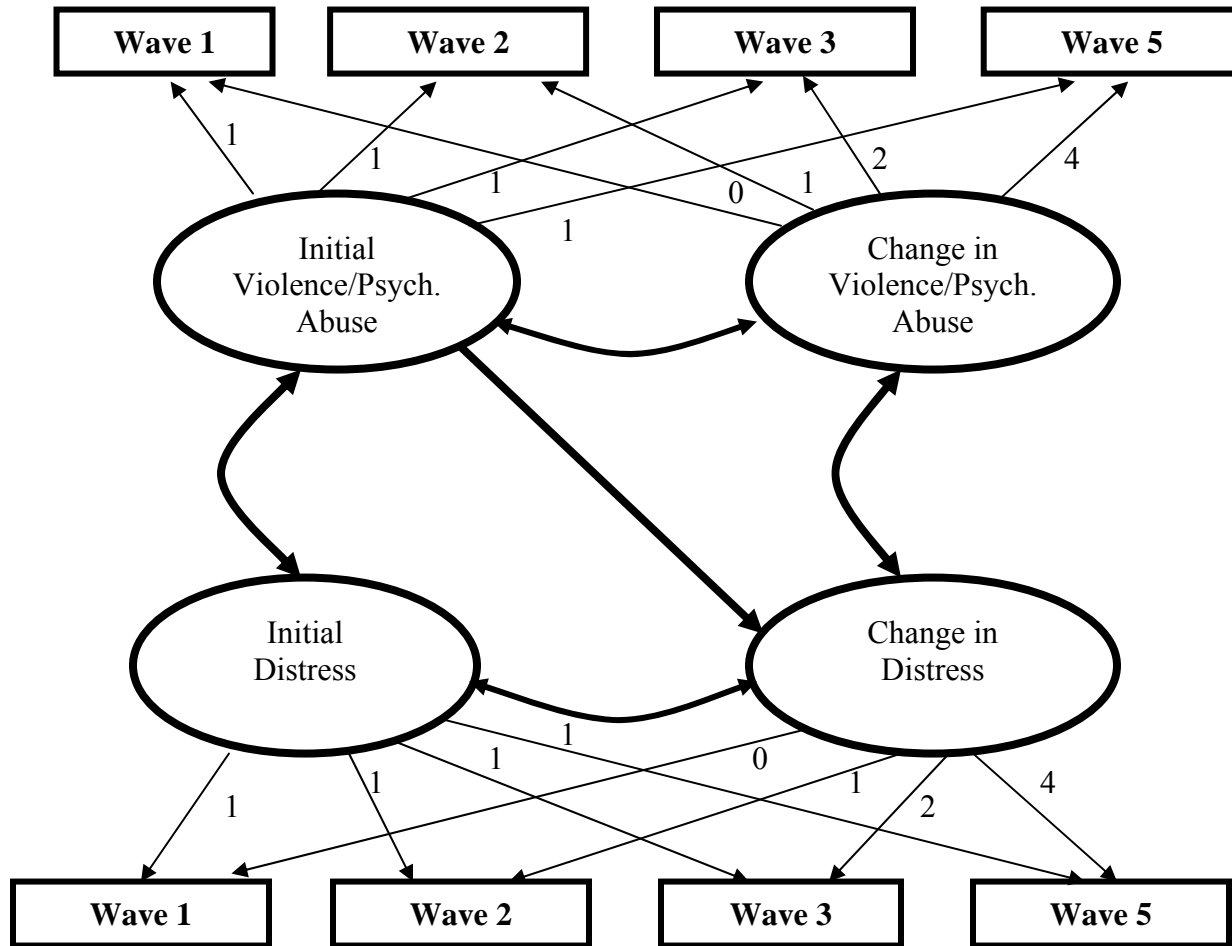
Figure 1. Proposed model with partner violence/psychological abuse and distress.
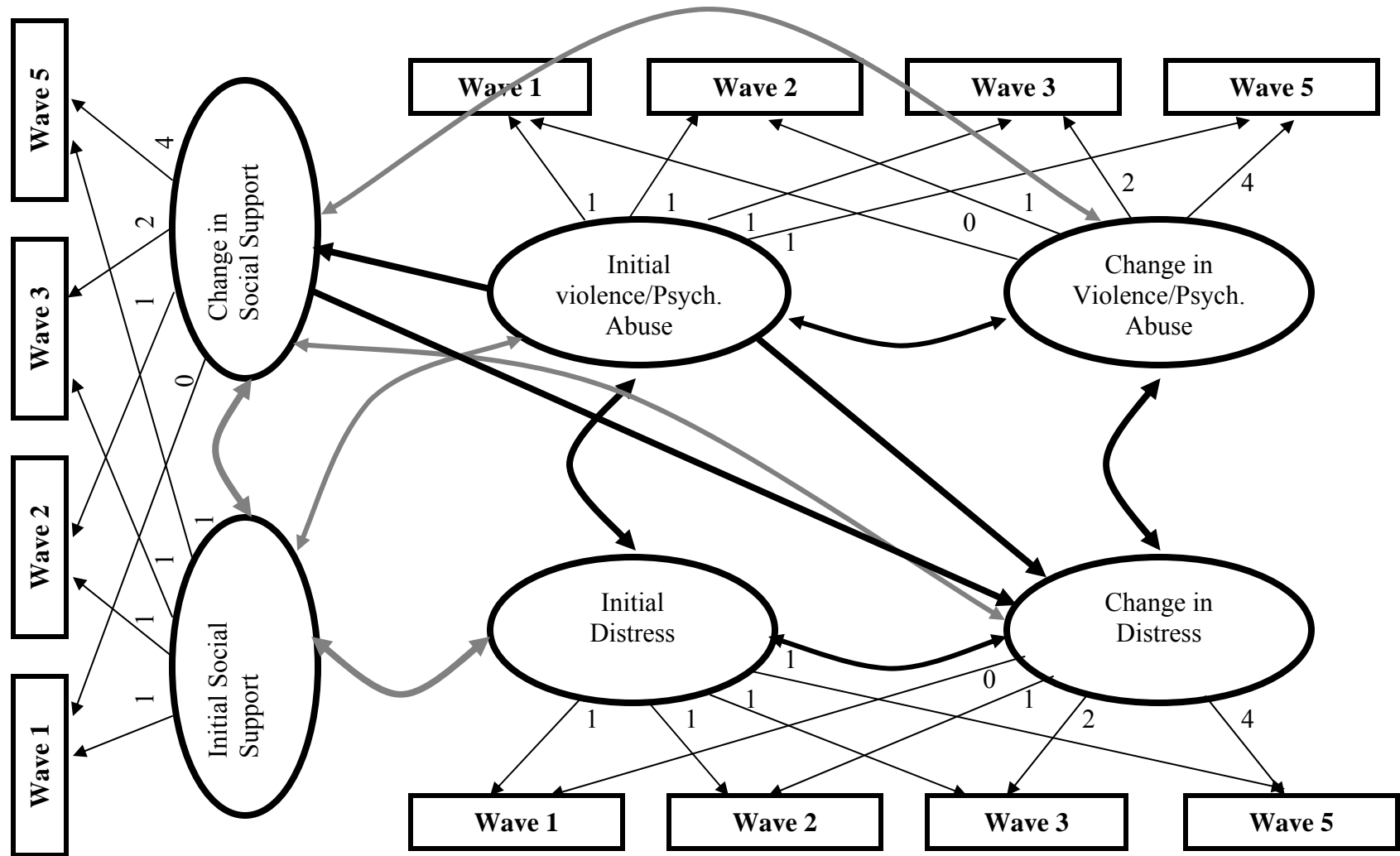
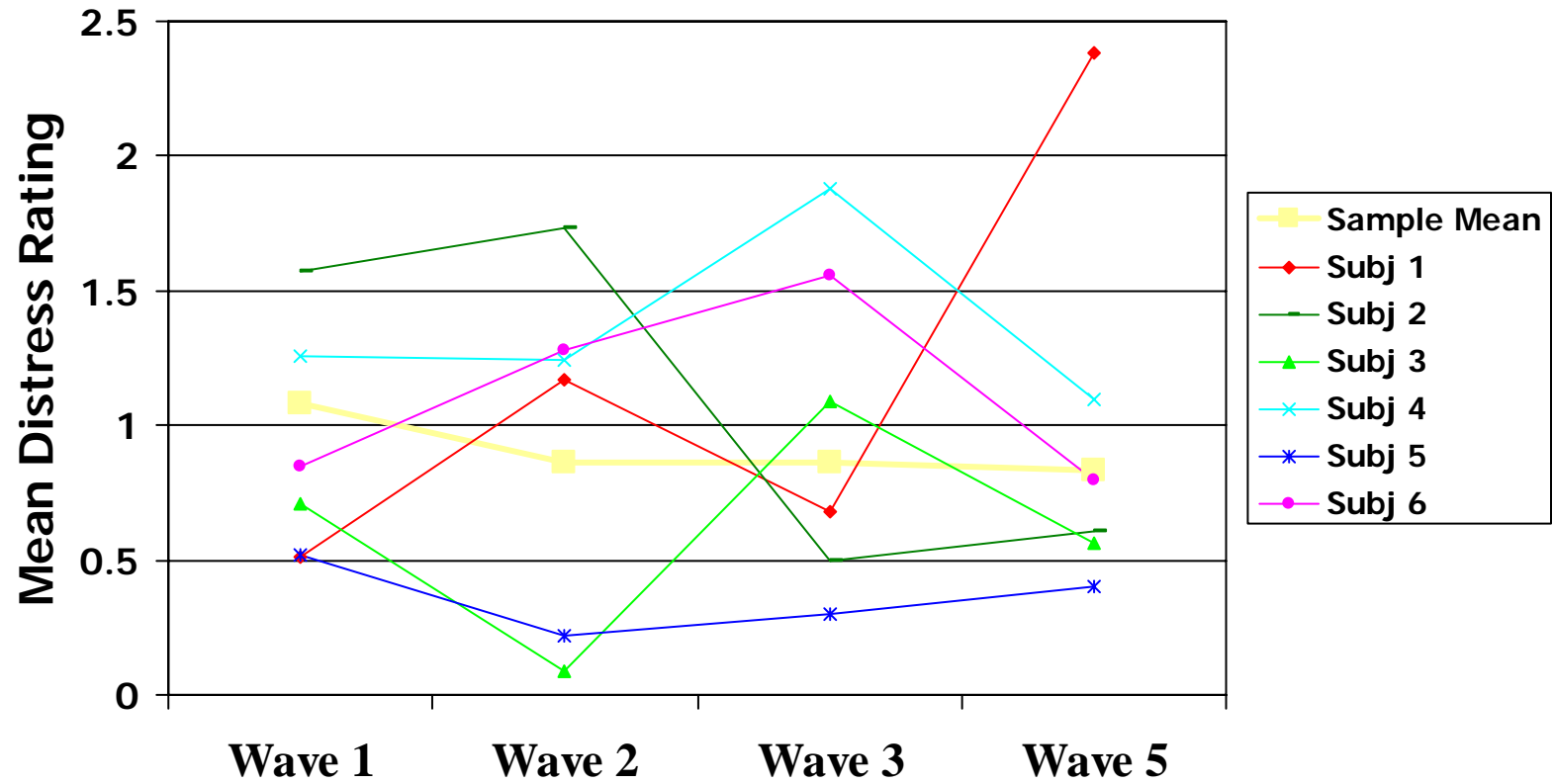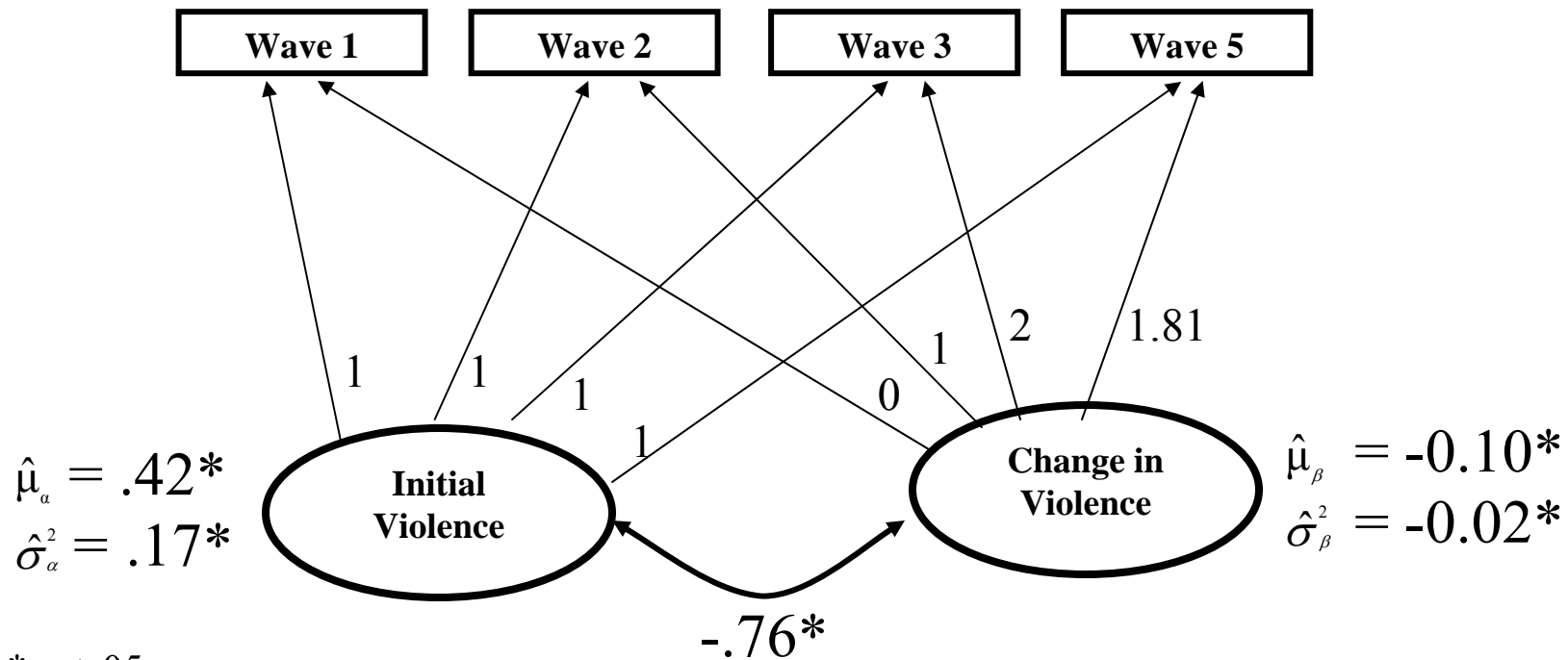*Figure 2.* Proposed model social support as a mediator.

Figure 3. Average distress levels over time for 6 randomly selected participants.

*p < .05

χ^2 (4, N = 585) = 5.99, p = .20; CFI = .99; RMSEA = .03

-.76 = correlation between initial violence and change in violence. In this model, the rates of decreases in violence were lower for women who were victimized more frequently at Wave 1.

$\hat{\mu}_\alpha$ of initial violence = the estimated mean of the intercept. In this model, average initial violence is greater than 0 for the sample.

$\hat{\sigma}_\alpha^2$ of iitial violence= the estimated variance of the intercept. In this model, women are not homogenous in their initial rates of violence.

$\hat{\mu}_\beta$ of chang in violence = the estimated mean of the slope. In this model, there is an average annual decrease in violence over time.

$\hat{\sigma}_\beta^2$ of change in violence = the estimated variance of the slope. In this model, women's violence decreased at different rates.
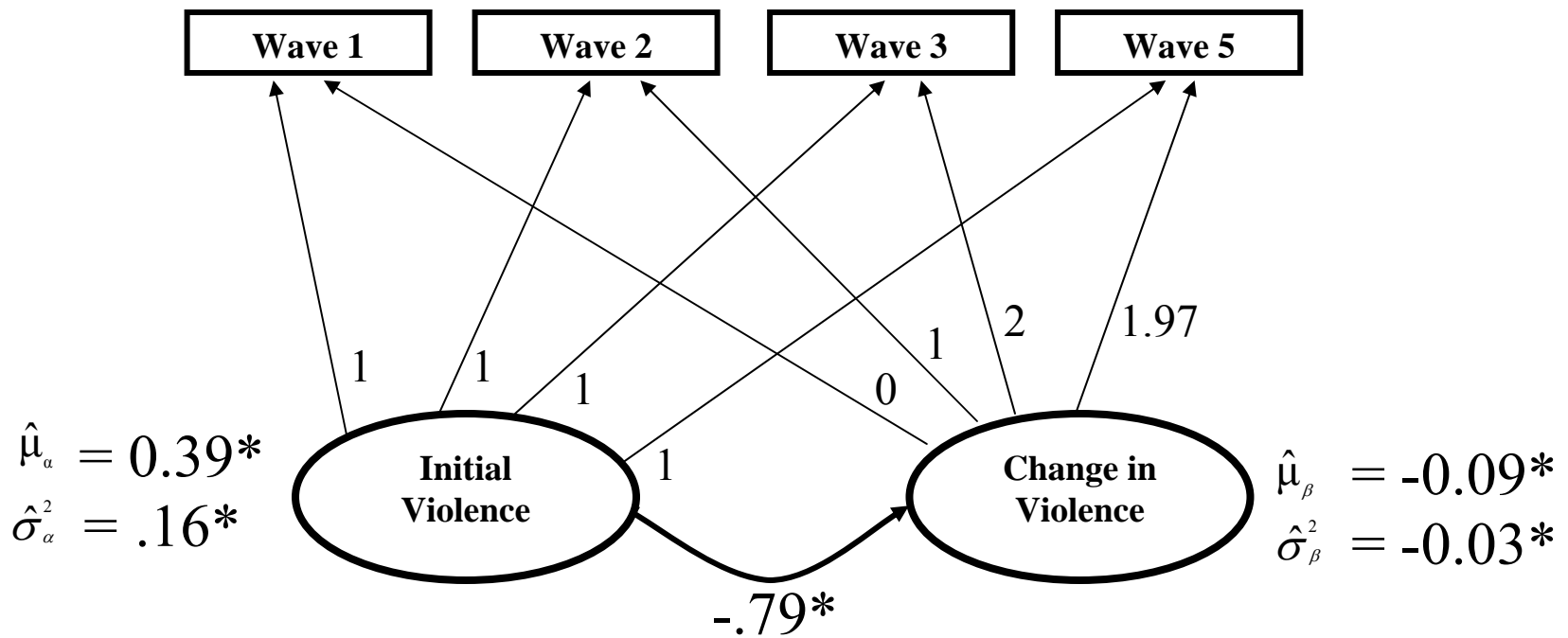
Figure 4. Latent trajectory model for women's reported violence (measurement model).

$\hat{\mu}_{\alpha} = 0.49^*$
$\hat{\sigma}^2_{\alpha} = .22^*$

$\hat{\mu}_{\beta} = -0.14^*$
$\hat{\sigma}^2_{\beta} = 0.02^*$
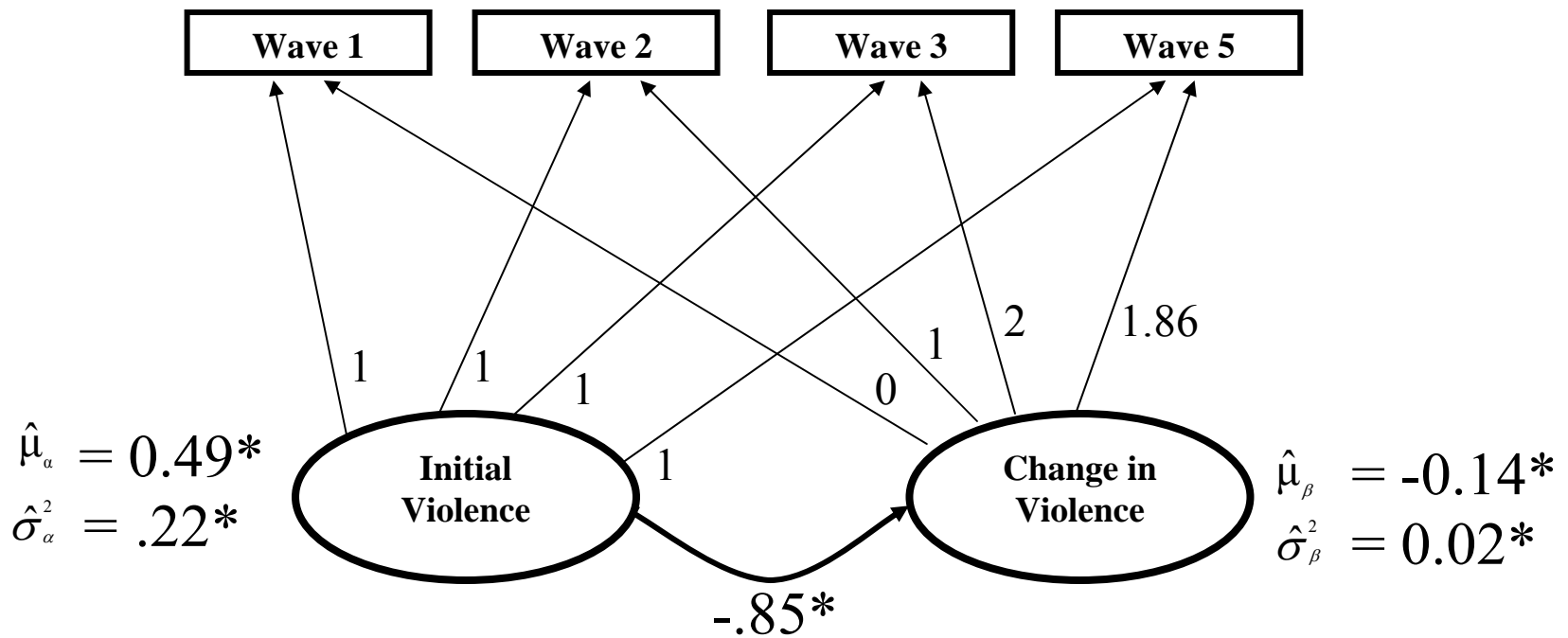
$^*p < .05$
$\chi^2 (4, N = 228) = 3.09, p = .54$; CFI = .99; RMSEA = .01

Figure 5. Latent trajectory model for African American women's reported violence (measurement model).
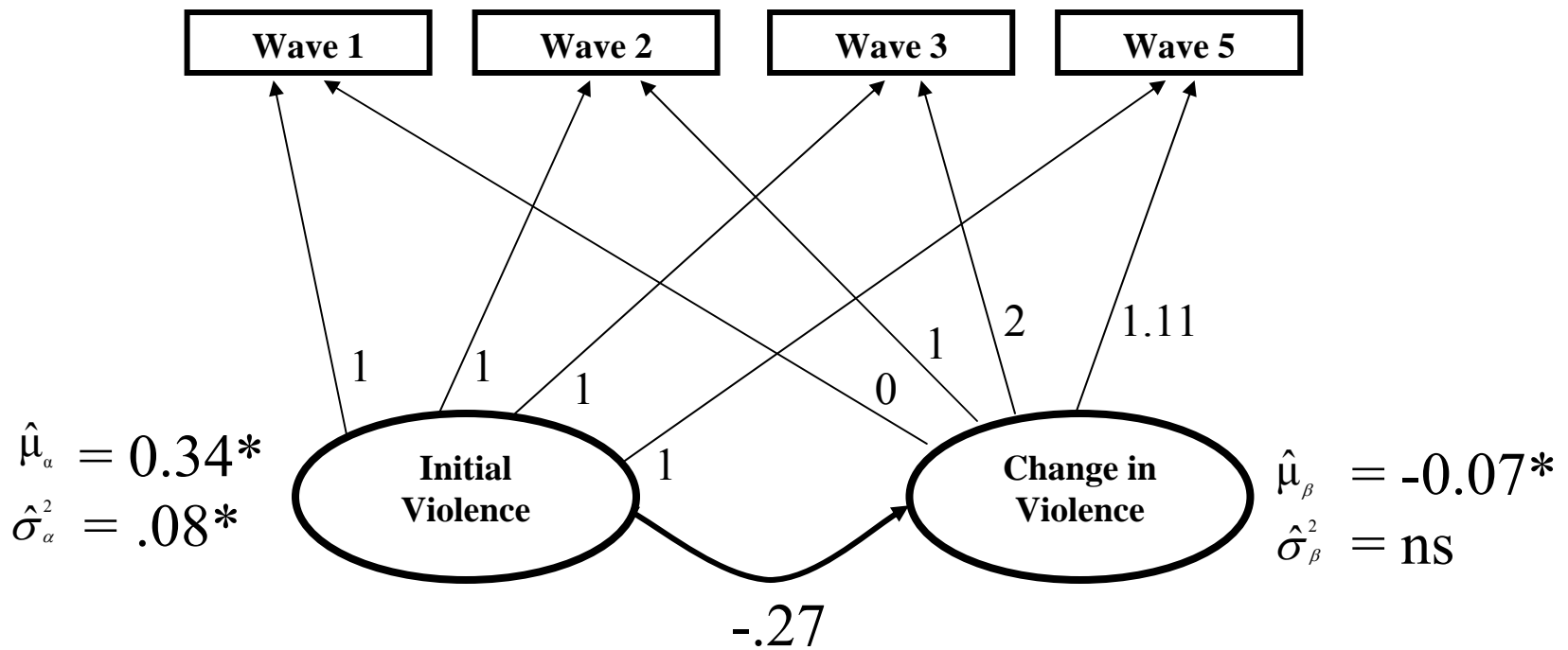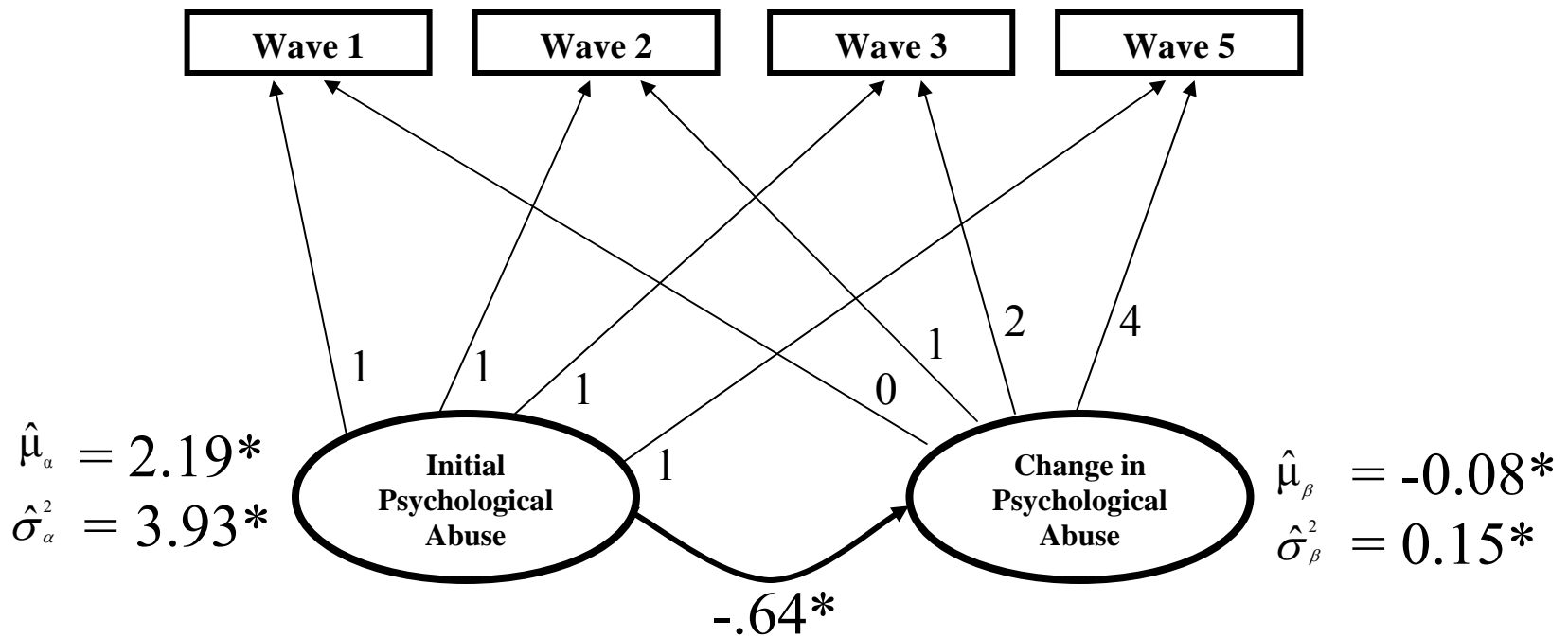
$\hat{\mu}_{\alpha} = 0.39*$
$\hat{\sigma}^2_{\alpha} = .16*$

$\hat{\mu}_{\beta} = -0.09*$
$\hat{\sigma}^2_{\beta} = -0.03*$

$*p < .05$

$\chi^2 (4, N = 169) = 1.41, p = .84$; CFI = .99; RMSEA = .01

Figure 6. Latent trajectory model for Euro-American women's reported violence (measurement model).

$\hat{\mu}_\alpha = 0.34^*$
$\hat{\sigma}^2_\alpha = .08^*$

$\hat{\mu}_\beta = -0.07^*$
$\hat{\sigma}^2_\beta = \text{ns}$

$-.27$

$^*p < .05$
$\chi^2 (4, N = 188) = 2.39, p = .67; \text{CFI} = .99; \text{RMSEA} = .01$

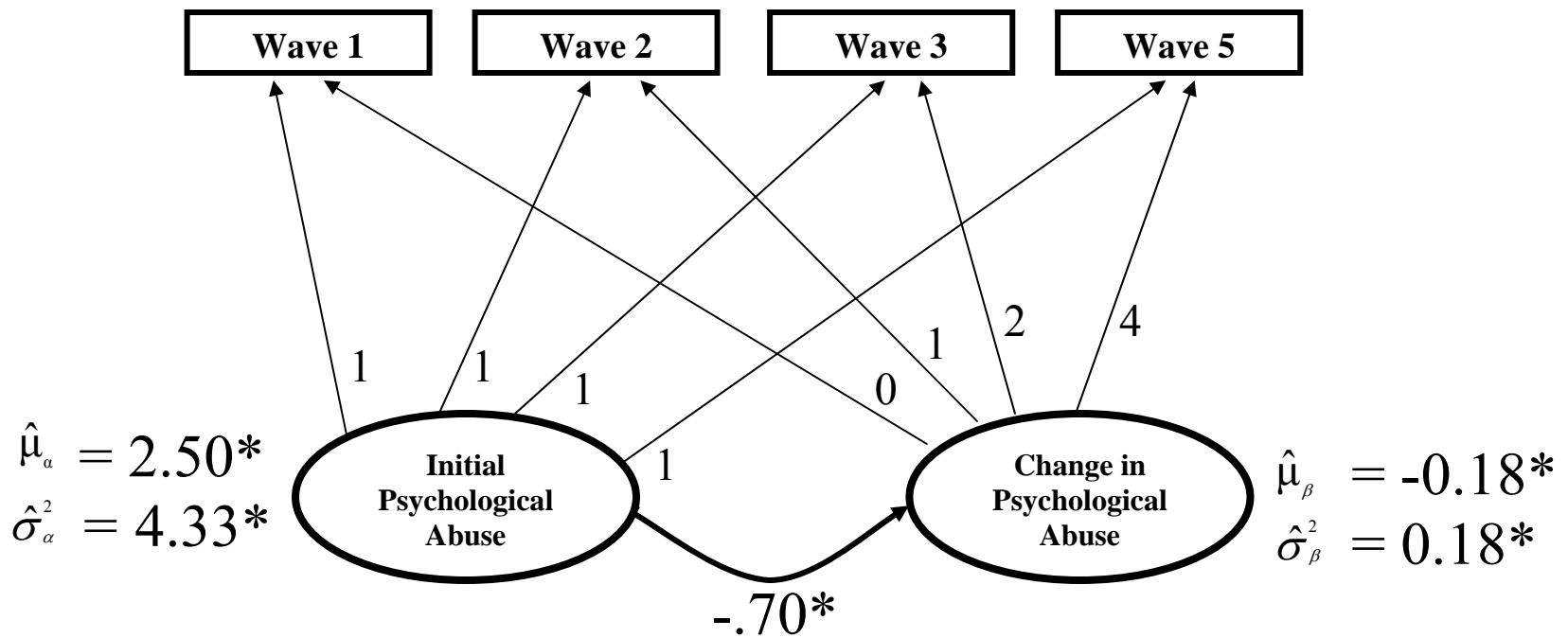*Figure 7.* Latent trajectory model for Mexican American women's reported violence (measurement model).

Figure 8. Latent trajectory model for women's reported psychological abuse (measurement model).

$\hat{\mu}_\alpha = 2.12^*$
$\hat{\sigma}^2_\alpha = 3.88^*$

$\hat{\mu}_\beta = ns$
$\hat{\sigma}^2_\beta = 0.18^*$
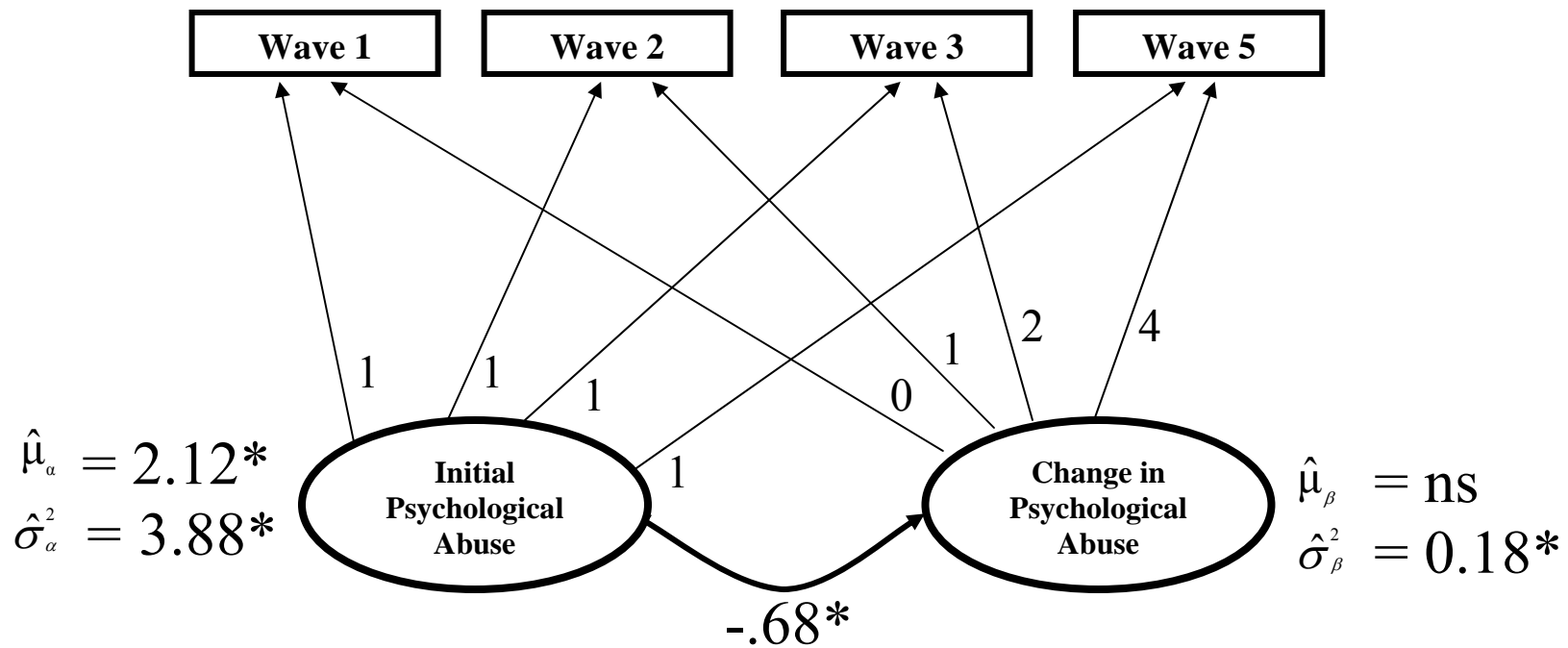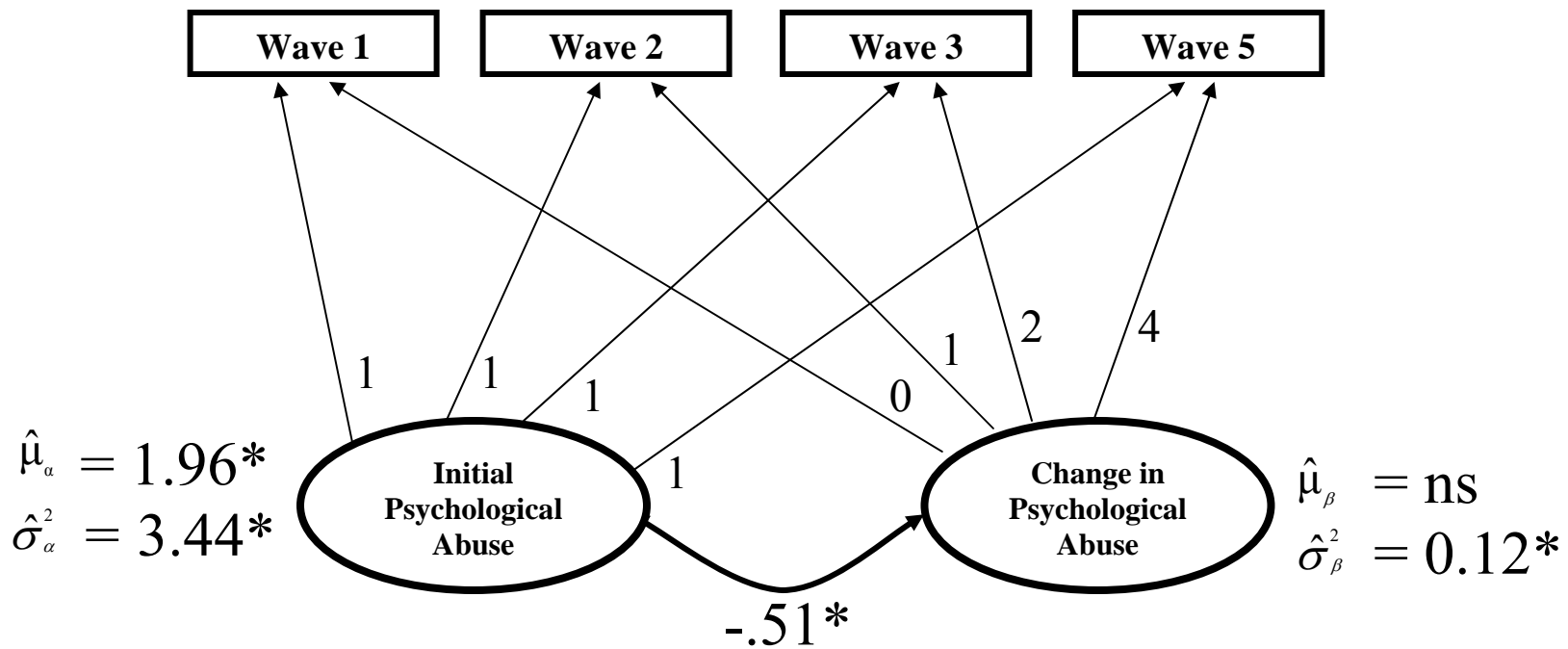
$\chi^2 (5, N = 228) = 3.09, p = .54;$ CFI $= .97;$ RMSEA $= .08$
$^*p < .05$

Figure 9. Latent trajectory model for African American women's reported psychological abuse (measurement model).

Wave 1　Wave 2　Wave 3　Wave 5

$\hat{\mu}_{\alpha} = 2.50*$

$\hat{\sigma}_{\alpha}^{2} = 4.33*$

Initial Psychological Abuse

Change in Psychological Abuse

$\hat{\mu}_{\beta} = -0.18*$

$\hat{\sigma}_{\beta}^{2} = 0.18*$

1　1　1　0　1　2　4　1

-.70*

*$p < .05$

χ^{2} (5, $N = 169$) = 4.94, $p = .42$; CFI = .99; RMSEA = .01

Figure 10. Latent trajectory model for Euro-American women's reported psychological abuse (measurement model).

$\hat{\mu}_{\alpha} = 1.96*$
$\hat{\sigma}^2_{\alpha} = 3.44*$

$\hat{\mu}_{\beta} = $ ns
$\hat{\sigma}^2_{\beta} = 0.12*$

-.51*

*$p < .05$
χ^2 (5, $N = 188$) = 11.32, $p < .05$; CFI = .98; RMSEA = .08

Figure 11. Latent trajectory model for Mexican American women's reported psychological abuse (measurement model).

$\hat{\mu}_{\alpha} = 1.08*$

$\hat{\sigma}_{\alpha}^{2} = .56*$

$\hat{\mu}_{\beta} = -0.25*$

$\hat{\sigma}_{\beta}^{2} = 0.29*$
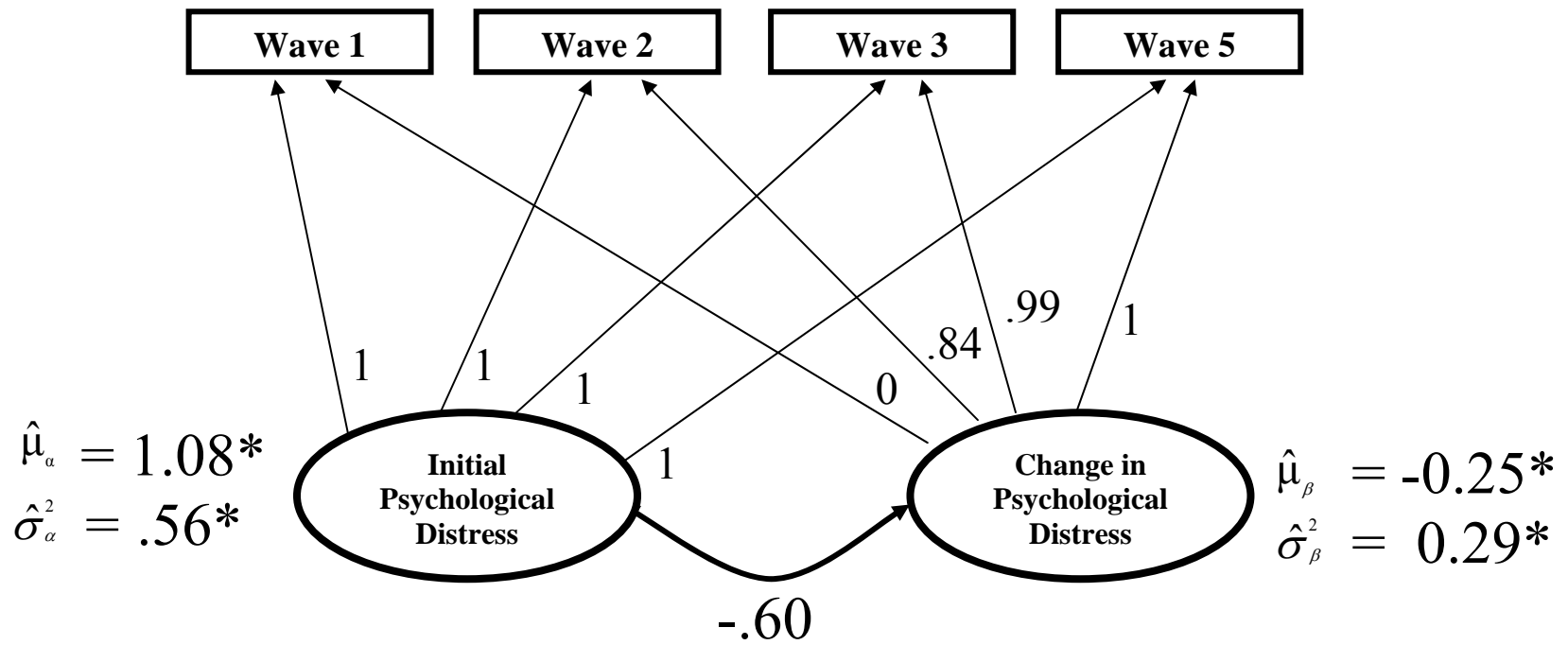
$*p < .05$

$\chi^{2} (3, 585) = 18.06, p < .001$; CFI $= .99$; RMSEA $= .09$

Figure 12. Latent trajectory model for women's psychological distress (measurement model).

$\hat{\mu}_{\alpha} = 1.02*$
$\hat{\sigma}^2_{\alpha} = .46*$

$\hat{\mu}_{\beta} = -0.11*$
$\hat{\sigma}^2_{\beta} = ns$
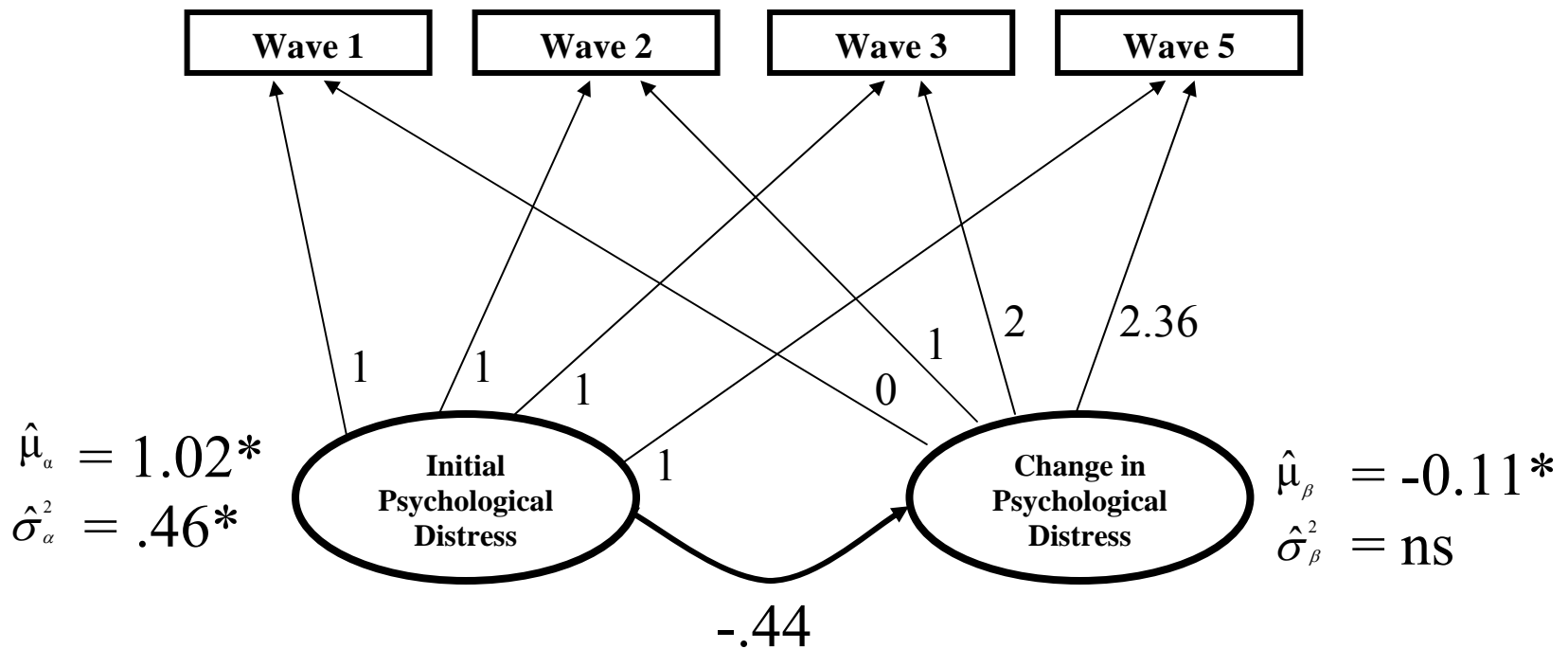
*$p < .05$
$\chi^2 (4, 228) = 27.10$, $p < .001$; CFI $= .95$; RMSEA $= .16$

Figure 13. Latent trajectory model for African American women's psychological distress (measurement model).
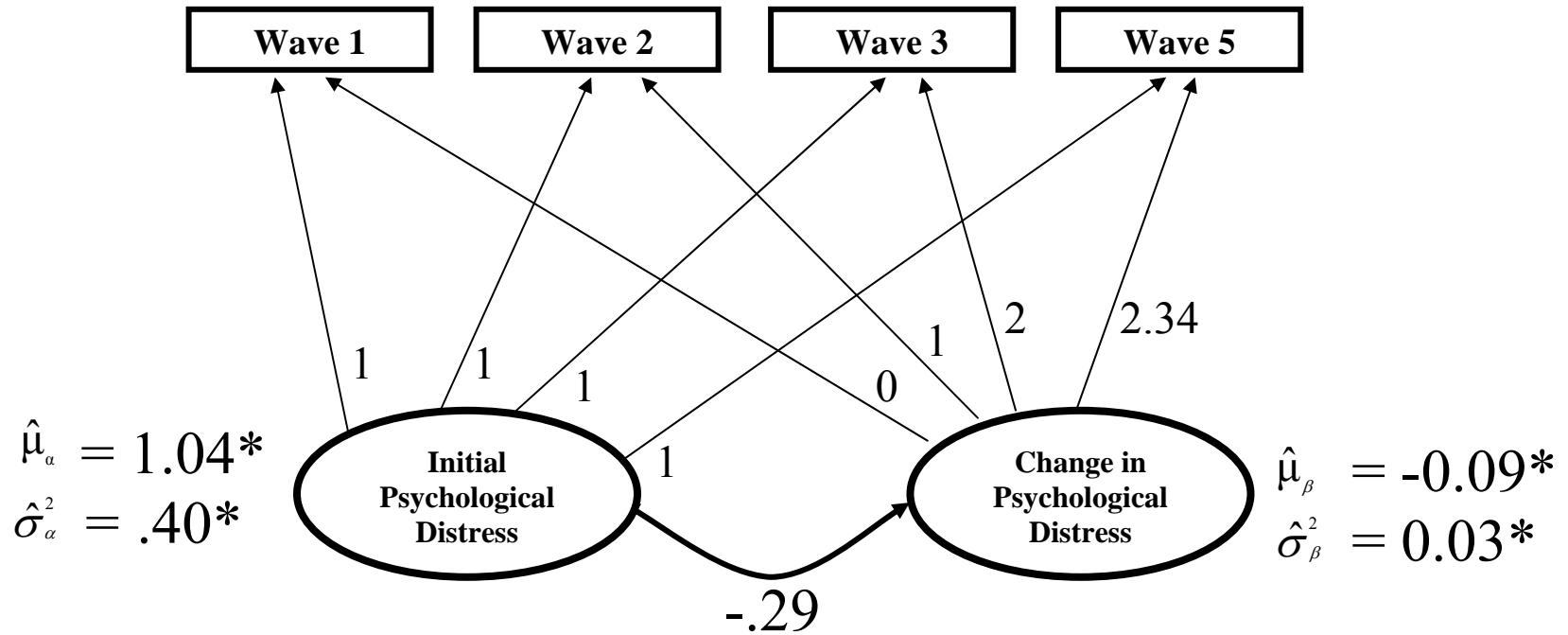
$\hat{\mu}_\alpha = 1.03*$

$\hat{\sigma}^2_\alpha = .33*$

$\hat{\mu}_\beta = -0.12*$

$\hat{\sigma}^2_\beta = 0.29*$

Wave 1   Wave 2   Wave 3   Wave 5

1   1   1   0   1   2   1.65   1

Initial Psychological Distress

Change in Psychological Distress

-.34
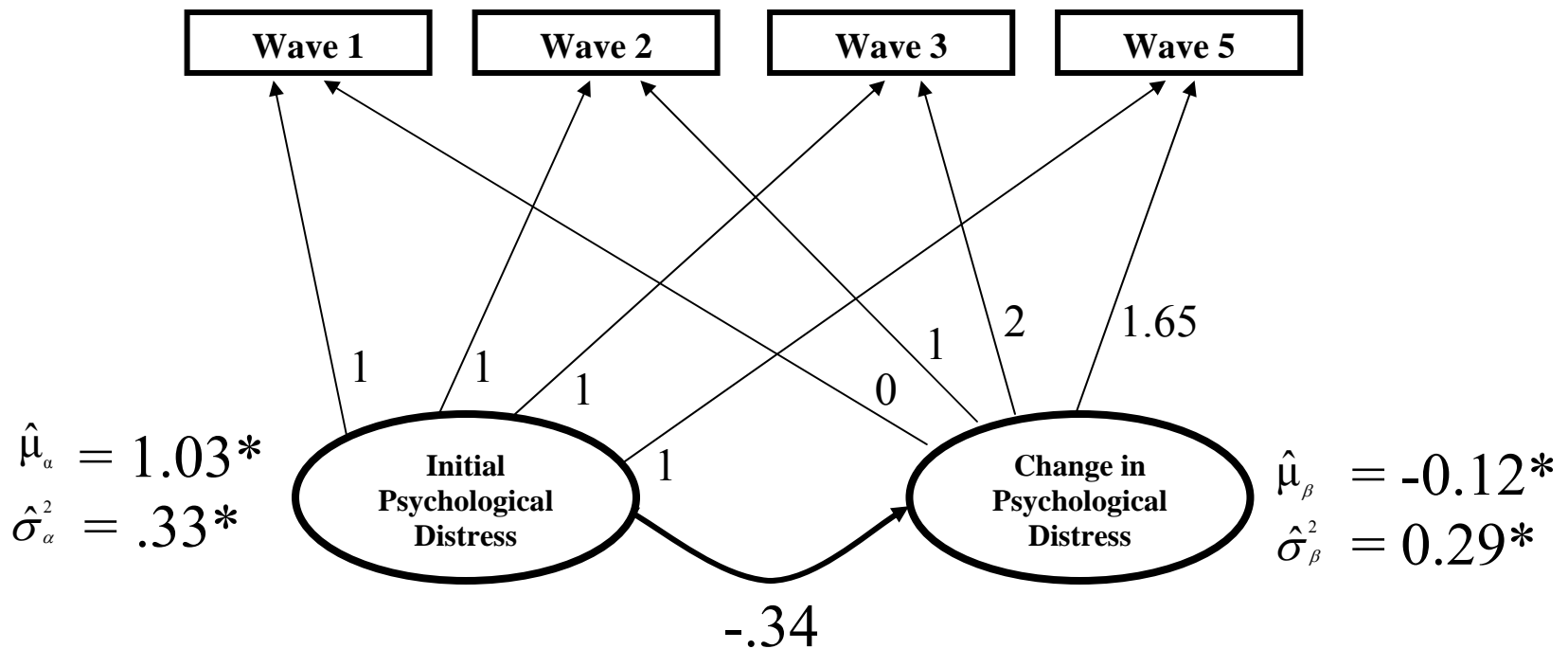
*$p < .05$

$\chi^2 (4, 169) = 4.04, p = .26$; CFI = .99; RMSEA = .15

Figure 14. Latent trajectory model for Euro-American women's psychological distress (measurement model).
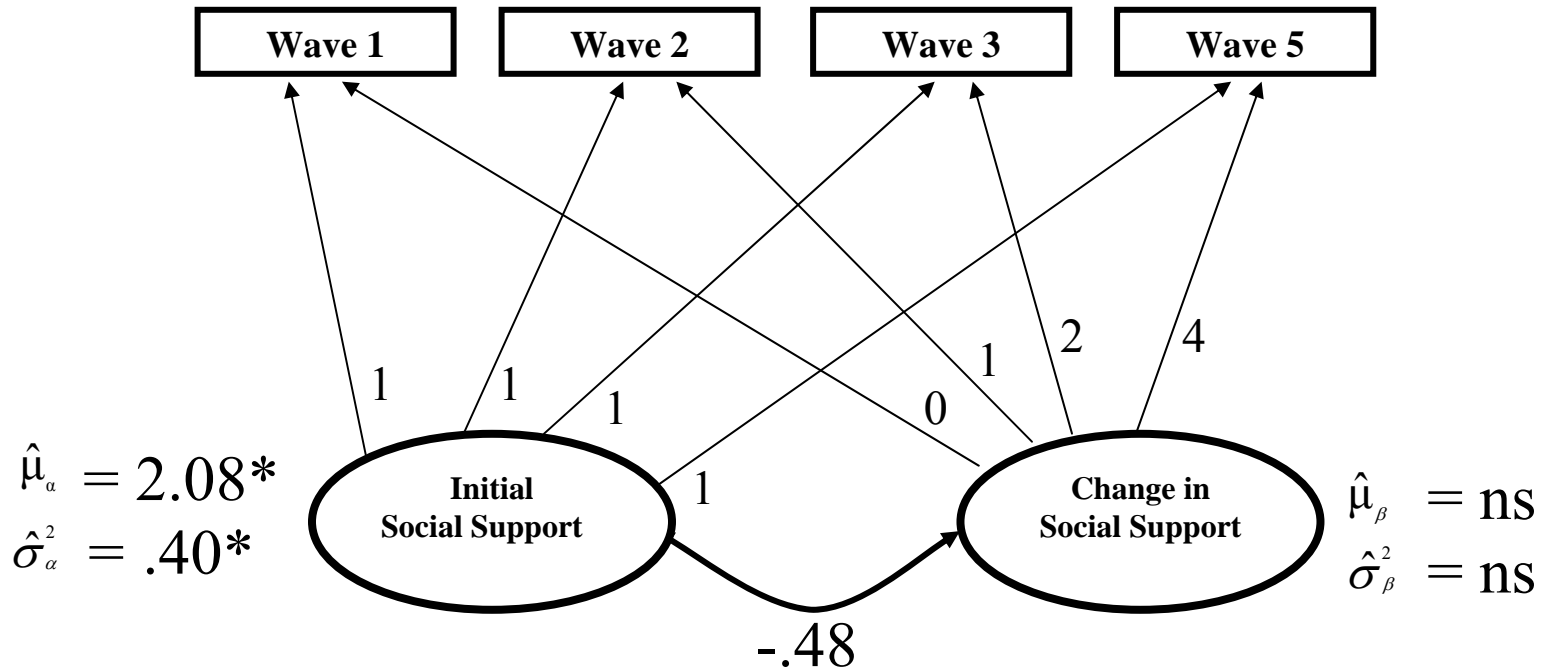
$\hat{\mu}_{\alpha} = 1.04*$
$\hat{\sigma}^2_{\alpha} = .40*$

$\hat{\mu}_{\beta} = -0.09*$
$\hat{\sigma}^2_{\beta} = 0.03*$

$*p < .05$
$\chi^2 (4, 188) = 14.18, p < .008; CFI = .98; RMSEA = .12$

Figure 15. Latent trajectory model for Mexican American women's psychological distress (measurement model).

$\hat{\mu}_{\alpha} = 2.08*$
$\hat{\sigma}^2_{\alpha} = .40*$

$\hat{\mu}_{\beta} = \text{ns}$
$\hat{\sigma}^2_{\beta} = \text{ns}$

-.48

*p < .05
χ^2 (5, 585) = 23.61, p < .001; CFI = .98; RMSEA = .08

Figure 16. Latent trajectory model for women's social support (measurement model).

$\hat{\mu}_{\alpha} = 2.15*$

$\hat{\sigma}^2_{\alpha} = .40*$

$\hat{\mu}_{\beta} = ns$

$\hat{\sigma}^2_{\beta} = ns$

*$p < .05$
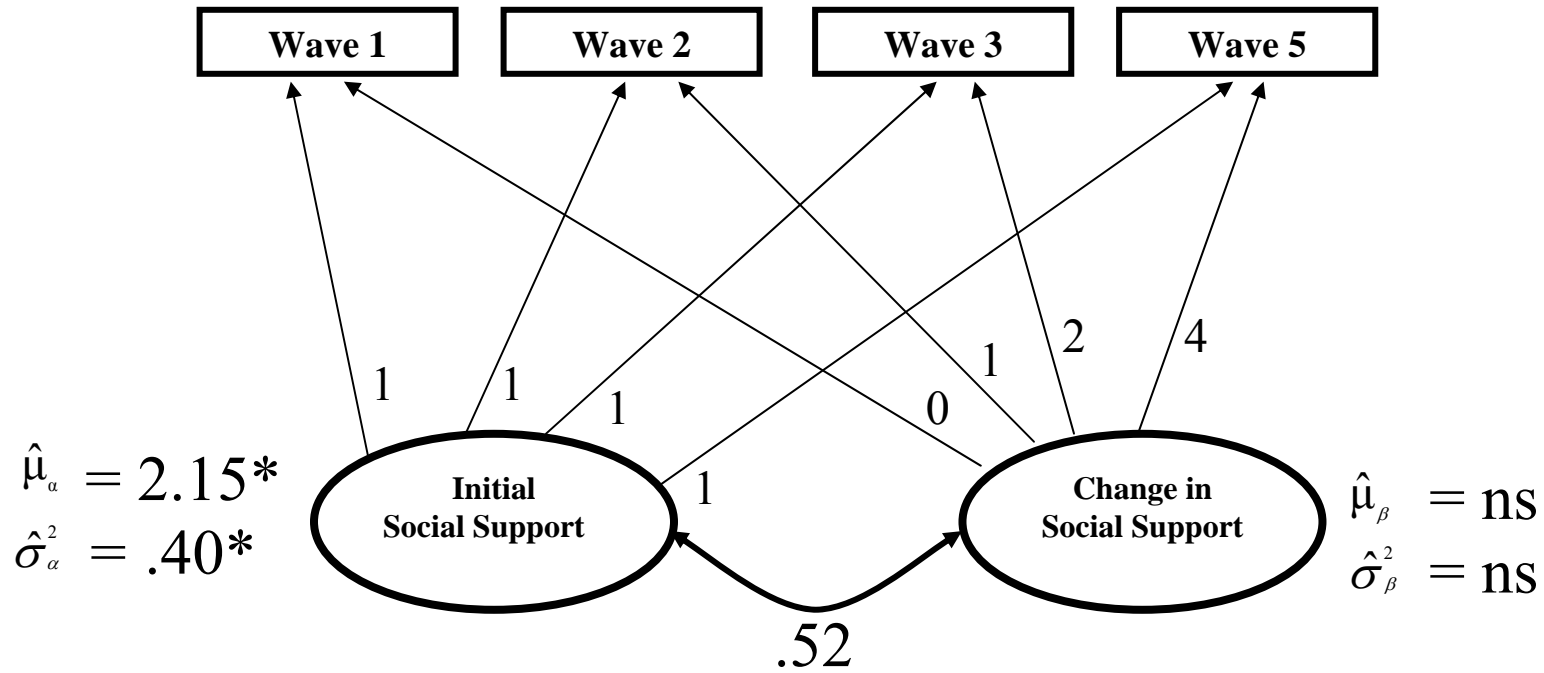
χ^2 (5, 228) = 15.35, $p < .01$; CFI = .96; RMSEA = .09

Figure 17. Latent trajectory model for African American women's social support (measurement model).

Wave 1   Wave 2   Wave 3   Wave 5

$\hat{\mu}_{\alpha} = 2.09^*$

$\hat{\sigma}^2_{\alpha} = .39^*$

1   1   1   0   1   2   4   1

Initial Social Support

Change in Social Support

$\hat{\mu}_{\beta} = ns$

$\hat{\sigma}^2_{\beta} = ns$

-.25
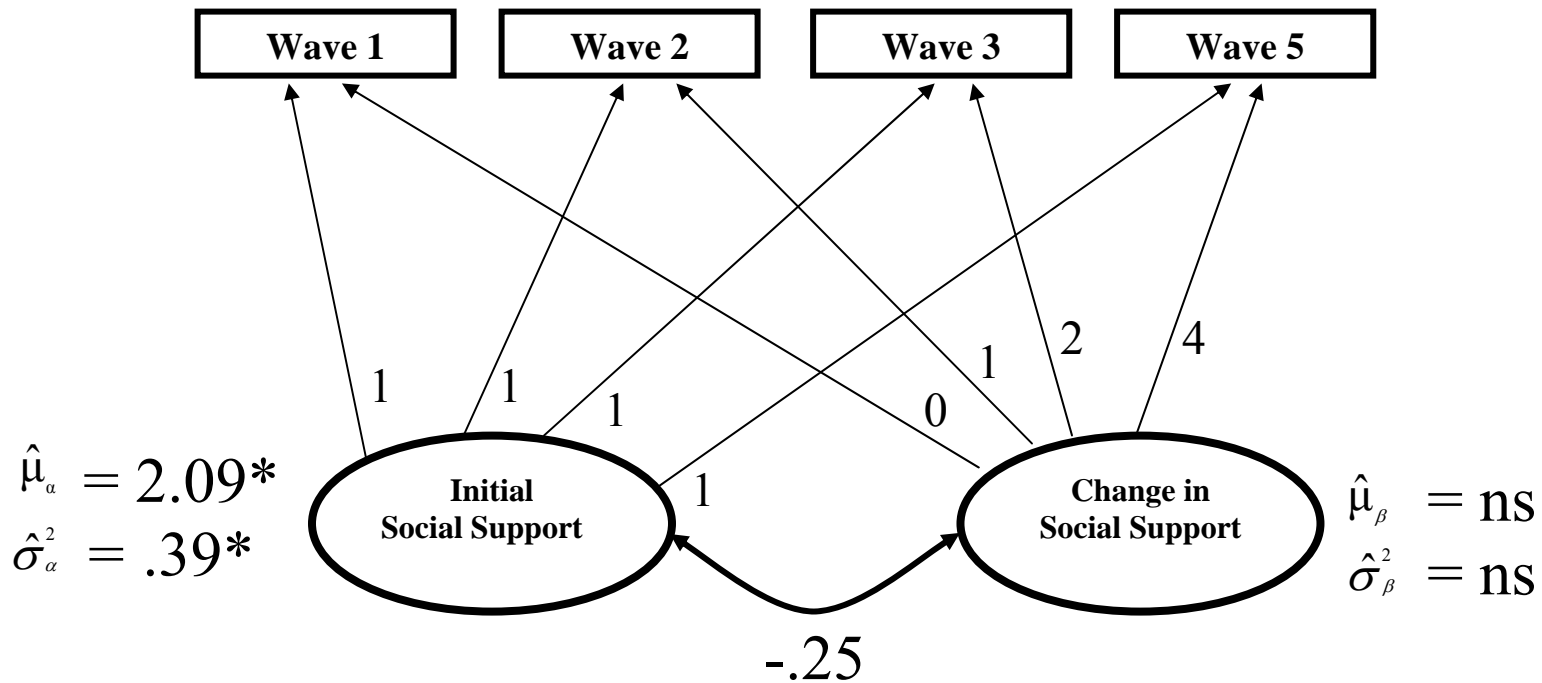
$^*p < .05$

$\chi^2 (5, 169) = 12.02, p < .04;$ CFI $= .98$; RMSEA $= .09$

Figure 18. Latent trajectory model for Euro-American women's social support (measurement model).
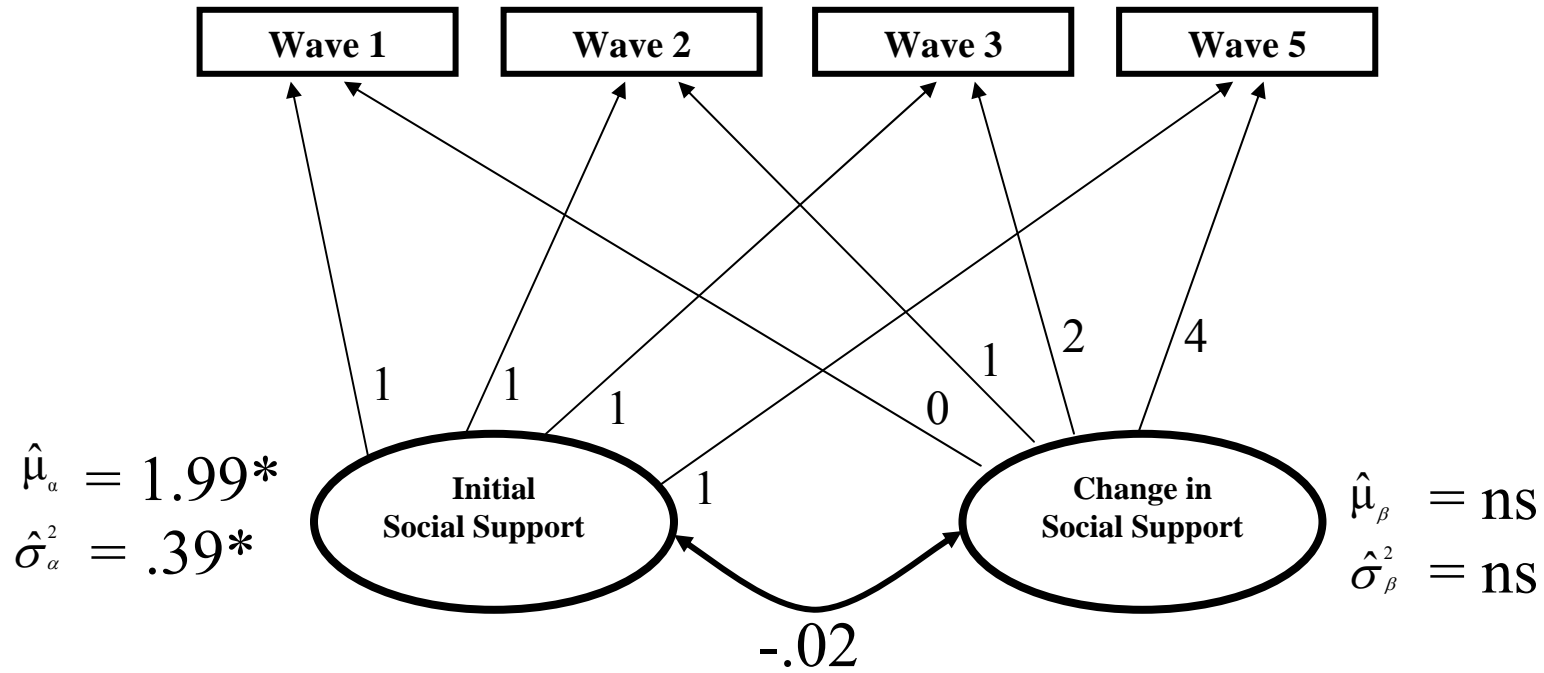
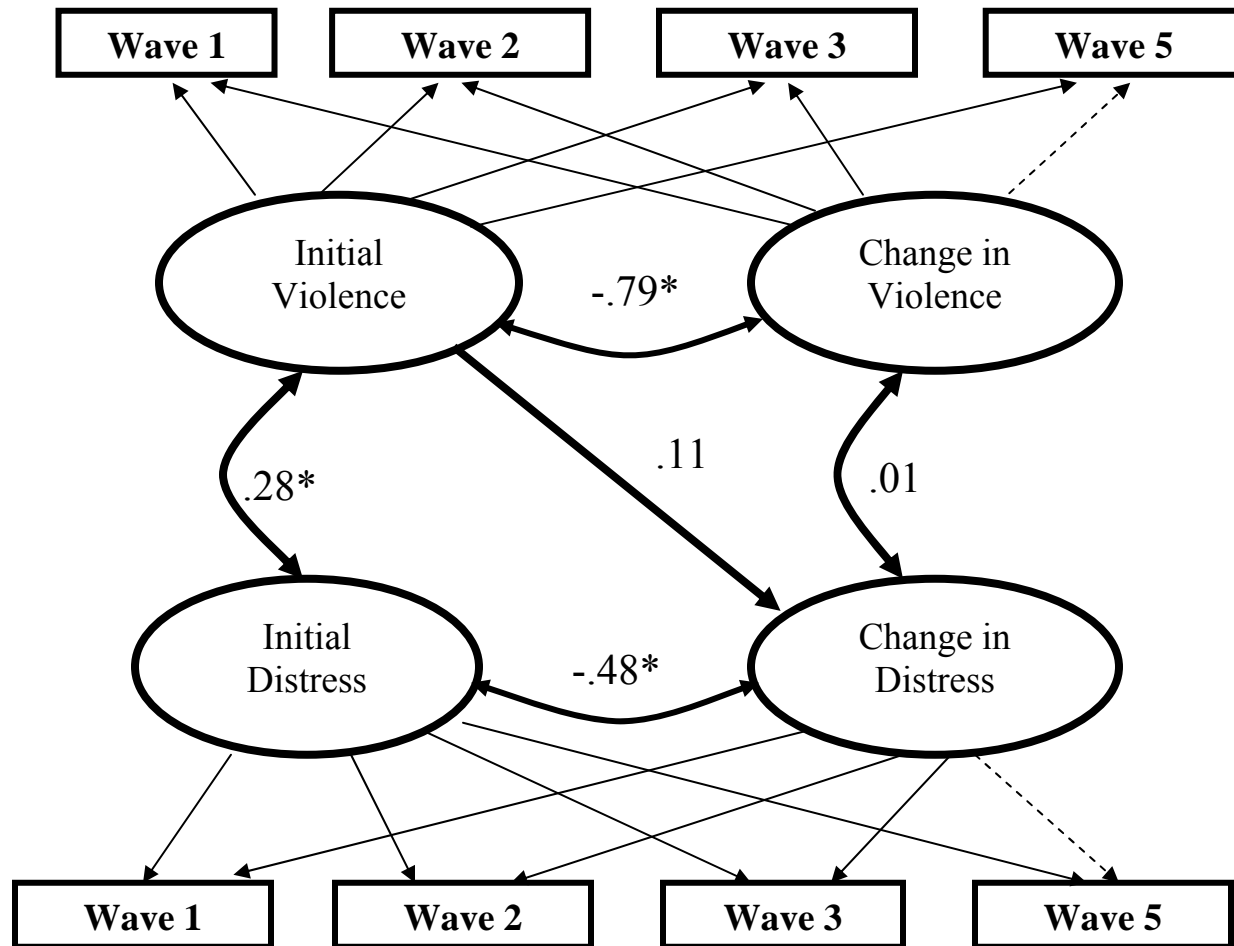*Figure 19.* Latent trajectory model for Mexican American women's social support (measurement model).

p < .05
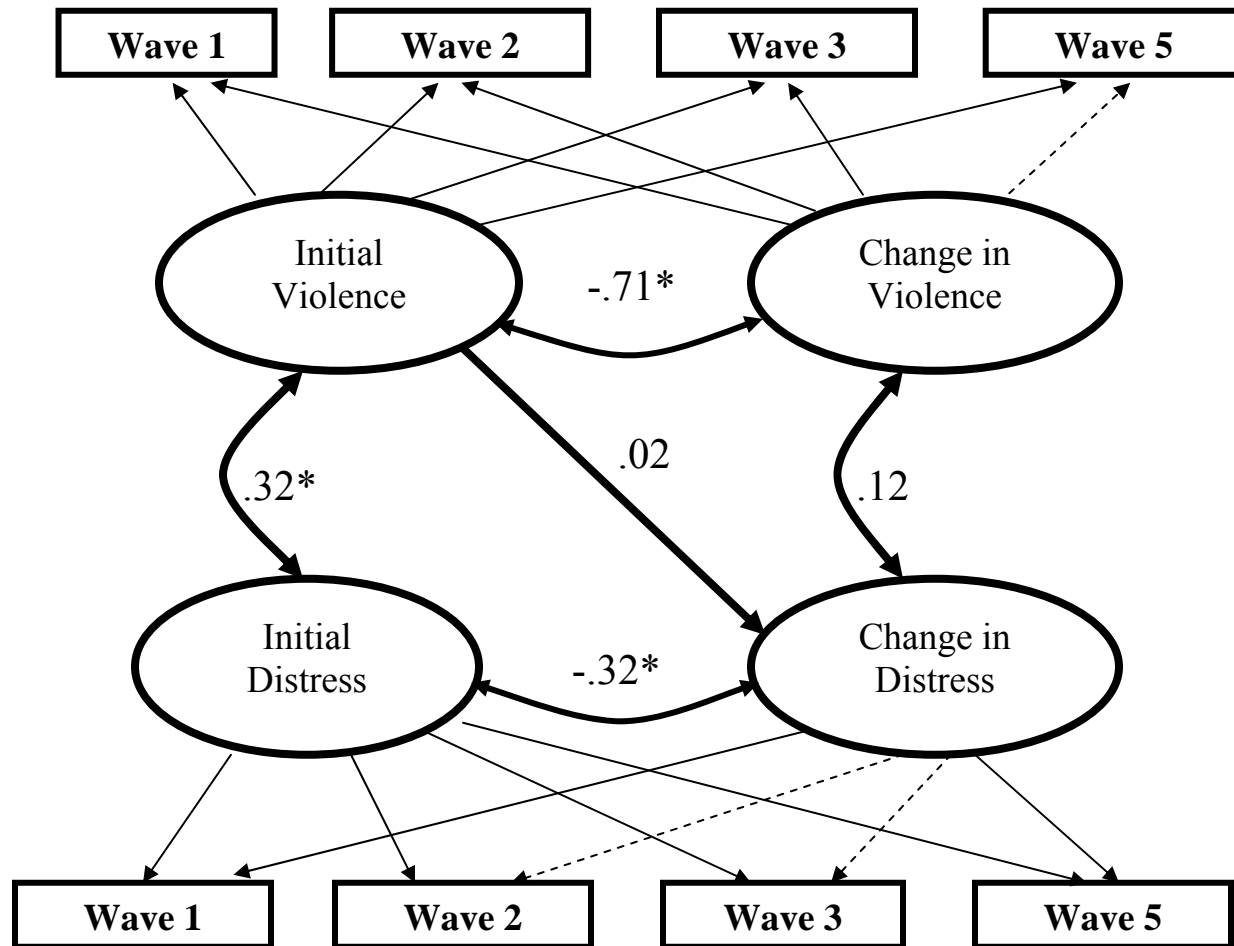
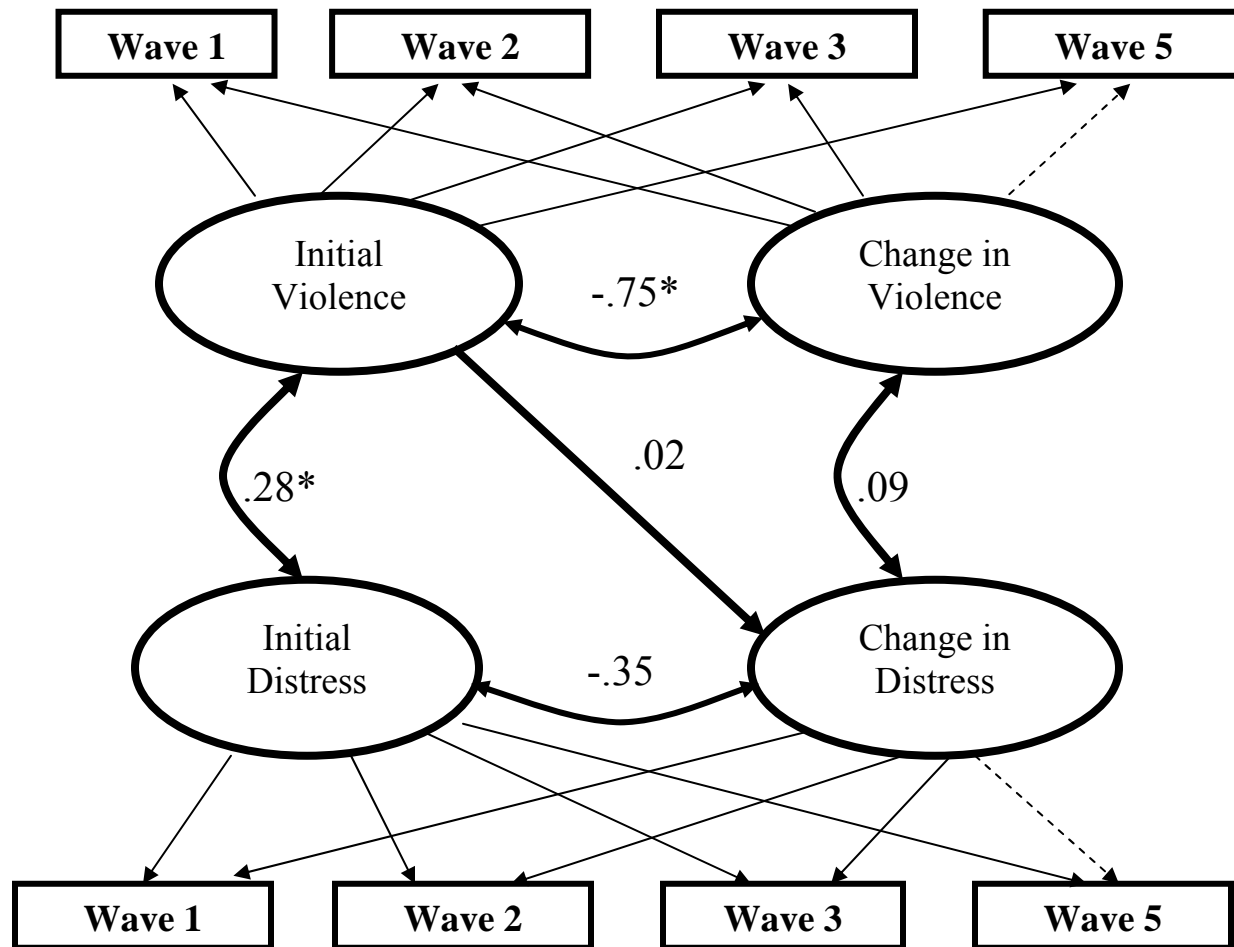χ^2 (23, 585) = 128.87, *p* < .001; CFI = .95; RMSEA= .09

Figure 20. Multivariate latent trajectory model of women's violence and psychological distress (structural model).

p < .05

χ^2 (23, 228) = 79.10, *p* < .001; CFI = .92; RMSEA = .10

Figure 21. Multivariate latent trajectory model of African American women's violence and psychological distress (structural model).
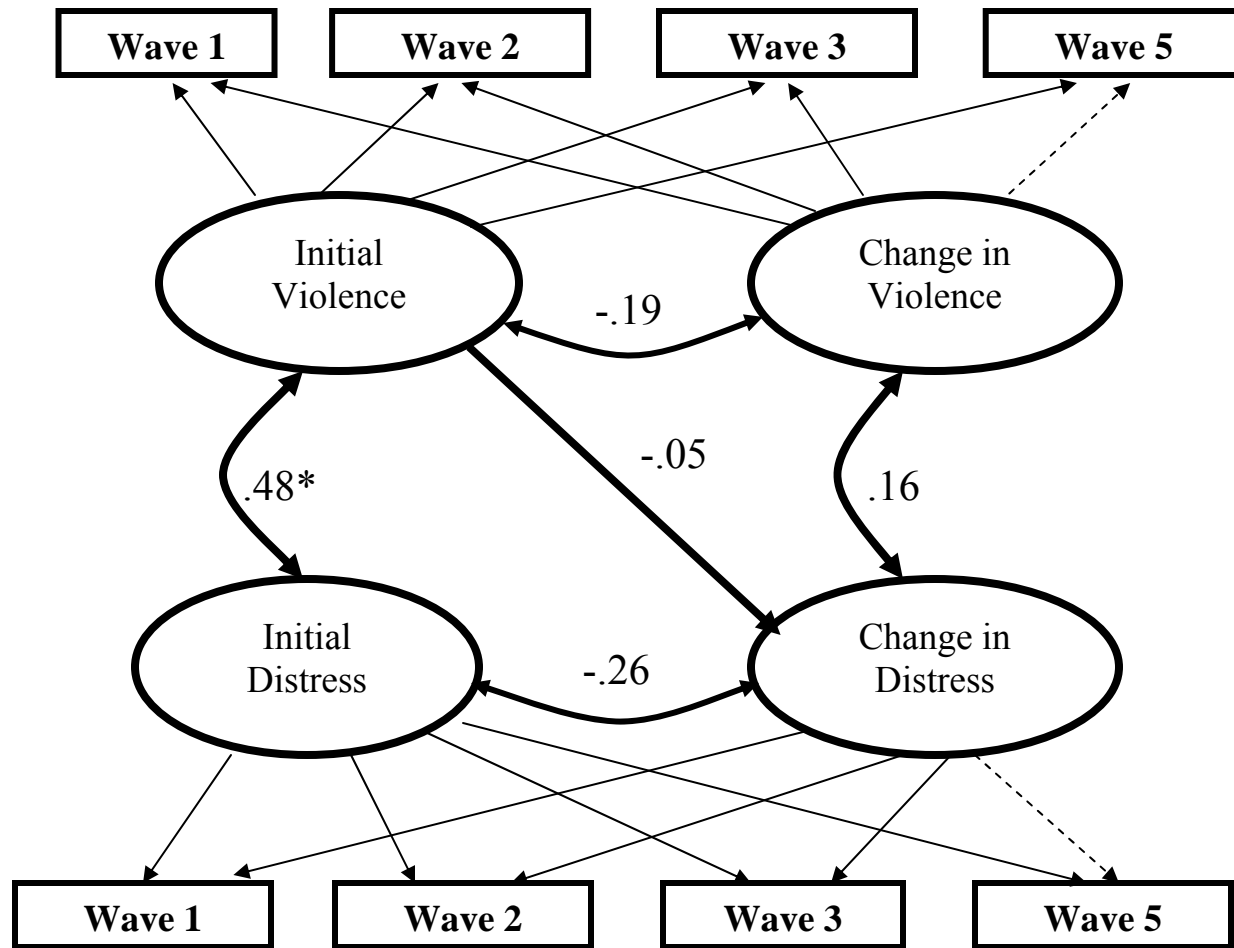
p < .05

χ^2 (23, 169) = 42.32, *p* < .009; CFI = .97; RMSEA = .07

Figure 22. Multivariate latent trajectory model of Euro-American women's violence and psychological distress (structural model).
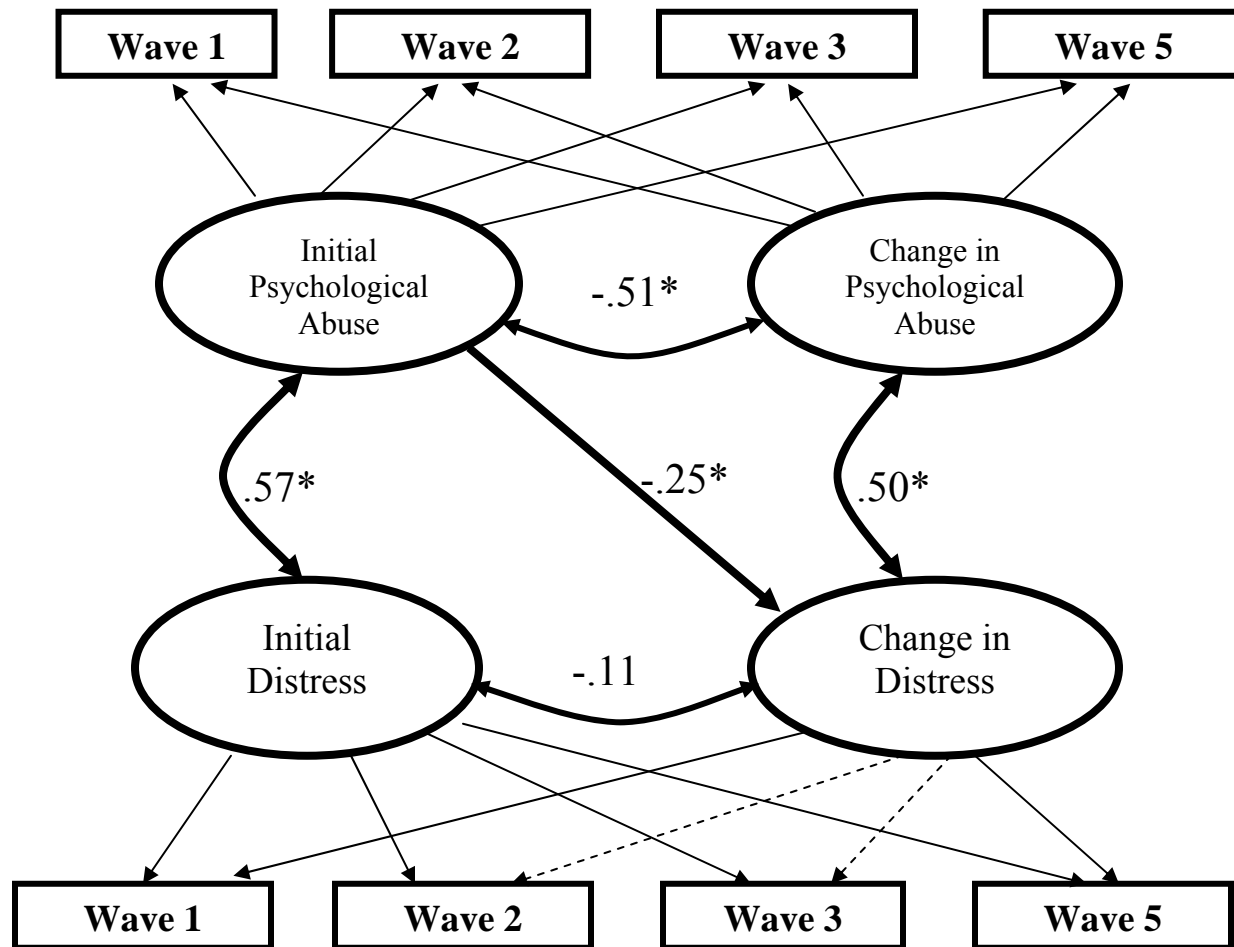
p < .05

χ^2 (23, *188*) = 62.50, *p* < .001; CFI = .94; RMSEA= .10

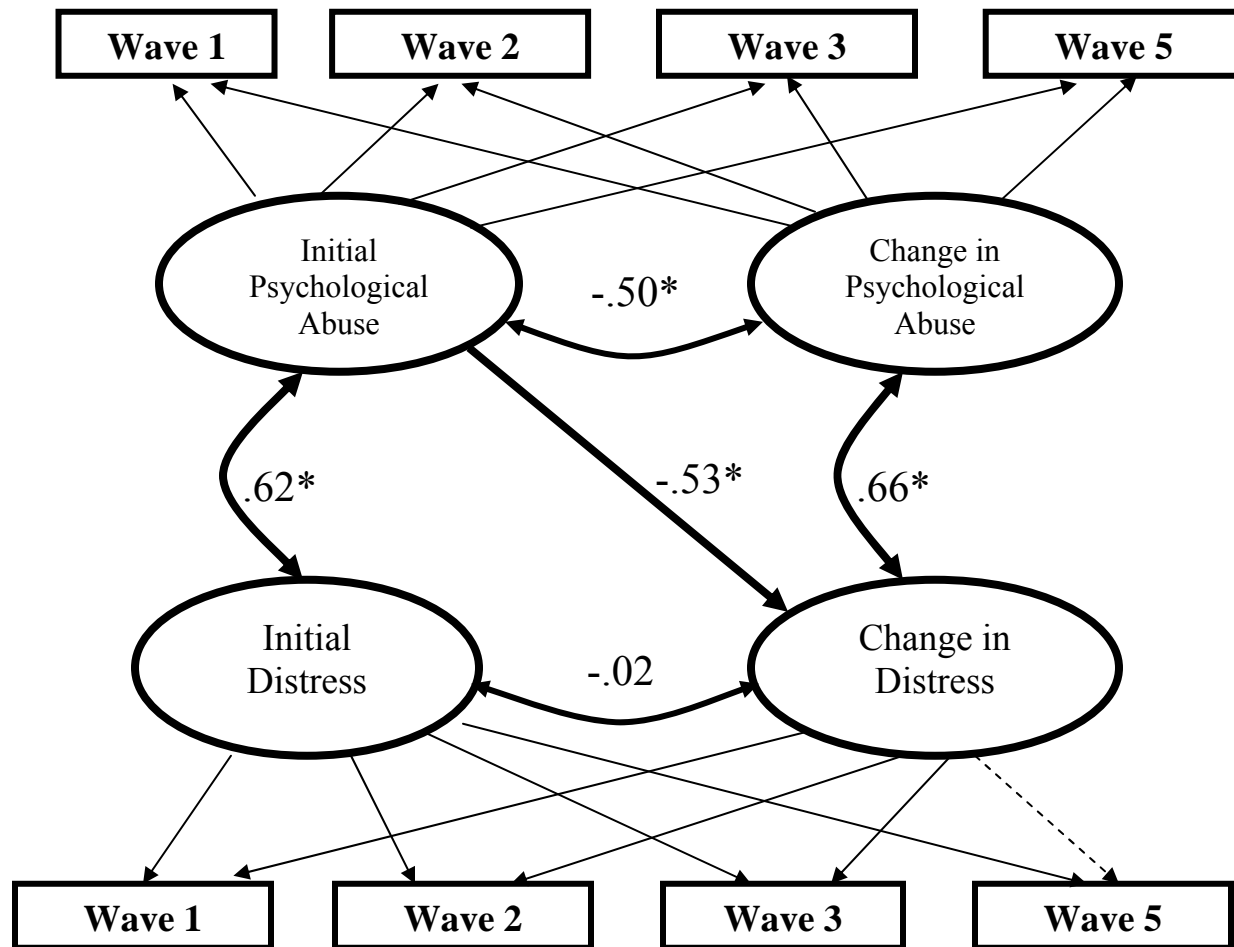*Figure 23*. Multivariate latent trajectory model of Mexican American women's violence and psychological distress (structural model).

p < .05

χ^2 (23, 585) = 188.31, *p* < .001; CFI = .93; RMSEA = .11

Figure 24. Multivariate latent trajectory model of women's psychological abuse and psychological distress (structural model).

*p < .05

$\chi^2 (23, 228) = 97.83, p < .001$; CFI = .91; RMSEA = .12

Figure 25. Multivariate latent trajectory model of African American women's psychological abuse and psychological distress (structural model).

Figure 26. Multivariate latent trajectory model of Euro-American women's psychological abuse and psychological distress (structural model).

*p < .05

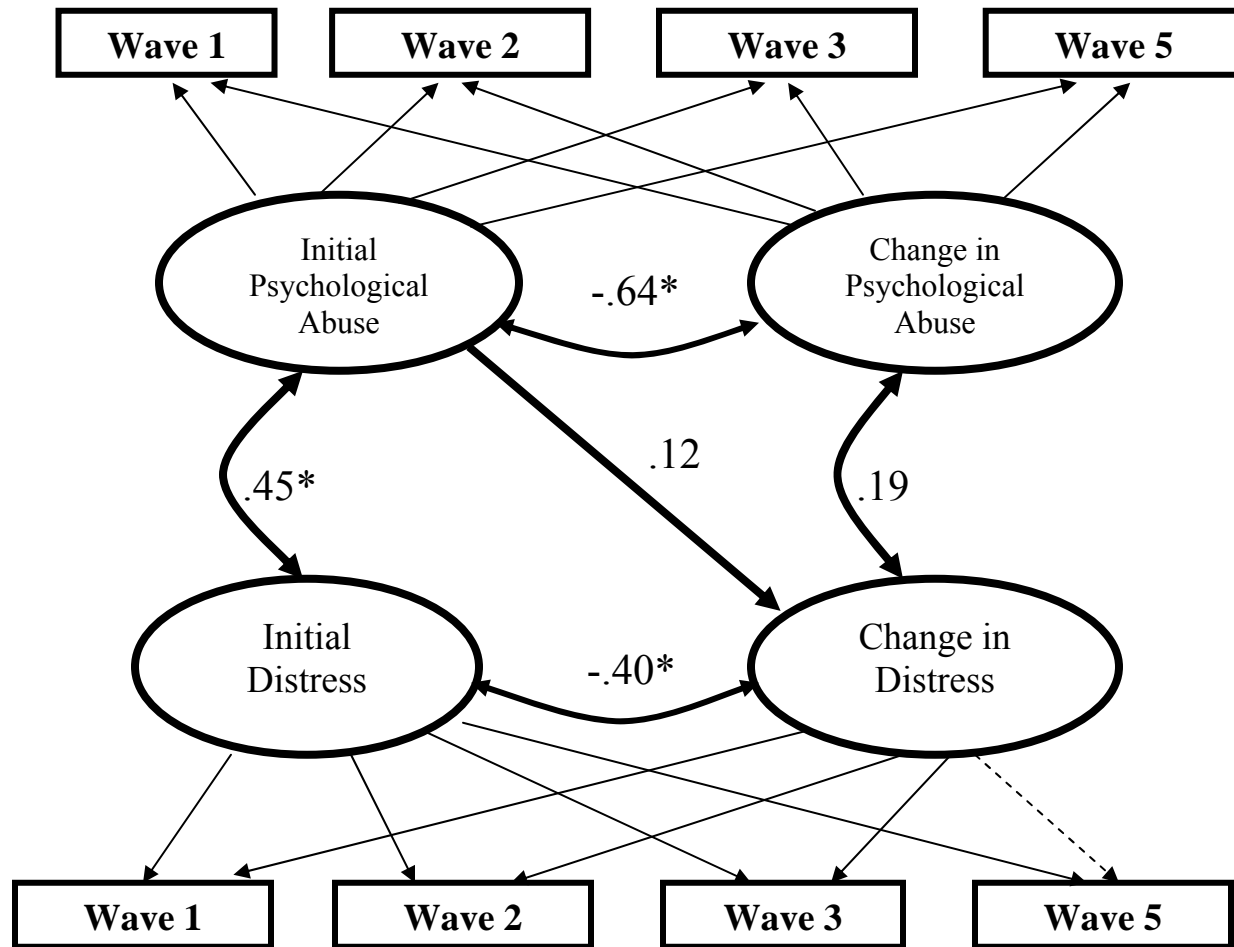χ^2 (23, 188) = 62.12, p < .001; CFI = .95; RMSEA = .10

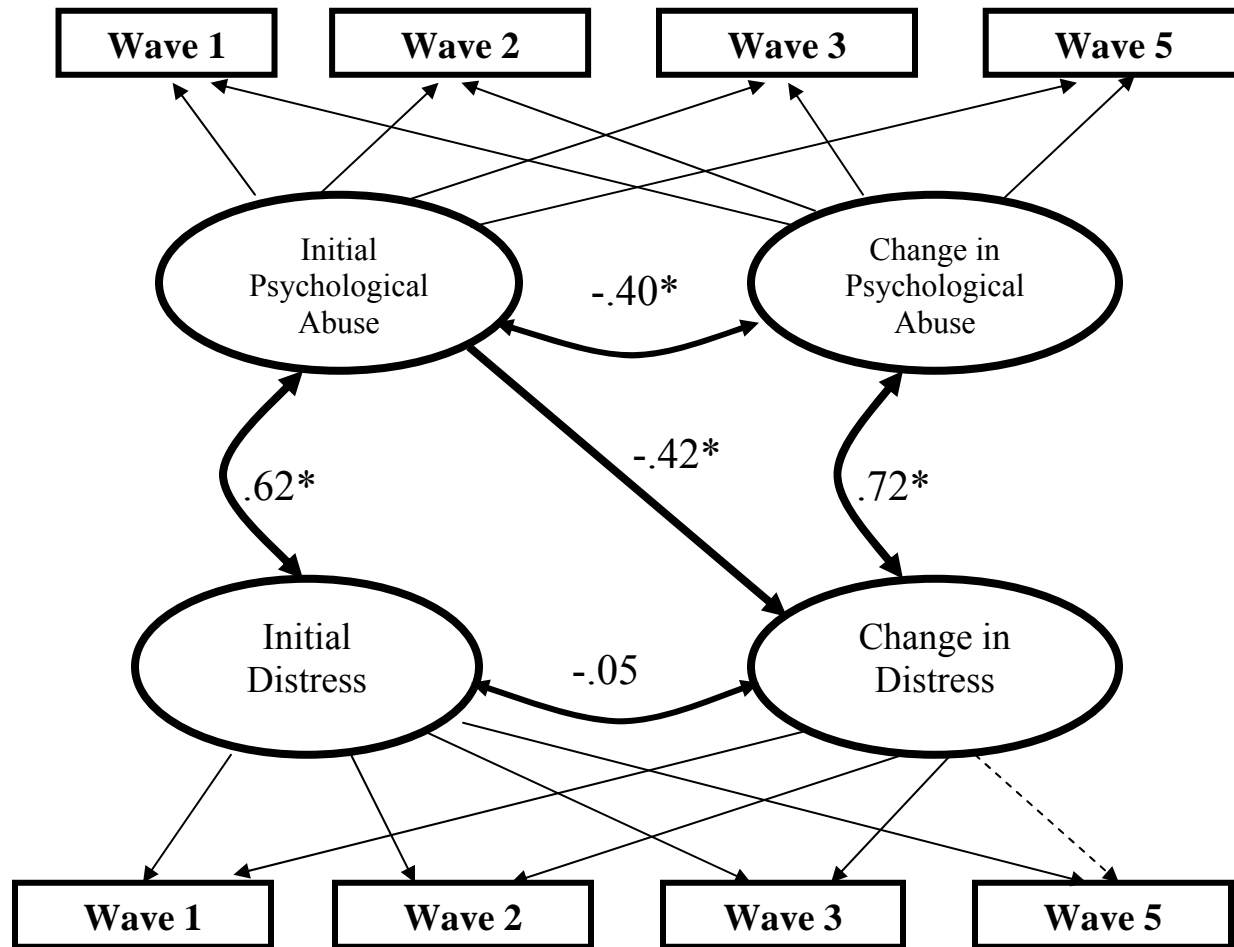*Figure 27*. Multivariate latent trajectory model of Mexican American women's psychological abuse and psychological distress (structural model).

p < .05

χ^2 (57, 585) = 179.09, *p* < .001; CFI = .96; RMSEA = .06

Figure 28. Multivariate latent trajectory model of women's reported psychological abuse, psychological distress, and social support (structural model).

*p < .05
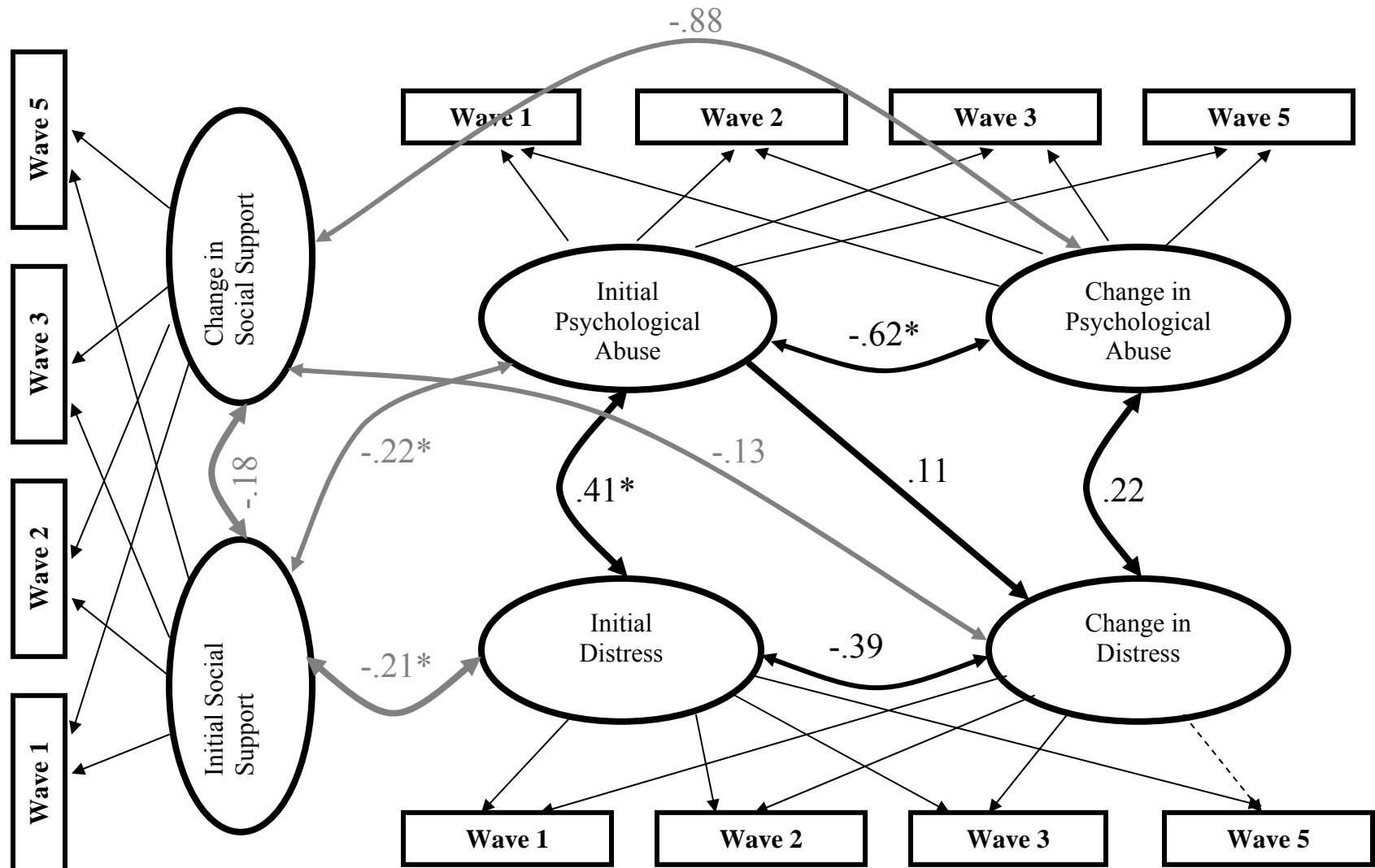
χ^2 (56, 585) = 105.92, *p* < .001; CFI = .95; RMSEA = .07

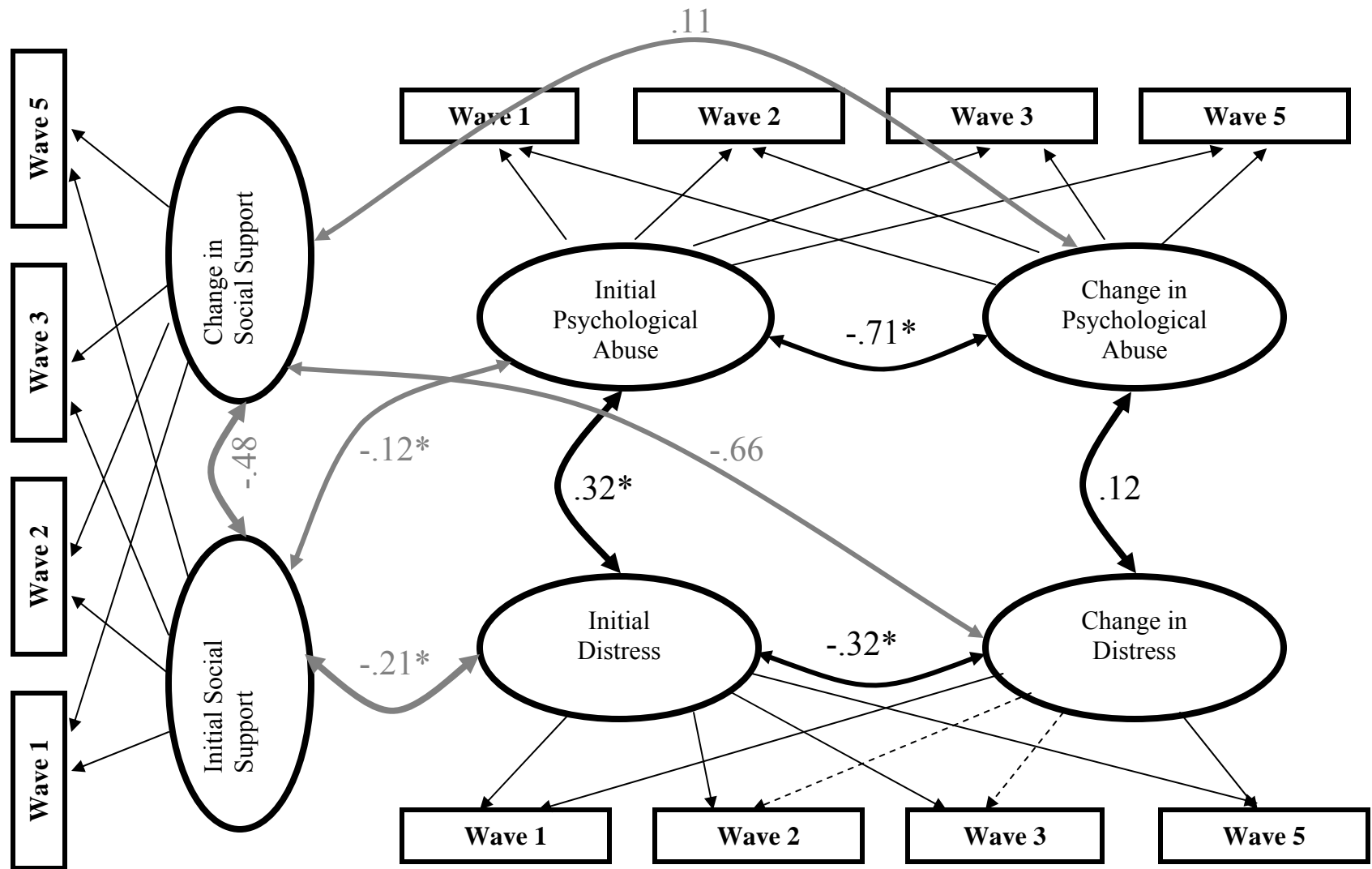*Figure 29*. Multivariate latent trajectory model of Euro-American women's psychological abuse, psychological distress, and social support (structural model).

APPENDIX A

SUMMARY OF INFORMED CONSENT

1. The purpose of this study is to find out how to help women become healthier. The results will help us make changes to serve you better.

2. The Centers for Disease Control and Prevention is funding the study. Dr. Linda Marshall from the University of North Texas and Ms. Anne C. Freeman from the Dallas County Health Department are directing the study.

3. We are looking at how stress and life situations hurt and help women's health and well-being. You will be interviewed (in English) 4 times in the next 2 years so we can learn how women's lives change and how they stay the same in ways that affect their health. The first time you come may take about 3 hours for you to register, report the history of your health, and e interviewed. You will also have the opportunity to make suggestions to improve the project.

4. Procedures of confidentiality are <u>very</u> strict so you can feel safe answering questions truthfully. The office workers will not know the questions we ask or your answers. The interviewer will not know your full name or where you live. Certificates of Confidentiality protect you. No one (even a court of law) can ever find out what you tell us without your written permission.

5. Some women could be hurt if people learn about our questions. Please help us protect these women by not talking about specific questions asked during interviews. Do not even discuss it with others in the study or our office workers.

6. We will not ask questions about current or recent abuse of children. However, if the office worker notices abuse while she is providing child care during interviews, we will report it.

7. You may feel frustrated, sad, offended or angry during interviews. The feelings will be temporary and may cause you to see things in a new way.

8. It is important that you come for all 4 interviews. The gifts we will give you will increase in value each time. We may contact you for later interviews through the mail, by telephone, in person, or (if necessary) through other people. You will tell us what is best for you.

9. If anyone on the project is impolite, unkind, or offensive in <u>any</u> way please contact Ms. Freeman or Dr. Marshall. Call Ms. Harris if you have ideas about making thr project better.

10. After the project is over, we will have meetings to tell you everything we learned. In the meantime, we plan to provide you with useful information through our offices.

11. The procedures for this study were approved by the University of North Texas Institutional Review Board for the Protection of Human Subjects in Research.

APPENDIX B

PERMISSION TO CONTACT PEOPLE FORM

Project HOW is a study of Health Outcomes of women sponsored by the Centers for Disease Control and Prevention and conducted by the University of North Texas and the Dallas County Health Department.

I, _____, give the person named below my permission to help Project HOW staff locate me in the future. This person has permission to release my address and telephone number. This permission does not allow Project HOW staff to release any information about e to the person listed.

_____   _____

Name   Telephone

_____

Address including apartment number and city if not Dallas

_____

New telephone   New address including apartment number and city if not Dallas

_____

New telephone   New address including apartment number and city if not Dallas

APPENDIX C

SEVERITY OF VIOLENCE AGAINST WOMEN SCALES (SVAWS)

How many times did he…

0	1	2	3	4	5
Never	Once	A Few Times	Several Times	Many Times	A Great Many Times

Threats of Violence

Symbolic violence
- Hit or kicked a wall, door or furniture
- Throw smash or break an object
- Drive dangerously with you in the car
- Throw an object at you

Threats of mild violence
- Shake a finger at you
- Make threatening gestures or faces at you
- Shake a fist at you
- Act like a bully toward you

Threats of moderate violence
- Destroy something belonging to you
- Threaten to harm or damage things you care about
- Threaten to destroy property
- Threaten someone you care about

Threats of serious violence
- Threaten to hurt you
- Threaten to kill himself
- Threaten to kill you
- Threaten you with a weapon
- Threaten you with a club-like object
- Act like he wanted to kill you
- Threaten you with a knife or gun

Acts of Violence

Mild violence
- Hold you down pinning you in place
- Push or shove you
- Grab you suddenly or forcefully
- Shake or roughly handle you

Minor violence
- Scratch you
- Pull your hair
- Twist your arm
- Spank you
- Bite you

Moderate violence
- Slap you with the pal of his hand
- Slap you with the back of his hand
- Slap you repeatedly around your face and head

Serious violence
- Hit you with an object
- Punch you
- Kick you
- Stomp on you
- Choke you
- Burn you with something
- Use a club-like object on you
- Beat you up
- Use a knife or gun on you

Sexual aggression
- Demand sex whether you wanted it or not
- Make you have oral/mouth sex against your will
- Make you have sexual intercourse against you will
- Physically force you to have sex
- Make you have anal/bottom sex against your will
- Use an object on you in a sexual way

APPENDIX D

SUBTLE AND OVERT PSYCHOLOGICAL ABUSE SCALE

Remember, he may do these things in a loving, joking or serious way.

How Often Does He...

Never 0 1 2 3 4 5 6 7 8 9 Almost Daily

0 = Never
1 = Once
2 = A couple of times
3 = Every few months
4 = About every other month
5 = About once a month
6 = About twice a month
7 = About every week
8 = A few times a week
9 = Almost daily

1. Play games with your head
2. Act like he knows what you did when he wasn't around
3. Blame you for him being angry or upset
4. Change his mind but not tell you until it's too late
5. Discourage you from having interests that he isn't part of
6. Do or say something that harms your self-respect or your pride in yourself
7. Encourage you to do something then somehow make it difficult to do it
8. Belittle, find fault or put down something you were pleased with or felt good about
9. Get more upset than you are when you tell him how you feel
10. Make you feel bad when you did something he didn't want you to do
11. Make you feel like nothing you say will have an effect on him
12. Make you choose between something he wants and something you want or need
13. Say or do something that makes you feel unloved or unlovable
14. Make you worry about whether you could take care of yourself
15. Make you feel guilt about something you have done or have not done
16. Use things you've said against you (like if you say you made a mistake, how often does he use that against you later)
17. Make you worry about your emotional health and well-being
18. Make you feel like you have to fix something he did that turned out badly
19. Put himself first, not seeming to care what you want
20. Get you to question yourself, making you feel insecure or less confident
21. Remind you of times he was right and you were wrong
22. Say his actions (which hurt you) are good for you or will make you a better person
23. Say something that makes you worry about whether you're going crazy
24. Act like he owns you
25. Somehow make you feel worried or scared even if you're not sure why
26. Somehow make it difficult for you to go somewhere or talk to someone
27. Somehow keep you from having time for yourself
28. Act like you over-react or get too upset
29. Get upset when you did something he didn't know about
30. Tell you the problems in your relationship are your fault
31. Interrupt or sidetrack you when you're doing something important
32. Blame you for his problems

90

33. Try to keep you from showing what you feel
34. Try to keep you from doing something you want to do or have to do
35. Try to convince you something was like he said when you know that isn't true

APPENDIX E

PSYCHOLOGICAL DISTRESS

In the past month, how much have you been bothered by...

0	1	2	3	4
not at all	a little bit	moderately	quite a bit	extremely

- Headaches
- Nervousness or shakiness inside
- Unpleasant thoughts that won't leave your mind
- Faintness or dizziness
- Loss of sexual interest or pleasure
- Feeling critical of others
- The idea that someone else can control your thoughts
- Feeling others are to blame for most of your troubles
- Feeling afraid to go out of your house alone
- Trouble remembering things
- Feeling easily annoyed or irritated
- Pains in heart or chest
- Feeling afraid in open spaces or on the streets
- Feeling low in energy or slowed down
- Thoughts of ending your life
- Hearing voices that other people do not hear
- Trembling
- Feeling that most people cannot be trusted
- Crying easily
- Feeling shy or uneasy with men
- Feelings of being trapped or caught
- Suddenly scared for no reason
- Temper outbursts you cannot control
- Blaming yourself for things
- Pains in lower back
- Feeling blocked in getting things done
- Feeling lonely
- Feeling blue
- Worrying too much about things
- Feeling no interest in things
- Feeling fearful
- Your feelings being easily hurt
- Having to repeat the same actions like touching, counting, washing
- Other people being aware of your private thoughts
- Feeling others do not understand you or are unsympathetic
- Feeling that people are unfriendly or dislike you
- Feeling afraid to travel on buses, subways or trains
- Having to do things very slowly to insure correctness
- Heart pounding or racing

- Nausea or upset stomach
- Feeling inferior to others
- Soreness of your muscles
- Feeling that you are watched or talked about by others
- Trouble falling asleep
- Having to check and double-check what you do
- Difficulty making decisions
- Trouble getting your breath
- Having to avoid certain things because they frighten you
- Hot or cold spells
- Numbness or tingling in parts of your body
- A lump in your throat
- Feeling hopeless about the future
- Trouble concentrating
- Weakness in parts of your body
- Feeling tense or keyed up
- Heavy feelings in your arms or legs
- Thoughts of death or dying
- Feeling uneasy when people are watching you or talking about you
- Having thoughts that are not your own
- Having urges to beat, injure, or harm someone
- Sleep that is restless or disturbed
- Having urges to break or smash things
- Having ideas or beliefs that others do not share
- Feeling very self-conscious with others
- Feeling uneasy in crowds, such as shopping or at a movie
- Feeling everything is an effort
- Spells of panic or terror
- Feeling uncomfortable about eating or drinking in public
- Feeling nervous when you're left alone
- Getting into frequent arguments
- Others not giving you proper credit for your achievements
- Feeling lonely even when you are with people
- Feeling so restless you couldn't sit still
- Feelings of worthlessness
- The feeling that something bad is going to happen to you
- Shouting or throwing things
- Feeling afraid you will faint in public
- Feeling that people will take advantage of you if you let them
- Having thoughts about sex that bother you a lot
- The idea that you should be punished for your sins
- Thoughts and images of a frightening nature
- The idea that something serious is wrong with your body
- Never feeling close to another person

- Feelings of guilt
- The idea that something is wrong with your mind

APPENDIX F

SOCIAL SUPPORT

How many people…
How satisfied are you with that…

1	2	3	4	5	6
extremely					**extremely**
dissatisfied					**satisfied**

- Accept you totally, including both your worst and your best points
- Can you really count on to tell you, in a thoughtful manner, when you need to improve in some way
- Do you feel truly love and care about you
- Would help you with household tasks if you needed it
- Would help you with shopping or other errands if you needed it
- Would loan you money if you needed it
- Would help you in an emergency
- Would help you make a decision
- Can you talk to about casual, everyday things going on in your life
- Can you talk to about important things going on in your life
- Are so close they're like family but really aren't
- Feel responsible for you
- Do you feel responsible for

REFERENCES

Adler, N.E., Boyce, W.T., Chesney, M.A., Folkman, S., & Syme, S.L. (1993). Socioeconomic inequalities in health: No easy solution. *Journal of the American Medical Association, 269.*

Aguilar, R.J., & Nightengale, N.N. (1994). The impact of specific battering experiences on the self-esteem of abused women. *Journal of Family violence, 9,* 35-45.

American Medical Association, Council on Scientific Affairs.(1992). Violence against women: Relevance for medical practitioners. *Journal of the American Medical Association, 267*, 3184-3189.

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

Arias, I., & Pape, K.T. (1999). Psychological abuse: Implications for adjustment and commitment to leave violent partners. *Violence and Victims, 14,* 55-67.

Astin, M.C., Lawrence, K.J., & Foy, D.W. (1993). Posttraumatic stress disorder among battered women: Risk and resiliency factors. *Violence and Victims, 8,* 17-28.

Bachman, R. (1994). *Violence against women: A national crime victimization survey report.* U.S. Department of Justice Bureau of Justice Statistics.

Bachman, R., & Saltzman, L.E. (1995). *Violence against women: Estimates from the redesigned survey (NCJ-154348).* Washington DC: U.S. Department of Justice, Bureau of Justice Statistics.

Baldry, A.C. (2003). "Sticks and stones hurt my bones but his glance and words hurt more": The impact of psychological abuse and physical violence by former and current partners on battered women in Italy. *International Journal of Forensic Mental Health*, *2*, 47-57.

Beach, S.R.H., & O'Leary, K.D. (1993). Dysphoria and marital discord: Are dysphoric individuals at risk for marital adjustment? *Journal of Marital and Family Therapy, 19,* 355–368.

Belle, D. (Ed.). (1982). *Lives in stress: Women and depression.* Beverly Hils, CA: Sage.

Bentler, P.M., (1989). *EQS structural equations program manual.* Los Angeles, CA: BMDP Statistical Software.

Bentler, P.M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107,* 238-246.

Bohn, D.K., & Holz, K.A. (1996). Sequelae of abuse: Health effects of childhood sexual abuse, domestic battering, and rape. *Journal of Nurse Midwifery, 41,* 442-456.

Bollen, K.A., (1989). *Structural equations with latent variables.* New York, NY: Wiley.

Campbell, J.C. (2002). Health consequences of intimate partner violence. *Lancet, 359,* 1331-1336.

Campbell, J.C., & Lewandowski, L.A. (1997). Mental and physical health effects of intimate partner violence on women and children. *Psychiatric Clinics of North America, 20,* 353-374.

Campbell J.C., Soeken K. (1999). Forced sex and intimate partner violence: Effects on women's health. *Violence Against Women, 5,* 1017–1035.

Campbell, R., Sullivan, C.M., & Davidson, W.S. (1995). Women who use domestic violence shelters: Changes in depression over time. *Psychology of Women Quarterly, 19,* 237-255.

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

Cano, A., & O'Leary, K.D. (2000). Infidelity and separations precipitate major depressive episodes and symptoms of non-specific depression and anxiety. *Journal of Consulting and Clinical Psychology, 68,* 774-781.

Carillo, R., & Gouband-Reyna, R. (1998). Clinical treatment of Latino domestic violence offenders. In R. Carillo & J. Tillo. *Family violence and men of color: Healing the wounded male spirit* (pp. 53-73). New York, NY: Springer Publishing.

Carlson, B.E., McNutt, L., Choi, D.Y. & Rose, I.M. (2002). Intimate partner abuse and mental health: The role of social support and other protective factors. *Violence against Women*, *8,* 720-745.

Cascardi, M., & O'Leary, K.D. (1992). Depressive symptomatology, self-esteem, and self-blame in battered women. *Journal of Family Violence, 7,* 249-259.

Cascardi, M., O'Leary, K.D., & Schlee, K. (1999) Co-occurrence and correlates of posttraumatic stress disorder and major depression in physically abused women. *Journal of Family Violence, 14,* 227-249.

Chou, C., & Bentler, P.M. (1995). Estimates and tests in structural equation modeling. In R.H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 37-55). Thousand Oaks, CA: Sage Publications, Inc.

Christian, J.L., O'Leary, K.D., & Vivian, D. (1994). Depressive symptomatology in maritally discordant women and men: The role of individual and relationship variables. *Journal of Family Psychology, 8,* 32-42.

Christian-Herman, J.L., O'Leary, K.D., & Avery-Leaf, S. (2001). The impact of severe negative events in marriage on depression. *Journal of Social and Clinical Psychology, 20,* 24-40.

Cohen, S., & Syme, S.L. (1985). *Social support and health.* San Diego, CA: Academic Press, Inc.

Coker, A.L., Smith, P.H., McKeown, R.E., & King, M.J. (2000). Frequency and correlates of intimate partner violence by type: Physical, sexual, and psychological battering. *American Journal of Public Health, 90,* 553-559.

Coker, A.L., Smith, P.H., Thompson, M.P., McKeown, R.E., Bethea, L., & Davis, K.E. (2002). Social support protects against the negative effects of partner violence on mental health. *Journal of Women's Health and Gender Based Medicine, 11,* 465-476.

Coker, A.L., Watkins, K.W., Smith, P.H., & Brandt, H.M. (2003). Social support reduces the impact of partner violence on health: Application of structural equation models. *Preventive Medicine, 37,* 259-267.

Cokkinides, V.E., & Coker, A.L. (1998). Experiencing physical violence during pregnancy: Prevalence and correlates. *Family and Community Health, 20,* 19-37.

Cook, J.D., & Bickman, L. (1990). Social support and psychological symptomatology following a natural disaster. *Journal of Traumatic Stress, 3,* 541-556.

Crowell, N.A., & Burgess, A.W. (1996). *Understanding violence against women.* National Academy Press: Washington, DC.

Derogatis, L.R. (1992). *SCL-90-R: Administration, scoring and procedures manual—II.* Baltimore, MD: Clinical Psychometric Research.

Derogatis, L.R., Lipman, R.S., & Covi, L (1973). SCL-90, an outpatient psychiatric rating scale-preliminary report. *Psychopharmacology Bulletin, 9,* 13-28.

Dobash, R. & Dobash, R. (1998). Violent men and violent contexts. In R. Dobash and R. Dobash (Eds). *Rethinking violence against women.* Thousand Oaks, CA: Sage Publications

Dutton, M.A., Hohnecker, L.C., Halle, P.M., Burghardt, K.J., et al. (1994). Traumatic responses among battered women who kill. *Journal of Traumatic Stress, 7,* 549-564.

El-Bassel, N., Gilbert, L., Rajah, V., Foleno, A., & Frye, V. (2000). Fear and violence: Raising the HIV stakes. *Aids, Education and Prevention, 12,* 154-170.

Ensel, W.M., & Lin, N. (2000). Age, the stress process, and physical distress: The role of distal stressors. *Journal of Aging and Health, 12,* 139-168.

Feld, S.L., & Straus, M.A. (1990). Escalation and desistance from wife assault in marriage. In M.A. Straus & R.J. Gelles (Eds.), *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families* (pp. 489-505). New Brunswick, NJ: Transaction.

Fildes J.J., Reed L.L., Jones, N., Martin, M., & Barrett, J.A. (1992). Trauma: Leading cause of maternal mortality. *Journal of Trauma, 32,* 643-645.

Fincham, F.D., Beach, S.R. H., Harold, G.T., & Osborne, L.N. (1997). Marital satisfaction and depression: Different causal relationships for men and women? *Psychological Science, 8,* 351–357.

Follingstad, D.R., Brennan, A.F., Hause, E.S., Polek, D.S., & Rutledge, L.L. (1991). Factors moderating physical and psychological symptoms of battered women. *Journal of Family Violence 6,* 81-95.

Follingstad, D.R., Rutledge, B., Berg, E., Hause, E., & Polek, D. (1990). The role of emotional abuse in physically abusive relationships. *Journal of Family Violence, 5,* 107-120.

Fraser, I.M., McNutt, L.A, & Clark, C. (2002). Social support choices for help with abusive relationships: Perceptions of African American women. *Journal of Family Violence, 17,* 363-375.

Geffner, R., & Pagelow, M.D. (1990). Mediation and child custody issues in abusive relationships. *Behavioral Sciences and the Law, 8,* 151-159.

Gelles, R.J. (1997). *Intimate violence in families* (3rd edition). Thousand Oaks, CA: Sage Publications, Inc.

Gelles, R.J., & Harrop, J.W. (1989). Violence, battering, and psychological distress among women. *Journal of Interpersonal Violence, 4,* 400-420.

Gleason, W.J. (1993). Mental disorders in battered women: An empirical study. *Violence and Victims, 8,* 53-68.

Golding, J.M. (1999). Intimate partner violence as a risk factor for mental disorders: A meta-analysis. *Journal of Family Violence, 14,* 99-132.

Goodman, L.A., Koss, M.P., & Russo, N.F. (1993). Violence against women: Physical and mental health effects: II. Research findings. *Applied and Preventive Psychology, 2,* 79-89.

Greenfield, L. (1998). *Victims by intimates: Analysis of data on crimes by current or former spouses, boyfriends, and girlfriends.* (Publication No. NCJ-167237). Washington, DC: US Department of Justice.

Heise, L., Ellsberg, M., & Gottemuller, M. (1999). *Ending violence against women (Population Reports, Series L, No. 11, 1–43).* Baltimore, MD: Johns Hopkins University School of Public Health, Population Information Program.

Heron, R.L., Twomey, H.B., Jacobs, D.P., & Kaslow, N.J. (1997). Culturally competent interventions of abused and suicidal African American women. *Psychotherapy: Theory, Research, Practice, Training, 34,* 410-424.

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

Honeycutt, T. C., Marshall, L. L., & Weston, R. (2001). Toward ethnically specific models of employment, public assistance, and victimization. *Violence Against Women, 7,* 126– 140.

Horton, A.L. & Johnson, B.L. (1993). Profile and strategies of women who have ended abuse. *Families in Society, 74,* 481-491.

Houskamp, B.M., & Foy, D.W. (1991). The assessment of posttraumatic stress disorder in battered women. *Journal of Interpersonal Violence, 6,* 367-375.

Hu, L., & Bentler, P.M. (1995). Evaluating model fit. In R.H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 76-99). Thousand Oaks, CA: Sage Publications, Inc.

Jasinski, J.L. (2001). Physical violence among Anglo, African American, and Hispanic couples: Ethnic differences in persistence and cessation. *Violence and Victims*, *16*, 479-490.

Jasinski, J.L., & Kaufman Kantor, G. (1997). Ethnic adaptations to occupational strain: Work related stress, drinking and wife assault among Anglo and Hispanic husbands. *Journal of Interpersonal Violence, 12,* 814-831.

Jasinski, J.L., & Kaufman Kantor, G. (1998). *Partner violence: A comprehensive review of 20 years of research* (pp. 1-43). Thousand Oaks, CA: Sage Publications, Inc.

Jones, L., Hughes, M., & Unterstaller, U. (2001). Post-traumatic stress disorder (PTSD) in victims of domestic violence: A review of the research. *Trauma, Violence, & Abuse, 2,* 99-119.

Kaslow, N.J., Reviere, S.L., Chance, S.E., Rogers, J.H., Hatcher, C.A., Wasserman, F., Smith, L., Jessee, S., James, Me.E., & Seelig, B. (1998). An empirical study of the psychodynamics of suicide. *Journal of the American Psychoanalytic Association, 46,* 776-796.

Kaufman Kantor , G., Jasinski, J.L., & Aldarondo, E. (1994). Sociocultural status and incidence of marital violence in Hispanic families. *Violence and Victims, 9,* 207-222.

Kemp, A., Green, B., Hovanitz, C., & Rawlings, E. (1995). Incidence and prevalence of posttraumatic stress disorder in battered women. *Journal of Interpersonal Violence, 10,* 43-55.

Kemp, A., Rawlings, E.I., & Green B.L. (1991). Post-traumatic stress disorder (PTSD) in battered women: A shelter sample. *Journal of Traumatic Stress, 4,* 137-148.

Kessler, R.C., McGonagle, K.A., Zhao, S., Nelson, C.B., Hughes, M., Eshleman. S, et al. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: results from the National Comorbidity Survey. *Archives of General Psychiatry, 51,* 8–19.

Kline, R.B. (1998). *Principles and practice of structural equation modeling.* New York, NY: Guilford.

Kurz, D. (1990). Interventions with battered women in health care settings. *Violence and Victims, 5,* 243-256.

Landenburger, K. (1989). A process of entrapment in a recovery from an abusive relationship. *Issues in Mental Health Nursing, 10,* 209-227.

Langhinrichsen-Rohling, J., Neidig, P., & Thorn, G. (1995). Violent marriages: Gender differences in levels of current violence and past abuse. *Journal of Family Violence, 10,* 159-176.

Marshall, L.L. (1992). Development of the Severity of Violence Against Women Scales. *Journal of Family Violence, 7,* 103-121.

Marshall, L.L. (1994). Physical and psychological abuse. In W.R. Cupach & B.H. Spitzberg (Eds.), *The dark side of interpersonal relationships.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Marshall, L.L. (1996). Psychological abuse of women: Six distinct clusters. *Journal of Family Violence, 11,* 379-409.

Marshall, L.L. (1999). Effects of men's subtle and overt psychological abuse on low-income women. *Violence and Victims,* 14, 1-8.

Marshall, L. L. (2001). *The Subtle and Overt Psychological Abuse Scale (SOPAS).* Unpublished manuscript available from the author at the Department of Psychology, University of North Texas, Denton, TX, 76203.

McArdle, J.J. (1986). Latent variable growth within behavior genetic models. *Behavior Genetics, 16,* 163-200.

McCauley, J., Yurk, R., Jenckes, M. & Ford, D. (1998). Inside 'Pandora's box'; abused women's experiences with clinicians and health services. *Journal of General Internal Medicine, 13,* 549-555.

Mills, T. (1985). The assault on the self: Stages in coping with battering husbands. *Qualitative Sociology, 8,* 103-123.

Mitchell, R.E. & Hodson, C.A. (1983). Coping with domestic violence: Social support and psychological health among battered w omen. *American Journal of Community Psychology, 11,* 629-654.

Muelleman, R., Lenaghan, P., & Pakieser, R.A. (1996). Battered women: Injury locations and types. *Annals of Emergency Medicine, 28,* 486-492.

Murphy, C.M., & Cascardi, M. (1993). Psychological aggression and abuse in marriage. In R.L. Hampton, T.P. Gulotta, G.R. Adams, E.H. Potter, III, & R.P. Weissberg (Eds.). *Family violence: Prevention and treatment* (pp. 86-112). Newbury Park, CA: Sage.

Murphy, C.M., & O'Leary, K.D. (1989). Psychological aggression predicts physical aggression in early marriage. *Journal of Consulting and Clinical Psychology, 57,* 579-582.

Novello, A., Rosenberg, M., Saltzman, L., & Shosky, J. (1992). From the Surgeon General, U.S. Public Health Service. *JAMA, 267,* 3132.

Nurius, P.S., Furrey, J., & Berliner, L. (1992). Coping capacity among women with abusive partners. *Violence and Victims, 7,* 229-243.

O'Leary, K.D. (1999). Psychological abuse: A variable deserving critical attention in domestic violence. *Violence and Victims, 14,* 3-23.

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.

Orava, T.A., McLeod, P.J., & Sharpe, D. (1996). Perceptions of control, depressive symptomatology, and self-esteem of women in transition from abusive relationships. *Journal of Family Violence, 11,* 167-186.

Pagelow, M.D. (1981). *Women-battering: Victims and their experiences.* Beverly Hills, CA.: Sage Publications.

Pennebaker, J.W. (2000). The effects of traumatic disclosure on physical and mental health: The values of writing and talking about upsetting events. In J.M. Violanti & D. Paton (Eds), *Posttraumatic stress intervention: Challenges, issues, and perspectives.* (pp. 97-114). Springfield, IL, US: Charles C Thomas.

Quigley, B.M., & Leonard, K.E. (1996). Desistance from marital violence in the early years of marriage. *Violence and Victims, 11,* 355–370.

Rennison, C.M., & Welchans, S. (2000). *Intimate partner violence.* (Publication No. NCJ 178247). Washington, DC: US Department of Justice.

Resnick, H.S., Kilpatrick, D.G., Dansky, B.S., Saunders, B.E., & Best, C.L. (1993) Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women. *Journal of Consulting and Clinical Psychology, 61,* 984-991.

Ritter, C., Hobfoll, S.E., Lavin, J., Cameron, R.P., & Hulsizer, M.R. (2000). Stress, psychosocial resources, and depressive symptomatology during pregnancy in low-income, inner city women. *Health Psychology, 19,* 576-585.

Rook, K.S. (1987). Social support versus companionship: Effects on life stress, loneliness, and evaluations by others. *Journal of Personality and Social Psychology, 52,* 1132-1147.

Russo, N.F., Denious, J.E., Keita, G.P., & Koss, M.P. (1997). Intimate violence and Black women's health. *Women's Health: Research on Gender, Behavior, and Policy*, *3,* 315-348.

Salazar, L.F., Wingood, G.M., DiClemente, R.J., Lang, D.L., & Harrington, K. (2004). The role of social support in the psychological well-being of African American girls who experience dating violence victimization. *Violence and Victims, 19,* 171-187.

Sarason, I.G., & Sarason, B. (Eds.) (1985). *Social support: Theory, research and applications.* The Netherlands: Martinus Nijhoff.

Sarason, I.G., Sarason, B.R., Shearin, E.N., & Pierce, G.R. (1987). A brief measure of social support: Practical and theoretical implications. *Journal of Social and Personal Relationships, 4,* 497-510.

Saunders, D.G. (1994). Posttraumatic stress symptom profiles of battered women: A comparison of survivors in two settings. *Violence and Victims, 9,* 31-44.

Schafer, J. Caetano, R., & Cunradi, C.B. (2004). A path model of risk factors for intimate partner violence among couples in the United States. *Journal of Interpersonal Violence, 19,* 127-142.

Schwarzer, R., & Leppin, A. (1992). Possible impact of social ties and support on morbidity and mortality. In H. O. F. Veiel & U. Baumann (Eds.), *The meaning and measurement of social support* (pp. 65-83). Washington, DC: Hemisphere.

Seeman, T.E., & Syme, S.L. (1987). Social networks and coronary artery disease: A comparison of the structure and function of social relations as predictors of disease. *Psychosomatic Medicine, 49,* 341-354.

Segerstrom, S.C., & Miller, G.E. (2004). Psychological stress and the human immune system: A meta-analytic study of 30 years of inquiry. *Psychological Bulletin, 130,* 601-630.

Silva, C., McFarlane, J., Soeken, K., Parker, B., & Reel, S. (1997). Symptoms of Post-traumatic Stress Disorder Among Abused Women in a Primary Care Setting. *Journal of Women's Health. 6,* 543-52.

Simon, T.R., Anderson, M., Thompson, M.P., Crosby, A., & Sacks, J.J. (2002). Assault victimization and suicidal ideation or behavior within a national sample of U.S. adults. *Suicide and Life Threatening Behavior, 32,* 42-50.

Star, B. (1982). C, haracteristics of family violence. In J.P. Flanzer (Ed.), *The many faces of family violence* (pp. 14-23). Springfield, IL: Charles C. Thomas.

Steiger, J.H. (1980). Tests for comparing elements of a correlation matrix. *Psychological bulletin, 87,* 245-251.

Stets, J.E. (1990). Verbal and physical aggression in marriage. *Journal of Marriage and the Family, 52,* 501-514.

Stets, J.E., & Straus, M.A. (1990). Gender differences in reporting of marital violence and its medical and psychological consequences. In M.A. Straus & R.J. Gelles (Eds.), *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families.* New Brunswick, NJ: Transaction.

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.

Sutherland, C., Bybee, D., & Sullivan, C. (1998). The long term effects of battering on women's health. *Women's Health, 4,* 41-70.

Swett, C., & Halpert, M. (1993). Reported history of physical and sexual abuse in relation to dissociation and other symptomatology in women psychiatric inpatients. *Journal of Interpersonal Violence, 8,* 545-555.

Tan, C., Basta, J., Sullivan, C.M., & Davidson, W.S. (1995). The role of social support in the lives of women exiting domestic violence shelters: An experimental study. *Journal of Interpersonal Violence, 10, 437-451.*

Temple, J.R., Weston, R., & Marshall, L.L. (2005). Physical and mental health outcomes of women in nonviolent, unilaterally violent, and mutually violent relationships. *Violence and Victims, 20,* 335-359.

Temple, J.R., Weston, R., Rodriguez, & Marshall, L.L. (in press). Differing effects of partner and nonpartner sexual assault on women's mental health. *Violence Against Women.*

Thompson, M.P., Kaslow, N.J., Kingree, J.B., Rashid, A., Utett, R., Jacobs, D., & Matthews, A. (2000). Partner violence, social support, and distress among inner city African American women. *Journal of Community Psychology, 28,* 127-143.

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.

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

Tolman, R.M., & Bhosley, G. (1991). The outcome of participation in a shelter-sponsored program for men who batter. In D.D. Knudsen & J.L. Miller (Eds.), *Abused and battered: Social and legal responses of family violence. Social institutions and social change* (pp. 113-122). Hawthorne, NY: Aldine de Gruyter.

Tolman, R.M., & Rosen, D. (2001). Domestic violence in the lives of women receiving welfare. *Violence Against Women, 7,* 141-158.

Uchino, B.N., Cacioppo, J.T., & Kiecolt-Glaser, J.K. (1996). The relationship between social support and physiological processes: A review with emphasis on underlying mechanisms and implications for health. *Psychological Bulletin, 119,* 488-531.

Uchino, B.N., & Garvey, T.S. (1997). The availability of social support reduces cardiovascular reactivity to acute psychological stress. *Journal of Behavioral Medicine, 20,* 15-27.

U.S.Census Bureau. (2001). *Historical Poverty Tables.* Retrieved on May 1, 2006. http://www.census.gov/hhes/poverty/histpov/hstpov12.html

US Department of Health and Human Services: Office of Disease Prevention and Health Promotion. *Health People.* Retrieved on May 1, 2006. http://www.healthypeople.gov.

Vaux, A. (1988). *Social support: Theory, research, and intervention.* New York, NY: Praeger Publishers.

Veiel, H.O.F., & Baumann, U. (1992). *The meaning and measurement of social support.* Washington, DC: Hemisphere Publishing Corp.

Vitanza, S., Vogel, L.C.M., & Marshall, L.L. (1995). Distress and symptoms of posttraumatic stress disorder in abused women. *Violence and Victims, 10,* 23-34.

Vogel, L.C.M., & Marshall, L.L. (2001). PTSD symptoms and partner abuse: Low income women at risk. *Journal of Traumatic Stress, 14,* 569-584.

Watson, C.G., Barnett, M., Nikunen, L., Schultz, C., Randolph, E.T., & Mendez C.M. (1997). Lifetime prevalences of nine common psychiatric/personality disorders in female domestic abuse survivors. *Journal of Nervous and Mental Disease, 185,* 645-647.

Watts, C., & Zimmerman, C. (2002). Violence against women: Global scope and magnitude. *Lancet, 359,* 1232–1237.

Wenzel, L.S., Tucker, J.S., Elliott, M.N., Marshall, G.N., & Williamson, S.L. (2004). Physical violence against impoverished women: A longitudinal analysis of risk and protective factors. *Women's Health Issues, 5,* 144-154.

West, C.M. (1998). Lifting the "political gag order": Breaking the silence around partner violence in ethnic minority families. In J.L. Jasinski & L.M. Meyer (Eds.), *Partner violence: A comprehensive review of 20 years of research* (pp.184-209). Thousand Oaks, CA: Sage Publications, Inc.

West, S.G., Finch, J.F., & Curran, P.J. (1995). Structural equation models with nonnormal variables. In R.H. Hoyle (Eds.), *Structural equation modeling: Concepts, issues, and applications* (pp. 56-75). Thousand Oaks, CA: Sage Publications, Inc.

Weston, R., & Gore, P.A. (in press). SEM 101: A brief guide to structural equation modeling. *The Counseling Psychologist.*

Willett, J.B. & Sayer, A.G. (1994). Using covariance structure analysis to detect correlates and predictors of individual change over time. *Psychological Bulletin, 116,* 363-381.

Woffordt, S., Mihalic, D.E., & Menard, S. (1994). Continuities in family violence. *Journal of Family Violence, 9,* 195-225.

Zimet, G.D., Dahlem, N.W., Zimet, S.G., & Farley, G.K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 52,* 30-41.