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Employment and Income Following Intimate Partner  
Violence: Does Mental Health Moderate Negative Economic  
Outcomes?

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## **Abstract**

Intimate partner violence (IPV) survivors are at great risk of negative economic outcomes. Previous research found that IPV survivors have higher prevalence rates for mental disorders like depression and post-traumatic stress disorder (PTSD). Few studies have examined the effect of negative mental health on economic outcomes of IPV survivors. To fill this gap, we examined whether PTSD or depression severity moderated the relationship between IPV and negative economic outcomes among a sample of 190 help-seeking women. PTSD and depression severity were assessed using data from a cross-sectional study. Logistic regression was used to determine if depression or PTSD moderated the relationship between IPV and negative economic outcomes. Results showed that PTSD and depression were non-significant predictors for employment and income. No significant main effects were found for interactions between PTSD or depression on IPV. Results highlight potential for future research to utilize different methodologies and observe different samples.

## Introduction

Affecting nearly 8.5 million women in the U.S. each year, intimate partner violence (IPV) has proven to be an epidemic across the nation. IPV is defined as an act of aggression committed by a romantic partner and is divided into three forms: emotional, physical, and sexual (Center of Disease Control and Prevention, 2019). IPV exposure can impact a victim's well-being, hindering their ability to seek treatment and obtain resources (Anderson & Saunders, 2003; Campbell, 2002). Unanimously considered to be the most common consequence of IPV exposure is the development of mental health conditions. Survivors of IPV have an increased risk of meeting diagnosis for mental health conditions (Campbell, 2002). These include, but are not limited to, post-traumatic stress disorder, depression, and anxiety (Al-Modallal, 2012; Anderson & Saunders, 2003; Maskin et al., 2019; Stam, 2012; Beck et al., 2015). These conditions can be chronic, persisting for years after separation from the abusive partner (Anderson & Saunders, 2003; Gerber et al., 2014).

Prevalence rates for mental health conditions are increased in IPV victims when compared to nonvictims. Observing prior research, we can determine which conditions are most prevalent. In a sample of 774 women survivors, Dichter et al. (2017) found that 53.8% women met diagnosis for a mental disorder one year after exposure. Among these, the most common were depression (34.1%) and PTSD (30%). This increased prevalence of PTSD and depression is further supported by multiple studies; depression and PTSD are reportedly more prevalent among IPV survivors (Campbell, 2002; Mechanic, Weaver, & Resick, 2008; Taft et al., 2009). These heightened prevalence rates are our motivation for utilizing PTSD and depression as our predictor variables.

The impact of IPV is not exclusive to mental health, however, as economic well-being is commonly affected by IPV exposure. Prior research has found that IPV survivors are at greater risk for negative economic outcomes, such as unemployment and job instability. These outcomes can lower a woman's financial earnings, further hindering a victim's ability to acquire treatment or resources (Crowne et al., 2011; Rayner-Thomas et al., 2016; Swanberg, Logan, & Macke, 2005; Tolman & Wang, 2005; Wathen et al., 2018). A gap in the literature remains, though, as past studies have focused primarily on economically disadvantaged women, such as welfare recipients or shelter seeking individuals (Adams et al., 2012; Adams et al., 2013; Bonomi et al., 2014; Dichter et al., 2017; Lindhorst, Oxford, & Gillmore, 2007; Memiah et al., 2018; Moe & Bell, 2004; Swanberg, Logan, & Macke, 2005; Tolman & Wang, 2005; von Eye & Bogat, 2006). These studies have found that low income can be a risk factor for future IPV exposure; women

who make lower incomes are seven times more likely to be exposed to IPV (Bonomi et al., 2014; Jordan, Campbell, & Follingstad, 2010). Due to this, steady employment is necessary to maintain income, lowering the barrier of access to resources for alleviating economic burdens.

Most importantly, employment can be a protective factor against revictimization, reducing the probability of experiencing future IPV exposure (Alsaker et al., 2007). Employment plays a crucial role in the lives of survivors, bringing in a steady flow of income while opening the door to various resources. However, prior research has scarcely focused on how mental health may influence a survivor's economic well-being. One study by Tolman and Rosen (2001) found that mental health problems acted as a barrier for women attaining employment. The current study seeks to explore this finding further and determine if mental health may influence the probability of negative economic outcomes. In order to determine if such an association exists, it is important to understand how mental health is impacted by IPV exposure.

### **Post-traumatic Stress Disorder and IPV**

PTSD is a mental illness that affects 1 out of every 11 people each year (American Psychiatric Association [APA], 2017). The Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5; APA, 2013) identifies four main symptom clusters that make up a PTSD diagnosis: 1) alterations in reactivity and arousal, 2) avoidance of trauma-related stimuli, 3) intrusion symptoms, and 4) negative alterations in cognition and mood (APA, 2013). Stemming from what is known about PTSD in the current literature, PTSD symptoms are a common consequence of intimate partner violence and are increasingly more prevalent among victims compared to nonvictims (Anderson & Saunders, 2003; Becker, Stuewig, & McCloskey, 2010; O'Campo et al., 2006; Pico-Alfonso et al., 2006). Across multiple samples, PTSD was highly prevalent following victimization; follow-up appointments find victims still experiencing PTSD symptoms up to a year after abuse. Symptoms may persist for years after the abuse, with it being chronic in several cases (Anderson & Saunders, 2003; Campbell, 2002; Golding, 1999; Gerber et al., 2004; O'Campo et al., 2006; Pico-Alfonso, 2006). Of those who suffer from PTSD, symptoms are found to be more severe after separation from the abusive partner. This is opposed to less severe symptoms while still romantically involved with their abusive partners (Campbell, 2002; Dutton et al., 1999; Pico-Alfonso et al., 2006; Wathen, MacGregor, & MacQuarrie, 2018).

Many limitations exist within the current literature. First, studies have divided focus on specific forms of IPV rather than quantifying IPV as a

composite score (Al-Modallal, 2012; Pico-Alfonso et al., 2006; Maskin et al., 2019). Identifying the differences in PTSD between each form of IPV is beneficial. However, significant overlap between the different forms of abuse has been observed. Assessing IPV as a composite can provide findings that are more generalizable (Basile et al., 2004; Becker et al., 2010). Previous studies have also limited the IPV experienced to be within a 1-year period (Alsaker et al., 2007; Maskin et al., 2019). Knowing PTSD has the potential to be a long-lasting condition, this limits our understanding of the long-term effects. As a highly prevalent consequence of IPV, PTSD symptoms can impair the daily function of survivors. Taking this into consideration, we can delve further into how PTSD may compound with other mental health conditions. As depression has an equal prevalence in those exposed to IPV, we have investigated the literature to determine its impact.

### **Depression and IPV**

Depression, as defined by the DSM-5 (APA, 2013), is a mood disorder characterized by symptoms such as loss of pleasure, depressed mood, and reduced energy. In order to meet a diagnosis, these symptoms must be present for two weeks (APA, 2013). One in six people will experience depression every year with it being more common amongst women (APA, 2017). This is consistent with heightened prevalence in cases of IPV exposure being more common in victims relative to nonvictims (Al-Modallal, 2012; Golding, 1999). Evidence for this increased prevalence in IPV survivors has been a key finding in previous research. Across 18 unique studies, Golding (1999) observed a prevalence rate of 47.6% for victims who met a diagnosis for a depressive disorder. An equally high prevalence rate was found in a sample of 75 female victims; 45.3% of this sample had present depressive symptoms (Pico-Alfonso et al., 2006). Nixon, Resick, and Nishith (2004) also observed a high prevalence of depression in their sample of 142 female victims. Of this sample, 52% percent met criteria for major depressive disorder.

Along with increased prevalence of depression in survivors, many indications for its prognosis have been found in prior research. Depression symptoms tend to be more severe immediately after separation from an abusive partner, seeing a decline in severity over time (Anderson & Saunders, 2003; Campbell, 2002). Other studies, however, have shown depressive symptoms can remain for years after separation, with some cases found to be chronic (Gerber et al., 2004). This might be dependent on the severity of the abuse, however, as Alsaker, Moen, and Kristoffersen (2007) found that victims who experienced more severe IPV experienced greater depressive symptoms. This has led many to view depression as a leading cause of impairment in the daily functioning of IPV survivors (Beck et al., 2015; Campbell, 2002;

Pico-Alfonso, 2006). Like with PTSD, studies have been limited to observing depression severity within a 1-year period (Al-Modallal, 2012; Alsaker et al., 2007; Crowne et al., 2007; Zlotnick, Johnson, & Kohn, 2006). Since we know depression can be persistent, and is as common as PTSD in IPV survivors, determining how it may affect victims over time could prove beneficial. With this knowledge, we can begin to question how PTSD and depression might influence economic outcomes in those exposed to IPV. We must first understand how economic outcomes can be affected by the abuse, however.

## **Economic Outcomes after Victimization**

### **Employment**

Many studies find that employment can be impacted by IPV exposure. Victims of IPV can be at greater risk for long-term unemployment (Anderson & Saunders, 2003; Banyard et al., 2011; Maskin et al., 2019; McFarlane et al., 2000; Tolman & Wang, 2005). In addition to a greater likelihood for unemployment, IPV victimization can negatively impact multiple factors within the workplace. These include job satisfaction, increased absence, reduced work ethic, and decreased job stability. (Banyard et al., 2011; Maskin et al., 2019; Shephard & Pence, 1988; Tolman & Wang, 2005). Similarly, in interviews with 19 domestic violence victims, Moe and Bell (2004) found many victims expressed having less available income, which then limited their access to additional resources.

Alsaker, Moen, Baste, and Morken (2016) highlight the necessity for stable employment, finding that it helps build self-esteem and maintain income. This was reinforced by as Swanberg and Logan (2005) who found that work resources such as Employee Assistance Programs, paid time-off from work, and job relocation helped maintain job retention among female victims of IPV. A limitation posed by the current literature is the fact that samples usually involve economically disadvantaged women. For instance, Tolman and Wang (2005) focused on a sample who were reliant on welfare systems. Many women affected by IPV might not qualify for such systems, making this finding difficult to generalize.

### **Income**

There is evidence that income, like employment, can be affected by IPV victimization, yet the current findings are limited. Adams et al. (2013) found that 12 months after IPV exposure, total income for female survivors was significantly decreased relative to non-abused women. However, they claim this finding could be due to participants' education levels which limited

their ability to acquire higher paying work. Income was also found to be significantly decreased for female survivors when compared to nonvictims by Maskin et al. (2019), but this study focused on women in higher paid positions, so the findings are not generalizable. This study is opposite of the majority of prior studies, which observed lower-income IPV survivor samples (Adams et al., 2012; Adams et al., 2013; Al-Modallal, 2012; Memiah et al., 2018; Moe & Bell, 2004; Swanberg, Logan, & Macke, 2005; Tolman & Wang, 2005; von Eye & Bogat, 2006). Many found that lower income is a risk factor for future IPV exposure (Adams et al., 2012; Adams et al., 2013, Anderson & Saunders, 2003). The current study contains a sample that is economically diverse, hoping to fill in the gap within the literature.

### **Relationship Between Mental Health and Economic Outcomes**

A significant relationship between mental health and economic outcomes in IPV victims has been found in many studies. Al-Modallal (2012) noted that income and employment status were significant predictors of negative mental health in victims. Women who earned lower incomes or were unemployed experienced more severe mental health problems. Anderson and Saunders (2003) found that women who struggle financially see more severe mental health problems compared to women who are economically advantaged. These studies do not observe whether negative mental health can influence the outcome of these economic factors. Currently, research with a focus on this influence is limited to a single study. Lindhorst, Oxford, and Gillmore (2007) sought to determine if psychological distress moderated the effect that IPV had on unemployment. Moderation variables are variables that influence the strength of an association between an independent and dependent variable (Baron & Kenny, 1986). Lindhorst, Oxford, and Gillmore (2007) noted a correlation between unemployment and psychological distress. They did not define what psychological distress was. This lack of focus on a single disorder limits us being able to generalize these findings.

### **The Current Study**

The goal of the current study is to identify any potential moderating effect that PTSD and depression severity may have on the association between IPV exposure and economic outcomes. Of the studies that have examined this association thus far, mental health problems seem to play an integral role. Evidence for mental health as an influence determining victims' employment status has been found; the more severe the mental health problems, the higher chance one has of being unemployed (Lindhorst, Oxford, & Gillmore, 2007). With this in mind, we predict that PTSD will moderate

the relationship between IPV and employment. Similarly, we predict that depression will moderate the relationship between IPV and employment. We assume that a more severe presence of these disorders will result in a greater chance of a victim being unemployed. We assume income, as it is reliant on steady employment, may be impacted similarly by IPV exposure. Assuming that income is linked with employment, negative mental health may play an influential role in determining a survivor's earnings. Thus, we predict that both depression and PTSD will affect the relationship between IPV and income.

## **Method**

### **Participants**

The sample consisted of 190 female survivors of IPV who participated in The Athena Project. The Athena Project is a mental health research center at the University of Memphis that provides free and confidential assessment for women over the age of 18 who have suffered from IPV. Participants were recruited through community outreach events, informational flyers placed around the Memphis metropolitan area, or from referrals from other professional services. Women were included in the study if their IPV experience met criterion A2 for PTSD diagnosis. Criterion A2 is characterized by intense horror, hopelessness, fear, and presence of a perceived threat (APA, 2013).

The sample was selected from a larger pool of 541 total participants. Study participants were excluded if they exhibited psychosis ( $n= 2$ ), were cognitively impaired ( $n= 9$ ), were unreliable reporters ( $n= 6$ ), or had not experienced IPV ( $n= 22$ ). As the current sample was concerned with effects experienced after separation from an abusive partner, 67 women were excluded as they were still romantically involved with the abuser at the time of the assessment. Participants were included if they were employed either full time or part time. Descriptive statistics for the sample can be found in Table 1.

## **Measures**

### **Dependent Variables: Employment**

A demographic questionnaire was used to determine income level and employment status for the purposes of the current study. The employment variable on the questionnaire is categorical and divided into six categories: full-time, part-time, unemployed, disabled, homemaking, and retired. These categories were dichotomized as either being employed (consisting of full-

time and part-time) or unemployed.

### **Dependent Variables: Income**

The income variable was split into 8 categories: \$0-10,000, \$10-20,000, \$20-30,000, \$30-40,000, \$40-50,000, \$50-60,000, \$60-70,000, and \$70,000 or above. Income was dichotomized: those who made under \$30,000 and those who made \$30,000 or more. There was also a secondary reporting option where the participant could estimate monthly income if they could not answer the original question. If participants decided to use the secondary estimation option, we fit the estimation into the appropriate income category.

### **Independent Variable: Intimate Partner Violence**

The Conflict Tactics Scale-Revised (CTS-2; Straus, Hamby, McCoy, & Sugarman, 1996) is a self-report questionnaire that measures 39 different behaviors related to intimate partner violence. It comprises 78 questions that are divided into five subscales: negotiation, physical assault, sexual coercion, injury, and psychological aggression. Each question is asked in the context of the respondent (how many times have you done this?) and the abusive partner (how many times did they do this?). Respondents answered these questions based on their experiences during the past year. Scores ranged from 0 (this has never happened before) to 7 (not in the past year, but it did happen before). Scores were totaled in order to obtain a total IPV severity score. For the purposes of the current study, only the physical assault and sexual coercion subscales were utilized in the total score, as the psychological aggression subscale is less internally consistent in comparison to the other subscales ( $\alpha = .79$ ; Straus et al., 1996). The other CTS-2 subscales have demonstrated good internal consistency ( $\alpha = .86 - .95$ ) and good construct and discriminant validity (Straus et al., 1996). Within the current sample, the CTS-2 demonstrated strong internal consistency for both the physical aggression ( $\alpha = .91$ ) and sexual coercion ( $\alpha = .87$ ) subscales.

The Psychological Maltreatment of Women Inventory –Short Form (PMWI-SF; Tolman, 1989) is a self-report measure that focuses on psychological maltreatment of women by their abusive partners. The measure consists of 14 items that are asked within the context of the past six months. Participants are asked to answer based on action frequency (1 = never to 5 = very frequently). The PMWI-SF evaluates two domains of psychological maltreatment: domination-isolation (ICC = .94) and emotional-verbal (ICC = .92; Tolman, 1989). The PMWI-SF has demonstrated good internal reliability and strong discriminant validity (Tolman, 1999). The PWMI-SF total score was used in place of the CTS-2 psychological aggression for the

current study. The PMWI-SF demonstrated strong internal consistency for both the emotional-verbal ( $\alpha = .91$ ) and domination-isolation ( $\alpha = .91$ ) subscales within the current sample.

To compute an IPV composite score, the total for the utilized CTS-2 subscales was summed and standardized. The same was done with the PMWI total score. These two scores were summed and standardized to create the IPV composite score and was used in the analysis.

#### **Moderator Variables: Depression**

The Anxiety Disorders Interview Schedule (ADIS) for DSM-5 (with DSM-IV coding) is a semi-structured interview administered by trained doctoral students that assesses the frequency and distress of mood, anxiety, and other externalizing mental disorders. Due to the majority of our sample having completed the ADIS using criteria from the DSM-IV, we used the DSM-IV criteria for both major depressive disorder and dysthymia (known as persistent depression disorder in the DSM-5) to remain consistent with our assessment of PTSD (see below). Clinician-rated severity scores from 0 (no symptoms, no distress or interference) to 8 (met criteria for diagnosis, extremely distressed, severe interference) were used to determine depression severity within the current study. Scores from both major depression disorder (MDD) and dysthymia/persistent depression disorder (PDD) were summed to compute a total depression severity score. While favorable inter-rater reliability was found for many of the disorders (Brown, Di Nardo, Lehman, & Campbell, 2001), other studies have noted lower reliability, ranging from good to poor (Gordon & Heimberg, 2011; Rutter & Brown, 2015). Inter-rater reliability for the current study was assessed by a secondary clinician through video-recording (approx. 24% of study sample randomly selected) using intraclass correlation coefficients. Agreement on clinician coding was strong for major depressive disorder (ICC = .91) and relatively strong for dysthymia (ICC = .80).

#### **Moderator Variables: PTSD**

The Clinician Administered PTSD Scale (CAPS; Blake et al., 1995) is a structured interview conducted by trained interviewers to assess PTSD symptoms over the past month. Similar to the ADIS, the majority of our sample completed the CAPS using the DSM-IV PTSD criteria. Thus, we opted to use data utilizing the DSM-IV coding to assess a greater sample population. Notable differences exist between the DSM-IV and DSM-5 criteria. The most important difference is the inclusion of only three symptom clusters in the DSM-IV criteria (intrusion and re-experiencing, avoidance, and emotional

numbing, and heightened physiological reactivity). Initially, participants were asked to describe their IPV experience and to rate feelings of fear, helplessness, and feelings of potential injury based on a Likert-type scale from 0 (not at all) to 100 (extreme). A score above 50 indicated the event met criterion A. Frequency and intensity ratings were collected for each symptom. Frequency ratings ranged from 0 (symptom never occurs) to 4 (symptom occurs daily) and intensity ratings ranged from 0 (no distress) to 4 (extreme distress). The duration for the symptoms and daily impairment were assessed. Both sets of scores were summed to provide a total severity ranging from 0 to 136. Higher scores indicated more severe PTSD symptoms. The CAPS demonstrated good psychometric properties for its DSM-IV coding. Inter-rater reliability for the total severity score was strong ( $ICC = .97$ ; Weathers et al., 2018). Strong convergent validity was found for the CAPS-IV total severity score ( $r = .83$ ; Weathers et al., 2018). CAPS interviews were video-recorded and then assessed by a secondary clinician for reliability (approx. 24% of study sample randomly selected). Inter-rater reliability was assessed using intraclass correlation coefficients. Reliability was very strong ( $ICC = .95$ ) for IPV-related PTSD within the current sample.

### **Procedure**

All procedures were approved by the Institutional Review Board. Inclusion into the study was determined by a confidential prescreening. If participants were eligible, an informed consent was provided at the initial assessment. Following consent, assessments were completed on average in two to three visits and conducted by trained clinicians. Upon completion, participants were provided with treatment referrals based on needs for additional professional services.

### **Analytic Strategy**

A binary logistic regression analysis was performed using SPSS Version 26. Logistic regression was used to determine the odds of a given outcome occurring caused by the predictor variables. Negative mental health (depression and PTSD severity) and IPV were used as predictor variables. Income and employment status were used as outcome variables. Four unique models were analyzed with negative mental health and IPV severity being predictor variables for economic outcomes. Interactions between IPV and negative mental health were investigated to determine if a moderation effect existed. Each mental health predictor consisted of two models: one for employment and another for income. There was no evidence of outliers or issues with normality or linearity for our predictor variables. A square root transformation was made for the IPV composite variable to acquire a preferable skewness

and kurtosis. Fit was tested using the Hosmer-Lemeshow test. Nagelkerke's R-squared was used to analyze the variance of the dependent variable in association with the independent variables.

## **Results: Primary Analyses:**

### **PTSD and Employment**

This model demonstrated poor fit, ( $X^2(8, N= 190) = 5.66, p= .69$ ), with PTSD accounting for little variance on employment status, (Nagelkerke  $R^2= .006$ ). Correct classification for participants being employed was 100% and 0% for participants who were unemployed, identical for the employment model for depression. Table 3 contains regression coefficients, odds ratios, and chi-square tests for the model. PTSD was a nonsignificant predictor of unemployment, with participants who experienced any level of PTSD having an equal chance to be employed or unemployed, ( $\text{expB} = 1.02, p = .44$ ). This was the case with IPV, with participants who experienced any level of abuse having an equal chance of being employed or unemployed, ( $\text{expB} = 1.05, p = .54$ ). No main effect was found for the interaction between PTSD and IPV on employment, ( $\text{expB} = 1.00, p = .57$ ).

### **PTSD and Income**

The model demonstrated a poor fit, ( $X^2(8, N= 190) = 14.13, p= .79$ ), with PTSD accounting for little variance in income, (Nagelkerke  $R^2= .028$ ). Correct classification for participants making under \$30,000 was 92.7% and 12.5% for those making above \$30,000. Table 3 contains regression coefficients, odds ratios, and chi-square tests. Participants who experienced any level of PTSD have an equal chance to make either lower or higher income,  $\text{expB} = .966, p = .06$ . IPV was also found to be a nonsignificant predictor, with participants who have experienced any level of abuse equally as likely to make lower or higher income,  $\text{expB} = .920, p = .26$ . No main effect was found for the interaction between PTSD and IPV on income,  $\text{expB} = 1.00, p = .08$ .

### **Depression and Employment**

The model demonstrated a poor fit, ( $X^2(8, N= 190) = 11.89, p= .16$ ), with depression accounting for very little variance in employment status, (Nagelkerke  $R^2= .010$ ). Cases were over-classified into the employment group due to it being the majority, with correct classification being 100% employed women and 0% unemployed women. Cases, therefore, were over-classified into the employment group due to it being the majority. Regression coefficients,

odds ratios, and chi-square tests for the model are reported in Table 2. Participants suffering from any level of depressive symptoms were equally likely to be employed or unemployed, ( $\text{exp}B = 1.20, p = .50$ ). IPV severity as a predictor was insignificant, with those experiencing any level of abuse equally likely to be employed or unemployed, ( $\text{exp}B = 1.04, p = .39$ ). Finally, no main effect was found for the interaction between depression severity and IPV on employment, ( $\text{exp}B = .985, p = .34$ ).

### **Depression and Income**

The whole sample was included in the analysis for depression and income. This model yielded similar results to the prior depression model. It demonstrated poor fit,  $X^2(8, N= 190) = 4.87, p= .77$ , with depression accounting for even less variance in income outcomes, (Nagelkerke  $R^2= .009$ ). Correct classification for participants making \$30,000 or under was 95.5% and 6.3% for those making above \$30,000. Table 2 shows regression coefficients, odds ratios, and chi-square tests for the model. Participants who have experienced any level of depressive symptoms are equally likely to make lower or higher income, ( $\text{exp}B = 1.01, p = .94$ ). This is similar for IPV, as participants who have experienced any level of abuse are equally likely to make lower or higher income, ( $\text{exp}B = 1.04, p = .47$ ). Additionally, no main effect was found for the interaction between depression and IPV on income, ( $\text{exp}B = .994, p = .65$ ).

## **Results: Secondary Analyses**

### **PTSD**

Due to missing data, 186 participants were included in the secondary analyses. Secondary analyses were conducted controlling for elapsed time in our PTSD models. The model for employment demonstrated poor fit, ( $X^2(8, N= 186) = 7.84, p= .45$ ), and accounted for very little variance, (Nagelkerke  $R^2= .012$ ). Furthermore, elapsed time was not a significant predictor in employment outcomes. Participants who reported lower or higher time away were equally likely to be employed or unemployed, ( $\text{exp}B = .998, p = .38$ ). Findings were similar in the income model, which demonstrated poor fit, ( $X^2(8, N= 186) = 8.42, p= .39$ ), yet seemed to account for more variance than the primary model, Nagelkerke  $R^2= .043$ . Still, elapsed time was not a significant predictor of income in this model. Participants who reported lower or higher time away from work were equally likely to make low or high income, ( $\text{exp}B = .1.01, p = .09$ ).

## Depression

Secondary analyses controlling for elapsed time were also conducted for our depression models. When controlling for elapsed time, the depression and *employment* model demonstrated poor fit, ( $X^2(8, N= 186) = 10.12, p= .26$ ), yet accounted for more variance than the primary model, (Nagelkerke  $R^2 = .023$ ). Elapsed time was a nonsignificant predictor for unemployment, with those reporting low or high time away being equally likely to be employed or unemployed, ( $\text{expB} = .997, p = .31$ ). Findings were similar for the income model. The model demonstrated poor fit, ( $X^2(8, N= 186) = 6.72, p= .57$ ) but accounted for more variance than the primary model, (Nagelkerke  $R^2 = .027$ ). Elapsed time was not a significant predictor of income level. Those reporting low or high time away were equally likely to make lower or higher income, ( $\text{expB} = 1.01, p = .10$ ).

## Discussion

PTSD and depression severity were nonsignificant predictors for both unemployment and lower income and did not increase the odds of being unemployed or making lower income. Similarly, IPV was not a significant predictor of either unemployment or low income in both the PTSD and depression models. Additionally, secondary analyses were conducted controlling for elapsed time away from an abusive partner. Time elapsed was found to be a nonsignificant predictor of both employment and income.

Unlike the prior findings of Lindhorst, Oxford, and Gillmore (2007), negative mental health did not moderate the association between IPV severity and employment. Because Lindhorst et al. (2007) focused on general distress and not a specific condition, it is difficult to compare their results to those of the current study. One consideration is that as more time passes following separation, severity of mental health conditions may diminish. This would be consistent with prior findings, as Anderson and Saunders (2003) state these effects can last up to 3 years with decline over time. Alsaker et al. (2016) found that the workplace allowed women to receive positive feedback which helped rebuild self-perception. This is supported by Banyard, Potter, and Turner (2011) who state that survivors suffering from mental conditions benefit from job-based support programs. With the majority of our sample being employed, they could have had more access to job-related programs. This in turn may have helped ease symptom severity in victims. This study was limited to looking exclusively at data from help-seeking women. Data from help-seeking populations are not generalizable to the wider population. Mechanic, Weaver, and Resick (2008) studied a help-seeking sample and found that negative mental health could result from a lack of financial resources.

Similarly, we did not find IPV to be a significant predictor of unemployment. These findings do not align with prior research. Crowne et al. (2011) found both short and long-term effects on employment caused by IPV. A benefit to their study, however, was its longitudinal design. As our study was cross-sectional, we were unable to assess women over multiple time periods. Tolman and Wang's (2005) study was also longitudinal, finding IPV exposure predicted higher rates of unemployment. Their sample consisted of women receiving assistance from welfare systems. Our sample was not exclusively women seeking governmental assistance. Therefore, we cannot determine if women who qualified for such systems would present different results. McFarlane et al. (2011) found that more severe IPV predicted unemployment in their sample. However, since a portion of McFarlane et al.'s (2011) sample had sustained injuries from the abuse which prevented them from working, it is difficult to compare these findings with the current sample. The present methodology led to discrepant findings when compared to prior studies.

IPV was not a significant predictor of negative income, similar to employment. Prior literature was not replicated. Adams, et al. (2013) found that IPV predicted decreased income in survivors. However, this study focused on a lower income sample. The current sample was more economically diverse which could explain why our findings do not align. Additionally, Adams et al.'s (2013) sample comprised women receiving government assistance. As we did not look at government assistance exclusively, we could not determine if individuals qualifying for these systems would provide different results. Maskin et al. (2019) saw decreased income in female survivors of IPV. This sample, however, consisted of women in higher-paid positions. Our sample was economically diverse, making it understandable as to why we did not replicate their findings. Future research should seek to integrate a broad range of income brackets to make the findings more generalizable.

### **Limitations**

The current study has several limitations. First, this study had a cross-sectional design, meaning data was obtained at one time period. This prevents us from knowing any potential longitudinal effects. Second, participants who were still romantically involved with their abuser were excluded. Determining how employment or income may be impacted before separation can give insight into whether long-term effects exist. Third, the sample consisted of help-seeking women who had either contacted the clinic or been referred by other professional associations. Help-seeking populations tend to have more severe symptoms compared to the general population, making it difficult to generalize our findings. Many individuals who suffer from IPV may face barriers that prevent them from seeking help. These include judgment

from peers, embarrassment and shame, and general stigma (Overstreet & Quinn, 2013). Lastly, the sample consists of individuals in a location that has a lower average income. Furthermore, the sample consisted mainly of Caucasian and African Americans. These results may differ if analyzed in a different location characterized by a more ethnically varied income range and a more diverse sample.

### **Implications**

Despite not finding evidence for negative mental health having a moderating effect on the association between IPV and negative economic variables, there are some important implications to mention. The current study focused on post-separation from an abusive partner. Perhaps the influence of negative mental health may be stronger while survivors are still romantically involved with their abusive partner. So, for these women, abuse committed by the partner may lead to a higher chance of being unemployed or making less income.

### **Future Research**

Future research has ample opportunity to expand on the current study. First, identifying if additional types of mental disorders (e.g., general anxiety disorder, bipolar disorder, schizophrenia) are significant moderators in the relationship between IPV severity and economic variables is a natural evolution of the current question. Second, a different research design could look at different aspects of the relationship. A cross-sectional design could look at comparisons between victims separated from their abusive partner and those still romantically involved. Furthermore, a longitudinal study could grant a better look at the relationship between IPV, mental disorders, and employment/income over time. This could determine if negative mental health is more detrimental while still romantically involved with the abuser as opposed to after separation. Third, including male survivors of IPV could identify how they are impacted relative to female survivors. Lastly, testing other factors (e.g., education level, race, number of children) as moderators of the association between IPV and negative economic variables expand this line of research and illuminate other factors that may have a stronger influence on this association. In terms of economic outcome variables, using other variables such as government assistance and reactions to a job (e.g., job satisfaction, safety at work) could help identify common problems in economically disadvantaged IPV survivors.

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## Appendix

<b>Race</b>	<i>N</i>	%
African American	71	37.6
Caucasian	100	52.6
Hispanic	3	01.6
Asian	3	01.6
Other	12	06.3
Did not report	1	00.5

<b>Education Level</b>	<i>N</i>	%
Elementary	3	01.6
High school	18	09.5
Some college	81	42.6
2-year college	17	08.9
4-year college	39	20.5
some graduate	7	03.7
2-year advanced	13	06.8
Graduate	12	06.3

<b>Employment</b>	<i>N</i>	%
Full-time	72	37.9
Part-time	65	33.2
Unemployed	53	27.9

<b>Income</b>	<i>N</i>	%
Below 10,000	37	19.5
10-20,000	43	22.6
20-30,000	30	15.8
30-40,000	21	11.1
40-50,000	18	09.5
50-60,000	11	05.8
60-70,000	15	07.9
>70,000	15	07.9

**Table 1.** Descriptive Statistics

<b>Model 1-- Employment</b>	<b>Model 2-- Income</b>
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Variable	B	p	Odds	B	p	Odds
Constant	-1.31	.021	.271	-.540	.302	.583
Depression	.112	.500	1.20	.012	.939	1.01
IPV	.043	.393	1.05	.035	.467	1.04
IPVx Depression	-.015	.338	.985	-.006	.653	.994
<b>Nagelkerke R-Square</b>	.010			.009		
<b>Chi-Square</b>	1.293	df=3	p=.731	1.272	df= 3	p= .736

**Table 2.** Logistic Regression of Depression as a Moderator on the Association Between Intimate Partner Violence and Income and Employment

Notes: IPV = intimate partner violence. IPVxDepression indicates the interaction variable. Statistical significance at  $p < 0.05$ .

<b>Model 1-- Employment</b>	<b>Model 2-- Income</b>
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Variable	B	p	Odds	B	p	Odds
Constant	1.53	.043	.271	-.571	.407	.583
PTSD	.015	.444	1.20	-.035	.063	1.01
IPV	.047	.536	1.05	-.087	.225	1.04
IPVx Depression	-.001	.566	.999	.003	.077	.994
<b>Nagelkerke R-Square</b>	.006			.028		
<b>Chi-Square</b>	.814	df=3	p=.846	4.05	df= 3	p= .257

**Table 3.** Logistic Regression of Posttraumatic Stress Disorder as a Moderator on the Association Between Intimate Partner Violence and Income and Employment

Notes: IPV = intimate partner violence. IPVxDepression indicates the interaction variable. Statistical significance at  $p < 0.05$ .