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# The Interplay between Parental Psychological Control and Parental Emotional Overinvolvement on Depressive Symptoms among Early Adolescents

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The Interplay between Parental Psychological Control  
and Parental Emotional Overinvolvement  
on Depressive Symptoms among Early Adolescents

A Thesis presented in  
Partial Fulfillment of the  
Requirements for the Degree of  
Master of Science

By  
Taylor Ullrich  
DePaul University  
June, 2023

Department of Psychology  
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## **Biography**

The author was born in Barrington, Illinois, April 7, 1998. She graduated from West Aurora High school and received her Bachelor of Science degree in Psychology from Illinois State University in 2020.

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## Abstract

Parenting and parental behaviors are critical to the emotional well-being of youth. Emotional overinvolvement is one part of a broader construct known as Expressed Emotion. Emotional overinvolvement is known as intrusive, overprotective, excessively self-sacrificing, or devoted behavior or exaggerated emotional response to the child (Leff & Vaughn, 1985). It is not known how Emotional Overinvolvement relates to other dimensions of parenting. Psychological control parenting behavior that involves the use of tactics such as love withdrawal, guilt induction, invalidation, and conditional approval (Barber, 1996). The current study is the first study to investigate the association between psychological control, emotional overinvolvement and changes in depressive symptoms. The sample for this study included 349 middle school aged youth ( $M_{age} = 12.3$  years, 57.0% female) recruited from Chicago Public Schools across four years. The sample was 78.2% Latinx, 10% African American and 10% Mixed Backgrounds. The study found significant moderational and mediational relationships between the constructs. Gender significantly moderated the relation between psychological control and emotional overinvolvement, such that a stronger relation was found for females than males. The study also found that emotional overinvolvement mediates the relation between psychological control and changes in depressive symptoms and this effect was not moderated by any of the demographic variables that were evaluated. Findings from the current study have the potential to inform future parenting interventions that support children's autonomy.

## Introduction

Prevalence of depression has steadily increased over time, specifically among early adolescents. Rates of depression among youth ages 12 to 17 increased from roughly 7% to 13% from 2005 to 2015 (Weinberger et al., 2018). These prevalence rates also tend to increase with age (Ghandour, 2019), with some studies finding that the rates of depression nearly double during the adolescent years (Merikangas et al., 2010). It is estimated that 4.4% of children and adolescents, aged 3-17 years, are diagnosed with depression each year, which equates to approximately 2.7 million youth (CDC, 2022). In 2018-2019, 15.2% of adolescents had a major depressive episode, 36.7% had feelings of sadness and hopelessness, and 18.8% experienced suicidal ideation (CDC, 2022). Despite these high prevalence rates, 59.8% of youth with major depression do not receive mental health treatment (MHA, 2023). Even further, poverty level affects the likelihood of a child receiving treatment for their depression (Ghandour et al., 2018).

Youth of ethnic minority<sup>1</sup> backgrounds have been found to be more greatly affected by depression. Specifically, Latinx adolescents experience higher rates of depressive disorders, are twice as likely to be at risk for depressive symptoms and are less likely to receive treatment when compared to their European American counterparts (Merikangas et al., 2011; Mikolaiczky et al. 2007; Merikangas et al., 2010). Additionally, Latinx American youth report the highest depression scores when compared to Asian American, African American, and European American youth (Siegel et al. 1998). Girls and women are another demographic group that are disproportionately affected by depression. It is known that, among adults, women experience depressive symptoms at higher rates than men (Angst et al., 2002). In childhood, adolescent girls have been found to experience higher rates of depression than adolescent boys (Nolen-

---

<sup>1</sup> Individuals in the United States of minoritized backgrounds

Hoesksema & Girgus, 1994). This sex difference has also been found in ethnic minority populations. Females not only have higher rates of major depressive disorder, but they have also been found to have a more chronic course of symptoms, meaning their episodes tend to last longer than for males (Essau et al., 2010). There is also evidence to support that females tend to experience a younger age of onset. This may also lead to a greater the risk of developing more episodes in the future (Essau et al., 2010). These age of onset differences have been found to emerge during 8<sup>th</sup> grade and to remain consistent throughout all high school years (Ge et al., 2001).

A person's socioeconomic status (SES) is also associated with a differential risk for depression. One study found that adults from low-income backgrounds are more likely to experience severe major depressive disorders (Kessler, 2003). These findings also translate to children and adolescents. In one study, the prevalence of depression was found to be higher among children living in poor households (Ghandour et al., 2019). Another study found that children from lower SES backgrounds had nearly double the risk for major depressive disorder when compared to those of high SES backgrounds (Lemstra et al., 2008). The prevalence of depression was also found to be nearly two and a half times higher in low SES youth (Lemstra et al., 2008; Gilman et al., 2002). Lastly, adolescents and adults living in poverty have been found to experience major depressive disorder one and a half times more than those not living in poverty (Riolo et al. 2005). Taken together, these findings illustrate how low socioeconomic status can be a risk factor for the development of depressive symptoms.

The presence of depressive symptoms in adolescents often relates to important consequences in other domains of life. Adolescents who are depressed have been found to have higher rates of absenteeism, school refusal, and truancy at school (Finning et al., 2019). One

study found that adolescents who endorse higher depressive symptoms missed about one day more of school, on average, and had higher odds of smoking and suicide ideation than those who endorse fewer depressive symptoms (Mackenzie et al., 2011). These studies illustrate how depressive symptoms may affect many other important domains of a child's life, which demonstrates the importance of understanding what contributes to childhood depression, including family factors.

### **Parenting**

Parenting styles and parental behaviors are widely known to hold a strong influence on child development. Meta-analyses have reviewed the literature on parenting and its effects on childhood anxiety (McLeod et al., 2007a). While negative parenting behaviors are strongly associated with higher childhood anxiety, some forms are more strongly associated than others. Specifically, parental control was more strongly associated with childhood anxiety than parental rejection (McLeod et al., 2007a). An additional meta-analysis reviewed the relationship between parenting behaviors and depression and found that more negative parenting (e.g., parental rejection) is associated with childhood depression (McLeod et al., 2007b). A separate meta-analysis investigated parenting styles and dimensions and their effects on childhood depression. The study found that psychological control, authoritarian and neglectful parenting were associated with higher levels of internalizing symptoms. The study also found that parental warmth, psychological control, and autonomy granting predicted changes in internalizing symptoms over time (Pinquart, 2017). These studies show how multiple negative parenting behaviors and dimensions are related to both anxiety and depressive symptoms in youth.

While much of the literature on parenting has focused on maladaptive parenting behaviors, some parenting styles and behaviors have been found to be protective for children.

Parental warmth is strongly and consistently associated with lower depressive symptoms in children (McLeod et al., 2007b). Studies have found that authoritative parenting had significant contributions in resilience in adolescents and it is positively associated with self-esteem (Kritzas & Grobler, 2005) (Pinquart & Gerke, 2019). Additionally, a study found that healthy parental bonds, which are characterized by low levels of parental control and high levels of affection, were found to be associated with a lower risk of Post-Traumatic Stress Disorder, suggesting that some parenting styles and behaviors may be a protective factor in the development of mental illness in children (Lima et al., 2014).

However, there is wide variability in parenting behaviors and styles across cultures. Depending on the culture, a parenting behavior may or may not be normative. A literature review summarized the literature on parenting styles, dimensions, and beliefs across different cultures (Smetana, 2017). The review reported that authoritarian parenting, which emphasizes rigid and strict parenting behaviors, is common in many non-western cultures and among families of lower socioeconomic strata, as well as among ethnic and racial minorities in the U.S. (Dwairy et al., 2006). This parenting style is defined in the U.S. as emphasizing rigid and strict parenting behaviors and providing less emphasis on being nurturing and warm towards the child and has sometimes been associated with higher levels of self-esteem among Asian American samples (Chang, 2007). Some studies have also examined parenting styles in European and Latin American countries. These studies have found that a parenting style that is characterized by high warmth and low strictness, labeled indulgent parenting, was related to positive child development. This indulgent parenting was even found to be more predictive of positive outcomes than authoritative parenting, whereas authoritarian and neglectful parenting was found to be predictive of worse outcomes (Leung et al., 1998). Overall, these studies emphasize the

wide-ranging differences in parenting styles across various cultures around the world. Regarding U.S. Latinx populations, there are documented differences in parenting practices and styles. Studies have found that Latinx parents report more warmth, and specifically Latinx fathers report spending more time caring for their infants than other racial groups (Capps et al., 2010). Maternal and paternal psychological control have also been found to be negatively associated with self-esteem Latinx children (Bean & Northrup, 2009).

### **Theoretical Framework**

The Self-Determination Theory (SDT) states that all humans have the fundamental need to feel autonomous in order to function properly (Deci & Ryan, 2012). These concepts relate to children, as children also have the fundamental need to feel autonomous for proper development (Deci & Ryan, 2000). Some research has investigated the relation between parenting practices and SDT. The SDT emphasizes autonomy, which has been found to be a key element in a parent-child relationship. Autonomy in the parent-child relationship supports healthy development and also fosters healthy relations between the parent and child (Joussement et al., 2008). On the contrary, parenting behaviors that do not support or encourage autonomy have been found to have negative developmental effects (Joussement et al., 2008). This is because these controlling behaviors limit opportunities for the child to develop a sense of self (Joussement et al., 2008). Currently, there is a lack of literature that empirically evaluates the Self-Determination Theory and its relation to parenting cross-culturally. Autonomy support has different meanings in different cultures, and it is possible that the implications of the SDT may differ from culture to culture. For this reason, it is important to investigate behaviors that may undermine autonomy and how they interact in different cultures. Therefore, this study aims to investigate two intrusive parenting behaviors that undermine autonomy; parental psychological control and parental

emotional overinvolvement, and how they relate to internalizing symptoms in a sample of primarily ethnic minority early adolescents.

### **Parental Psychological Control**

Parental psychological control is defined as a behavior that is non-responsive to the child's psychological needs while also undermining autonomy (Barber, 1996). Additionally, parental psychological control interferes with the child's ability to develop a secure, stable, and positive sense of self (Barber & Harmon, 2002). It is emotionally manipulative, and often involves the use of tactics such as love withdrawal, shaming, guilt induction, invalidation, and conditional approval (Barber, 1996). Psychologically controlling parents are often seen by their children as intrusive, overprotective, possessive, directive, and controlling through mechanisms such as guilt (Schaefer, 1965). According to Barber and Harmon, psychological control is expressed through four tactics. Those being, guilt-induction, contingent love/love withdrawal, instilling anxiety, and invalidation of the child's perspective. It is theorized that parental psychological control could lead to a vulnerability in internalizing problems, because the nature of the construct interferes with the development of a positive and secure sense of self (Barber & Harmon, 2002). Evidence has revealed that psychological control has been consistently predictive of internalizing symptoms in youth (Barber, 1996; Soenens, 2005).

A systematic review that included 59 studies investigated different parenting styles and internalizing symptoms and found that parental psychological control is associated with adolescent anxiety, depression, and suicidal ideation (Gorostiaga et al., 2019). In a study of middle school youth, it was found that higher levels of parental psychological control were related to higher self-reported anxiety symptoms (Luebbe et al., 2013). Another study aimed to understand the nature of the relationship between parental psychological control and anxiety in

youth. The study found that there was a significant relation between parental psychological control and anxiety symptoms in youth. Additionally, this relationship was fully mediated by the children's perception of control of their life (Nanda et al., 2011). In a community sample of children, parental psychological control was found to be associated with internalizing problems (Stone et al., 2013). A different study was interested in examining the relation between perceived parenting behaviors and depressive symptoms in a sample of adolescents. In a sample of 13–18-year old's, parental psychological control was a strong predictor of depressive symptoms in adolescents (Baron & MacGillivray, 1989). One study found differences in outcomes when comparing maternal and paternal psychological control. This longitudinal study, which was conducted in Italy, Columbia, and the USA, found maternal psychological control predicted antisocial behaviors, whereas paternal psychological control predicted depressive symptoms (Basili et al., 2021).

The current literature shows that psychological control has been consistently found to relate to internalizing problems. Despite the consistent literature on parental psychological control, there has been some research investigating differences in the way parental psychological control is experienced based across different demographic groups, including gender. One study investigated the relations between perceived parental psychological control, maladjustment, and internalizing symptoms across genders. The study found that parental psychological control was associated with fewer internalizing symptoms among adolescents in Beijing. The only gender difference found in the study was that parental psychological control, maladjustment and internalizing symptoms was further moderated by gender, in which girls showed a stronger effect than boys. (Chen et al., 2019). In a study of that assessed parental psychological control and monitoring in African American adolescents, girls reported more monitoring, but not more



psychological control than boys did (Smetana, 2002). Together, there are currently mixed findings regarding gender differences in the way parental psychological control affects adolescents.

The effects of parental psychological control have also been explored in ethnic minority populations. In a sample of Latinx adolescents, those who perceived high amounts of psychological control were six times more likely to experience internalizing symptoms (León-del-Barco et al., 2019). Research has shown that, among a clinical sample of youth, Latinx mothers were rated by their children as significantly higher in parental psychological control than non-Latinx white mothers. However, this study also found that higher parental psychological control was associated with lower anxiety symptoms (Gonzalez & Weersing, 2014). In an additional study of Latinx adolescents, it was found that maternal and paternal psychological control was significantly related to self-esteem for Latinx girls however it was not significantly related to self-esteem for Latinx boys. (Bean & Northrup, 2009). A study conducted in Mexico found that paternal and maternal psychological control was positively associated with depressive symptoms in adolescents, and negatively associated with autonomy (Palos et al., 2012). In a study of Mexican American adolescents, perceptions of parents promoting autonomy and engaging in less psychological control predicted fewer depressive symptoms two years later (Sher-Censor et al., 2011). In a sample of Latino adolescents in Los Angeles, maternal and paternal psychological control was negatively related to self-efficacy in girls and boys, whereas only maternal psychological control was related to self-esteem in girls (Yomtov et al., 2015).

Lastly, although not consistently, socioeconomic status has been found to be related to parental psychological control. In a study investigating psychological control in African American youth, no differences were found in relation to SES (Bean et al., 2006). Another study

investigating psychological control in a sample of Latinx, SES was also found to not be significantly related to psychological control (Bean & Northrup, 2009). A different study investigated psychological control in a sample of European American and African American third graders. The study found that for children with lower SES, maternal psychological control was positively related to depressive symptoms (El-Sheikh et al., 2010). Together these studies illustrate the inconsistent findings on the relation between psychological control and socioeconomic status.

The current body of literature on parental psychological control shows it is consistently related to internalizing symptoms in youth. Additionally, this literature demonstrates how parental psychological control may vary depending on a child's gender, family socioeconomic status, and ethnicity. For this reason, these demographic factors should be further investigated in their relation to parental psychological control and will be included in this study as potential moderators.

### **Expressed Emotion and Parental Emotional Overinvolvement**

Expressed Emotion (EE) is a construct that serves as an indicator of the family's environment or climate, as indicated primarily by the attitudes, and affect displayed by key relatives towards another family member with a mental health condition or diagnosis. "High" EE is considered to be detrimental and is expressed via a low warmth and/or high levels of hostility, criticism, and emotional overinvolvement. Historically, parental high EE has been consistently shown to predict hospitalization among adults with schizophrenia (Kavanagh, 1992). Some studies have also shown that maternal expressed emotion is a risk factor for depression in youth (Asarnow et al., 2001). EE has been found to be a predictor of outcome in depressed children, in which children in homes with high levels of expressed emotion were more likely to have a mood

disorder such as depression (Asarnow et al., 1993). Although EE is a construct often used with families of schizophrenic patients, there is a moderate body of research to support its positive relationship with youth internalizing symptoms. Table 1 summarizes these studies.

One of the key components of the EE construct is parental emotional overinvolvement. Emotional overinvolvement is thought to reflect intrusive, overprotective, excessively self-sacrificing, or devoted behavior or exaggerated emotional response to the child (Leff & Vaughn, 1987). Unlike other constructs within EE, findings on the impact of emotional overinvolvement have been inconsistent. Table 1 summarizes the studies linking EE to youth internalizing symptoms. Ten studies were identified that have assessed EE and internalizing symptoms in youth, and half of these studies had a longitudinal design. Of these, six measured emotional overinvolvement, specifically, and its relation to internalizing symptoms (only one found a significant association). The table also illustrates how most of the literature has been conducted using the Five-Minute Speech Sample (FMSS), which is a brief, open ended interview format.

Some research suggests that parental emotional overinvolvement may be associated with internalizing symptoms in youth. One study found that children of parents who exhibited high emotional overinvolvement were more likely to suffer from an anxiety disorder (Stubbe et al., 1993). However, there is also literature to contradict these findings and suggests there is no relationship between parental emotional overinvolvement and internalizing symptoms at all. A different study did not find a relationship between a parent's emotional overinvolvement behavior and adolescents internalizing symptoms in a sample of Swedish twins (Moberg et al., 2011). Additionally, another study found that maternal emotional overinvolvement was positively related to emotion dysregulation, but not internalizing problems (Han & Shaffer, 2014). In sum, in the studies that have assessed emotional overinvolvement and youth

internalizing symptoms, the findings have been largely inconsistent or have found no associations between these two constructs.

Parental emotional overinvolvement has also been found to be culture specific; in which the effects of emotional overinvolvement may be detrimental in one culture may not be in another. In European adult samples, there was no relationship found between emotional overinvolvement and rate of relapse, however in Asian and Mexican American adult samples significant relationships were found (Singh et al., 2011). A study by Jenkins in 1991 investigated EE in a sample of Mexican American adults. In this sample, it was suggested that higher degrees of involvement are found in this cultural group (Jenkins, 1992). Further, in Jewish populations emotional overinvolvement is not seen as pathological (Bhurga & McKenzie, 2003).

Table 1 shows that most of the research on EE and internalizing problems among youth has been conducted in the U.S., however some studies have been conducted in Spain and The Netherlands. Of the studies conducted in the U.S., only one study reports ethnic breakdown of the sample, and that study is a majority white sample. There is little research on EE and minority groups. These studies conducted outside of the U.S. all reveal positive relationships between EE and internalizing symptoms, such as social anxiety and depression. McCarty et al. (2002), used a sample of different ethnic backgrounds, however they did not conduct analyses separately per ethnicity, nor did they use ethnicity as a moderator. While there is little literature on how emotional overinvolvement is affected by gender, one study found that boys reported less perceived criticism than girls (Nelemans et al., 2014).

### **Parental Psychological Control and Parental Emotional Overinvolvement**

There is ample literature documenting the association between parental psychological control and youth depressive symptoms (Barber, 1996). In contrast, fewer studies have been

conducted linking parental emotional overinvolvement to depressive symptoms and other internalizing problems in children and adolescents (Leff & Vaughn, 1987; Stubbe et al., 1993). Although the constructs appear to be tapping into distinct, but related behaviors and attitudes, the relationship between parental psychological control and parental emotional overinvolvement is unclear. For this reason, the present study aims to develop a deeper understanding of parental psychological control and parental emotional overinvolvement with a longitudinal design to understand how they affect changes in depressive symptoms over time.

To date, there has been little to no research conducted to connect the constructs of parental psychological control and parental emotional overinvolvement, and their effects in combination on depressive symptoms. Only one study could be found that assessed both EE (including emotional overinvolvement) and parental control. The study, which was conducted in a sample of parents of young adults with schizophrenia, found that emotional overinvolvement is related to controlling parenting, however their definition of control was not equivalent to parental psychological control (Peterson & Docherty, 2004). Therefore, this is the first study to assess parental psychological control and parental emotional overinvolvement and examine their association with each other and with depressive symptoms, among an ethnic minority sample. To date, no studies have examined parental emotional overinvolvement as a mediator or moderator in the relation between parental psychological control and depressive symptoms. One consideration is that parental emotional overinvolvement functions as a moderator in the relationship between parental psychological control and depressive symptoms such that the relationship between parental psychological control and depressive symptoms is stronger when emotional overinvolvement is also present. If this relationship were found, this would indicate that psychological control and emotional overinvolvement are separate constructs. While they

may have overlapping qualities, there is enough to differentiate them as different behaviors.

Another consideration is parental emotional overinvolvement may function as a mediator in this relationship. In this situation, emotional overinvolvement would explain the relation between psychological control and depressive symptoms.

### **Study Aims**

The present study used a longitudinal design to investigate parental emotional overinvolvement (PEOI) as a mediator and moderator of the relation between parental psychological control (PPC) and youth depressive symptoms. The following aims and hypotheses were examined:

- Aim 1. Ethnicity, gender, and socio-economic status are explored as moderators of the relation between parental psychological control (PPC) and parental emotional overinvolvement (PEOI).
- Aim 2. To determine if PEOI mediates the relation between PPC and changes in youth depressive symptoms. It is expected that higher PPC will lead to increases in depressive symptoms and this association will be accounted for, at least partially, by PEOI.
- Aim 3. To determine if PEOI moderates the relation between PPC and youth depressive symptoms changes. It is expected that higher PPC will lead to increases in depressive symptoms, but especially among those also reporting higher PEOI.
- Aim 4. To determine if ethnicity, gender, or socio-economic status further moderate the moderation or mediation models from Aims 2 or 3.

## Method

### Participants

The sample for this study includes 349 youth (Mage = 12.3 years; 57.0% female) recruited from 10 public elementary schools in Chicago. The sample was 78.2% Latinx ( $n = 273$ ), 10.0% African American ( $n = 35$ ), 1.7% European American ( $n = 6$ ), and 3.2% mixed African American and Latinx ( $n = 11$ ), 4.6% mixed Latinx and European American ( $n = 16$ ), 0.6% mixed African American and European American ( $n = 2$ ), 0.3% mixed Asian American and African American ( $n = 1$ ), 1.4% mixed 3 or more ethnic groups ( $n = 5$ ).

Those of Latinx or mixed Latinx backgrounds ( $n = 305$ ) identified as 68.8% Mexican American ( $n = 210$ ), 0.3% Cuban American ( $n = 1$ ), 11.4% Puerto Rican ( $n = 35$ ), 5.9% Central or South American ( $n = 18$ ), 0.6% Another Latinx Nationality ( $n = 2$ ), 0.3% Mixed Mexican and Cuban American ( $n = 1$ ), 5.9% Mixed Mexican and Puerto Rican ( $n = 18$ ), 3.6% Mixed Mexican and Central or South American ( $n = 11$ ), 2.2% Mixed not Mexican ( $n = 7$ ), and 0.6% Mixed Mexican and two or more other Latinx nationalities ( $n = 2$ ). The participant of Asian American or mixed Asian American background identified as Chinese American ( $n = 1$ ; 100%).

### Measures

**Parental Psychological Control.** The Children's Report of Parent Behavior Inventory (CRPBI-30; Schludermann & Schludermann, 1988) is a measure used to investigate children's perceptions of their parent's behavior. The CRPBI includes three parenting dimensions. For this study, only the items belonging to the psychological control subscale were included. Participants responded to 10 statements assessing the extent to which their mother/caregiver engaged in psychologically controlling behaviors (e.g., "*My mother tells me of all the things she has done for me*") using a three-point rating scale from "1 = *Not like her* to 3 = *A lot like her.*" Good

internal consistency was found in this sample ( $\alpha = .71$ ). This measure was collected from youth during their individual interviews (at Time 1).

**Parental Emotional Overinvolvement.** The Brief Dyadic Scale of Expressed Emotion (BDSEE; Medina-Pradas et al., 2011) is a measure used to assess the three components of expressed emotion: parental criticism, parental emotional overinvolvement and parental warmth. Although the BDSEE measures three dimensions of expressed emotion, only items measuring emotional overinvolvement were used for this study. Participants responded to 6 statements assessing the extent to which their mother/caregiver engages in emotionally overinvolved behaviors (e.g., *My mother does not let me do things on my own*). Participants responded on a 10-point Likert scale (1= *not at all*, 10= *very much*). Adequate internal consistency was found in this sample for this subscale ( $\alpha = .67$ ). This measure was collected from youth at Time 1.

**Depressive Symptoms.** The Children's Depression Inventory (CDI; Kovacs, 1992) is used to assess self-rated depressive symptoms for school-aged youth. The CDI measures cognitive, affective, and behavioral symptoms of depression in children. Participants responded to 26 items that consisted of three statements based on symptom severity and choose the statement that best fits them. ("*I am sad once in a while*", "*I am sad many times*", or "*I am sad all the time*"). The CDI was collected from youth during the individual interview (Time 1) and follow-up survey (Time 2) and internal consistency for this sample was excellent at both time points ( $\alpha = .90$  at both time points).

**Demographics.** Questions were included in both the child survey and the parent interview (Time 1) to help determine the child's age, gender, and race/ethnicity, as well as the family's socio-economic background. To determine parental education, which was used as an indicator of socio-economic status in this study, parents interviewed reported on their own level



of educational attainment as well as that of the child's other parent/caregiver (spouse or biological parent). Parents reported how far they went to school using options that included: 1 = *8<sup>th</sup> grade or less*, 2 = *more than 8<sup>th</sup>, but did not graduate high school*, 3 = *Went to business, trade or vocational school instead of high school*, 4 = *High school graduate*, 5 = *completed GED*, 6 = *Went to business, trade or vocational school instead of high school after high school*, 7 = *Went to college but did not graduate*, 8 = *Went to two year junior college*, 9 = *graduated from college/university*, 10 = *professional training beyond a four year college*, and 11 = *Never went to school*. These responses were then coded as High or Low. High education level was a high school degree and above. Low education level was a high school degree and below. Each case was coded based on the education level of each parent/caregiver. Cases were assigned a category of *high/high*, *high/low*, or *low/low* (except for 12 cases for which there was missing data for parental educational attainment).

## **Procedure**

The data from the current study were collected from a larger project which delivered a school-based depression intervention to youth enrolled in public schools in Chicago. The data were collected through classroom surveys and both child and parent interviews (Time 1) and classroom surveys administered again approximately one year later (Time 2). Parental consent and child assent were collected separately. DePaul staff visited the participating schools to explain the study and provide consent and assent packets to participants. Students who returned a sign parent consent form were gifted a pen as a 'thank you' for their time. After DePaul staff collected the forms, they coordinated with CPS staff to set up a time and date to conduct surveys with those who chose to participate. DePaul staff visited the school and read student assent forms to students whose parents had consented to their participation. Students who assented were

administered paper and pencil surveys. Research staff read the questions aloud to them. This survey took about 45 minutes to complete. To thank the students for their participation, they were given raffle tickets for small prizes for one of every eight students. After the classroom surveys were completed, parents were contacted via phone and invited to participate in an interview and to consent to a child interview. These parent and child interviews lasted about 90 minutes each and were conducted after school hours. The DePaul interviewers read parental consent and youth assent forms to participants. Interviews were conducted simultaneously, but in separate rooms for the parent and child. Students were given a \$25 gift card for their time and parents/guardians were given \$30 in cash. All study procedures were approved by the Institutional Review Board of DePaul University and the Research Review Board of the Chicago Public School District.

## Results

Correlations among the study variables are presented in Table 2. Higher PPC was found to be significantly associated with higher PEOI ( $r = .37; p < .001$ ). PPC ( $r = .16; p < .001$ ) and PEOI ( $r = .28; p < .001$ ) were both significantly associated with Time 1 depressive symptoms. PPC ( $r = .02; p = .69$ ) was not significantly associated with Time 2 depressive symptoms. PEOI was significantly related to Time 2 depressive symptoms ( $r = .26; p < .001$ ).

**Aim 1. Demographic Moderators.** To investigate Aim 1 of this study, three models evaluated whether ethnicity, gender, and socio-economic status moderated of the relation between PPC and PEOI. Analyses were performed using SPSS Version 26.0 and Model 1 of the PROCESS macro (Hayes, 2013). Ethnicity was coded as Latinx or mixed-Latinx ( $n = 305$ ) vs. non-Latinx ( $n = 44$ ), parental education was coded as high/high ( $n = 49$ ), high/low ( $n = 78$ ), or low/low ( $n = 210$ ) Gender was coded as male ( $n = 150$ ) vs female ( $n = 199$ ). Results revealed

that gender significantly moderated the relation between PPC and PEOI ( $\beta = .87, p = .04$ ; 95% C.I. [0.03, 1.71]), such that it was stronger for females ( $\beta = 1.2, p < .00$ ; 95% C.I. [0.52, 1.81]), than males ( $\beta = 2.0, p < .00$ ; 95% C.I. [1.51, 2.59]) (see Figure 3). Ethnicity ( $\beta = -.56, p = .37$ ; 95% C.I. [-1.79, 0.67]) and parental education ( $\beta = .09, p = .76$ ; 95% C.I. [-0.49, 0.67]) did not significantly moderate the relation between PPC and PEOI.

**Aim 2. Mediation Models.** Aim 2 examined whether the relation between PPC and changes in youth depressive symptoms are accounted for, or mediated by, PEOI. Model 4 of the PROCESS macro (Hayes, 2013) was used to evaluate Aim 2. The model included Time 2 youth depressive symptoms as the dependent variable, and Time 1 youth depressive symptoms as a predictor or covariate. Consistent with predictions, there was a significant indirect effect of psychological control on changes in depressive symptoms through emotional overinvolvement ( $\beta = .41, p < .001$ ; 95% C.I. [0.30, 0.52]). These results can be seen in Figure 4.

**Aim 3. Moderation Model.** To further investigate the relation between that PEOI plays in the relation between PPC and depressive symptoms, a simple moderation analysis was performed using the PROCESS macro. Model 1 was used to assess the moderational effect of PEOI on PPC and changes in depressive symptoms. The model included Time 2 youth depressive symptoms as the dependent variable, and Time 1 youth depressive symptoms as a predictor or covariate. Contrary to predictions, results revealed that PEOI did not significantly moderate the relationship between PPC and changes in depressive symptoms ( $\beta = -.005, p = .84$ ; 95% C.I. [-0.06, 0.48]).

**Aim 4. Moderated Moderation.** Ethnicity, gender, and parental education were examined as potential moderators in a moderation between PPC, PEOI and changes in depressive symptoms, using Model 3 in the PROCESS macro (Hayes, 2013). Once again, to assess changes,

Time 2 depressive symptoms was entered as the dependent variable, and Time 1 youth depressive symptoms was used as a covariate. The results revealed that ethnicity significantly moderated the moderational relation between PPC, PEOI, and changes in depressive symptoms ( $\beta = -.22, p = .04; 95\% \text{ C.I.}[-0.44, 0.01]$ ). To help interpret the results of the three-way interaction, two graphs (one for Latinx and one for non-Latinx students) are shown in Figure 5. Simple slope analyses were used to assess the interaction at each level of the two moderators. The direction of conditional effects was used to indicate the change in baseline for changes in depressive symptoms. In the Latinx group, there was non-significant decreases in depressive symptoms as psychological control increases for low PEOI ( $b = -0.12, 95\% \text{ CI} [-0.26, 0.03], t = -1.54, p = .12$ ) and medium PEOI ( $b = -0.10, 95\% \text{ CI} [-0.21, 0.02], t = -1.65, p = .10$ ). High PEOI ( $b = -0.07, 95\% \text{ CI} [-0.22, 0.08], t = -0.93, p = .35$ ) experienced a small, nonsignificant increase in depressive symptoms. In the non-Latinx group there was only significant decreases in symptoms as psychological control increases ( $b = -0.57, 95\% \text{ CI} [-0.10, -0.18], t = -2.87, p = .00$ ) for high PEOI groups. Low EOI groups revealed a non-significant increase in depressive symptoms as psychological control increases ( $b = 0.05, 95\% \text{ CI} [-0.44, -0.56], t = 0.21, p = .83$ ). In medium EOI groups there is a non-significant decrease in depressive symptoms as psychological control increases ( $b = -0.22, 95\% \text{ CI} [-0.55, 0.11], t = -1.30, p = .19$ ). The only group with significant increases in depressive symptoms was the non-Latinx/High PEOI group. Among Latinx participants, there were no models found to be significant. Additionally, higher PPC was associated with fewer changes in depressive symptoms, across low, medium, and high PEOI levels. The three-way interactions for gender ( $\beta = -0.003, \text{ C.I. } p = .99; 95\% \text{ C.I.} [-0.12, 0.12]$ ) and parental education ( $\beta = -0.04, \text{ C.I. } p = .63; 95\% \text{ C.I.} [-0.21, 0.13]$ ) were not statistically significant.

**Aim 4. Moderated Mediation.** Moderated mediation models were evaluated using Model 7 of the PROCESS macro (Hayes, 2013). In all models evaluated, PPC; was the independent variable, PEOI was the mediator, and Time 2 youth depressive symptoms was the dependent variable and depressive symptoms at Time 1 was used as a covariate. The moderators evaluated were gender, ethnicity, and parental education. An index of moderated mediation was used to test the significance of moderated mediation. Gender did not moderate the mediational model, ( $\beta = -0.77, p = .09; 95\% \text{ C.I.}[-0.12, 1.65]$ ). The overall moderated mediation model with ethnicity as a moderator was not supported with the index of moderated mediation ( $\beta = -0.57, p = 0.43; 95\% \text{ C.I.}[-2.0, 0.83]$ ). The overall moderated mediation model with parental education as a moderator was not supported with the index of moderated mediation ( $\beta = -.38, p = 0.56; 95\% \text{ CI} = -1.67, 0.91$ ).

## **Discussion**

The present study was the first study to investigate the relation between PPC, PEOI and changes in depressive symptoms. The study was done with a predominately ethnic minority and low-income sample. To date, no other study has used a longitudinal design to assess the combined effects of PPC and PEOI on the course of depressive symptoms. Previous work examining the relation between PPC, and internalizing symptoms has been well established, in which PPC is a consistent predictor of depression in adolescents (Gorostiaga et al., 2019, (Baron & MacGillivray, 1989). However, there has been less literature that has been focused on the relationship between PEOI and depressive symptoms in youth, and the existing literature is inconsistent in its findings (Stubbe et al., 1993, Moberg et al., 2011). Specifically, cultural differences have been found in how PEOI is experienced, as well differences based on gender (Singh et al., 2011, Jenkins, 1992, Bhurgra & McKenzie, 2003, Nelemans et al., 2014).

In the present study, PPC and PEOI were positively correlated with each other. This correlation was moderate, which indicates that while they are related to each other, they are not measuring the same construct. To further understand the relation between PPC and PEOI, the current study assessed potential demographic moderators between the two variables. Findings revealed gender differences in the relation between PPC and PEOI. Gender significantly moderated the relationship between PPC and PEOI, in which the relation is stronger for girls than boys. Conceptually, these results suggest that a stronger connection between PPC and PEOI behaviors is found for girls compared to boys. This finding aligns with other literature in which there is a significant moderation in the relation between autonomy support and internalizing problems, with girls showing a stronger effect than boys (Chen et al., 2019). These findings, in addition to the current study findings, reveal gendered effects for intrusive behaviors in which undermining autonomy and autonomy support have a greater effect on girls than boys. There was not a significant moderation in the relation between PPC and PEOI on ethnicity. These findings contradict the current literature, in which there have been many cultural differences documented (Singh et al., 2011, Jenkins, 1992, Bhurgra & McKenzie, 2003, Nelemans et al., 2014). There was not a significant relation between PPC and PEOI on SES, which aligns with some of the current literature, such as a study investigating PPC in African American youth, where no differences were found in relation to SES (Bean et al., 2006). Another study investigating PPC in a sample of Latinx, SES was also found to not be significantly related to PPC (Bean & Northrup, 2009). However, these findings, as well as the present study's findings contradict other literature. One study found that in a study of adolescents in China, SES was also found to predict parental psychological control, in which lower SES predicted higher levels of PPC (He et al., 2019).

In this study, PPC and PEOI were both significantly associated with youth depressive symptoms during the initial wave of data collection. However, at follow-up, only higher PEOI was significantly correlated with youth depressive symptoms. Additionally, there was a stronger correlation between PEOI and time 1 and time 2 than there was for PPC. Overall, higher PPC and higher PEOI were both associated with higher depressive symptoms. However, in this study, PEOI may be a stronger predictor of depressive symptoms as there were significant relations found for both time points of depressive symptoms.

The current study aimed to further understand how PPC and PEOI work together in combination in relation to depressive symptoms. To do this, two models were tested. PEOI was tested as both a moderator and a mediator in the relation between PPC and changes in depressive symptoms. PEOI was found to be a significant mediator in the relation between PPC and changes in depressive symptoms such that the relation between PPC and changes in depressive symptoms is explained by or accounted for by PEOI. When parents engage in PPC, this leads to PEOI, which contributes to changes in depressive symptoms. The mediational relation found between these constructs demonstrates a potential mechanism through which PPC leads to depression in early adolescents. This finding helps define the relation between PPC and PEOI. This mediational relation was not moderated by any of the demographic variables examined, suggesting that it works equally across gender, socio-economic status, and ethnicity. Alternatively, the current study tested whether PPC and PEOI are separate constructs that combine to predict changes in depressive symptoms in youth. The models initially tested that PEOI was not a significant moderator, However, when evaluating this moderational effect by the key demographic variables, it revealed differential effects across ethnicity.

The moderational and mediational models that were tested in this study were also assessed with further demographic moderators. To ensure that the significance of any models was not being hidden by demographics, additional moderators were added to the models from Aims 2 and 3. Gender, ethnicity and parental education were added to the models as moderators. Interestingly, these results revealed a moderational effect that was not found in previous aims. Results revealed that PEOI functions as a moderator between PPC and changes in depressive symptoms, and ethnicity (Latinx vs non-Latinx) further moderates this relation. In non-Latinx youth, which represented a relatively small portion of the sample, PEOI moderated the relation between PPC and changes in depressive symptoms. In which, when PEOI is high, there is a significant decrease in depressive symptoms as psychological control increases. This effect was found for only a small subset of participants, in which initial high PPC was associated with higher decreases in depressive symptoms if PEOI was also high. This applies to only non-Latinx participants who fell above the 84<sup>th</sup> percentile of PEOI. This is contradictory with the hypotheses which suggests an additive negative effect when parents are both psychologically controlling and emotionally overinvolved. Interestingly, these findings were not found in the Latinx group. In the Latinx group, no moderated moderation models were significant. All groups of PEOI (low, medium, high) did not experience this moderational effect. Future studies should investigate non-Latinx youth who endorsed high PEOI and high PPC category, as they saw the largest reduction in depressive symptoms in the sample, to explore the factors that led to their symptom improvements. For most other groups in the sample, PPC was not predictive of depressive changes.

Taken together, these findings illustrate the cultural specificity of how these parenting behaviors are experienced. This finding is also consistent with the literature on PEOI and its



cultural specificity; it may be harmful in some populations and normative in others (Singh et al., 2011). The current findings reinforced the idea that PEOI and PPC may have differential effects across cultures. Due to the small subgroup of non-Latinx participants, these findings may be difficult to generalize. This portion of the sample represented a small percentage of participants and it also consisted of multiple ethnicities. However, this finding still provides evidence to suggest that the combined effect of PPC and PEOI leads to changes in depressive symptoms, although more research is needed to assess this relation in different ethnic groups.

The goals of the current study were to develop an understanding of how PPC, PEOI and depressive symptoms relate to each other, and to examine how these relations are affected through demographic moderators. As the literature strongly supports the connection between PPC and depressive symptoms (Gorostiaga et al., 2019), PEOI was evaluated as either the moderator or mediator in this relation. Prior to this study, it was unclear how PPC and PEOI were interacting with each other to contribute to depressive symptoms. The mediational relationship revealed in this study demonstrates the overlapping nature between PPC and PEOI, suggesting a strong relationship between the two behaviors. However, the correlations between PPC and PEOI are moderate which suggests they are likely measuring similar, yet still unique constructs. The findings from the current study align with the principles of the Self-Determination Theory (SDT), in which autonomy support is supports healthy development and psychosocial functioning (Joussemet et al., 2008). Intrusive behaviors like PPC and PEOI are not supportive of autonomy and in turn can have negative effects for the child. The current study has the potential to contribute to SDT and intrusive parenting literature by offering findings that differ based on demographic variables.

A strength of the current study is the longitudinal design to evaluate changes depressive symptoms. It is the first study to use a longitudinal design to assess the relation between PPC, PEOI and depressive symptoms. Depressive symptoms were collected at two timepoints which allowed for mediational relations to be assessed. Implications of this study have the potential to inform future parenting interventions. The results revealed in this study can be used as a knowledge base for therapists who conduct family therapy or therapy with parents of depressed adolescents. The findings from this study will allow therapists to develop a knowledge base on these constructs which may help to tailor their treatment of clients. The findings from the current study may also support parenting interventions that focus on teaching parents how to support their child's autonomy. An example of a parenting intervention that teaches parents to support their child's autonomy is The Triple P-Positive Parenting Program. This program emphasizes building children's autonomy while maintaining clear boundaries. Triple P has been found to be a successful intervention in treating social and emotional outcomes for children (Sanders et al., 2014). Another parenting intervention, Parent Management training (PMT), supports age-appropriate autonomy in children. However, this intervention has been found to be successful in treating externalizing problems rather than internalizing problems (Kazdin, 1997). Among Latinx youth samples, a study evaluating a parent involved CBT targeting decreasing parental psychological control saw significant decreases in youth anxiety symptoms (Patriarca, 2022). Although these interventions did not target depressive symptoms, these studies support the premise that parenting interventions that support autonomy in children may be successful in treating or preventing depressive symptoms in youth. In addition, the results from the current study also suggest that interventions that support a child's autonomy may be helpful in treating children's depressive symptoms. However, this should be done in a culturally informed nature as

the current study illustrated how these behaviors may not be experienced the same cross-culturally. A reason that the effects of PPC might differ from culture to culture, is because it depends how the behavior is being perceived by the child. Cross-cultural research has shown that when children interpret their parents controlling behaviors in a positive manner, it may mitigate the negative effects (Camras et al., 2017).

A limitation of the current study is that the sample size of Latinx participants is much larger than non-Latinx participants. This means that when assessing for moderation based on ethnicity, the non-Latinx participants was much smaller and also included multiple ethnicities, such as African American, European American, and Asian American. Therefore, it is hard to generalize any findings related to the non-Latinx group as it is a small and diverse sample. Future studies should aim for a larger sample size to allow for enough participants and assess for moderational effects across more ethnicities in order to confirm if these relations are still found. An additional limitation of the current study is that at least two statistical tests were run for each aim, which increases the chance of a Type 1 error, potentially inflating the likelihood that some of the statistically significant findings are actually favor the null hypothesis.

The current study serves as a starting point in understanding how PPC, PEOI and depressive symptoms relate to each other, and how these relations are affected through demographic variables. Results from the study revealed that gender plays an important role as it relates to the effects of PPC and PEOI. Results also revealed how PEOI accounts for the relation between PPC and depressive symptom changes. Lastly, the study found that it is important to consider, culture, race, and ethnicity in parenting studies. However, more research is needed to further understand these effects, due to the limited opportunities to compare different racial/ethnic groups in the sample, and the fact that cultural variables were not measured or

evaluated (e.g., cultural values). Nonetheless, the findings have the potential to inform and support parenting interventions that support autonomy in children, in hopes to treat or prevent depressive symptoms.

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Table 1.

*Summary of studies linking Expressed Emotion to Youth Internalizing Symptoms*

Authors	Design	Population Characteristics	EE Measure	EE Dimensions Included	EE Report er	Parentin g Measur es Include d	Mental Health Focus	Main Relevant Parenting Construct Findings
Garcia-Lopez et al., 2014	Randomized Control Trial	N=52; 65.4% female; M <sub>age</sub> =15.4; R/E=N/S (conducted in Spain)	FMSS	Crit, EOI	Parent		Social Anxiety	EE → Soc Anx (+)
Moberg et al., 2011	Longitudinal	N=2426, Gender =N/S, R/E= NS (U.S. sample)	FOF	Crit, EOI			Internalizing behavior	EOI → Internalizing (NS)



Silk et al., 2009	Longitudinal	N=109, M <sub>age</sub> =13.2, 52.2% female, R/E= NS (U.S. sample)	FMSS	Crit, EOI	Parent	Family history interview	Depression	C → Dep (+)
Asarnow et al., 2001	Cross sectional	N=229, 35.0% female, 72.0% European American, 10.0% Latinx 6.0% African American, 10.0% Other, M <sub>age</sub> = N/S (U.S. sample)	FMSS	Crit, EOI	Parent		Depression	C → Dep (+)
Hale et al., 2016	Longitudinal	N=497, 43.0% Female, M <sub>age</sub> =13.0, R/E= NS (Conducted in The Netherlands)	LEE	Lack of emotional support, intrusiveness, irritation, criticism	Both parent and child		Internalizing and externalizing symptoms	C → Internalizing (NS)

Garcia-Lopez et al., 2009	Cross sectional	N=16, 76.0% female, M <sub>age</sub> =16.9, R/E= NS (conducted in Spain)	FMSS	Crit, EOI, hostility	Parent		Social Anxiety Disorder	EE → Soc Anx (+)
McCleary & Sanford, 2002	Longitudinal (subsample)	N=57, M <sub>age</sub> = 15.1, 68.4% Female, R/E= NS (U.S. sample)	FMSS	Crit, EOI	Parent	Family history research diagnostic criteria method	Depression	EE → Dep (+)
Kelly et al., 2010	Cross sectional	N=125, M <sub>age</sub> =8.34, 49.6% female, R/E= NS (U.S. sample)	FMSS	Crit, Warmth	Parent		Depression	C → Dep (+)

Nelema ns et al., 2014	Longitudi nal	N=497, M <sub>age</sub> =13.0, 43.0% Female, R/E= NS (Conducted in The Netherlands)	LEE	Crit	Both parent and child		Depressio n & Anxiety	C → Dep (+)
McCart y & Weisz, 2002	Cross sectional	N=258, 36.0% Female, M <sub>age</sub> =11.3. 50.4% European American, 11.6% African- American, 17.6% Latinx, 1.6% Asian American, 18.8% Multiethnic (U.S. sample)	FMSS	Crit, EOI	Parent		Internalizi ng & Externalizi ng	C → Internalizi ng (NS)

*Note.* R/E = Race/ethnicity; N/S= Not specified; EE= Expressed Emotion; Crit= Criticism; EOI= Emotional Overinvolvement;

FMSS= Five Minute Speech Sample; LEE= Level of Expressed Emotion Scale; FOF= Frågor om familjemedlemmar; Soc Anx =

Social Anxiety; Dep = Depression

Table 2.

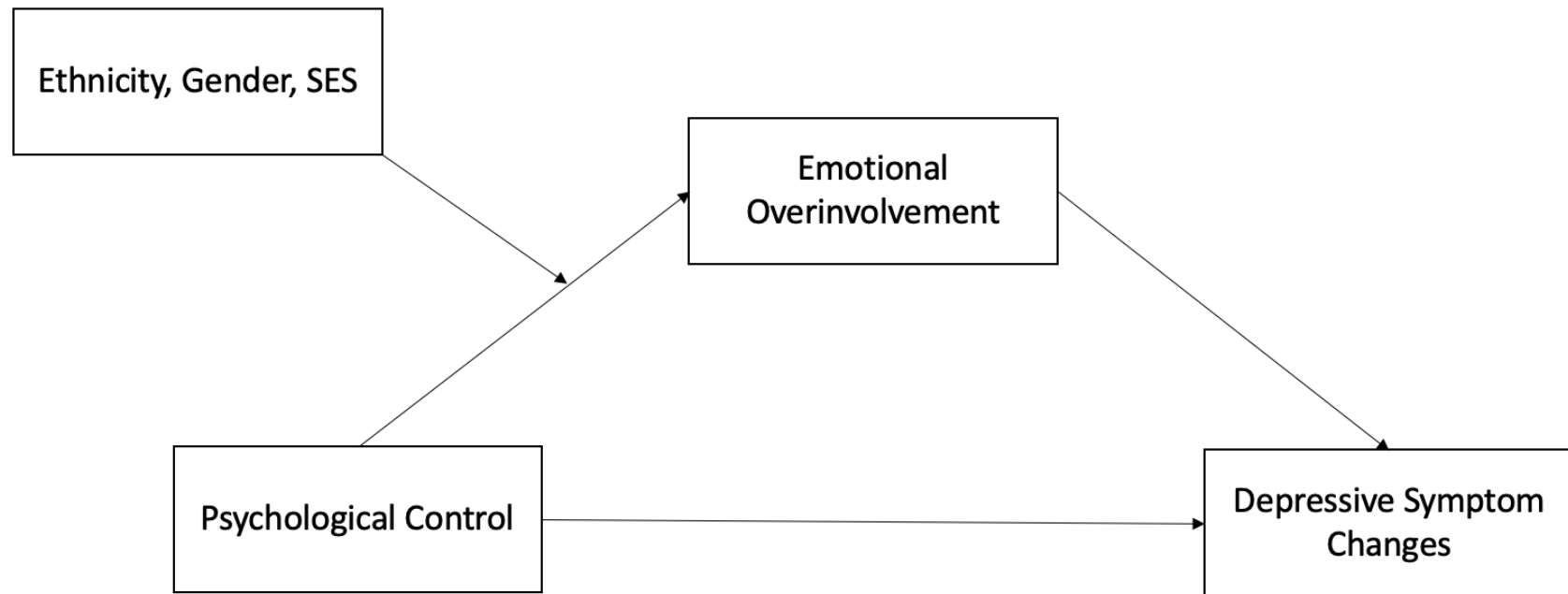
*Correlations Among Demographics, PPC, PEOI and Depressive Symptoms*

Measure/Variable	1	2	3	4	5	6	7
1. Psychological Control	-	.37***	.16**	.02	.02	-.12*	-.14*
2. Emotional Overinvolvement		-	.28***	.26***	.05	.09	-.04
3. CDI Time 1			-	.45***	.001	.11	-.10
4. CDI Time 2				-	.02	.19**	-.004
5. Ethnicity					-	.12*	.12*
6. Gender						-	-.08
7. Parental Education							-

Note.  $N = 295$ ; \* $p < .05$ , \*\* $p < .01$ , and \*\*\* $p < .0001$ ; Ethnicity= 1: Latinx, 2: Non-Latinx; Parental Education= 1-Low/Low, 2= High/Low, 3= High/High; SES= Socioeconomic Status.

Figure 1.

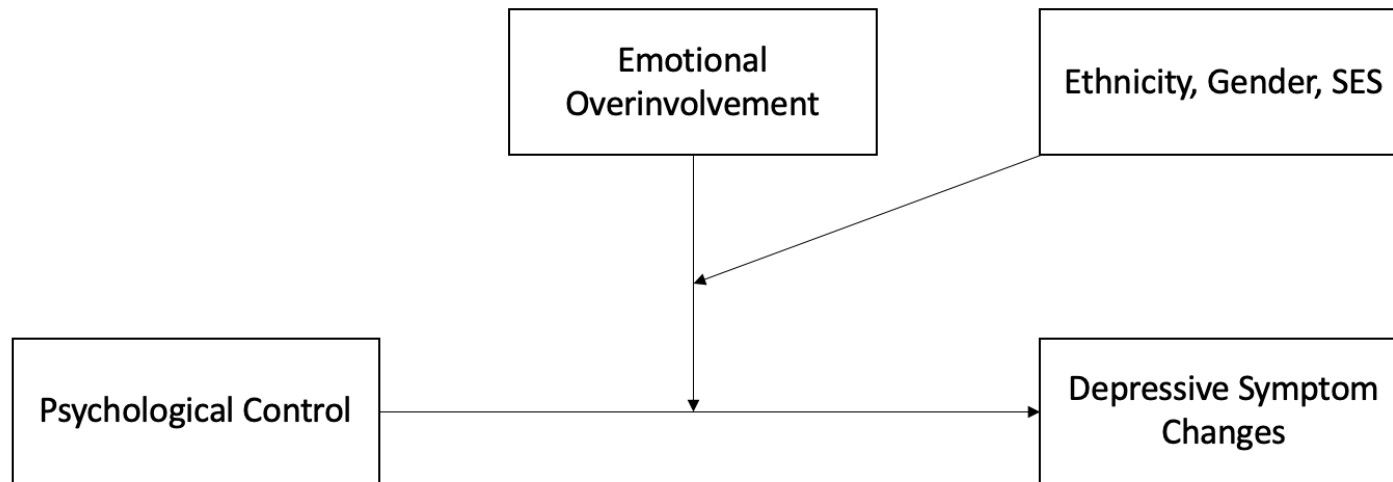
*Proposed Moderated mediation model.*



*Note.* SES= Socioeconomic Status

Figure 2.

*Proposed Moderated moderation model.*



*Note.* SES= Socioeconomic Status

Figure 3.

*The Moderational Role of Gender on the Relation Between Psychological Control and Emotional Overinvolvement*

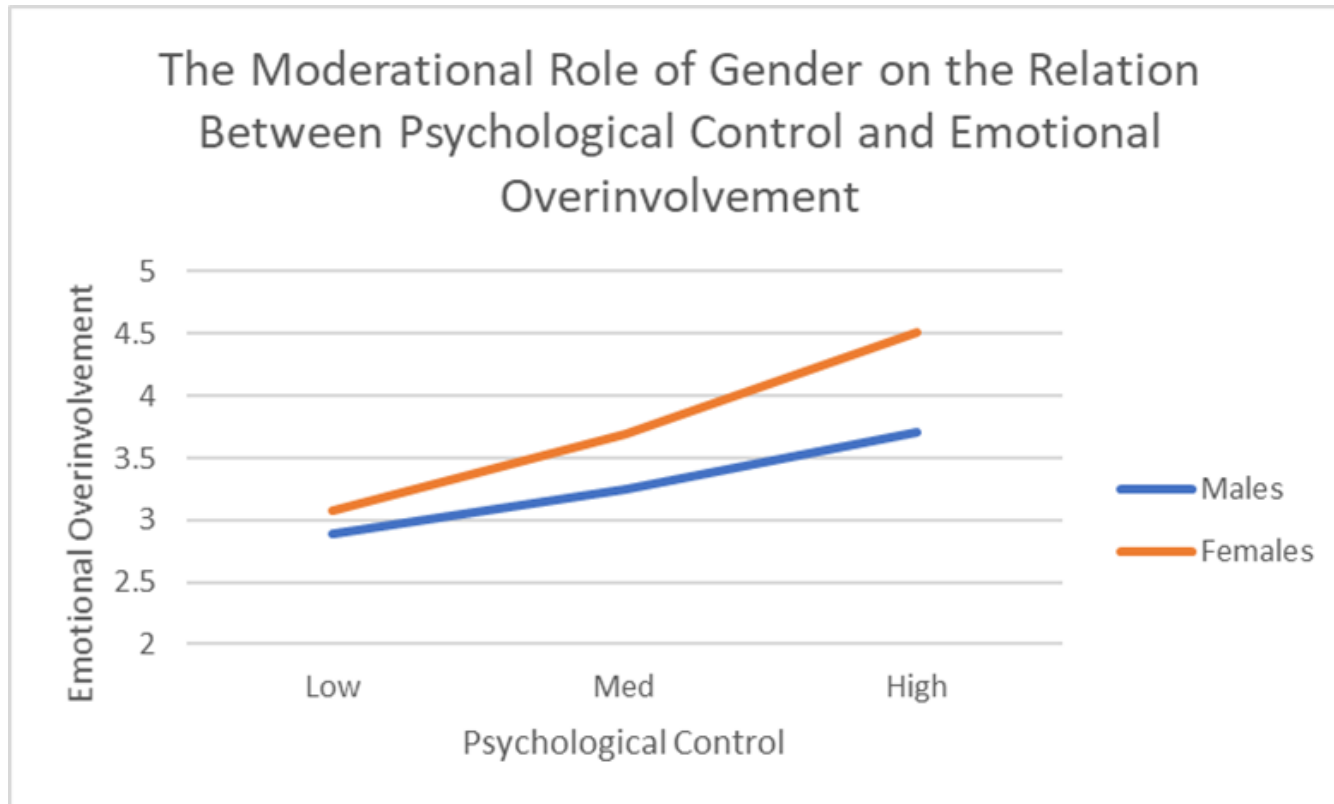
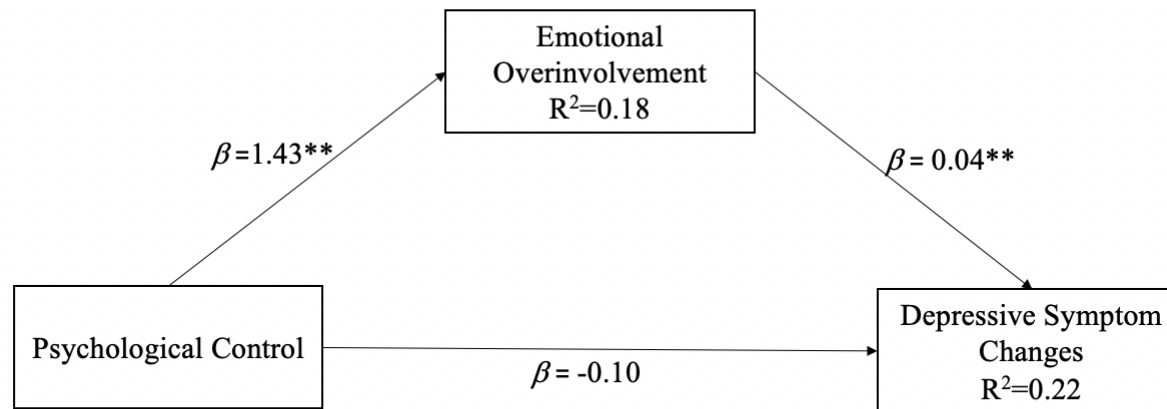


Figure 4.

*Mediation Model*

$** = p < .001$



Figure 5.

*The Moderational Effect of Ethnicity on PPC, PEOI and Changes in Depressive Symptoms*

