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UNDERSTANDING THE RELATIONSHIP BETWEEN ADVERSE CHILDHOOD  
EXPERIENCES, SOCIAL-EMOTIONAL LEARNING SKILLS, AND  
BEHAVIORAL DIFFICULTIES OF YOUTH

by

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## **Dedication**

This work is dedicated to my Beloved Dead, those I lost along the way who believed in and encouraged me, and nurtured my longing to seek, and understand; you are so very missed. It is dedicated as well, in gratitude, devotion, and love, to my beloved Paul, without whom this would not have been possible, and to Brighid, whose fires have fueled my own even when I feared they would go out.

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## ABSTRACT

# UNDERSTANDING THE RELATIONSHIP BETWEEN ADVERSE CHILDHOOD EXPERIENCES, SOCIAL-EMOTIONAL LEARNING SKILLS, AND BEHAVIORAL DIFFICULTIES OF YOUTH

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Dual-factor models of mental health, those that include risk of psychopathology and well-being/protective factors, provide a more comprehensive understanding of an individual's complete mental health. Social-emotional learning (SEL) skills and adverse childhood experiences (ACEs) are each independently linked in the literature with predicting the likelihood of displaying internalizing and externalizing behaviors. Such behavioral concerns have implications for multiple areas of functioning across the lifespan including mental health concerns, as well as academic and vocational success. This study investigated whether a dual-factor model including youth SEL skills and youth ACEs as rated by parents might successfully differentiate children and adolescents with higher rates of internalizing and externalizing behavior problems. Results indicated that such a model did predict internalizing and externalizing behavior concerns. Moreover, analysis

indicated that as SEL skills increased, there was a reduction in level of both internalizing and externalizing behavior concerns, even for those with high levels of ACEs, though the reduction was greatest for those with fewer ACEs. In addition, as parental ACES have also been found to play a role in youth internalizing and externalizing behavior problems, a second model was investigated which included parent ACEs in addition to youth SEL skills and youth ACEs. Analysis indicated that these models were successful in predicting levels of internalizing and externalizing behavior concerns. Changes in predicted variance between internalizing and externalizing behavior models were statistically significant. It is notable that when parent ACEs were added to the model, the interaction between youth SEL skills and youth ACEs was no longer significant. Implications for the importance of including consideration of both risk and protective factors in screening and other early intervention measures are considered.

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## CHAPTER I:

### INTRODUCTION

Traumatic experiences and chronic stress or adversity in childhood are known to impact functioning across domains throughout the lifespan, including interpersonal, educational, vocational, and familial functioning and physical and mental health (Mersky & Topitzes, 2010). Such experiences, when measured using Adverse Childhood Experiences (ACEs), have been shown to predict physical, psychological, and social outcomes and to have a cumulative effect in that the more childhood adversity a person reports experiencing, the greater likelihood and number of later functional issues they experience (Anda et al., 2006; Feletti et al., 1998; Kessler et al., 2010; Merrick et al., 2017; Violence Prevention, 2016). Studies have found that children of parents with higher ACE scores themselves have higher ACE scores (Fernici & DePrice, 2018; Narayan et al., 2017); however, direct exposure to adverse experiences is not the only possible mechanism by which trauma impacts of parental ACEs may be transmitted intergenerationally. Additionally, is it not a simple matter of drawing a line between accumulated experiences of adversity and later outcomes; the picture is more complex and protective factors, such as social and emotional skills, play as much of a role as adversity does.

#### **Trauma**

Psychological trauma can be defined as “the unique individual experience of an event or enduring conditions, in which the individual’s ability to integrate his/her emotional experience is overwhelmed, or the individual experiences a subjective sense of threat to life, bodily integrity, or sanity” (Pearlman & Saakvitne, 1995, p. 60). Traumatic experiences in childhood, also called early life stress in the literature, have been studied from a variety of perspectives and linked with changes in neurobiology, poorer

interpersonal functioning, increased risk of physical and mental health problems, reduced length of telomeres that protect chromosomes throughout our lifespan, and long-term negative outcomes across functional domains (Kendall-Tackett, 2009; Mersky & Topitzes, 2010; Nemeroff, 2016). Specifically, increases in somatic complaints and major illnesses such as heart disease, asthma, inflammatory responses, chronic pain issues, and diabetes as well as increased incidence of substance use, anxiety and mood disorders, psychosis, self-injury, and suicide have been found. Trauma experiences are also predictive of lower socioeconomic status, less educational attainment and IQ, and higher reported life stress (Elliot & Vaitilinham, 2008; Perez & Spatz Widom, 1994; Tarullo, 2012). Socially, samples with childhood experiences of trauma are found to have increased engagement in violence and delinquency (Gold et al., 2011; Mersky & Topitzes, 2010; Xiamong & Corso, 2007) and poorer social skills (Perry, 2012). In one metanalysis of 32 studies a small association between exposure to childhood maltreatment and parenting behavior was found (Savage et al., 2019). Effects were more likely to be found when the parenting behavior of interest was negative (e.g., punitive punishment strategies, potentially abusive behaviors) or focused on the parent-child relationship (e.g., assessing bonding or quality of the relationship), in older studies, and in samples with higher numbers of male children (Savage et al., 2019).

Neurological changes associated with trauma and chronic stress, or the response to emotional pressure suffered for a prolonged period of time in which an individual perceives he or she has little or no control (McEwen, 2007), include changes in functionality, volume, and connectivity in the amygdala, corpus callosum, hippocampus, and hypothalamus-pituitary-adrenal (HPA) axis, increased corticosteroid levels, and altered frontal lobe volume and activity (Lupien et al., 2009; McCrory, et al., 2010; Nemeroff, 2016; Pervanidou & Chrousos, 2018). These areas of the brain are specifically

associated with mood regulation, threat assessment and response, the stress response, behavioral inhibition, and executive functioning. Appropriate assessment of, and response to, the environment and self are necessary skills for self-regulation and appropriate social behavior as well as responsible decision making. Such skills, in addition to the ability to direct and maintain attention, plan appropriate actions, and understand consequences are necessary for appropriate decision making and successful social, academic, and vocational functioning. There is some evidence that these changes impact caregiving behaviors and potentially even alter hormone and neuropeptide functioning at an epigenetic and neurobiological level, leading to intergenerational transmission through genetic and behavioral pathways (Bos, 2017; Buss et al., 2017; Julian et al., 2018). Thus, traumatic events and chronic life stressors during early life are not only associated with a variety of negative outcomes in physical and mental health and social, academic, and vocational functioning, but may also result in neurobiological changes that may underlie many of these outcomes.

### **Adverse Childhood Experiences (ACEs).**

Traditionally, various adversities, such as poverty, physical abuse, or parental divorce, would be studied individually to assess their impact on short- and long- term outcomes. ACEs were conceptualized by the Centers for Disease Control as a way of looking at the prevalence, impact, and interrelationships between each form of adversity (Violence Prevention, 2016). ACEs were first introduced to the epidemiological literature by the Kaiser-Centers for Disease Control Adverse Childhood Experiences Study that ran from 1995 to 1997 in which it was found that ACEs predicted a multitude of health-related behaviors and outcomes from smoking and substance use to obesity, autoimmune disorder incidence, and early death (Anda et al., 2006; Feletti et al., 1998; Violence Prevention, 2016). As discussed below, such findings have been replicated and expanded

across multiple studies with a variety of populations both in the United States and internationally.

To obtain the ACE score, an individual indicates whether they have or have not experienced specific adverse events prior to age 18, including physical, emotional, or sexual abuse, physical or emotional neglect, parental separation, domestic violence exposure, or a household member using substances, having a mental illness, or being incarcerated. Each adversity adds one point to the ACEs score, making it a frequency count of exposure to adverse events before age 18 (Dube et al., 2002). An individual's ACE score predicts increased substance issues including alcoholism and alcohol abuse, smoking, earlier initiation of smoking/alcohol use, and illicit drug use (Anda et al., 2006; Felitti & Anda, 2010; Merrick et al., 2017) as well as sexual and relational health problems including intimate partner violence, increased number of sexual partners, early and unintended pregnancy, early initiation of sexual experience, sexually transmitted diseases, and risk of sexual violence (Anda et al., 2006; Felitti & Anda, 2010). Increased rates of depression and anxiety, somatization, dissociation, and suicide attempts that show a dose-response effect were also found (Anda et al., 2006; Edwards et al., 2003; Felitti & Anda, 2010; Merrick et al., 2017).

In an analysis of 21 countries, Kessler et al. (2010) found that as ACE scores increased, ratings of psychopathology and likelihood of diagnosis with any of the Diagnostic and Statistical Manual-IV mood, anxiety, behavior, and substance use disorders increased. When ACEs were interpersonal (e.g., abuse and neglect), there was slightly greater likelihood of diagnosis than when the ACEs endorsed were related to household dysfunction (e.g., mental illness, incarceration, domestic violence, etc.). A strong graded dose response effect was also identified for impaired memory of childhood events, difficulty controlling anger, and higher perceived stress (Anda et al., 2006). There

is robust literature supporting the effects of ACEs on educational outcomes as well, including poorer overall academic performance, poorer achievement tests scores, truancy, and greater behavioral difficulties and discipline problems (Bethell et al., 2014; Blodgett & Lanigan, 2018; Hardcastle et al., 2018; Jimenez et al., 2016; Stempel et al., 2017). Moreover, ACE scores show strong, graded correlations with likelihood of serious job-related problems, high absenteeism, and ongoing financial instability (Anda & Felitti, 2004).

In addition, and perhaps because of, the increase in these outcomes in adulthood, parental, and especially maternal, ACE scores predict developmental concerns among their children, including social-emotional, behavioral, cognitive, and physical health problems (Folger et al., 2017; McDonnell & Valentino, 2016; Sun et al., 2017). Maternal experience of ACEs has been found to predict higher scores on measures of externalizing and internalizing behavior (Pasalich et al., 2016; Schickendanz et al., 2018; Stepleton et al., 2018) and social-emotional concerns (Folger et al., 2017; McDonnell & Valentino, 2016).

In one recent study, children whose parents had 4 or more ACEs reported greater internalizing behaviors (1.4 times more likely) and externalizing behaviors (1.46 times more likely), as well as greater overall behavior concerns (2.3 times more likely), and lower positive behaviors (.26 times less likely) than children whose parents had no ACEs (Schickendanz et al., 2018). Children of parents with 4 or more ACEs were also more likely to have a diagnosis of emotional disturbance (4.2 times more likely) and hyperactivity (2.1 times more likely) (Schickendanz et al., 2018). Interpersonal ACEs (e.g., abuse and neglect) predicted a 3.6-point difference in score on a measure of early childhood social-emotional functioning and a greater risk of overall developmental concerns (Folger et al., 2017). Some studies indicate that interpersonal adversities have a

more direct effect on social-emotional outcomes in infants than adversities related to household dysfunction, which may be mediated by other variables such as infant birth weight and mother's age at first pregnancy (McDonnell & Valentino, 2016).

In a sample of 350 parent child dyads, each additional ACE reported by the parent predicted an increase in the child experiencing asthma (1.17 times more likely) and poorer overall health (1.19 times more likely) as well as excessive television watching by children (1.16 time more likely) (Le-Scherban et al., 2018). In a sample of 501 mother-infant dyads in the community, there were increased medical (2.18 times more likely) and psychosocial (4.46 times more likely) risks, such as pregnancy complications like hypertension and diabetes, infant medical interventions such as oxygen and intensive care, maternal depression, and marital conflict. Within these families, for those dyads where mothers experienced 4 or more ACEs, there was a significant linear trend as ACEs increased from 1 to 4 or more (Madigan et al., 2017).

Additional analysis by Madigan et al., (2017) indicated that more maternal ACEs were associated with increased physical health problems for their infants via greater reported biomedical risks; they further noted that infants experienced increased emotional problems, likely due to increased psychosocial risk factors. Parent ACE scores are also associated with a variety of parenting practices and attitudes. Mothers who report higher ACE scores also report greater difficulty processing and coming to terms with their experiences of childhood adversity and greater disturbance in attachment (Murphy et al., 2014; Pasalich et al., 2016). As number of ACEs reported by parents increased, so did their perceived parenting distress (Brittany et al., 2018; Steele et al., 2016), difficulties in parenting due to youth emotional and behavioral dysregulation (Brittany et al., 2018), utilization of punishment-based behavior management (Bert et al., 2009), and expressions of hostility towards their children (Bailey et al., 2012; Pasalich et al., 2016). Increased

ACE scores were related to reduced parenting confidence (Bailey et al., 2012) and empathy for and responsiveness towards infants at 6 months of age among first-time mothers (Bert et al., 2009). Higher parental ACE scores also predicted reduced parental awareness of their own emotional states and behaviors, which functioned to predict engagement in negative parenting behaviors (Kolomeyer et al., 2016).

While the exact categories included in ACEs questionnaires vary somewhat based on likelihood of certain events (e.g., the International Questionnaire the World Health Organization uses includes exposure to war, forced migration, genital mutilation, and other community stressors rare in the domestic US population), such questionnaires generally include assessment of childhood experience of physical, sexual, or emotional abuse, physical or emotional neglect, and household dysfunction in the form of substance use, mental illness, or incarceration of a family member, parental separation, and domestic violence in the home (Bethel et al., 2017). Prevalence data indicates that ACEs are reported with a relatively high frequency and that adults who report experiencing one ACE are more likely to report additional ACEs, indicating they may be interrelated. Indeed, Dong et al. (2004) found with the original Kaiser-Permanente study population of 8,629 adults in the United States that two-thirds reported at least one ACE, with 81-89% of those reporting one ACE reporting at least one additional ACE.

Reporting additional adversities increased when any one adversity was reported (Bert et al., 2009; Dong et al., 2004), with significantly greater reports of no ACEs and of high numbers of ACES (4 or more) than would be expected if they were independent (Dong et al., 2004), indicating that ACEs may be best understood cumulatively (Madigan et al., 2017). ACE scores, both in cumulative format and when broken down into subscales of abuse/neglect and household dysfunction, have implications beyond predicting risky health behaviors and physical illness. The original Kaiser-Centers for Disease

Control Adverse Childhood Experiences Study (Felitti et al., 1998) was replicated and expanded by the Behavioral Risk Factor Surveillance System (BRFSS) over several years with the most recent available data being from 2010 as well as several additional independent studies in the United States and internationally. Some studies have found that ongoing relationship problems, substance use, somatic symptoms, and emotional distress mediate relationships between ACEs and outcomes in a variety of domains (Anda & Felitti, 2004; Folger et al., 2017). Indeed, ongoing difficulties with emotional well-being, unstable or dysfunctional relationship dynamics, increased risk behavior, and physical health problems appear to function in complex interrelated ways to mediate many of the findings associated with increased ACE scores.

### **Social-Emotional Learning**

The Collaborative for Academic, Social, and Emotional Learning (CASEL) has developed a framework of five competency areas in the domain of social-emotional learning that underlie successful functioning across environments. These include aspects of the self, such as recognizing and understanding one's own thoughts, feelings, attitudes, and values (self-awareness) and managing thoughts, feelings, and behaviors, including inhibitory control and goal-directed planning and behavior (self-management) (CASEL, 2015). SEL competencies also include aspects of relating to others and making responsible decisions, such as empathy and perspective taking, recognizing and following social rules, and cross-cultural awareness of emotions and points of view (social awareness), understanding and skills to build and maintain healthy, positive interpersonal relationships such as active listening, conflict resolution, sharing, and asking for help (relationship skills), and responsible decision-making (understanding and using ethics, social expectations, and consequences to make appropriate judgements and decisions) (CASEL, 2015).

Social-emotional learning (SEL) skills underlie successful functioning across the lifespan and across environments including home, school, peer groups, and, eventually, romantic and career contexts (CASEL, 2021). SEL is particularly important in academic settings where classroom functioning, peer relationships, academic performance, attitudes towards school, and responsible decision making can be predicted based on the individual's assessed SEL competencies (Zins et al., 2004). A meta-analysis by Wang and colleagues (1993) found that of the 11 categories with the greatest influence on overall learning, eight were directly related to SEL, including classroom management, metacognitive abilities, peer group relationships, interactions between teacher and student, classroom climate, social and behavioral characteristics, motivation and affective characteristics, and home environment and parental support. Further, a failure to develop those skills was a risk factor for difficulties in a variety of domains with impacts across the lifespan including improved work habits, improved conflict resolution skills, increased likelihood of graduating high school, and decreased delinquency and substance use (Zins et al., 2004). Moreover, previous research indicates that American schools use a median number of 14 different prevention programs, many of which are aimed at the behaviors that school-based training in SEL skills have been shown to reduce (Zins et al., 2004). While this data is older, it provides a sense of the scope of intervention efforts in American school systems.

### **The Correlates of SEL.**

SEL is foundational for academic success as noted in both cross-sectional and longitudinal studies (Oberle et al., 2014; Payton et al., 2008). Teaching SEL skills has demonstrated positive effects on multiple aspects of a child's functioning including ethical understanding, teacher-child relationships, conflict resolution skills, and self-esteem as well as decreased engagement in risk-taking behaviors (Payton et al, 2000;

Ross & Tolan, 2018; Zins & Elias, 2006; Zins et al., 2003). One meta-analysis of the effects of receiving social-emotional skill training found improved school achievement and school related behaviors such as participation and attendance as well as attitudes towards the school environment; reduced conduct problems and emotional difficulties were also found (Durlak et al., 2011). School-wide SEL programs have been associated with improved school outcomes across domains and when the cost of implementation is weighed against the long-term impact of improved academic outcomes and reduced disciplinary issues for students the benefits outweigh the costs (Belfield et al., 2015). Children and adolescents with better SEL skills are less likely to use substances, be truant, fail to complete their basic education, engage in risky sexual behaviors, or become pregnant and have greater resilience to peer pressure (Elias et al., 1997; Payton et al., 2000). Moreover, much like ACEs discussed previously, SEL can predict engagement in the community, ethical decision making, health outcomes, vocational habits, career trajectory, affective disorders, general maladjustment, and violent behavior (Elias et al., 1997; Jackson & Davis, 2000; Osher et al., 2002; Ross & Tolan, 2018; Zins et al., 2004; Zins & Elias, 2006). Thus, while ACEs may act as a risk factor for a variety of negative outcomes, SEL skills may be conceptualized as a risk or protective factor depending on the specific competencies or deficiencies a given youth has developed.

### **Child Internalizing and Externalizing Behavior**

Internalizing and externalizing behavior are categories introduced in 1966 to classify two groups of behavior problems identified through factor-analysis, particularly in children and adolescents (Achenbach, 1966). These categories have been identified as particularly well-supported empirically by the American Psychiatric Association (American Psychiatric Association, 2013) and have been identified as possible explanatory factors in the high comorbidity rates of adult psychiatric disorders (Carragher

et al., 2015). They are sometimes used within the broader special education category of emotional disturbance, also referred to as emotional and behavioral disorders (Jacob et al., 2016); these labels classify such difficulties more broadly as being either directed inward, as in depression or anxiety, or outward, as in oppositional defiance or conduct disorder. The classification of emotional/behavioral disorder within special education requires that a youth have one or more of the following characteristics: 1) a learning difficulty not explained by intellectual, sensory, or health factors; 2) difficulty building or maintaining relationships with peers and/or teachers; 3) inappropriate behaviors or feelings towards self or others (expresses the need to harm self or others, low self-worth, etc.); 4) a pervasive mood of unhappiness or depression; and/or 5) a tendency to develop physical symptoms or fears associated with personal or school problems (Individuals With Disabilities Education Act, 2004). Emotional disturbance can be applied to students with schizophrenia but not to students who have social maladjustment without one of the other five qualifiers (Individuals with Disabilities Act, 2004).

The classification of emotional and behavioral disorders has obvious utility for children given the impact of federal law such as IDEA 2004 on service access. Internalizing and externalizing behavior, and combined disturbance across these categories, provides a useful distinction between pathologies for research and clinical contexts as well. Maladaptive behavior can in this framework be understood as externalizing, which involve problems with conduct, aggression, poor socialization, under-controlled behavior, and attention deficits, and internalizing, which involve interpersonal hypersensitivity, anxiety, depression, over-controlled behavior, and social withdrawal (Rapport et al., 2001). Diagnosis with externalizing disorders has been found to be relatively stable, and may be directly linked to poor regulation and inhibition of attention, cognitive processing, and behavior in childhood (Eisenberg et al., 2000; Fagot,

& Leve, 1998; Rubin et al., 2003). More mixed results have been found for internalizing behaviors, where some studies support that early problems with internalizing behaviors predict later internalizing disorders and some studies do not find this relationship (Fischer et al., 1984; Lavigne et al., 1998). Other studies have found that behavioral concerns remain most stable over time for those with comorbid externalizing and internalizing behaviors, followed by internalizing-only and then externalizing-only groups (Willner et al., 2016)

Experiencing ACEs in early childhood predicted significantly greater likelihood of experiencing externalizing behaviors warranting clinical attention, with odds ratios ranging from 2.5 times greater likelihood for children with one ACE to 9.3 times for children with 4 or more ACEs (Hunt et al., 2017). In addition, Hunt et al. (2017) found a statistically significant increase in scores on a measure of externalizing behavior for each increase in ACEs experienced by the child, ranging from an increase of 0.20 standard deviations for children with one ACE to 0.86 standard deviations for children with 4 or more ACEs. Experiencing ACEs in early childhood also predicted greater internalizing behavior scores and greater likelihood of being diagnosed with attention deficit hyperactivity disorder (ADHD), with likelihood increasing in a graded dose response format with each increase in ACEs reported (Hunt et al., 2017). Furthermore, a longitudinal study assessing ACEs and behavior concerns at five time points between ages 3 and 14 in a group of youth found similar graded associations between number of ACEs experienced and likelihood of developing externalizing or internalizing behavior concerns (Bevilacqua et al., 2021). There is increasingly evidence that both the etiology and stability over time of internalizing and externalizing behaviors are associated strongly with genetic factors (Hatoum et al., 2018).

Internalizing and externalizing behaviors have been found in some samples to decrease with time (Bongers et al., 2003) but individual characteristics can predict greater stability in these problems over time. Internalizing/emotional and externalizing/conduct problems are highly comorbid based on epidemiological and clinical samples (Achenbach & Rescorla, 2001; Achenbach et al., 2016; Gould et al., 1993; Harrington et al., 1991; Verhulst & van der Ende, 1993; Weiss & Catron, 1994; Zoccolillo, 1992). One study found that covariance between internalizing and externalizing behavior problems ranged from  $r=.51$  to  $r=.58$  and this was primarily accounted for by environmental factors (Gjone & Stevenson, 1997); those whose behavior fell into only one category had greater genetic influences than those who had both. Both internalizing and externalizing behaviors are associated with hyper- and hypo-arousal in the HPA axis, autonomic nervous system arousal, and cortisol response (Chen et al., 2015; Ruttle et al., 2011); this may be because diurnal patterns of HPA arousal and release of cortisol are atypical in both internalizing and externalizing behavior issues, but in slightly different ways. Such behavior problems have been associated with increased inflammatory responses and greater physical health problems in adulthood (Slopen et al., 2013). In addition, internalizing and externalizing behavior are strongly correlated with diagnosis of anxiety, depression, conduct disorder, oppositional disorder, and ADHD (Edelbrook & Costello, 1988; Gould et al., 1993). They also predict likelihood of long-term problems with interpersonal relationships, greater peer rejection, lower self-esteem, and poorer academic achievement (Ansary & Luther, 2009; Aunola et al., 2000; Hymel et al., 1990; Pederson et al., 2007; Ruttle et al., 2011). Moreover, those youths who displayed co-occurring internalizing and externalizing behavior problems tend to have lower academic success, to have poorer overall functioning, and to be more likely to exhibit other mental health

concerns (e.g., eating disorders and substance abuse) than youth with either internalizing or externalizing behavior problems (Achenbach et al., 2016).

### **Internalizing Behavior.**

Internalizing problems represent overcontrol of behavior and difficulty regulating negative affect so there is a higher endorsement of negative affective states more generally (Derryberry & Rothbart, 1988; Edelbrook & Costello, 1988; Eisenberg et al., 2001; Gould et al., 1993); problems with decreased attentional control and increased rumination may be associated with this increased negative affect. Internalizing behavior appears to worsen with age (O'Connor et al., 2020) and children with internalizing behavior problems have more conduct problems, poorer school achievement, poor social self-efficacy, poor perception of social competence by others, increased learning problems, and poor social skills generally (Asendorpf & van Aken, 1999; Hymel et al., 1990; Rapport et al., 2001; Robins et al., 1996). Those children who had internalizing behaviors in middle childhood were more likely to have had early problems with perceived social competence including lack of peer acceptance and isolation (Hymel et al., 1990).

Children with internalizing problems have shown higher cortisol reactivity and associated social anxiety and withdrawal during social engagement tasks in the laboratory as well as greater inhibited behavior, poor self-efficacy, and an external locus of control in social situations (Granger et al., 1994). Internalizing problems are associated with poor attentional control and related higher levels of rumination, sadness, anxiety, and depression (Derryberry & Rothbart, 1988; Kochanska et al., 1998; Rothbart et al., 1992; Vasey et al., 1996). These children also tend to be rigid and unspontaneous in their behavior and to have less adaptive flexibility (Eisenberg & Fabes, 1992).

## **Externalizing Behavior.**

Children with externalizing disorders tend to be under-controlled in their regulation of attention, emotion, and behavior. Indeed, deficits in inhibitory regulation are linked in several studies with externalizing problems, including deficits in regulating attention and cognition, as well as problems with emotional and behavioral control (Andersson & Sommerfelt, 2001; Eisenberg et al., 2000; Eisenberg et al., 2001; Fagot & Leve, 1998; Olson et al., 1999; Oosterlaan & Sergeant, 1996; Rothbart et al., 1995). Thus, impulsivity and disruptiveness, as well as more overt behaviors such as aggression and rule-breaking, are common in externalizing disorders. One 24-year longitudinal study of 1,365 individuals found that level of externalizing behavior problems (e.g., low, moderate, or high) was a better predictor of ongoing externalizing behavior problems than whether that level stayed the same over time (Reef et al., 2010). Specifically, if someone displayed high levels of externalizing behavior at any point prior to adulthood, regardless of whether that level subsequently decreased, increased, or stayed the same, that person had a greater likelihood of ongoing behavior problems in adulthood than people with low or no externalizing behavior in childhood and adolescence.

At the same time, those with less destructive or aggressive externalizing behaviors were more likely to display both internalizing and externalizing behavior problems and general maladjustment in adulthood (Reef et al., 2010). Other studies have found that those whose externalizing behaviors were primarily oppositional or “status violations” such as truancy and running away had a wider variety of psychopathology as adults, including internalizing problems such as anxiety, depression and thought disorders (Diamantopoulou et al., 2010). Those whose externalizing behaviors were primarily aggression or property violations were more likely to continue to display externalizing problems such as rule-breaking, aggression, or intrusive behavior but not internalizing

concerns. This may be related to the fact that aggression and property damage tend to be more goal-driven, while other forms of externalizing behavior are more often reactive and emotionally driven.

Externalizing behaviors are often linked to a variety of other difficulties across environments for children. In particular, the school and peer environments often are fraught for children with externalizing behaviors as they strain relationships and inhibit engagement with the environment and the curriculum. At school, poor peer relationships and achievement, and reduced cognitive performance are common for those youth with externalizing behavior concerns and predict increased delinquency in adolescence and beyond (Fagot & Leve, 1998; Hinshaw, 1992); it is also common to see disruptions in the home environment and with parent-child relationships. Children with externalizing problems are more likely to be diagnosed with conduct and oppositional disorders (Edelbrook & Costello, 1988; Gould et al., 1993). Such children often endorse high levels of frustration, anger, and hostility (Casey & Schlosser, 1994; Colder & Stice, 1998; Krueger et al., 1996; Zahn-Waxler et al., 1994) and aggressive or uncontrolled outbursts can lead to rejection by peers and teachers. This peer rejection and increased social incompetence at an early age predict externalizing behavior problems later (Hymel et al., 1990).

### **Conceptual Framework**

The literature indicates that higher ACEs predict a variety of physical and behavioral health, and social outcomes (Anda et al., 2006; Felitti & Anda, 2010; Merrick et al., 2017). These include concerning substance-related behaviors, increased relational and sexual health problems, difficulties in academic and vocational settings, and increased incidence of mental health difficulties. In addition, parent experiences of adversity are transmitted intergenerationally through impact on neurobiological (Lupien

et al., 2009; McCrory et al., 2010; Nemeroff, 2016; Pervanidou & Chrouzos, 2018), epigenetic (Bos, 2017; Buss et al., 2017; Julian et al., 2018), and biological and psychosocial risk factors (Madigan et al., 2017). Parent experience of childhood adversity also impacts their experience of parenting and later parenting related behaviors (Bailey et al., 2012; Bert et al., 2009; Brittany et al., 2018; Kolomeyer et al., 2016; Murphy et al., 2014; Pasalich et al., 2016; Steele et al., 2016). Research also indicates that parent ACEs and their subsequent impact on life stress and parenting are related to greater social-emotional difficulties (Folger et al., 2017; McDonnell & Valentino, 2016) and internalizing and externalizing behavior difficulties in their children (Pasalich et al., 2016; Schickendanz, et al., 2018; Stepleton et al., 2018).

SEL skills in childhood and adolescence predict substance use, risky sexual behavior, school completion and truancy, and early pregnancy (Elias et al., 1997; Payton et al. 2000) as well as later decision making, health and vocational outcomes, engagement in violent behaviors, maladjustment and likelihood of developing an affective disorder, and community involvement (Elias et al., 1997; Jackson & Davis, 2000; Osher et al., 2002; Zins et al., 2004; Zins & Elias, 2006). SEL competencies may reasonably be related to internalizing and externalizing behavior (Hunt et al., 2017), especially given their association with deficits in regulation and inhibition (Rubin et al., 2003; Eisenberg et al., 2000; Fagot, & Leve, 1998) and association with neurological processes in the HPA axis, cortisol response, and autonomic nervous system (Chen et al., 2015; Ruttle et al., 2011) which are similar to those seen in individuals with histories of trauma.

Thus, identification of those in need of intervention may benefit from a dual-factor model approach that considers both ACEs and SEL skills as factors influencing youth mental health. Dual-factor models propose that to understand mental health needs, a model must include both indicators of positive well-being and indicators of pathology

(Greenspoon & Saklofske, 2001; Suldo & Schaffer, 2008) rather than focusing only on the presence of pathology. Greenspoon and Saklofske's (2001) study involved 407 children in grades 3 through 6 who were assessed on each construct – pathology and subjective well-being; analyses supported the existence of four distinct groups (e.g., those with high well-being and low pathology, those with both high well-being and pathology, those with both low well-being and pathology, and those with low well-being and high pathology) and found differences in self-concept and interpersonal relationship outcomes between these groups. Additional research involving youth has shown support for this model in predicting mental health status as well as academic and other outcomes.

Suldo and Schaffer (2008) found support for the dual-factor model in a sample of 349 middle school students from 10- to 16-years of age assessed for both subjective well-being in the form of positive affect and self-reported life satisfaction and pathology in the form of internalizing and externalizing behavior concerns. Specifically, four separate groups were identified and among these groups those with high well-being and low pathology had the best outcomes, while those with high well-being and pathology still had better outcomes than their peers with low well-being and pathology across academic, physical health, and interpersonal outcomes (Suldo & Schaffer, 2008).

Another study reported in 2011 that assessed 764 middle school students for subjective well-being in the form of life satisfaction and psychopathology in the form of internalizing and externalizing concerns also found that students could be classified into these four groups in school engagement, grade point average, and standardized test achievement (Antaramian et al., 2011). Such a model, looking at SEL competencies and level of childhood adversity as two factors that may predict internalizing and externalizing behavior concerns, may be of benefit in identifying those most at risk of mental health concerns, as well as those who experience additional supports or stressors

that may mitigate the impact of the other factor on behavioral concerns of relevance to outcomes across the lifespan (e.g., internalizing and externalizing behavior problems).

### **Purpose of the Study**

This study aims to explore whether a dual-factor model of risk and protective factors in the form of youth ACEs and youth SEL skills has utility in identifying behavioral difficulty at home and at school. Such a model may assist in better addressing the unique needs of youth. In addition, this study aims to explore whether considering parental experiences of adversity in childhood may further improve the utility of such a model. Given the existing literature exploring the effects of parent ACEs on youth behavioral and social-emotional concerns, it may be helpful to determine the extent to which adding parent ACEs furthers the utility of this dual-factor model in identifying children with behavioral health needs.

This study considers the relationships between youth ACEs, youth SEL competencies, and internalizing and externalizing behavior problems from a different framework than is typical in the literature. The research on impacts of parental ACEs primarily focuses on early childhood (Kolomeyer et al., 2016; Schickendanz et al., 2018) and studies have not generally focused on ACEs, SEL competencies, and youth internalizing and externalizing behavior together. This study aims to address these gaps in the literature by examining a dual-factor model to understand the relationship between youth ACEs and youth SEL competencies. In addition, this study will measure parental ACEs to determine whether consideration of this third variable will improve upon the possible utility of this dual-factor model in understanding internalizing and externalizing behaviors. In addition, should measuring parent ACEs as well as youth ACEs and SEL skills increase the ability to identify children with significant behavioral concerns, this may indicate a subset of particularly vulnerable children and adolescents who would

especially benefit from therapeutic intervention, possibly guiding decisions about service provision and tier of intervention.

### **Research Questions**

1. Does a dual-factor model of the relationship between youth ACEs and youth SEL skills, as rated by parents, predict internalizing behavior as rated by parents?
  - a. It is hypothesized that the dual-factor model utilizing youth ACEs and youth SEL skills will predict internalizing behaviors as rated by parents.
2. Does the inclusion of parental experiences of ACEs add additional variance in explaining a child's internalizing behavior beyond the dual-factor model of mental health?
  - a. It is hypothesized that adding parent ACEs to the model will improve the predictive capacity of the model for identifying children with internalizing behavior problems.
3. Does a dual-factor model of the relationship between youth ACEs and youth SEL skills, as rated by parents, predict externalizing behavior as rated by parents?
  - a. It is hypothesized that the dual-factor model utilizing youth ACEs and youth SEL skills will predict internalizing behaviors as rated by parents.
4. Does the inclusion parental experiences of ACEs add additional variance in explaining a child's externalizing behavior beyond the dual-factor model of mental health?
  - a. It is hypothesized that adding parent ACEs to the model will improve the predictive capacity of the model for identifying children with externalizing behavior problems.

## CHAPTER II: METHODOLOGY

### **Participants**

An a-priori power analysis conducted in G\*Power indicated that 241 participants were necessary to for the project to successfully investigate these research questions. Participants for this study were recruited in two ways. The first sample were parents of children 3 to 21 years of age within a large school district in a southern state. These participants were recruited as part of a universal screening project within the district; this project sought parent-ratings of youth ACEs, SEL skills and internalizing and externalizing behavior concerns, and parent ACEs, of all students in the district. The second sample was solicited through Qualtrics XM Research Services which sought parents to provide ratings of their child's ACEs, SEL skills and internalizing and externalizing behavior concerns, and the parent ACEs. Combined, the total sample size for the overall study was 311 children. This project was approved by the University of Houston – Clear Lake's Committee for the Protection of Human Subjects.

### **School-based Sample**

According to the district accountability data for the 2018-2019 school year (Murphy et al., 2019), educational services are provided by the district for over 11,630 children and adolescents, of whom 50.1% are Hispanic, 28.9% are White, 16.1% are African American, 2% are Asian, 0.1% are American Indian, 0.1% are Pacific Islander, and 2.4% identify as being of two or more races. In terms of risk factors, approximately 63.2% of students in the district qualify as economically disadvantaged, with 58.2% of students classified as “at-risk” of dropping out of school. Approximately 15.6% of students were in Bilingual or English as Second Language classrooms, 21.7% of students

were in career and technical programs, 5.5% of students were identified as Gifted and Talented, and 13.3% of children in the district were in Special Education programs.

As data was initially being solicited through the school district, the only exclusionary criterion was that parents would not fill out measures on any children not currently enrolled in the district. Parents received advertisements regarding the universal screening project, including that data would be used to identify schools, classrooms, and individual students who may benefit from some form of intervention or support around emotional and behavioral health as well as the research uses to which the collected data would be put. The advertisements sent to parents through district email messages and newsletters also contained directions for how to access the study and the direct link and QR code to access the parent-report surveys for the project (see Appendix C). Parents were able to begin completing the parent-report portion of the project upon receiving the first advertisement. Parents could choose not to complete the parent-report portion of the screening project and could choose to opt out their students from the entire screening project. In order to encourage parent participation, the investigator and a district special education representative co-conducted two parent information meetings online through Zoom. During these meetings, information about the project was provided by the investigator and parents were then able to ask questions directly of the researcher and school personnel.

A total of 115 students had surveys completed about them, approximately 0.98% of the student population, although only 6 students of 3 parents were opted out of the project. Of these surveys, 56 were blank or only partially completed; these were excluded from the analysis, leaving 59 viable parent-report surveys.

While the survey was available in both English and Spanish, all of the participants in the sample chose to complete the measures in English. It is unknown whether this

reflects the first or primary language of participants. Children in this sample ranged from 5 to 19 years of age, with a mean age of 11.64 years ( $SD = 3.41$ ). Of the 59 children in the sample, 42.4% were female and 1 participant (1.7%) identified their gender as “Other.” Of the parents in this sample, 89.6% were female and 1 participant identified their gender as “Other.”

The majority of raters described themselves as biological parents of the youth being rated (86.4%), while 1.7% were stepparents, 8.5% were adoptive parents, 1.7% were foster parents, and 1.7% were grandparents. Please see Table 1 for a further breakdown of demographic data from the school-based sample.

### **Qualtrics XM Sample**

The remaining participants were recruited via a partnership with Qualtrics XM Research Services. Qualtrics XM Research Services contracts with panel provider boards across the United States of America to solicit participants that match the inclusionary and exclusionary criteria of a given project. Qualtrics XM was contracted to solicit a sample of 250 parents with children between 4 and 17 years of age, matching parent demographics to the most recent United States Census data on variables of race, ethnicity, income, and education.

Participants were solicited via emails sent through the individual panel provider boards with which Qualtrics in partnered. A total of 287 participants were gathered, of which 29 were excluded due to incomplete or inconsistent responding, to bring the total sample size gathered through their services to 252. With the addition of those cases from the school district, there were a total of 311 participants in the study from both sources.

Participants solicited through Qualtrics XR Research Services did receive remuneration from the provider boards with which they contract as part of their services and this remuneration was named by each board as part of the advertisements.

Participants only received their agreed upon remuneration upon completion of the entire survey as per their contracts with the boards of which they are a member.

While the survey was available in both English and Spanish, all of the participants in the sample chose to complete the measures in English. It is unknown whether this reflects the first or primary language of participants. Children in this sample ranged from 5 to 17 years of age, with a mean age of 11.45 years ( $SD = 3.43$ ). Of the 252 children in the sample, 41.6% were female, 1 participant (0.4%) was nonbinary, and 1 participant (0.4%) identified their gender as “Other.” Of the parents in this sample, 46.4% were female and 1 participant (0.4%) was nonbinary.

The majority of raters described themselves as biological parents of the youth being rated (84.1%), while 5.6% were stepparents, 0.8% were adoptive parents, 1.6% were foster parents, 6% were grandparents, and 2% described their relationship to the youth being rated as “Other.” Some demographic data were only available for Qualtrics participants at the time of this writing, including parent income, and parent marital status. Please see Table 2 for a further breakdown of demographic data.

## Measures

***Montefine Clinical Adverse Childhood Experiences (ACEs) Questionnaire-Child.*** The Montefine Clinical ACEs Questionnaire- Child utilizes 10 yes-or-no questions assessing the same constructs as the ACEs Scale formatted for parent-report about their children under 18 years of age rather than self-report (Murphy et al., 2016; see Appendix E). These adverse experiences include emotional, physical, or sexual abuse, witnessing domestic violence, living with household members who were mentally ill or suicidal, were imprisoned, or abused substances/alcohol, parental separation or divorce, or physical or emotional neglect. The total score was used as a measure of exposure to ACEs in childhood for the child.

This scale is based directly off of the original ACEs scale. Murphy and colleagues (2014) found the scale to have good internal consistency, as expected given the interrelatedness of these adversities in the previous literature, as indicated by a Cronbach's alpha of .88. Discriminant validity was found in one study, with 84% of a clinical sample reporting 4 or more ACES in contrast to a community sample of whom only 27% reported 4 or more ACES (Murphy et al., 2014). In addition, Murphy et al. (2014) found a significant dose response relationship between an individual's ACEs score on the questionnaire and their reporting unresolved trauma and discordant states of mind on the Adult Attachment Interview.

***Social Emotional Learning Skills Inventory (SELSI) Screener.*** The Social Emotional Learning Skills Inventory (SELSI) Screener is suitable for individuals ages 2 to 21 years and can be used for both parent and teacher report (Schanding, 2017; see Appendix F). The screener consists of 10 items on a 4-point Likert scale ranging from 1 (Never) to 4 (Almost Always) that describe the frequency of specific SEL related skills in the last 30 days. It displays good internal reliability across age groups with Cronbach's  $\alpha$  ranging from .917 to .932 (Gorniak & Schanding, 2019). Total scores on the SELSI Screener were converted to T-scores for the purposes of data analysis.

***Strengths and Difficulties Questionnaire (SDQ).*** The Strengths and Difficulties Questionnaire is a brief measure of behavioral and emotional functioning for children consisting of 25 total questions divided into five subscales: Emotional symptoms subscale, Conduct problems subscale, Hyperactivity/Inattention subscale, Peer problems subscale, and Prosocial behavior subscale (Goodman, 1997; see Appendix G). Parents can complete forms for children 2 to 4 years of age, 4 to 10 years of age, 11 to 17 years of age, or 17 to 21 years of age. Raters are instructed to indicate on a three-point scale ranging from not true to completely true how accurate each of the 25 statements is as a

descriptor for the child's behavior during the past month. As described by Goodman and colleagues (2010), the Internalizing Problems score was created by summing the Emotional symptoms and Peer problems subscale scores and the Externalizing Problems score was created by summing the Conduct problems and Hyperactivity/Impulsivity subscale scores.

The SDQ is widely used in clinical and research contexts. There is some indication that the SDQ has satisfactory internal consistency (Goodman, 2001). In one study of 152 children and adolescents, the parent SDQ showed mean Cronbach's alphas of  $r = .70$  (Total  $r = .80$ , Emotional Symptoms  $r = .70$ , Conduct Problems  $r = .55$ , Hyperactivity-Inattention  $r = .78$ , Peer Problems  $r = .66$ , and Prosocial  $r = .68$ ) (Muris et al., 2008; Meesters & van den Berg, 2003). Other researchers have found moderate test-retest reliability for the SDQ with correlations of .71 over an eight-week period (Yao et al., 2009) and good concurrent and predictive validity (Muris et al., 2003; Lundh et al., 2008).

***Adverse Childhood Experiences Scale (ACE).*** This scale was selected as a measure of parents' experiences of ACEs. The Adverse Childhood Experiences Scale (ACEs) consists of a series of 10 yes-or-no questions that assess whether or not an individual experienced any of the ten types of early adversity before the age of 18: emotional, physical, or sexual abuse, witnessing domestic violence, living with household members who were mentally ill or suicidal, were imprisoned, or abused substances/alcohol, parental separation or divorce, or physical or emotional neglect (Dube et al., 2002; see Appendix D). These questions do not require detailed recollections; rather, they are a simple endorsement of whether a specific type of stressor was experienced and thus are considered to be less susceptible to the effects of retrospective reporting such as exaggeration or inconsistency. Answers to the questions

are summed into a total ACEs score, although some researchers have broken it down into abuse/neglect and household dysfunction subscales (Negriff, 2020). The total score was used as a measure of exposure to ACEs in childhood for the participating parent.

Retrospective reporting of abuse and neglect in particular tends to have slightly lower test-retest reliability, in part perhaps due to the subjective nature of the terms as well as the effects of context on the outcome of requests for recollection. Despite concerns with slightly differing outcome between prospective and retrospective information in child maltreatment research, there is reason to believe that retrospective studies may access populations prospective studies often miss, and retrospective findings have been validated in many ways with analogous populations (Kendall-Tackett & Becker-Blease, 2004). The ACEs Questionnaire is reported to have moderate test-retest reliability among a sample of adult Healthcare Management Organization members at approximately 20 months of  $\kappa = .64$ , with household dysfunction kappas from .46 to .86 and the abuse questions ranging from .55 to .69 (Dube et al., 2004). Another study among college students found good test-retest reliability with  $r = .71$  ( $p = .001$ ) over an average of just under a year (347 days) but found unacceptably low test-retest reliability for the abuse-neglect questions as a subscale ( $r = .52$ ,  $p = .001$ ) (Zanotti et al., 2017).

### **Procedures**

As reported above, participants were recruited through the school district and through contract with Qualtrics XM Research Services. A weblink and scannable QR code that would take participants directly to the measures on Qualtrics were provided to parents and teachers in the district, and to participants solicited through Qualtrics, as part of the advertisements about the study. Once they clicked the link, parents and teachers were taken to an informed consent page which described the purpose of the study and the uses to which their child's data would be put. Participants were directed to complete the

informed consent form then follow the directions as presented for each measure.

Following completion of the informed consent, parents in the school district provided demographic and identifying information regarding their child, including the child's Student ID, age in years, date of birth, school name, their child's grade, and their child's gender. They then provided information on their gender and their relationship to their child. Racial and ethnic data for students in the school district were provided by the district at the end of the project. Parents solicited through Qualtrics completed the informed consent then provided demographics on themselves and their youth (e.g., age, gender, race, ethnicity, parent income, parent education, parent marital status, relationship between parent child). All parents then completed the SELSI Screener, the SDQ Parent-Report appropriate for their child's age group, and the Clinical ACEs Questionnaire-Child about their child(ren). Finally, they were asked to think about their life prior to age 18 and complete the Adverse Childhood Experiences Scale.

All survey instruments were accessed only through the Qualtrics XM platform, which meets federal standards of the Health Information Portability and Accountability Act regarding maintaining confidentiality of participant data.

### **Data Analysis**

To investigate whether a dual-factor model of the relationship between youth ACEs and youth SEL skills, as rated by parents, may identify distinct subsets of children who experience different levels of internalizing and externalizing behavior as rated by parents, a hierarchical linear regression was utilized. All analyses were conducted in Statistical Package for the Social Sciences version 27.

## CHAPTER III:

## RESULTS

### **Means and Standard Deviations**

Means and standard deviations of youth ACEs, SELSI T-score, parent ACEs, Internalizing behavior score, and Externalizing behavior score are broken down in Table 3.

### **Testing of Assumptions**

Data violated the multicollinearity assumption of the multivariate multiple regression. Because an interaction effect was hypothesized, the SELSI Screener T-score and youth ACEs score were mean centered to control for the effects of multicollinearity in the analysis. In addition, it has been reported that children whose parents with higher ACE scores tend to have higher ACE scores, at least in early childhood (Fernici & DePrice, 2018; Narayan et al., 2017), thus parent ACE scores were also mean centered before entry into the analysis. Subsequent analysis using the collinearity diagnostics function in SPSS found no concerns with multicollinearity between the predictor variables. After mean centering predictor variables, all data met statistical assumptions for the analyses conducted.

An interaction term was computed between the centered SELSI Screener T-score and centered youth ACEs score, then these three variables were entered into a hierarchical linear regression analysis in that order (e.g., centered SELSI T-score, centered youth ACEs score, interaction term). One regression was completed for the dependent variable of internalizing behavior and one regression was completed for the dependent variable of externalizing behavior. At step two of each hierarchical linear regression, the centered parent ACEs score was added as a predictor to the previous

models (i.e., SELSI Screener T-score centered, youth ACEs centered, and interaction term) and the statistical significance of the change in  $r^2$  was determined through an F-test.

Unstandardized predicted values from this analysis were saved. Next, the youth ACEs centered variable was transformed into a grouped variable in which Group 1 was at or below one standard deviation ( $SD = 3.43$ ) below the mean, Group 2 was between one standard deviation above and one standard deviation below the mean (not inclusive), and Group 3 was at or above one standard deviation above the mean. A plot was generated for each independent variable (e.g., Internalizing score, Externalizing score) to visualize the nature of the interaction between youth ACEs and SELSI Screener T-score.

### **Internalizing Behavior**

The results of the hierarchical multiple regression indicated that the dual-factor model explained 28.5% (adjusted  $r^2 = .285$ ) of the variance in internalizing behavior problems and that the model was a significant predictor of Internalizing Behavior scores,  $F (3, 307) = 42.24, p = .001$ . Specifically, SEL skills ( $B = -.28, p = .001$ ) and total youth ACEs ( $B = .43, p = .001$ ) significantly predicted youth internalizing behavior. In addition, a significant interaction effect was found between SEL skills and total youth ACEs ( $B = .12, p = .01$ ; see Table 4). Thus, children with lower SELSI Screener T-scores had higher Internalizing behavior scores and vice versa. Moreover, children with higher total youth ACE scores had higher Internalizing behavior scores than those with lower total youth ACE scores. However, the impact of high youth ACEs was attenuated by having higher SEL skills. The graph of the effect of the interaction between youth ACEs and SEL skills on internalizing behaviors can be seen in Figure 1.

Step two in the hierarchical linear regression analysis examined whether the addition of parent ACEs to the model might improve its utility in identifying children who experience different levels of internalizing behavior problems. The model was a

significant predictor of Internalizing Behavior scores,  $F(4, 306) = 35.87, p = .001$ . Introducing the total parent ACEs variable explained an additional 2.5% (adjusted  $r^2 = .31$ ) of the variance in internalizing behavior problems and this change in  $r^2$  was significant,  $F(4, 306) = 12.162, p = .001$ . Among the predictor variables, youth ACEs, SELSI Screener T-score, and parent ACEs contributed significantly to the model, but the interaction term did not (see Table 4). Thus, it was found that SEL skills ( $B = -.276, p = .001$ ), total youth ACEs ( $B = .339, p = .001$ ), and total parent ACEs ( $B = .192, p = .001$ ) all significantly predicted youth internalizing behavior. No interaction effect was found ( $B = .09, p = .061$ ).

### **Externalizing Behavior**

The results of the hierarchical linear regression further indicated that the dual-factor model explained 35.6% (adjusted  $r^2 = .356$ ) of the variance in externalizing behavior problems and that the model was a significant predictor of Externalizing Behavior scores,  $F(3, 307) = 58.04, p = .001$ . It was found that SEL skills ( $B = -.48, p = .001$ ) and total youth ACEs ( $B = .29, p = .001$ ) significantly predicted youth externalizing behavior. In addition, a significant interaction effect was found between SEL skills and total youth ACEs ( $B = .18, p = .001$ ; see Table 4). Specifically, children with lower SELSI Screener T-scores had higher Externalizing behavior scores and vice versa. Moreover, children with higher total youth ACE scores had higher Externalizing behavior scores than those with lower total youth ACE scores. However, the impact of high youth ACEs on externalizing behavior problems was attenuated by having higher SEL skills. The graph of the effect of the interaction between youth ACEs and SEL skills externalizing behaviors can be seen in Figure 2.

Step two in the hierarchical linear regression analysis examined whether the addition of parent ACEs to the model might improve its utility in identifying children

who experience different levels of externalizing behavior problems. The model was a significant predictor of Externalizing Behavior scores,  $F(4, 306) = 48.07, p = .001$ . Introducing the total parent ACEs variable explained an additional 2.2% (adjusted  $r^2 = .378$ ) of the variance in externalizing behavior problems and this change in  $r^2$  was significant,  $F(4, 306) = 11.962, p = .001$ . All four predictor variables contributed significantly to the model (see Table 4). Thus, it was found that SEL skills ( $B = -.48, p = .001$ ), total youth ACEs ( $B = .21, p = .001$ ), and total parent ACEs ( $B = .18, p = .001$ ) all significantly predicted youth externalizing behavior. The interaction between SEL skills and total youth ACEs was also significant in predicting youth externalizing behavior ( $B = .15, p = .002$ ).

## CHAPTER IV: DISCUSSION

The purpose of the current study was to examine how a dual-factor model of mental health utilizing youth ACEs, youth SEL skills, and parental experience of ACEs can predict the internalizing and externalizing behaviors of youth. The current study is novel given that prior research has not generally focused on relationships between these variables together. Moreover, it considers the relationship between ACEs, SEL skills, and emotional and behavioral problems in a different framework than is typical in the literature.

### **Internalizing**

First, it was hypothesized that including both youth ACEs and youth SEL would better predict youth's internalizing behavior than either variable alone, and that said behavior ratings by parents would be a function of not only number of ACEs and SEL skills, but of the relationship between them. It was found that youth with less SEL skills had higher rates of internalizing behaviors, as did those who had experienced more ACEs. However, the positive impact of higher SEL skills was reduced by having higher ACE. Youth with higher ACEs had increased rates of internalizing behavior problems even when their SEL skills were also high, and youth with higher SEL skills and high ACEs still had lower rates of internalizing behavior problems than those with high ACEs and low SEL skills. This model predicted 28.5% of the variance in youth's internalizing behavior scores, a moderate effect size (Ferguson, 2009).

It was further hypothesized that parent ACEs would impact the relationship between SEL skills, youth ACEs, and internalizing behaviors. Overall, this hypothesis was supported. This study found that when parent ACEs were added to the model, youth SEL skills and youth ACEs continued to contribute significantly to the variance in

internalizing behavior scores. This is consistent with literature, especially in early childhood populations, that has found a significant relationship between parent ACEs and youth internalizing behaviors (Schickendanz et al., 2018); however, the relationship between the SEL skills and youth ACEs was no longer a significant factor in predicting these concerns. Overall, this model predicted 31% of the variance in youth internalizing behaviors, a moderate effect (Ferguson, 2009) and a 2.5% increase in predictive power for this model.

### **Externalizing**

The outcomes were similar regarding the relationships between youth experiences of adversity, social-emotional learning skills, and externalizing behaviors. It was hypothesized that there would be similarly improved utility in a model including both youth ACEs and youth SEL as well as the interaction between them in predicting youth's externalizing behavior. This hypothesis was supported. It was found that youth with poorer SEL skills had higher rates of externalizing behaviors, as did those who had experienced more ACEs. However, the positive impact of higher SEL skills was reduced by having higher ACEs. Youth with higher ACEs had increased rates of externalizing behavior problems even when their SEL skills were also high, and youth with higher SEL skills and high ACEs still had lower rates of externalizing behavior problems than those with high ACEs and low SEL skills. This model predicted 35.6% of the variance in youth's internalizing behavior scores, a moderate effect size (Ferguson, 2009).

In addition, it was hypothesized that including parent ACEs in modeling the relationship between SEL skills, youth ACEs, and externalizing behaviors would improve the identification of youth with greater externalizing behaviors. This hypothesis was supported. Youth SEL skills, youth ACEs, and the interaction between them all contributed significantly to the model, while the addition of parent ACEs significantly

increased the variance in youth externalizing behaviors explained by the model. The model predicted 37.8% of the variance in youth externalizing behaviors, a moderate effect size (Ferguson, 2009), and an increase of 2.2% in the variance accounted for by this model. This is consistent with literature, especially in early childhood populations, that has found a significant relationship between parent ACEs and youth externalizing behaviors (Schickendanz et al., 2018). This difference in findings between internalizing and externalizing behaviors may be due to the source of the data. There is research indicating the parents and teachers under-report internalizing behavior concerns compared to youth's self-report (Hope et al., 1999; Sourander et al., 1999; Stanger & Lewis, 1993). It may be that, with the addition of self-report data, the findings would have been different.

### **Implications**

These findings are consistent with the literature on the relationship between these variables in that experiencing more ACEs and having poorer SEL skills both contribute to poor outcomes in a variety of life domains. Furthermore, it widens the literature on the use of dual-factor models that consider the relationship between both risk and protective, or pathological and positive psychology, variables in understanding youth's mental health. Specifically, these findings support the utility of a dual-factor model utilizing youth ACEs as a measure of risk and SEL skills as a measure of well-being or strengths in the development of internalizing and externalizing behavior problems in children and youth. They further support that the addition of parent ACEs to the model increases the utility of the model. The effect sizes for both the internalizing ( $r = .54$ ) and externalizing ( $r = .60$ ) models were large in size. The addition of parental experiences of ACEs further contributed to the models, highlighting the importance of parents' early experiences in understand their youth's needs and strengths.

One of the implications of these findings is that intervention in youth SEL skills may function to reduce internalizing and externalizing behavior problems in youth who experience adversities in childhood. As ACEs have implications for mental health functioning across the lifespan (Anda et al., 2006; Edwards et al., 2003; Felitti & Anda, 2010; Kessler et al., 2010; Merrick et al., 2017), this may provide an avenue for intervention that can be universally provided to youth in their natural environments. Indeed, the literature indicates the efficacy of SEL interventions, including school wide SEL program implementation, in reducing a number of emotional and behavioral problems (Belfield et al., 2015; Durlack et al., 2011; Greenberg et al., 2001). Moreover, as ACEs and SEL both are associated with a variety of difficulties in academic and vocational settings, and of engaging in certain health-related risk behaviors, it may be that additional research will find that SEL intervention will be an effective part of efforts to reduce the potential effects of ACEs on health, educational, and vocational outcomes across the lifespan.

Indeed, these results indicate that there is utility in screening using relatively brief measures of variables of interest-a total of twenty questions to measure youth ACEs and youth SEL skills-within a dual-factor approach. Together these two assessments predicted 28.5% of the variance in internalizing behaviors and 35.6% of the variance in externalizing behaviors. The addition of parent ACEs-merely ten more questions-added to the predicted variance to a statistically significant degree. While parent ACEs may not be appropriate to screen in every environment, where mental health outcomes such as internalizing and externalizing behavior problems are of direct concern or resource allocation is being determined, it may be valuable to have a sense of this information in identifying who most needs additional supports and what kind. Moreover, and perhaps more importantly, the relationship between these two factors was a significant contributor

to the model. Multiple researchers have found that considering subjective well-being and psychopathology more effectively identified children and adolescents with different academic and social outcomes (Antaramian et al., 2011; Greenspoon & Saklofske, 2001; Suldo & Schaffer, 2008). Similarly, these results indicate that rates of internalizing and externalizing behavior were effectively identified when both SEL and ACEs were considered.

Not only are these screening instruments time efficient, but they are also generally inexpensive and easily accessible. Universal screening is a process that uses brief surveys that ask questions about factors that research shows predict difficulties in outcomes in different domains. Such screening is routinely conducted in school and primary care settings for children, teens, and adults. It allows early identification of possible future concerns, for example in mental health (Eklund et al., 2009; Kilgus et al., 2015). Universal screening can also provide a baseline for on-going monitoring (Dvorsky et al., 2014). This early identification can reduce severity and duration of difficulties, and the costs associated with treatment (Forness et al., 2012). Moreover, it can help guide decision making around services and supports for youth in different contexts such as school, home, and primary care. This time- and cost- efficient process, using screening tools chosen to assess risk/pathology and protective/positive factors in relationship with each other, can be an effective strategy to reduce undesirable outcomes for youth in a variety of domains.

### **Limitations and Future Directions**

One of the primary limitations of this study is that the under-participation of parents within the school district in which data was initially being collected resulted in being unable to determine whether some of all of these findings would hold true in the school environment. Moreover, while the Qualtrics XM Research Services sample was

gathered in such a way as to do their best to match census data on important demographics such as parent race and ethnicity, education, and income, there is a very real possibility that those who self-selected into the study were systematically different from those who did not. Future studies should attempt to engage parents in real-world screening efforts in early childhood centers and schools in order to determine whether these findings hold true in regard to youth emotional and behavioral problems outside the home. A further emphasis on engaging participants who are diverse and representative of the cultural and demographic make-up of this country, and in other countries, can expand the generalizability and thus potential utility of these models.

In addition, while this data supports the utility of these models and the addition of parent ACEs in predicting internalizing and externalizing behavior problems, it does not provide evidence for its utility in regard to other outcomes of interest. Future research should gather data to explore whether this dual-factor model, with and without the addition of parent ACEs, may effectively predict actual risk-taking behaviors, physical health concerns, peer relationships, grades, state test scores, discipline problems, and truancy in school. Moreover, the study found differences in the models that best predicted internalizing behaviors. This may be due to the lack of self-report data in the study. Future studies would benefit from efforts to include report from multiple individuals in a youth's life, including the youth themselves. This is especially important in the context of the continued under-recognition and associated lack of treatment for youth with internalizing behaviors compared with externalizing behaviors (Splett et al., 2018). Furthermore, it would be beneficial for future studies to take a longitudinal approach to data collection, gathering information about outcomes in a variety of domains for youth over time. Longitudinal data can help determine the extent and manner by which dual-factor models can inform understanding of trajectory of outcomes in behavioral and other

domains. This information may help refine the development and application of these models in regard to early identification and intervention efforts.

The current study added to the ACEs, SEL, and internalizing and externalizing behavior problems literature. It expanded the age range of youth involved in the study of some of these variables and examined novel relationships. In this vein, it would be beneficial for future studies to explore other possible iterations of dual-factor models. While this study focused on ACEs and SEL, it could have focused on any number of other possible combinations of positive/protective and risk/pathology factors. Furthermore, outcome variables in these studies should be expanded beyond behavioral concerns to other variables of interest in a variety of domains-academics, physical and mental health, vocation, risk behaviors. Exploration of other iterations of these models and their application to different outcomes can help develop an understanding of factors, and of instruments, that best inform understanding of possible trajectories and identify those who would benefit from intervention.

Indeed, some variables, or instruments, may be more appropriate to different environments. For example, ACEs have significant impact on physical and mental health in particular, making it potentially more useful in integrated primary care settings. However, it may be less appropriate to screening in a school environment, where other variables may be found to better predict academic concerns. In addition, other potentially less intrusive variables may be more likely to result in higher levels of engagement in schools or other settings. This study expanded the application of risk-resilience or dual-factor models to a new set of variables. These findings may guide future research in these areas and efforts at identification of and early intervention for youth with emotional or behavioral concerns, or other difficulties, that have real effects on lifelong well-being and functioning in a variety of domains.

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## APPENDIX A:

## TABLES

**Table 1***Sociodemographic Characteristics of Participants from School District*

Characteristic	n	% of Sample
Racial Identity		
Child	58	
White	45	76.3
Black	9	15.3
Asian	2	3.4
American Indian	2	3.4
Hispanic/Latino	12	20.3
At Risk	38	64.4
Special Education	11	18.6
Gifted/Talented	7	11.9
Limited English Proficiency	3	5.1

*Note.* One student did not have a valid student ID and therefore demographic data on that student was unavailable.

**Table 2**  
*Sociodemographic Characteristics of Participants from Qualtrics XM Research Services*

Characteristic	n	% of Sample
Parent Marital Status	252	
Married/partnered	178	69.4
Divorced	22	8.5
Separated	8	3.1
Widowed	8	3.1
Never Married	41	15.9
Racial Identity	252	
Child		
White	151	58.5
Black	47	18.2
Asian	31	12.0
American Indian/Alaskan Native	7	2.7
Native Hawaiian/Pacific Islander	1	0.39
Other	15	5.8
Biracial	6	2.3
Multiracial	14	5.4
Parent		
White	150	58.1
Black	49	18.9
Asian	31	12.0
American Indian/Alaskan Native	9	3.4
Native Hawaiian/Pacific Islander	2	0.77

Characteristic	n	% of Sample
Other	15	5.8
Biracial	7	2.7
Multiracial	7	2.7
Ethnic Identity		
Child is Hispanic, Latinx, Spanish	46	18.3
Parent is Hispanic, Latinx, Spanish	48	19
Parent Education	252	
No high school diploma	8	3.1
High school diploma or equivalent	26	10.1
Some college, no degree	44	17.1
Associate degree	34	13.2
Bachelor's degree	62	24.0
Master's degree	68	26.4
Doctoral degree	7	2.7
Professional degree (JD, MD)	9	3.5
Household Annual Income	252	
Less than \$10,000	15	5.8
\$10,000 to \$19,999	12	4.7
\$20,000 to \$29,999	15	5.8
\$30,000 to \$39,999	18	7.0
\$40,000 to \$49,999	27	6.6
\$50,000 to \$59,999	22	8.5
\$60,000 to \$69,999	10	3.9
\$70,000 to \$79,999	19	7.4

Characteristic	<i>n</i>	% of Sample
\$80,000 to \$89,999	15	5.8
\$90,000 to \$99,999	13	5.0
\$100,000 to \$149,999	58	22.5
\$150,000 or more	44	17.1

*Note.* Although the total *N* for the entire sample is 311 only 252 participants answered these sociodemographic questions, and the percentage is of that *n* = 252.

**Table 3**  
*Means and Standard Deviations for All Variables*

Variable	<i>n</i>	Mean	<i>SD</i>	Range
SELSI Screener Score	311	50	10	22 - 70
Child ACEs	311	3.72	3.43	0 - 10
Parent ACEs	311	3.34	3.27	0 - 10
Internalizing behavior problems	311	6.67	4.32	0 - 16
Externalizing behavior problems	311	7.08	4.32	0 - 18

**Table 4**  
*Hierarchical Linear Regression Analysis Data*

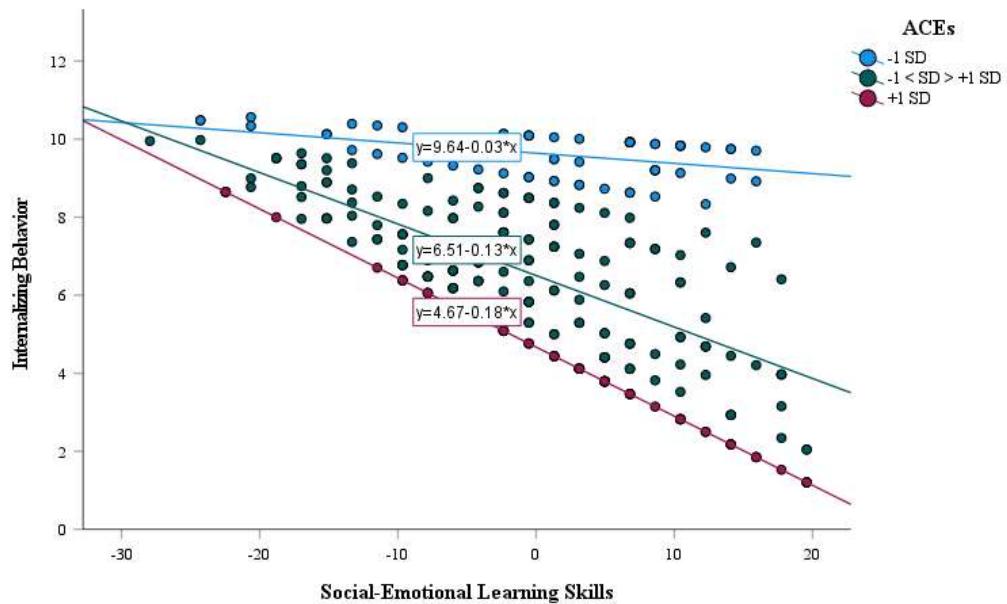
Predictor	<u>Unstandardized coefficients</u>					
	B	SE	R <sup>2</sup>	R <sup>2</sup> change	F	p
<u>Internalizing</u>						
1						
SEL skills	-.28*	.02	.285		42.24	.001
Total youth ACEs	.43*	.06				
Interaction effect	.12*	.01				
2						
SEL skills	-.28*	.06	.310		35.87	.001
Total youth ACEs	.34*	.02				
Interaction effect	.09	.01				
Total parent ACEs	.19*	.07				
<u>Externalizing</u>						
1						
SEL skills	-.49*	.02	.356		58.01	.001
Total youth ACEs	.29*	.06				
Interaction effect	.18*	.01				
2						
SEL skills	-.48*	.02	.378		48.01	.001
Total youth ACEs	.20*	.07				
Interaction effect	.15*	.01				
Total parent ACEs	.18*	.07				

Note. \* = significant at the .001 level

APPENDIX B:  
FIGURES

**Figure 1**

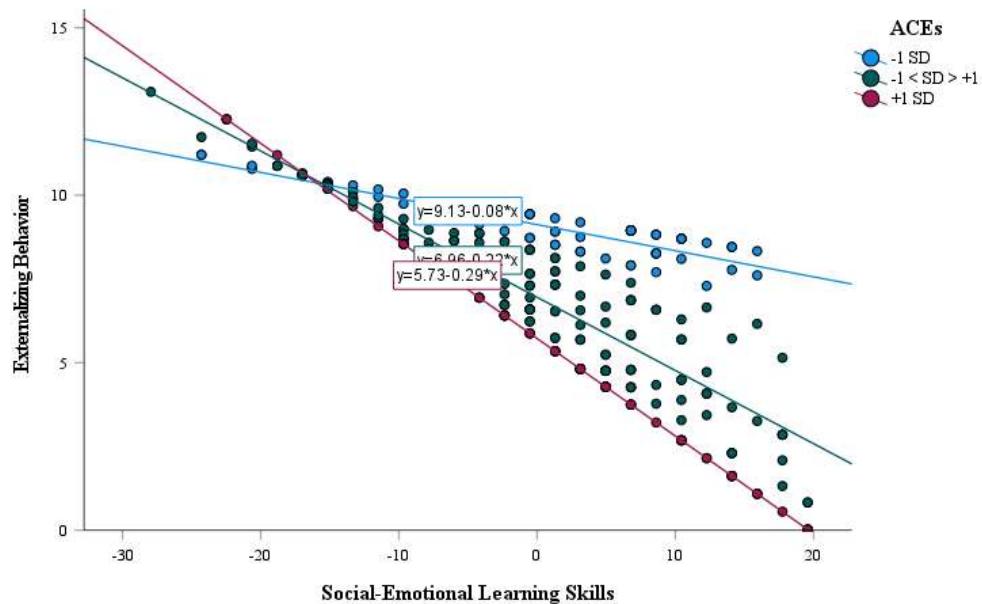
*Changes in Internalizing Behaviors as a Function of SEL Skills and Youth ACEs*



*Note.* This figure illustrates that those with fewer SEL skills in general have higher rates of internalizing behavior problems than those with more SEL skills. At the same time, as SEL skills increase, the rates of internalizing behavior problems are significantly higher for those with greater ACEs than for those with fewer ACEs.

**Figure 2**

*Changes in Externalizing Behaviors as a Function of SEL Skills and Youth ACEs*



*Note.* Interaction Effect of SEL Skills and Youth ACEs on Externalizing Behaviors This figure illustrates that those with fewer SEL skills in general have higher rates of externalizing behavior problems than those with more SEL skills. At the same time, as SEL skills increase, the rates of externalizing behavior problems are higher for those with greater ACEs than for those with fewer ACEs.

**APPENDIX C:**  
**ADVERTISEMENTS USED BY THE SCHOOL DISTRICT**

XXXX ISD and the University of Houston at Clear Lake (UHCL) will start 2021 with a partnership to help identify students in need of social emotional learning (SEL) skills, those with behavioral concerns and those with adverse childhood experiences. This partnership is part of the district's continuing efforts through the XXX Center to provide resources to students to assist with mental health needs.

The University of Houston will be providing XXXX ISD with a screening process to support students. The entire screening process will include students completing a self-screener, parents completing a questionnaire about their students and teachers completing a screener for the students in their classrooms. UHCL will compile all of the submitted information to present to the district to identify students in need of additional supports of services.

Parents can learn more about the SEL Screening process by attending one of two virtual parent Question and Answer sessions through Zoom. The meetings are scheduled for:

- Parent Meeting #1 – 12:15-12:45 p.m. Tuesday, January 5 – Join Zoom Meeting at <https://uhcl.zoom.us/j/94057768491>
- Parent Meeting #2 – 6-6:30 p.m. Tuesday, January 5 – Join Zoom meeting at <https://uhcl.zoom.us/j/98374799583>

Research and experience shows that students do better when they get the supports they need and that those supports work better the sooner they are in place. These quick surveys will help the district plan services and supports across the district. The surveys will generate scores that tell the district about a child's behavioral health, social-emotional skills and any stressors they have experienced that can impact grades, attendance, physical health and even long-term career and health outcomes, like understanding and managing emotions, relationship skills and responsible decision making.

**How to Complete the Parent Survey:** Parents will need the Student ID numbers for each child who is currently attending XXXX ISD schools. This is the number used to login to Skyward and that they use to buy school meals. Go to ([https://uhcl.co1.qualtrics.com/jfe/form/SV\\_2lODFSCuhmq6dI9](https://uhcl.co1.qualtrics.com/jfe/form/SV_2lODFSCuhmq6dI9)) or scan the QR code below to view the survey. It takes about 5-7 minutes per child and can be done on a smartphone, computer, or tablet.

*Parent Survey QR Code:*



Opting your student out of the screener process: Parents can view the survey measures for teachers and students at [https://uhcl.co1.qualtrics.com/jfe/form/SV\\_1NEsQSTf5i07DgN](https://uhcl.co1.qualtrics.com/jfe/form/SV_1NEsQSTf5i07DgN) or by scanning the QR code below. If a parent prefers his or her student not participate in the screener, the parent can complete the form at the end of the measures for each child in the household by Wednesday, January 6, 2021. All students aged 6 and older will complete surveys unless a parent chooses to opt out the student.

*Survey Measures and Opt-Out Form:*



If you have questions about the SEL Screener process, feel free to contact Amy Gorniak, MA (GilesA0436@uhcl.edu), Dr. G Thomas Schanding, Jr (SchandingJr@uhcl.edu), or XXXXXXXXXX (XXXXXXXXXX@XXXX.XXX), or your child's counselor with any questions or concerns.

**APPENDIX D:**  
**ADVERSE CHILDHOOD EXPERIENCES SCALE**

For each item that does describe your experience, please add 1 to the total amount of your answer. Enter the total number of items you experienced by selecting to correct number below. For example, if you had an adult in your home often insulted you and your parents were separated, you would select "2."

While you were growing up, during your first 18 years of life:

1. Did a parent or other adult in the household often ...

Swear at you, insult you, put you down, or humiliate you?

Act in a way that made you afraid that you might be physically hurt?

2. Did a parent or other adult in the household often ...

Push, grab, slap, or throw something at you?

Ever hit you so hard that you had marks or were injured?

3. Did an adult or person at least 5 years older than you ever...

Touch or fondle you or have you touch their body in a sexual way?

Try to or actually have oral, anal, or vaginal sex with you?

4. Did you often feel that ...

No one in your family loved you or thought you were important or special?

Your family didn't look out for each other, feel close to or support each other?

5. Did you often feel that ...

You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? Your parents were too drunk or high to take care of you or take you to the doctor if you needed it

6. Were your parents ever separated or divorced?

7. Was your mother or stepmother:

Often pushed, grabbed, slapped, or had something thrown at her?

Sometimes or often kicked, bitten, hit with a fist, or hit with something hard?

Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?

8. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?

9. Was a household member depressed or mentally ill or did a household member attempt suicide?

10. Did a household member go to prison?

○	○	○	○	○	○	○	○	○	○	○
0	1	2	3	4	5	6	7	8	9	10

## APPENDIX E:

### MONTEFINE CLINICAL ADVERSE CHILDHOOD EXPERIENCES SCALE-CHILD

Please read the questions below. For each item that does describe your child's experience, please add 1 to the total amount of your answer. Enter the total number of items your child has experienced by selecting the correct number below. For example, if you and your partner have separated and an adult in the home had insulted your child, you would select "2."

Since your child was born:

1. Have you and your partner separated or divorced?
2. Has your child lived with anyone who was depressed or mentally ill, or who attempted suicide?
3. Has your child lived with anyone who was a problem drinker or used street drugs?
4. Has your child lived with anyone who has been to prison?
5. Has your child ever witnessed anyone in the home (parents or adults) push, grab, slap, or throw things at each other and/or witnessed anyone kick, bite, hit with a fist, or hit each other with something hard, or ever witness people threatening each other with a weapon, such as a knife or a gun?
6. Since your child was born, have there been times when your child has not had enough to eat, has not had anyone take him/her to the doctor, or have any of his/her caregivers been too drunk or high to take care of him/her?
7. Since your child was born, has a parent or other adult in your home sworn at, insulted, or put your child down or acted in a way that made your child afraid that he/she might be physically hurt?
8. Did a parent or other adult in your home push, grab, slap, or throw something at your child, or ever hit him/her so hard that she/he had marks or was injured?
9. Did a parent, adult, or someone at least 5 years older than your child ever touch your child sexually or try to make your child touch them sexually?
10. Since your child was born, do you feel as if there has NOT been anyone in his/her family who makes him/her feel special, or that you or his other caregivers have NOT been able to be a source of strength, support or protection for your child?

○	○	○	○	○	○	○	○	○	○	○
0	1	2	3	4	5	6	7	8	9	10

**APPENDIX F:**  
**SOCIAL EMOTIONAL LEARNING SKILLS INVENTORY SCREENER FORM**

Instrument owned and copyrighted by Western Psychological Services. For more information on this measure see: <http://wpspublish.com>.

**APPENDIX G:**  
**STRENGTHS AND DIFFICULTIES QUESTIONNAIRE**

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of the child's behavior over the last six months or this school year.

	Not True	Somewhat True	Certainly True
1. Considerate of other people's feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Restless, overactive, cannot stay still for long	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Often complains of headaches, stomach aches, or sickness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Shares readily with other youth, for example books, games, or food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Often loses temper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Would rather be alone than with other youth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Generally well-behaved, usually does what adults request	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Many worries or often seems worried	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Helpful if someone is hurt, upset, or feeling ill	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Constantly fidgeting or squirming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Has at least one good friend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Often fights with other youth or bullies them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Often unhappy, depressed, or tearful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Generally liked by other youth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Easily distracted, concentration wanders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Nervous or clingy in new situations, easily loses confidence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Kind to younger children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Often lies or cheats	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Picked on or bullied by other youth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Often offers to help others (parents, teachers, other children)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Thinks things out before acting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Steals from home, school, or elsewhere	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Gets along better with adults than with other youth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Many fears, easily scared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Good attention span, sees work through to the end	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>