

**PROFILES OF CALLOUS/UNEMOTIONAL BEHAVIORS, CONDUCT
PROBLEMS AND INTERNALIZING BEHAVIORS AMONG
LOW-INCOME URBAN YOUTH**

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ABSTRACT

Childhood mental health problems are considered to fall along internalizing and externalizing dimensions; however, this framing does not fully capture the complexity of the relations among these symptoms. Specifically, internalizing problems (Int), conduct problems (CP), and callous/unemotional (CU) behaviors frequently co-occur and may share emotion functioning and contextual correlates that differentially confer risk across these potential symptom profiles. Research is shifting toward testing models of shared vulnerabilities to childhood emotional and behavioral symptoms, but has yet to extensively examine CU behaviors concurrently with these symptoms. The culmination of findings across relevant literature, though sparse, identifies candidate shared child-specific correlates such as emotion function (i.e., recognition, regulation, lability, processing); exposure to community violence; parent emotion socialization practices; and peer processes (e.g., bullying/victimization, social support) as shared correlates of Int, CP, and CU behaviors that may further differentiate profiles that differ in the frequency, type, or severity of symptoms. Such information could facilitate identification of youth at risk for problematic symptoms and outcomes. The current study sought to identify profiles of Int, CP, and CU behaviors in a sample of 104 low-income (69% income \leq \$19,999; all eligible for free school meals) urban youth ($M= 9.93 \pm 1.22$ years old; 50% male; 95% African American). Teachers rated Int, CP, and CU behaviors; and caregivers rated their emotion socialization practices and youth emotion regulation and lability. Youth reported on bullying, peer victimization, social support, and exposure to community violence and completed two lab tasks to assess emotion recognition and processing. A latent profile analysis yielded three teacher-reported profiles: (1) high

internalizing, moderate CU, and moderate CP (High-Int/Mod-CU/CP, $n = 16$; 51.7% male); (2) high generalized anxiety disorder symptoms, CU, and CP (High-GAD/CU/CP, $n = 16$; 80.9% male); and (3) low problematic behaviors (Low, $n = 59$; 45.5% male), with the first two profiles rated as having co-occurring presentations of anxiety, depression, and CU behaviors, with different levels of CP. Auxiliary analyses revealed that the High-Int/Mod-CU/CP and High-GAD/CU/CP profiles differed only in levels of recognition of sad facial expressions, whereas the High-GAD/CU/CP and Low profiles differed on witnessing community violence and emotion regulation. The High-GAD/CU/CP profile also reportedly exhibited the greatest engagement in bullying and emotional lability. Current findings add to the growing literature on profiles of youth emotional and behavioral problems that include different constellations with co-occurring CU behaviors among youth in contexts that place them at increased risk for poor functional outcomes.

Keywords: callous/unemotional behaviors, internalizing problems, conduct problems, at-risk youth, risk/resilience

For my nieces, nephew, and future children: I hope this work and my journey
stand as proof that you CAN have more in this life
than what you can currently see.

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TABLE OF CONTENTS

	Page
ABSTRACT.....	i
DEDICATION.....	iii
ACKNOWLEDGMENTS	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
CHAPTER	
1. MANUSCRIPT IN JOURNAL ARTICLE FORMAT.....	1
Method	20
Participants.....	20
Procedure	20
Measures	21
Analytic Plan.....	28
Results.....	31
Discussion.....	37
2. REVIEW OF LITERATURE	48
Developmental Psychopathology Perspective on CU Behaviors	50
Subtypes of CU Behaviors: Theory	52
Environmental Influence.....	54
Processes Involved in Neighborhood Influence Across Subtypes.....	56
Impact of Family Environment Across Subtypes	59

Impact of Peer Interactions Across Subtypes	64
The Conceptual Model of Heterogeneity of CU Behaviors.....	70
Clinical Implications.....	73
Directions for Future Research	76
REFERENCES CITED.....	78

LIST OF TABLES

Table	Page
1. Bivariate Correlations, Means, SDs, and n's for Teacher-Rated LPA Variables.....	31
2. Model Comparisons	32
3. Means and Standard Errors for Each Profile in the Teacher-Rated Three-Profile Model.....	33
4. Results of Auxiliary Analyses for Contextual External Validators	36

LIST OF FIGURES

Figure	Page
1. Teacher-Rated Three-Profile Model.....	34

CHAPTER 1

MANUSCRIPT IN JOURNAL ARTICLE FORMAT

Psychological disorders in childhood and adolescence are typically viewed as variants along internalizing (i.e., anxiety and depressive symptoms) or externalizing (i.e., symptoms of oppositional/defiant disorder [ODD], conduct disorder [CD], and attention deficit/hyperactivity disorder) dimensions (Achenbach & Edelbrock, 1983, 1991) or as distinct and separate diagnostic entities (American Psychiatric Association, 2013; McDonough-Caplan, Klein, & Beauchaine, 2018). Internalizing and externalizing symptoms are highly correlated, predictive of one another (Drabick, Gadow, Sprafkin, 2006; Gilliom & Shaw, 2004), and co-occur at rates that are greater than chance (Achenbach & Edelbrock, 1987; Merikangas, He, Burstein, et al., 2010). Further, both internalizing and externalizing symptoms are associated with negative outcomes in development (Gorman-Smith, Henry, & Tolan, 2004; Macmillan, McMorris, & Kruttschnitt, 2004; Webster, MacDonald & Simpson, 2006). Research is shifting toward exploring and identifying shared correlates of psychological symptoms that confer risk within and across the internalizing and externalizing dimensions (Aldao, Gee, De Los Reyes, & Seager, 2016; McDonough-Caplan et al., 2018). Nevertheless, conclusions about associations among co-occurring emotional and behavioral symptoms remain limited given the lack of research designs across internalizing and externalizing symptoms and potential shared risk factors or correlates.

For example, callous/unemotional (CU) behaviors, defined as restricted emotionality, lack of empathy, lack of guilt, and manipulative use of others (Frick, 2004),

seem to fall along both emotional and behavioral symptom continua, but only are diagnosed as a specifier for CD (i.e., “with limited prosocial emotions”). Historically, research has examined CU behaviors in conjunction with conduct problems (CP), which typically are comprised of the combination of ODD and CD symptoms (e.g., Frick, Ray, Thornton, & Kahn, 2014a; Frick & White, 2008; Schoorl, Van Rijn, De Wied, Van Goozen, & Swaab, 2016). However, research has yet to extensively investigate CP, CU behaviors, and internalizing symptoms concurrently. Such consideration of CU behaviors in conjunction with emotional and behavioral problems may be useful given their purported exacerbating nature (Viding & McCrory, 2018) and rates of co-occurrence for CU behaviors and CP with and without anxiety (e.g., Cecil, McCrory, Barker, Guiney, & Viding, 2018). Notwithstanding the patterns of findings within literature on internalizing and externalizing symptoms, as well as CP and CU behaviors, research largely neglects to address interrelations with CU behaviors, thereby constraining conceptualizations of childhood psychological symptoms to internalizing and externalizing symptoms. Taken together, research across co-occurring internalizing and externalizing problems and CP with CU point to candidate shared risk and resilience correlates across child-specific (i.e., emotion functioning), family (i.e., parenting practices), school (i.e., peer interactions), and community (i.e., violence exposure) contextual factors, though more expansive research is necessary to accurately identify shared correlates and their relations with these symptoms.

Taking a developmental psychopathology perspective is useful to review candidate shared risk processes for internalizing problems, CP, and CU behaviors due to the dynamic and transactional manner in which youth interact with their context

throughout development. However, interactions between child-specific and contextual risk and resilience factors, including the family, school, and community in which the child develops, can lead to a variety of outcomes for youth developing in similar contexts (multifinality). Investigation into the relations among co-occurring CU behaviors, CP, and internalizing symptoms (i.e., anxiety, depression) has the potential to inform etiological and intervention models for youth at differential risk for co-occurring symptoms (Keiley, Lofthouse, Bates, Dodge, & Pettit, 2003; Rutter, 1997). The current study applied this framework and focused on identifying subgroups of youth according to levels of co-occurring CP, CU behaviors, depressive, and anxiety symptoms, and then determined whether subgroups of co-occurring symptoms differed on child-specific and contextual risk/resilience factors.

Variants of CU Behaviors

Research primarily focuses on comparing co-occurring CP and CU behaviors with and without anxiety symptoms (e.g., Euler, Jenkel, Stadler, et al., 2015; Fanti, Demetriou, & Kimonis, 2013). This focus on an overall anxiety symptom dimension and whether it co-occurs with CP and CU behaviors is due to extant theories of variants of adult psychopathy. Specifically, Karpman (1941) theorized that there are two subgroups of adults with psychopathy (which includes many CU traits) who differ in terms of constitutional versus acquired psychopathy, which purportedly develops as a result of environmental insult (Falkenbach, Poythress, & Creevy, 2008). Work in adult offender samples has yielded findings that seem to support a two-variant model of CU behaviors in justice-involved and clinical samples of youth (Bennett & Kerig, 2014; Viding & McCrory, 2015): those that present with co-occurring anxiety (acquired) and those who

are not anxious, but display a constitutionally CU interpersonal style instead (e.g., Waschbusch, Baweja, Babinski, Mayes, & Waxmonsky, 2020). One of the few studies on concurrent CP and internalizing symptoms with/without CU behaviors found that youth with low/no symptoms and youth with CP with CU behaviors displayed low levels of depression symptoms, whereas anxious youth and those with co-occurring symptoms with CU behaviors exhibited high levels of major depressive disorder symptoms (Cecil et al., 2018). Moreover, youth with co-occurring symptoms with CU behaviors exhibited the most severe internalizing and externalizing symptoms (Cecil et al., 2018).

Unfortunately, in addition to the dearth of literature that examines co-occurring internalizing symptoms, CP, and CU behaviors, conclusions regarding concurrent symptoms are further constrained by the lack of examination of relationships with internalizing symptoms more broadly (i.e., depression, generalized, and social anxiety). Nonetheless, relevant results imply that there is heterogeneity in symptom profiles of concurrent internalizing symptoms, CP, with/without CU behaviors, as well as differences in symptom severity across those profiles. Collectively, these findings suggest that the combination of internalizing symptoms and CP with CU behaviors is related to increased risk for more impairment when compared to CP with and without CU behaviors. Given this heterogeneity, the use of a person-centered approach is most suitable as this approach can aid in the examination and identification of potential correlates that may differentiate profiles of concurrent symptoms. Moreover, an individualized approach is helpful for early identification of youth who are at risk for more negative outcomes. Therefore, identifying shared correlates that confer risk among profiles of concurrent internalizing symptoms, CP, and CU behaviors is pertinent because

these symptoms may influence each other and shared correlates in ways that differentially confer risk or promote resilience across profiles of these symptoms.

Shared Child-Specific Risk/Resilience Factors

Findings from relevant work generally suggest dimensions of emotion functioning that differentially serve as risk or protective factors across profiles of internalizing, CP, and CU behaviors in high risk youth (e.g., Barker & Salekin, 2012; Cecilione, Rappaport, Verhulst, et al., 2017). Moreover, some researchers argue that internalizing problems, CP, and CU behaviors may share correlates within a larger emotional domain (Maughan, Rowe, Messer, Goodman, & Meltzer, 2004), though research considering internalizing symptoms and CU behaviors is necessary to confirm this argument. Given these patterns, the current study tested whether profiles could be differentiated by the following dimensions of emotion functioning: regulation, negative emotionality / lability, processing, and recognition.

Emotion Functioning

Research has implicated emotion regulation (ability to modulate duration and/or the intensity of emotional states: Cicchetti, Ackerman, & Izard, 1995; Gross, 1998) as a shared correlate across internalizing and externalizing symptoms. However, due in large part to variance in operationalization of emotion regulation, findings with respect to differential relations between emotion regulation and internalizing or externalizing symptoms is difficult to parse (Compas, Jaser, Bettis, et al., 2017). Some findings map onto the internalizing symptoms and CP dichotomy (Casey, 1996) in that youth who have internalizing problems are thought to over-regulate (overcontrol) their emotions whereas

youth with CP tend to under-regulate their emotions (Casey, 1996; Wills, Simons, Sussman, & Knight, 2016). Others recently argued that internalizing and externalizing symptoms are positively linked to experiencing emotions without the capacity to down-regulate the emotions (Brenning, Soenens, Vansteenkiste, De Clercq, & Antrop, 2021). On the whole, emotion regulation appears to be a shared correlate for internalizing and externalizing symptoms (Aldao et al., 2016; Brenning et al., 2021), evinced by a general pattern of negative associations between emotion regulation and internalizing and/or externalizing problems (Eisenberg, Spinrad, & Eggum, 2010).

Findings yielded from the limited number of studies of profile differences of emotion regulation among variants of CU behaviors (co-occurring CP and anxiety symptoms with/without CU behaviors) is similarly difficult to interpret. Authors of relevant literature note that youth with CP, anxiety, and CU behaviors (acquired) have increased difficulty with emotion regulation (Graziano, Landis, Maharaj, Ros-Demarize, Hart, & Garcia, 2019) and use emotion regulation strategies that are particularly susceptible to the effects of adverse experiences (Kimonis, Fanti, Goulter, & Hall, 2017). Youth with CU behaviors and CP, irrespective of co-occurring anxiety, are able to experience emotional arousal, though levels of arousal seem to differ. Youth with co-occurring internalizing problems and CP with CU behaviors (acquired) may experience heightened emotional responses and have difficulty exhibiting socially appropriate responses such that they present as callous and uncaring (Cecil et al., 2018). On the other hand, youth with CP and CU behaviors in the absence of anxiety exhibit decreased reactivity to negative emotional stimuli (Lozier, Cardinale, VanMeter, & Marsh, 2014; White, Marsh, Fowler, et al., 2012), including decreased physiological responsiveness to

negative emotions (Loney, Frick, Clements, Ellis, & Kerlin, 2003), and thus, may not experience negative emotions as intensely, circumventing the need to exert much effort to suppress or regulate their emotions.

Negative emotionality (lability) indicates under-control of inhibition of emotion expression and is a significant shared risk factor for CP (Stringaris & Goodman, 2009), internalizing problems (Krueger & Markon, 2006), co-occurring internalizing and externalizing problems (Maughan et al., 2004), as well as CP and CU behaviors to a lesser extent (Barker & Salekin, 2012; Waschbusch et al., 2020). Research on variants of CU behaviors shows that a subgroup of youth with co-occurring symptoms (acquired) are more prone to endorse negative emotionality and exhibit increased emotional expression and reactivity (Kimonis, Frick, Cauffman, Goldweber, & Skeem, 2012; Kimonis, Goulter, & Hall, 2017), negative affect (Sharf, Kimonis, & Howard, 2014), and heightened levels of emotional lability (Ezpeleta, Granero, de la Osa, & Doménech, 2017) that do not differ from levels of lability in youth with high levels of anxiety symptoms alone (Cecil et al., 2018). On the contrary, subgroups of youth with CU behaviors and CP (no anxiety) or low symptoms overall exhibited similar profiles of low levels of negative emotionality/ lability (Lozier et al., 2014; White et al., 2012) and others found no correlation among CU behaviors and anxiety disorders after accounting for negative emotionality (Waschbusch et al., 2020). Thus, the pattern of findings for emotion reactivity and lability across youth CP, CU behaviors, with and without concurrent internalizing problems suggests that youth with these co-occurring symptoms seem emotionally reactive in a manner which differs from youth with CP and CU behaviors (Cecil et al., 2018).

Distinctions in emotion processing among subgroups of youth with CP with CU behaviors may be related to the tendency of youth with CU behaviors to divert attention from emotionally significant aspects of their environment (Adolphs, Gosselin, Buchanan, et al., 2005; Dadds, Allen, McGregor, et al., 2014; Dadds, Masry, Wimalaweera, & Guastella, 2008), whereas youth with anxiety and CP with CU behaviors (acquired) exhibit increased attention to negative emotional stimuli (Kimonis et al., 2012). Youth with CP and CU behaviors appear to exhibit emotion processing deficits in the form of hypoarousal to negative emotional stimuli (Bennett & Kerig, 2014; Dackis, Rogosch, & Cicchetti, 2015; Kimonis et al., 2017; Kimonis et al., 2012). On the other hand, it has been argued that youth with acquired CU behaviors may employ emotion processing strategies similar to traumatized youth (emotional numbing and nonacceptance of emotions) that have been implicated in the callous façade that masks emotional reactions in traumatized youth (Bennett & Kerig, 2014; Kerig, Bennett, Thompson, & Becker, 2012).

Deficits in emotion recognition have been observed in youth who are broadly defined as anxious-depressed (Guyer, McClure, Adler, et al., 2007; Southam-Gerow & Kendall, 2002) and youth with CU behaviors and CP (Blair, Peschardt, Budhani, Mitchell, & Pine, 2006; Dadds, Perry, Hawes, et al., 2006; White, Briggs-Gowan, Voss, et al., 2016). Although dysfunctions in emotion recognition are apparent across child psychiatric problems, there is variance in emotion-specific recognition deficits across profiles of internalizing symptoms and CP with/without CU behaviors. Depression has been linked to bias in recognition of happy and sad facial expressions (Leppänen, 2006), whereas anxiety is related to hypersensitivity to threatening stimuli, like fearful and angry

faces (Bar-Him, Lamy, Pergamin, Bakermans-Kranenburg, & Van IJzendoorn, 2007).

Youth with CP and CU behaviors exhibit particular difficulty recognizing negative facial expressions, evincing an insensitivity to detecting fear and sadness (Blair, Colledge, Murray, & Mitchell, 2001; Blair et al., 2006; Dadds et al., 2006; Marsh, Finger, Mitchell, et al., 2008). However, this may not be true of all youth with CP and CU behaviors as a recent study found that CP and CU behaviors were associated with greater accuracy of recognition of fear, but only at low levels of trait anxiety in exploratory analyses (Kahn, Frick, Golmaryami, & Marsee, 2017), underscoring the need for more clarity on profiles of youth emotional and behavioral problems.

In conclusion, recent research on CP with CU behaviors and anxiety symptoms appear to support complex relationships with emotion functioning across symptom profiles. Relevant research broadly suggests that youth with co-occurring internalizing symptoms and CP with CU behaviors exhibit the poorest affective functioning and greatest rates of behavioral risk, suggesting that this subgroup may represent a particularly vulnerable subset of youth (Cecil et al., 2018). Therefore, patterns of findings also indicate the importance of affective functioning in identifying variants of CU behaviors as well as characterizing problem behaviors in youth more broadly.

Shared Contextual Risk/Resilience Factors

The broader socioecological contexts in which youth develop play an integral role in youth development. Specifically, contextual factors interact with child-specific factors in ways that confer risk or resilience and the manner in which these factors interact may vary across symptom profiles. According to Bronfenbrenner's (1979) model of ecological systems, the important layers of context for youth development include aspects of the

family, school, and neighborhood environments. To this end, the current study explored shared correlates across these layers of context to determine whether each differentiates profiles of youth emotional and behavioral problems.

Parenting Practices

Parent socialization practices are an important contextual correlate to consider given the scaffolding it provides for youth emotional development. Moreover, profiles of youth problem behaviors may differ on reported levels of supportive and nonsupportive parent socialization practices. Parents socialize youth emotion by their appraisal then response to youth emotion (Godleski, Eiden, Shisler, & Livingston, 2020). Parent emotion socialization styles are characterized as either supporting/coaching (supportive) or dismissing of emotions (nonsupportive) (Gottman, Katz, & Hooven, 1996; Pasalich, Waschbusch, Dadds, & Hawes, 2014). Parents that adopt a nonsupportive style tend to invalidate youth affect, encourage avoidance and/or minimization of negative emotions, and tend to want to change or fix negative feelings quickly (Gottman et al., 1996; Pasalich et al., 2014). On the contrary, parents that employ supportive socialization practices ask questions and label their child's emotions, which may help in the development of empathy by scaffolding a greater awareness and understanding of emotions in their child (Dadds, Cauchi, Wimalaweera, Hawes, & Brennan, 2012).

Gentle parental discipline is thought to elicit sufficient levels of anxiety, foster internal attributions, and promote effective processing of parental socialization messages among youth who are fearful (Gershoff, 2002; Kochanska, 1995). Conversely, youth with high CU behaviors and low anxiety appear to have attenuated motivation to internalize

caregiver messages due to their lack of sufficient arousal by punishment (Dadds & Salmon, 2003; Fowles & Kochanska, 2000; Pardini, 2006) and have higher rates of nonsupportive parenting practices (Fanti et al., 2013; Frick, Cornell, Bodin, et al., 2003a). Given the bi-directional relationship between the parent and child, it is possible that a harsh parental emotional style may result in response to youth who exhibit CU behaviors. By the same token, a callous interpersonal style displayed by the child could be an adaptive response to parental rejection of emotions, among youth with CU behaviors and anxiety (Mozley, Modrowski, & Kerig, 2018). Therefore, the effectiveness of caregiver socialization practices of prosocial skills and emotion coping and the manner in which youth respond to and internalize parental practices related to emotion socialization may lead to divergent outcomes and distinguish subgroups of symptom profiles, including CU behaviors (e.g., Trumello, Babore, Candelori, Morelli, & Bianchi, 2018).

Peer Relations

Literature on (a) concurrent internalizing and CP and (b) CP with and without CU behaviors suggests that peer dysfunction may be a shared correlate that confers risk among these types of symptoms (Price, Drabick, Ridenour, 2019), though the types of dysfunction related to these conditions are different. For example, youth with concurrent internalizing problems and CP are more prone to peer rejection (Keiley, Lofthouse, Bates, Dodge, & Pettit, 2003), and youth with CP tend to be disliked and rejected by conventional peers (Kupersmidt & Patterson, 1991), which is likely related to their lack of appropriate social skills (Beelmann, & Lösel, 2006). This social deficiency and peer rejection fosters opportunities to build relationships among youth with problem

behaviors, which, in turn, increases risk for and provides a proximal context in which youth affiliate with deviant peers (Fanti & Henrich, 2010; Lacourse, Nagin, Tremblay, Vitaro, & Claes, 2003; Laird, Jordan, Dodge, Pettit, & Bates, 2001). Further, among youth with CP, those with co-occurring internalizing symptoms are at a higher risk of negative experiences in peer relationships, association with deviant peers, as well as participation in delinquent acts (Fanti & Henrich, 2010; Miller-Johnson, Lochman, Coie, Terry, & Hyman, 1998; Oland & Shaw, 2005; Wright, Zakriski, & Drinkwater, 1999), and display more limited fundamental social skills (Fanti & Henrich, 2010).

In regard to research on CP and CU behaviors, some researchers found that youth with CP and CU behaviors evinced higher levels of social support than youth with CP (Muñoz, Kerr, & Besic, 2008). However, most results indicate that the combination of CU behaviors and CP increases the risk of engagement in bullying (Fanti, 2013; Fanti & Kimonis, 2013; Fontaine, Hanscombe, Berg, McCrory, & Viding, 2018) and that peer rejection is uniquely associated with CU behaviors and negative emotionality, which is prevalent in CP (Waschbusch et al., 2020). Youth with co-occurring anxiety, CU behaviors and CP may display negative emotionality that increases risk of peer victimization (Barker & Salekin, 2012; Patterson & Capaldi, 1990). It is also likely that peers find the apparent remorseless affect and reduced sensitivity to the emotional cues of others (Dadds, Kimonis, Schollar-Root, Moul, & Hawes, 2018) prevalent in CU behaviors to be off-putting (Waschbusch et al., 2020). Moreover, among youth with co-occurring CP and CU behaviors, those with anxiety are more prone to be victimized in peer interactions, whereas those without anxiety are more likely to engage in bullying behaviors (Ciucci, Baroncelli, Franchi, Golmaryami, & Frick, 2014; Golmaryami, Frick,

Hemphill, et al., 2016). Youth with high CU and CP have attenuated concerns for social goals (Crick & Dodge, 1996; Frick et al., 2014a), and exhibit lower rates of prosocial behaviors (Fontaine, McCrory, Boivin, Moffitt, & Viding, 2011; Frick et al. 2003), which may impede their attainment of social support (Frick & Dantagnan, 2005).

Collectively, extant literature shows that deficits in social functioning are differentially implicated in concurrent internalizing problems and CP with and without CU behaviors. Given that CP and CU behaviors are related to dysfunction in social situations that can gradually lead to the development of anxiety and depression (Kiesner, 2002; Lee & Bukowski, 2012), it is possible that the additional risk for dysfunction is related to interrelations with internalizing problems more broadly (not just anxiety). Therefore, profiles of concurrent symptoms may be differentiated by correlates of peer relations and interactions.

Community Experiences

Exposure to acute and chronic adversity is a significant risk factor for youth mental health problems (e.g., Evans, Li, & Whipple, 2013; Grant, McCormick, Poindexter, et al., 2005; Kushner, 2015; Sharf, Kimonis, & Howard, 2014; Taylor, Grant, Zulauf, et al., 2018) and African American children are more likely to live in poverty compared to non-Latino White children (Proctor & Dalaker, 2003). Transactions among youth emotion functioning and environmental threat may play a primary role in the development of symptoms and lead to different pathways that confer either risk or resilience among at-risk youth (Aldao et al., 2016; Attar & Guerra, 1994; Compas et al., 2017; Davis, Ammons, Dahl, & Kliewer, 2015; Troy, Ford, McRae, Zanolia, & Mauss,

2017; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Zimmer-Gembeck & Skinner, 2016). For example, parental psychological distress is positively related to financial strain, neighborhood stress, and nonsupportive parenting practices and predicts negative adjustment in youth (Barrera, Prelow, Dumka, et al., 2002; Gutman, McLoyd & Tokoyawa, 2005). Moreover, youth from families with a low socioeconomic status and / or who experience family adversity are at elevated risk for internalizing problems and CP (Ackerman, D'Eramo, Umylny, Schultz, & Izard, 2001; Barrera et al., 2002; Duggal, Carlson, Sroufe, & Egeland, 2001; Fanti & Henrich, 2010; Gross, Shaw, & Moilanen, 2008; Keiley et al., 2000; Morris, Silk, Steinberg, Myers, & Robinson, 2007), as well as CU related to contextual disadvantage (Barker & Salekin, 2012; Davis et al., 2015). However, not all youth who experience adversity go on to develop symptoms though the research on these distinctions is mixed.

Some research purports that youth with high levels of CU behaviors are not substantially influenced by contextual risk factors (Kroneman, Hipwell, Loeber, Koot, & Pardini, 2011), whereas youth with lower levels of CU behaviors and CP may be more influenced by contextual factors. Other findings suggest that some individuals with higher levels of CU behaviors are significantly impacted by contextual influences (e.g., Sadeh, Javdani, Jackson, et al., 2010). For example, chronic exposure to trauma, like community violence, can interfere with emotion recognition, processing, and presentation in ways that constitute a callous-unemotional presentation (Bennett & Kerig, 2014; Kerig et al., 2012). Further, the link between CU and CP severity and persistence may be strongest among youth who experience more life stressors such as chronic community violence exposure and poverty (Frick & Dantagnan, 2005). Therefore, the neighborhood

context may be related to CU behaviors and confer risk through heightened exposure to physical and psychosocial stressors, like economic deprivation and violence, for some youth. Despite findings like these that plainly document the negative correlates of economic hardship on parenting practices and contextual disadvantage for youth development, there is currently a dearth of research regarding the relationships among contextual influence, CU behaviors, internalizing symptoms, and CP, especially in high-risk community samples. As such, there is insufficient understanding of how concurrent CU, CP, and internalizing symptoms relate to identified correlates across domains of functioning in low income samples, despite heightened risk for negative outcomes (Cecil et al., 2018; Waschbusch et al., 2020) and over saturation of ethnic minority individuals in low-income samples (Gutman et al., 2005).

Most of what is known about CP, CU behaviors, and correlates is gleaned from research using justice-involved (Kahn, Byrd, & Pardini, 2013) and clinic-referred samples (e.g., Hawes & Dadds, 2007; Manders, Dekovic, Asscher, van der Laan, & Prins, 2013). Conclusions from this work largely indicate that among incarcerated youth with CP and CU, those with co-occurring anxiety represent a particularly vulnerable subgroup characterized by a sensitivity to contextual influence through histories of trauma, increased co-occurring symptoms, and affective dysfunction (Cecil et al., 2018). Researchers have argued that trauma histories represent a key factor that can be used to distinguish variants of youth CU behavior profiles. Among high-risk clinical youth, those with co-occurring CU behaviors, anxiety, and CP tend to have exposure to environmental trauma (Viding & McCrory, 2015), whereas youth with CP with CU behaviors have undifferentiated levels of response to trauma exposure compared to youth with low

symptoms overall despite shared contextual disadvantage (Viding & Kimonis, 2017). Thus, youth with co-occurring anxiety and CP with CU behaviors appear to experience more negative outcomes, even when compared to youth with anxiety, given the negative outcomes related to anxiety and CU behaviors (Cecil et al., 2018). These findings underscore the need to consider community/neighborhood contexts, given the distinctions in individual functioning across variants in that youth with CU behaviors and CP without anxiety did not evince emotional problems in these samples (desensitization; Cooley-Quille, Boyd, Frantz, & Walsh, 2001; Frick & Morris, 2004; Kimonis, Frick, & Barry, 2004).

Work examining more community-based samples is paramount to ascertain whether similar distinctions among youth with CU behaviors can be distinguished (Cecil et al., 2018) and if findings from justice-involved and clinic-referred youth generalize to other high-risk samples of youth (Kahn et al., 2013). It is also crucial to assess the structure and function of emotional and behavioral problems in samples with a large number of ethnic minority individuals and in low-income samples, especially given that concerns about the validity of CU behaviors in ethnic minority samples have been raised (Edens & Cahill, 2007), and rates of trauma may be especially high in low-income samples (Berger, 2005; Craig & Moretti, 2019). Thus, it remains unclear whether the co-occurrence of CU, CP, and internalizing symptoms share correlates that differentially confer risk for negative outcomes across layers of context, especially among low-income, urban youth. Given the potential exacerbating nature of CU when presenting with co-occurring emotional symptoms and associations among contextual influences and CU behaviors, consideration of factors that may confer risk or promote positive functioning

despite adversity (resilience) among youth developing in contextually disadvantaged circumstances is paramount (Compas et al., 2017).

The Current Study

Internalizing symptoms, CP, and CU behaviors each have been implicated as risk factors for negative developmental outcomes (Gorman-Smith et al., 2004; Macmillan et al., 2004; Webster et al., 2006). Despite the observed high rates of co-occurrence among internalizing and CP, and CP with CU behaviors, in addition to the individual risk conferred by each set of symptoms (Merikangas et al., 2010), there is a paucity of research jointly considering anxiety, depression, CP, and CU behaviors, especially in samples of youth developing in disadvantaged contexts.

The current study utilized a developmental psychopathology framework and person-centered analyses to determine if distinct profiles of co-occurring childhood internalizing symptoms, CU behaviors, and CP could be identified, and whether symptom profiles were differentiated on contextual and child-specific risk and resilience factors. Following recent research, the current study included depression in conjunction with anxiety as separate internalizing problems to characterize a sample of contextually disadvantaged youth (Barker & Salekin, 2012; Craig & Moretti, 2019; Waschbusch et al., 2020). To extend previous research, the proposed study included measures of GAD and separation anxiety disorder (SAD) symptoms given possible differences in the relations between CU behaviors with generalized worries compared to concerns related to social functioning. Finally, to assess external validity of the identified profiles, each were compared on child-specific emotion functioning, parent emotion socialization practices, exposure to community violence, and peer relations involving social support, bullying,

victimization, as well as affiliation with deviant peers.

Aims and Hypotheses

The first aim of the current study was to identify subgroups of youth characterized by the quality, quantity, and/or type of teacher ratings of youth CU behaviors, CP behaviors (i.e., ODD, CD), and internalizing symptoms (i.e., depression, SAD, and GAD symptoms). It was hypothesized that the following four youth symptom profiles would be identified by latent profile analysis (LPA), a person-centered analysis: youth with (1) low symptom levels overall, (2) high symptom levels overall, (3) low internalizing symptoms with high CP and CU behaviors, and (4) high internalizing symptoms with low CP and CU behaviors ratings. This hypothesis follows previous research that has utilized LPA and identified a four-profile model of anxiety, CU behaviors, and histories of trauma comprised of: (a) low CU/regulated, (b) anxious/low CU/dysregulated, (c) high CU/regulated, and (d) high CU/dysregulated/traumatized profiles (Craig & Moretti, 2019).

The second aim was to evaluate the external validity of the profiles identified in the LPA by assessing whether and to what extent the profiles differ on individual and contextual factors: exposure to community violence (witness or direct victimization), youth peer group association (positive and deviant peer affiliation) and individual behaviors (bullying-victimization), parent emotion socialization, and youth emotion regulation, recognition, and processing. We anticipated that the profiles with the highest levels/frequency of symptoms would report the highest level of exposure to community violence, deviant peer association, engagement in bullying behaviors, and more caregiver report of nonsupportive parent emotion socialization practices. Profiles with the lowest

symptom levels/frequency were hypothesized to report the lowest frequency of exposure to community violence, more caregiver reported supportive emotion socialization practices, and youth reported victimization and positive peer group characteristics. These hypotheses follow previous research that has found that child-specific factors of emotion regulation (Craig & Moretti, 2019), recognition (Cecilione et al., 2017), and processing (Mitchell et al., 2006), in addition to contextual factors of neighborhood (Gerard & Buehler, 2004), family (Dackis et al., 2015; Morris et al., 2007), and peer relations (Fanti, 2013; Kimonis et al., 2004; Price et al., 2019) serve as risk or protective factors among some youth.

Profiles also were expected to differ in emotion processing/regulation. Specifically, youth with the lowest ratings of CU behaviors (regardless of other aspects of their profile) were expected to evince the greatest accuracy on the emotion labeling and inaccuracy on the emotion processing task when compared to other profiles. Youth rated highest on CU behaviors without internalizing symptoms were expected to perform better on tasks of emotion processing (higher accuracy), but have less accuracy when recognizing fearful and sad facial expressions. Youth in the fourth profile, rated highest on internalizing symptoms and CP but low CU behaviors, was expected to be rated as having more difficulty with regulating their emotions, present with increased negative emotionality, and exhibit interference in processing emotion (least accurate) as assessed in the lab task included in the current study. That is, the fourth profile that had higher ratings of internalizing and externalizing problems would have higher levels of emotion dysregulation and lability.

Method

Participants

The current sample consists of 104 youth ($M= 9.93 \pm 1.22$ years old; 50% male; 95% African American, 5% Latinx) and their caregivers (86% biological mothers). Youth were recruited from 2nd (8%), 3rd (37%), 4th (27%), and 5th (28%) grades from five schools in Northern Philadelphia. Youth primarily resided in low income, urban, racially/ethnically homogeneous neighborhoods. These neighborhoods have the highest rates of domestic abuse, aggravated assaults, narcotic arrests, prostitution, robberies, and burglaries in the city (<http://data.philly.com/philly/crime/>). Youth lived in single-parent (65%); intact (two-biological parents, 19%); other family member (e.g., grandmother, 15%); or foster (1%) homes. Almost two-thirds of youth (65%) were part of a family that receives public assistance. Reported annual household income was as follows: less than \$10,000 (44%); between \$10,000 and \$19,999 (25%); between \$20,000 and \$29,999 (9%); and greater than \$30,000 (22%). All students (100%) were eligible for free meals based on the Community Eligibility for National School Lunch Program and School Breakfast Program, which indicates all families fall at or below the poverty level.

Procedure

Participants were part of a larger research project designed to investigate the psychological and social adjustment of school-aged youth. The study was approved by a University Institutional Review Board. Participants were recruited by sending project information home with youth and attending school events. Interested families contacted the university lab to schedule an appointment to complete two 2-3 hour sessions. During

these sessions, parents provided consent and completed measures of their child's behavior and their parenting practices; youth provided assent, engaged in computer-based lab tasks, and reported on their peer involvement and community experiences. Parents were compensated for their participation and reimbursed for transportation and youth were given a small gift. Teachers were sent measures related to the youth's behavior at school and were compensated for their participation. Donations were made to each school for every youth that participated.

Measures

Anxiety, Depression, and Conduct Problems

Teachers (120 items) completed the teacher report version of the Child and Adolescent Symptom Inventory-4-Revised (CASI-4R; Gadow & Sprafkin, 2005). The CASI-4R is a screening instrument for behavioral symptoms that bear a one-to-one correspondence with most *Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition-Text Revision (DSM-IV-TR; American Psychiatric Association, 2000)* childhood disorders. Items are scored on a scale from 0 (*never*) to 3 (*very often*) and summed to create subscale scores wherein higher scores indicate higher levels/frequency of symptoms. Teachers also affirm (*yes* coded as 1), or deny (*no* coded as 0), the presence of other symptoms of the child's depression on some items (e.g., "has experienced a big change in his/her ability to concentrate or make decisions"). Analyses for the proposed study will include teachers' ratings of youth symptoms of SAD (teacher-report $\alpha = .86$; e.g., "tries to avoid contact with strangers or abnormally shy"); GAD (5 items, teacher-report $\alpha = .83$; e.g., "has difficulty controlling worries"); depression symptoms including items for major depressive and dysthymic disorders (10 items, teacher-report $\alpha = .89$;

e.g., “feels that things never work out right”); ODD (teacher-report $\alpha = .98$; e.g., “argues with adults”); and CD (teachers $\alpha = .91$; “bullies, threatens, or intimidates others”).

Numerous studies indicate that the CASI-4R is reliable and valid (Gadow & Sprafkin, 2005) and prior studies show that all of the aforementioned subscales of the CASI-4R evidenced sufficient internal reliability, as well as construct and concurrent validity in community-based and clinic samples (Gadow, Sprafkin, & Nolan, 2001; Jaffee et al., 2015). Specifically, these subscales have evidenced good test-retest reliability and internal consistency for teacher report (Gadow, Sprafkin, Salisbury, Schneider, & Loney, 2004), which are comparable to other emotional and behavior rating scales (Salcedo, Chen, Youngstrom, et al., 2018). Additionally, satisfactory convergent and divergent validity for these subscales has been observed through comparisons with relevant rating scales (i.e., Child Behavior Checklist, Teacher Report Form); clinician diagnoses; and structured interviews (i.e., Diagnostic Interview for Children and Adolescents-Revised-Parent Version) for teacher report (Salcedo et al., 2018; Sprafkin, Steinberg, Gadow, & Drabick, 2016).

Callous-Unemotional Behaviors

The current study also incorporated teachers’ reports on youth CU behaviors. Teachers rated levels of CU behaviors using the Inventory of Callous/Unemotional Traits (ICU; Frick, 2004), which contains 24 items that ask reporters to rate the child’s demonstration of remorse, sympathy, empathy, and emotion expression on a scale from 0 (*not at all true*) to 3 (*definitely true*). Sample items include “cares about how well s/he does at school or work” (reverse scored), “expresses feelings openly” (reverse scored), and “does not care who s/he hurts to get what s/he wants.” Items are summed to create a

total score of CU behaviors (teacher, $\alpha = .89$). Higher scores indicate higher levels of CU behaviors. ICU total scores have shown good internal consistency, construct validity (with moral development), and concurrent validity (with aggressive behavior) among youth (Essau, Sasagawa, & Frick, 2006; Kimonis, Frick, Skeem, et al., 2008b).

Emotion Recognition

Youth completed the Facial Expression Labeling Task (FELT), a computer-based laboratory task (Blair, 1999; Marsh et al., 2008). For approximately 20 minutes, youth were presented with emotional expressions of 10 men and 10 women from the Pictures of Facial Affect series (Ekman & Friesen, 1976), which depict either happy, sad, angry, or fearful expressions. Faces were presented individually, and each displayed one of the four emotional expressions at four varying levels of intensity (Blocks 1-4), representing the degree that faces were “morphed” from the original emotional expression via graphical manipulation. Block 1, the highest intensity morph, reflects 50% of the emotional expression, Block 2 is 70% of the emotional expression, Block 3 is 90% of the emotional expression, and Block 4 is no morph (100% of the emotional expression). Facial expression stimuli were displayed in four runs, each lasting approximately 5 minutes, and comprising 80 face trials, consisting of a 1-second fixation cross and 2-second face presentation. Youth were prompted to identify the correct emotion by pressing the corresponding number key for the four emotions. Due to a lack of variability among participant scores for happy expressions, accuracy of responses for sadness, fear, and anger only will be considered. Upon examining the data, it was discovered that youth were performing at chance levels in Block 1 (greatest morph) so these scores will be omitted from further analyses. Inter-correlations among the remaining Blocks 2-4 were

high within each emotion and thus a composite score was created for each participant based on accuracy of emotion identification for each of the 3 emotions considered. The FELT has evinced construct validity with scales of the ICU in youth (Moore, Rappaport, Blair, et al., 2019) and revealing selective impairment of sad and fearful facial expressions among youth with psychopathic tendencies (Blair et al., 2001). Strong test-retest reliability was observed for the FELT in a validation twin-study by revealing that participants exhibited discernment across the 6 emotions assessed (i.e., happiness, sadness, fearful, surprise, disgust, anger) as well as improvement in emotion identification as morphs of faces decreased (Cecilione et al., 2017).

Emotion Processing

Youth completed the Emotional Interrupt Task (Mitchell, Richell, Leonard, & Blair, 2006), an emotion processing computer-based task taken from the International Affective Picture System (Lang, Bradley, & Cuthbert, 1988), a shape (circle or square), and then the same picture that preceded the shape, were presented. Image stimuli consisted of 48 pictures divided evenly among neutral, positive, and negative images. Youth were shown the following order of stimuli: a fixation cross, flashed valenced image, circle or square (target), and the flashed valenced image. Then youth were instructed to respond as quickly as possible to the shape stimulus by pressing the corresponding key to the target (circle or square) while ignoring the valenced pictures. Accuracy scores in identifying the targets were computed separately for neutral, positive, and negative trials. The dependent variable of interest (i.e., measure of negative emotion processing) was the accuracy difference score of the negative versus neutral images. Functional MRI research indicates this motor response task is associated with lower

levels of amygdala activation less interference among youth with CU behaviors compared to those without CU behaviors (Kujawa, Klein & Hacak, 2012; Mitchell, Luo, Mondillo, et al., 2008; Mitchell et al., 2006).

Emotion Regulation

The current study will include caregiver ratings of youth's emotion regulation abilities using the Emotion Regulation Checklist (Shields & Cicchetti, 1997). This instrument yields two subscales: the Lability/Negativity subscale (15 items, $\alpha = .83$), consisting of items tapping lack of flexibility, mood lability, and anger dysregulation; and the Emotion Regulation subscale (8 items, $\alpha = .57$), consisting of items representing adaptive regulation (e.g., situationally appropriate positive and negative emotional displays, displays of empathy). Examples of items included in the lability/negativity and emotion regulation subscales are as follows, respectively: "Is whiny or clingy with adults" and "Is a cheerful child" (reverse-scored). Items are rated on a scale from 1 (*never*) to 4 (*always*). Higher scores indicate greater emotional lability or emotion dysregulation. The Emotion Regulation Checklist has evidenced good internal consistency, ranging from $\alpha = .62$ to $\alpha > .80$ for both subscales (Cunningham, Kliever & Garner, 2009; Dunsmore, Booker, Ollendick & Greene, 2016; Alink, Cicchetti, Kim, & Rogosch, 2012; Shields & Cicchetti, 1997).

Parenting Practices

Caregiver report of parental reactions to youth negative affect in distressful situations was assessed using the Coping with Children's Negative Emotions Scale (CCNES; Fabes, Eisenberg, & Bernzweig, 1990). Caregivers rated how likely they would

be to respond to a scenario in a specific way on a scale from 1 (*very unlikely*) to 7 (*very likely*). Caregivers were presented with 12 vignettes that are typical situations in which youth experience distress and negative affect such as being teased by peers, nervousness/fear of public embarrassment, and fear of injections (Fabes et al., 1990). Following prior work, two aggregates of the CCNES subscales will be calculated: supportive and nonsupportive parenting practices (Nelson, O'Brien, Blankson, Calkins & Keane, 2009). The nonsupportive parenting practices subscale (36 items, $\alpha = .90$) will be derived from averaging the minimization ("tell my child that he/she is over-reacting"), punitive ("tell him/her that's what happens when you're not careful"), and distress reaction ("get upset with him/her for being so careless and then crying about it") subscales. The nonsupportive parenting practices composite assesses ways that caregivers may attempt to control, restrict, or limit the expression of their child's negative emotions. The supportive parenting practices subscale (36 items, $\alpha = .96$) will be comprised of the sum of the expressive encouragement ("tell him/her it's OK to cry when you feel unhappy"), emotion-focused ("distract my child by talking about happy things"), and problem-focused reactions ("help my child think of places he/she hasn't looked yet") subscales. Higher scores indicate higher levels/frequency of these types of parental reactions. The CCNES has evidenced good internal consistency; test-retest reliability; concurrent validity (e.g., with parental control, interpersonal reactivity); and construct validity in previous studies (Fabes, Leonard, Kupanoff & Martin, 2001; Fabes, Poulin, Eisenberg & Madden-Derdich, 2002).

Peer Characteristics and Processes

The current study incorporated youth reports on their peer group characteristics. Specifically, youth reported on peer processes and social support including engagement in bullying and victimization behaviors using the Peer Social Support, Bullying, and Victimization Questionnaire (Ladd, Kochenderfer, & Coleman, 1997), a measure comprised of subscales for social support (10 items; i.e., “are there kids in your class who make you feel better if you’re having a bad day?”), engagement in bullying behaviors (4 items; i.e., “do you pick on other kids in your class at school?”), and experiences of being victimized by peers (4 items; i.e., “does anyone in your class ever pick on you at school?”). Youth rated a total of 18-items on a scale from 1 (*never*) to 5 (*always*). This measure has demonstrated sufficient internal consistency, test-retest reliability and divergent validity with measures of prosocial behavior among elementary and middle school-aged youth (Griese Buhs, & Lester, 2016).

Youth reported on their affiliation with youth who engage in deviant behavior for the current study using the Exposure to Deviant Peers Questionnaire ($\alpha = .75$; Capaldi & Patterson, 1990). The items in this measure assess peer engagement in 6 antisocial behaviors (cheated on school tests, purposefully destroy other’s things, stolen something worth less than \$5 and something worth more than \$50, hit or threaten to hit someone without cause, broken into someplace like a car to steal something, made suggestions of illegal activity) during the past year on a scale from 1 (*none*) to 5 (*all of them*). These items are summed to represent the level of youth deviant peer affiliation. Higher scores on the deviant peer questionnaire indicate more deviant peer affiliation. In previous research, this measure has demonstrated good internal consistency, concurrent validity,

and construct validity (Dishion, Patterson, Stoolmiller & Skinner, 1991; Petras et al., 2004).

Community Violence Exposure

Youth reported exposure to community violence as measured by the 25-item Community Experiences Questionnaire (Schwartz & Proctor, 2000). Items were rated on a scale from 1 (*never*) to 4 (*lots of times*) and summed into one of two subscales: exposure to violence through direct victimization (11 items, $\alpha = .78$) and through witnessing violent acts (14 items, $\alpha = .83$). Examples of items included in the victimization and witnessing subscales, respectively, are as follows: “has been shot at, chased” and “has heard gunshots, seen someone try to hurt another person with a weapon.” Higher scores indicate more exposure to that type of community violence. Both subscales have demonstrated appropriate internal consistency and validity in past work (Finkelhor, Ormrod, & Turner, 2007a; 2007b; Schwartz & Gorman, 2003).

Analytic Plan

Background statistical analyses will be performed with SPSS Version 27 (IBM Corp., 2020) and primary analyses will be conducted with MPlus Version 8 (Muthen & Muthen, 1998-2017). MPlus uses Full Information Maximum Likelihood (FIML) estimation to address missing data, which estimates parameters using available data but does not impute values. This approach is useful, especially when a sample is not especially large, as it protects against biasing an analytic sample through omitting participants with missing data through other strategies (e.g., mean imputation,

pairwise/listwise deletion; Burgers & Drabick, 2016). The distributions of study variables also will be examined and bivariate correlations will be conducted.

Several prior studies have neglected to utilize person-centered approaches, but used cluster analyses, which are not hypothesis driven (e.g., Kahn et al., 2013; Tatar, Cauffman, Kimonis, & Skeem, 2012). Instead of identifying clusters by trying to maximize distance between scores, some studies employ the use of latent profile analysis (LPA; e.g., Kimonis et al., 2013) which allows for assessment of the model that describes the distribution and probabilities that certain scores are members of certain latent profiles (Hagenaars & McCutcheon, 2009). Thus, the primary analyses for the current study incorporated LPA, which categorizes individuals into homogeneous subgroups based on similarities among variables. These variables can vary on severity, frequency, and/or quality. The proposed study will test whether we can identify profiles of youth who differ in terms of anxiety symptoms, depression symptoms, ODD symptoms, CD symptoms, and CU behaviors. Profiles will then be examined for external validity by comparing them across domains of individual and contextual factors.

LPA uses a stepwise procedure to determine whether the addition of profiles improves model fit to the data. First, an unconditional or independent, single class model is fit to the data then the number of profiles is increased by one until no additional improvement to model fit is observed. The best-fitting model is determined based on fit indices and conceptual considerations. The fit indices to be examined are the Bayesian Information Criterion (BIC), Akaike Information Criterion (AIC) (Posada & Buckley, 2004), and sample size adjusted BIC (Nylund, Bellmore, Nishina & Graham, 2007). Lower scores on these indices indicate improved model fit. The Bootstrap Likelihood

Ratio Test (BLRT) is likewise used as an index of model fit. When the BLRT p -value is significant, then the k class model fits the data better than the $k-1$ class model (Dziak, Lanza & Tan, 2014). In addition, profiles that represent fewer than 5%-10% of the overall sample may indicate overfitting of the data and result in models of profiles that may be difficult to replicate in other samples (Libon, Drabick, Giovannetti, et al., 2014). Entropy (the overall probability that each individual is classified in the correct class) is also used to determine the best model fit (values $>.7$ are preferred). Although there is no gold standard for power analyses, four-profile models have been identified in samples with similar racial/ethnic, age, and contextual demographic factors compared to the sample in the current study (e.g., Myerberg & Drabick, 2020), as well as sample sizes as small as $N = 45$ (e.g., Iampietro, Giovannetti, Drabick, & Kessler, 2012).

LPA was conducted by using standardized (Z) scores ($M = 0$, $SD = 1$) of 6 teacher-reported variables: GAD symptoms, SAD symptoms, depression symptoms, ODD symptoms, CD symptoms, and CU behaviors. After identification of profiles, auxiliary analyses using equality of means testing were conducted to determine whether and to what extent profiles differed on variables drawn from the family (parenting), school (peer relationships and behaviors), and neighborhood/community (exposure to community violence) as layers of context. Profiles were also assessed for differences among parent-reported emotion regulation and lability, and performance scores on youth emotion recognition and processing lab tasks. These tests hold class membership constant and provide a chi square statistic for omnibus tests and pairwise comparisons across latent profiles. Pairwise comparisons were only interpreted when omnibus tests were significant ($p < .05$).

Results

Preliminary Analyses

Bivariate correlations, means, standard deviations, and *n*'s for variables included as predictors in the LPA are presented in Table 1. All symptoms and problem behaviors were correlated with each other, with the exception of SAD symptoms, which were not correlated with any LPA variables. Of note, the magnitude of the correlations between the depressive and GAD, GAD and ODD, and ODD and CD subscales of the CASI-4R each were high, but expected given that each is yielded from the same measure and used the same informant. These strong associations do not affect the analytic approach taken, as LPA examines similarities across profiles and each of these subscales were used to characterize profiles within this sample.

Table 1

Bivariate Correlations, Means, SDs, and n's for Teacher-Rated LPA Variables

Variable	1	2	3	4	5	6
1. Depressive Symptoms	-					
2. Generalized Anxiety Symptoms	.72**	-				
3. Social Anxiety Symptoms	.35**	.23**	-			
4. Oppositional Defiant Symptoms	.52**	.70**	.09	-		
5. Conduct Disorder Symptoms	.33**	.59**	.03	.73**	-	
6. Callous/Unemotional Behaviors	.42**	.47**	.15	.63**	.51**	-
<i>M</i>	3.88	3.22	1.27	8.13	2.82	28.95
<i>SD</i>	4.63	3.34	2.12	7.80	4.80	11.80
<i>n</i>	91	91	91	90	90	81

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

Depression, General Anxiety, Social Anxiety, Oppositional Defiant, and Conduct Disorder symptoms are yielded from the CASI-4R. Callous/Unemotional Behaviors are yielded from the ICU- Teacher Report.

Latent Profile Analysis

Examination of Table 2 indicates that the three-profile model fits the data best, including good profile sizes. Although BLRT is significant for all subsequent models beyond the first, the BIC, AIC, and sample size adjusted BIC for the 3 profile model are all lower than the 1- and 2-profile models. Both the 3- and 4-profile models evidenced acceptable fit; however, model selection is also based on conceptual and replicability considerations. The 4-profile model resulted in three similar profiles that each represented approximately 10% of the overall sample and thus distinctions between these profiles are likely not conceptually meaningful. On the contrary, the 3-profile model evidenced conceptual distinctness and entropy was excellent.

Table 2
Model Comparisons

Model	AIC	BIC	ABIC	BLRT (<i>p</i>)	entropy	profile 1 (<i>n</i>)	profile 2 (<i>n</i>)	profile 3 (<i>n</i>)	profile 4 (<i>n</i>)
1	1329.48	1358.49	1320.78	N/A*	1	84			
2	1166.27	1213.98	1154.01	< 0.001	0.95	59	32		
3	1082.08	1147.36	1065.30	< 0.001	0.96	16	16	59	
4	1049.28	1132.14	1027.98	<0.001	0.96	9	13	57	12

Note: AIC = Akaike Information Criterion, BIC = Bayesian Information Criterion, ABIC = Sample-size Adjusted BIC, BLRT = Bootstrap likelihood ratio test. *BLRT is not calculated for the 1 profile model

Teacher-rated symptoms identified three profiles: (1) high internalizing, moderate CU, and moderate CP (High-Int/Mod-CU/CP); (2) high GAD, CU, and CP (High-GAD/CU/CP); and (3) low problematic behaviors (Low) (See Figure 1). Profiles were named based on the pattern of scores and points where variable means were more disparate. Youth in the low problematic behaviors profile scored at least .5 *SD* below the sample mean on all LPA variables. Youth in the High-GAD/CU/CP profile evinced scores that are the most divergent when contrasted with sample means. Specifically, the

High-GAD/CU/CP profile was approximately 1 *SD* above the sample means for GAD and CU, and 2 *SD* above sample means for ODD and CD. Compared to sample means, teacher-rated means for the Low profile were rated approximately .5 *SD* below the sample mean on all LPA variables. (see table 3).

Table 3

Means and Standard Errors for Each Profile in the Teacher-Rated Three-Profile Model

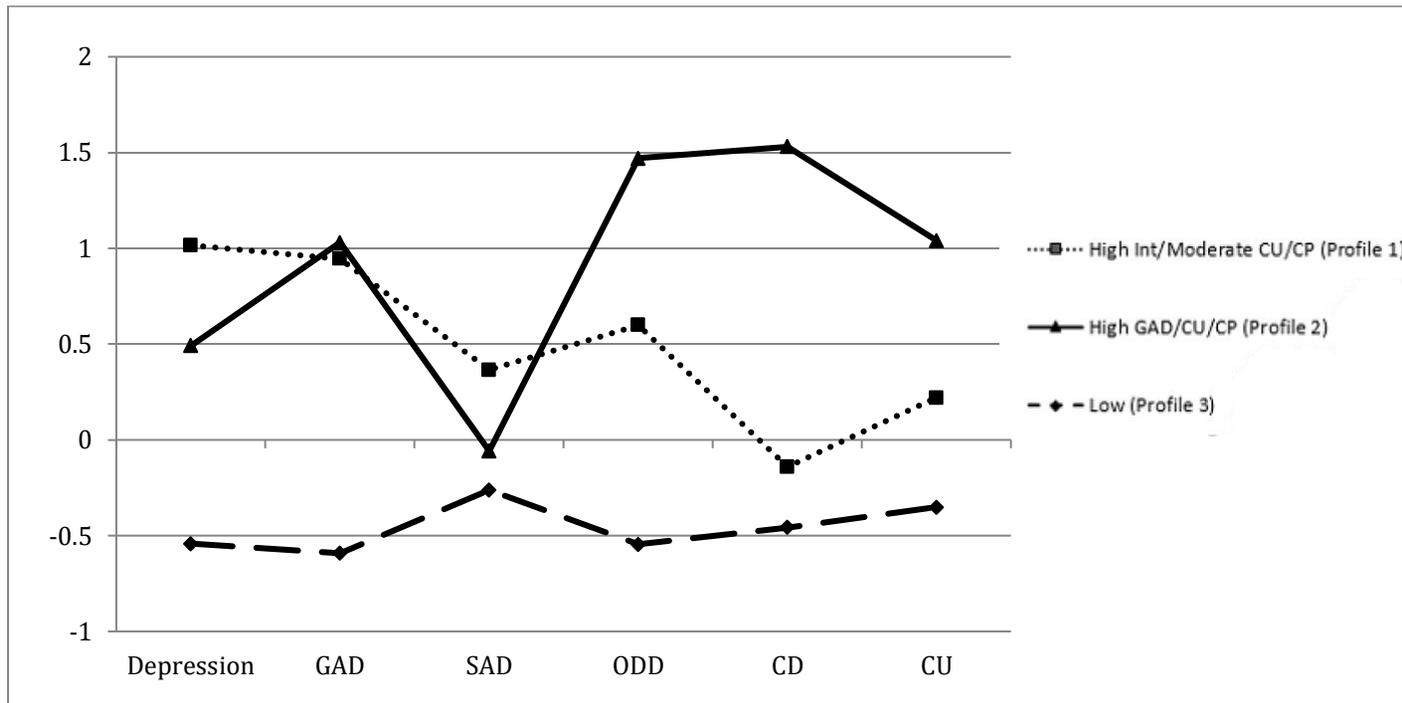
Behavior Features	High Internalizing/Moderate CU/Conduct Problems <i>n</i> = 16		High GAD/CU/Conduct Problems <i>n</i> = 16		Low Problem Behaviors <i>n</i> = 59	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Depressive Symptoms	1.02	.41	0.49	.63	-0.54	.86
Generalized Anxiety Symptoms	0.95	.85	1.03	.61	-0.59	1.06
Social Anxiety Symptoms	0.37	.51	-0.06	.70	-0.26	.60
Oppositional Defiant Symptoms	0.60	.62	1.47	.93	-0.55	.60
Conduct Disorder Symptoms	-0.14	1.19	1.53	.80	-0.46	.99
Callous/Unemotional Behaviors	0.22	1.16	1.04	1.40	-0.35	1.30

Note: Depression, General Anxiety, Social Anxiety, Oppositional Defiant, and Conduct Disorder symptoms are yielded from the CASI-4R. Callous/Unemotional Behaviors are yielded from the ICU- Teacher Report. Numbers are standardized Z scores.

External Validation

Auxiliary analyses were performed to determine the external validity of the profiles (see Table 4). The top of the Table 4 includes analyses of contextual factors, including community (exposure to community violence), peer (deviant peers, bullying, victimization, support), and family factors (parenting emotion coping practices). Results showed differences at the level of the community and peer group but not the family. Specifically, post-hoc analyses revealed that youth in the High-GAD/CU/CP profile reported significantly more exposure to witnessing community violence compared to the

Figure 1 Teacher-Rated Three-Profile Model



Note. GAD= General Anxiety Disorder symptoms, SAD= Social Anxiety Disorder symptoms, ODD= Oppositional/Defiant Disorder symptoms, CD= Conduct Disorder symptoms, CU= Callous/Unemotional Behavior symptoms

Low profile. Post-hoc pairwise analyses also indicated significant between-profile differences for youth-reported engagement in bullying, noting that youth in the High-GAD/CU/CP endorsed the greatest engagement in bullying behaviors compared to the other two profiles (High-Int/Mod-CU/CP vs. High-GAD/CU/CP, $\chi^2=6.57$, $p = .010$, $\phi = .45$; High-GAD/CU/CP vs. Low, $\chi^2=5.79$, $p = .016$, $\phi = .30$).

Specifically, omnibus chi-square analyses revealed significant between-profile differences for exposure to witnessing community violence and bullying, recognition of sad expressions, emotional lability, and emotion regulation.

The profiles also differed in individual factors, as measured on performance-based tests of emotion recognition and interference and caregiver ratings of negative emotionality and emotion regulation. On performance-based tests youth in the High-Int/Mod-CU/CP were better able to correctly identify sad facial expressions than youth in the High-GAD/CU/CP profile ($\chi^2=6.73$, $p = .009$, $\phi = .46$). According to caregiver reports, High-GAD/CU/CP profile showed significantly greater emotional dysregulation compared to youth in the Low profile and significantly higher levels of negative emotionality and lability than youth in the other two groups (High-Int/Mod-CU/CP vs. High-GAD/CU/CP $\chi^2=4.51$, $p = .034$, $\phi = .38$; High-GAD/CU/CP vs. Low, $\chi^2=14.21$, $p < .001$, $\phi = .47$); and emotional dysregulation compared to the Low profile (High-GAD/CU/CP vs. Low, $\chi^2=7.47$, $p = .006$, $\phi = .34$).

*** $p < .001$.

Table 4*Results of Auxiliary Analyses for Contextual External Validators*

Context	High Int/Moderate CU/CP (Profile 1)		High GAD/CU/CP (Profile 2)		Low (Profile 3)		Omnibus χ^2 test			Pairwise Comparisons
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	χ^2	<i>p</i>	ϕ	
Community Violence-Victim	.01	.16	.30	.31	-.14	.12	2.0	.367	.15	N/A
Community Violence-Witness	.18	.28	.53	.20	-.17	.39	.11	.019	.30	2 > 3
Deviant Peer Affiliation	-.22	.28	.13	.24	.02	.13	.94	.625	.01	N/A
Peer Victimization	.08	.28	.12	.27	.04	.13	.15	.926	.04	N/A
Peer/Bully	-.29	.16	.66	.33	-.17	.10	6.8	.034	.27	2 > 1,3
Peer Support	-.29	.30	.66	.26	-.17	.11	.94	.624	.10	N/A
Nonsupportive Parenting Practices	-.18	.001	-.18	.002	-.18	.001	5.4	.07	.24	N/A
Supportive Parenting Practices	-.18	.001	-.18	.002	-.18	.001	.05	.976	.02	N/A
FELT Anger Recognition	1.68	.23	1.70	.23	1.66	.10	.02	.992	.01	N/A
FELT Sadness Recognition	1.72	.20	.95	.22	1.36	.12	6.7	.035	.27	2 > 1
FELT Fear Recognition	1.46	.33	.97	.31	1.14	.16	1.2	.553	.11	N/A
Emotion Processing	.001	.02	-.013	.01	-.009	.01	.29	.864	.06	N/A
Lability/Negativity	.11	.21	.82	.26	-.25	.11	14.9	.001	.41	2 > 1,3

Emotion Regulation	.07	.23	-.53	.17	.05	.12	8.1	.018	.30	2 > 3
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Note: Community Violence scales derived from the CEQ. Deviant Peer Affiliation derived from the Exposure to Deviant Peers Questionnaire. Peer Victimization, Bully, and Support derived from Peer Social Support, Bullying, and Victimization Questionnaire. Parenting Practices derived from the CCNES. Community Violence and Peer variables are standardized Z scores and self/child report. Parent Report = Parenting Practices, Liability, and Regulation are standardized Z scores and parent report. Facial Expression Labeling Tasks (FELT) and Emotion Processing and Numbers are raw scores and were completed by the child.

Discussion

Despite the high rates of co-occurrence and associations among CU behaviors, internalizing, and CP (Waschbusch et al., 2020), few have investigated CU behaviors in conjunction with CP and anxiety and depression (e.g., Wakschlag et al., 2018). Findings of the current study align with prior work in suggesting that youth can be classified on the presence and severity of CU behaviors, anxiety, and CP (Frick & White, 2008; Waschbusch et al., 2020), and underscore the possibility that proximal and distal contextual factors differentially influence functioning and symptom presentation (Aldao et al., 2016; Nolen-Hoeksema et al., 2008).

Hypotheses regarding symptom profiles were partially supported. We anticipated that teacher ratings of CU behaviors, internalizing, and CP would result in four profiles with the greatest distinctions in severity of teacher reported internalizing problems and CU behaviors. Present findings indicated that teacher ratings characterized the sample into three profiles: (1) High-Int/Mod-CU/CP, (2) High-GAD/CU/CP, and (3) Low problematic behaviors, with main differences in symptom presence/severity across profiles on ratings of GAD, CP, and CU behaviors. Teacher ratings of youth depression and GAD symptoms were rated at similar levels for both of the high symptom profiles, confirming prior work that has theorized or identified a subgroup of youth with high CU behaviors in addition to anxiety, namely, GAD in the cases of the current study as well as prior work (Craig & Moretti, 2019). Moreover, teacher ratings identified a profile (High-Int/Mod-CU/CP) of high risk youth that is high on depression and GAD and moderate ODD behaviors, which aligns with work that suggests an underlying negative

emotionality factor across internalizing and ODD dimensions (Barker & Salekin, 2012; Waschbusch et al., 2020). There were no notable distinctions in SAD severity or presence found across the identified profiles. Youth in the current sample were rated as presenting with high levels of CU behaviors and CP when compared to scores found in normative samples (Gadow & Sprafkin, 2005), which suggest that CU behaviors and CP are elevated among this sample of low income, urban children. However, it remains unclear how these behaviors function or why they are elevated in this type of context. Further, according to multifinality, not all youth elevated on CU and CP will develop longstanding behavioral problems (Pina, Polo, & Huey, 2019; Lochman & Wells, 2002), so future research will be necessary to determine whether profiles of youth with CU behaviors, CP, and/or internalizing problems can be identified in other samples (e.g., contextually disadvantaged, clinic-referred, racially heterogeneous) and can then differentially associated with negative outcomes.

Many studies have explored the impact of interactions among contextual factors on youth development, which usually find differences across neighborhood (Bennett & Kerig, 2014; Gerard & Buehler, 2004), peer (Price et al., 2019; Waschbusch et al., 2020), family (Dackis et al., 2015; Morris et al., 2007), and child specific (Falkenbach et al., 2008; Ezpeleta et al., 2017; Kimonis et al., 2012) domains. The current study tested the extent to which the identified profiles differed on variables derived from individual and contextual factors: exposure to community violence, peer processes, and emotion functioning. Results of auxiliary analyses partially supported study hypotheses regarding profile differences for exposure to community violence. Post-hoc tests revealed that youth in the High-GAD/CU/CP profile reported significantly more exposure to

witnessing community violence compared to the Low profile but not the High-Int/Mod-CU/CP profile. That is, youth rated as having more severe internalizing, CP, and CU behaviors by teachers reported witnessing community violence at rates most distinctive from youth in the low symptom profile overall. These results align with related work that implies that youth residing in contextually disadvantaged environments are at elevated risk for the development of CP, perhaps due to exposure to community violence and stressors (Attar & Guerra, 1994; Brody, Conger, Gibbons, et al., 2001; Merikangas et al., 2010); and that co-occurring internalizing symptoms and CP can represent an undifferentiated response to stressful experiences (Costello, Burns, Angold, & Leaf, 1993). Thus, present findings also support theories and research that have concluded that exposure to community violence confers risk for severe internalizing, CP, and CU behaviors (Davis et al., 2015; Huey Jr & Polo, 2008; Lahey & Loeber, 1994; Lochman & Wells, 2002; Merikangas et al., 2010). This pattern of findings provides some evidence to support the conclusion that youth with co-occurring internalizing, CP, and CU behaviors may represent an especially vulnerable subgroup given their purported environmental sensitivity (Sharf et al., 2014) and increased dysfunction (Cecil et al., 2018).

Results of post hoc tests also indicated that youth in the High-GAD/CU/CP profile reported the greatest engagement in bullying behaviors compared to the other profiles. These results are not surprising given models that suggest that youth with high CU and CP have attenuated concerns for social goals (Crick & Dodge, 1996; Frick et al., 2014a). It is possible that youth in the High-GAD/CU/CP profile are more likely to prioritize personal gains/instrumental goals over social goals in peer interactions (Crick & Dodge, 1996). Nevertheless, other work has determined that youth with co-occurring

anxiety, CP, and CU behaviors are more likely to be victimized by peers, whereas youth with CP and CU behaviors are more likely to perpetrate bullying behaviors (Ciucci et al., 2014; Golmaryami et al., 2016). Notably, identified profiles in the current study exhibited similarly low levels of peer victimization and deviant peer affiliation, as well as social support. These results are more expected given work that argues that some youth with CU behaviors appear capable of forging and maintaining comparable numbers and qualities of friendships as youth without CU or CP despite reported levels of aggression and peer dislike (Muñoz et al., 2008).

Finally, hypotheses regarding parent emotion socialization practices across profiles were not supported by the current findings. The lack of differences in parent emotion socialization practices in this study are not surprising given the mixed nature and gaps in the related literature regarding the interactions among parent-child interactions and CU behaviors. Nonetheless, it is accepted that there is a bi-directional relation among internalizing, CP, and CU behaviors and parenting practices (e.g., Burke, Pardini & Loeber, 2008).

Hypotheses for individual factors, including emotion functioning were partially supported in the current study. Notable between-profile differences were revealed for emotion recognition of sad expressions, emotional lability, and emotion regulation. We expected that profiles rated lowest on CU behaviors and internalizing symptoms would have more accuracy when labeling emotions on the FELT and less recall accuracy on the EI lab task whereas youth rated highest on CU behaviors were expected to exhibit better recall accuracy on the emotion processing task and to have low accuracy when labeling fearful and sad facial expressions. We found that youth in the High-Int/Mod-CU/CP

exhibited more accuracy when labeling sad facial expressions than youth in the High-GAD/CU/CP profile. This result contradicts to prior exploratory work that has found better accuracy for fear recognition among youth with CU behaviors with low levels of trait anxiety (Kahn et al., 2017), but this work neglected to include or assess relationships with depression. Therefore, the current findings also support the notion that there is a complex relationship among emotion functioning, CP, CU behaviors, and internalizing problems. Moreover, given results of past research that identified fear recognition deficits among youth with CU behaviors (e.g., White et al., 2016), it is interesting that the profile highest on co-occurring internalizing problems, as well as moderate CP and CU behaviors, exhibited better accuracy for sad faces in the current at-risk sample.

It was also anticipated that caregivers of youth in profile(s) with higher teacher ratings of CP would report greater emotion dysregulation and negative emotionality/lability. The current study found that caregivers reported the highest levels of negative emotionality and lability among youth that teachers rated as High-GAD/CU/CP when compared to the other profiles and greater emotional dysregulation compared to the Low profile. This pattern of findings supports and adds to prior work that identified a high CU/high trauma profile and a low CU/high anxiety profile that were emotionally dysregulated (Craig & Moretti, 2019). The current findings are interesting given work on internalizing, CP, and co-occurring CP and CU behaviors that implicates overregulation in internalizing problems (Wills et al., 2016), dysregulation and negative emotionality in CP (Barker & Salekin, 2012; Waschbusch et al., 2020), under-aroused emotion processing and lability (Lozier et al., 2014; White et al., 2012), and reduced emotional reactivity (Kimonis et al., 2012) in CP with CU behaviors. Yet the limited

research on negative emotionality/lability, emotion regulation and co-occurring internalizing, CP, and CU behaviors limits conclusions that can be drawn about interrelations among these variables when they co-occur.

Strengths, Limitations, and Future Directions

The current study has several strengths. One strength is the use of multiple reporters of youth behavior, which provided a more nuanced picture of youth behavior problems and extends research involving differences in symptom presentation across contexts and informants to a low-income, urban sample (Lanza & Drabick, 2011). Discrepancies across informants typically occur and suggest that youth function differently across contexts and situations (Drabick et al., 2007; Drabick et al., 2008). Moreover, the present study utilized a combination of youth, caregiver, and teacher reports of behavior and functioning across multiple candidate domains that have been shown to distinguish youth in typically developing populations. This study also used caregiver report of emotion regulation and lability in addition to employing lab-based tasks to more directly assess youth emotion functioning. Parents and teachers often rate the frequency and severity of youth behaviors differently, and risk factors and correlates associated with childhood emotional and behavioral problems differ depending on rater (De Los Reyes & Kazdin, 2005; Lanza & Drabick, 2011). Thus, weight should be given to all three reporters comparably when interpreting the current findings given the complementary access, expertise, and perspective of youth, caregivers, and teachers.

Another strength of the present study regards the nuanced approach taken toward the interrelations among CU behaviors, internalizing, and CP in low income, high crime environments where some behaviors that typically may be viewed as maladaptive may be

protective. Using a developmental psychopathological lens to investigate interrelations among these symptoms increases our ability to correctly categorize and target youth symptom presentations by revealing equifinal and multifinal outcomes and shared correlates. Further, a low income, urban, ethnic minority sample of youth was utilized in the present investigation, which is important given that these youth are at heightened risk for early-onset behavior problems and related dysfunction (Burke et al., 2008; Ezpeleta, Keeler, Erkanli, Costello, & Angold, 2001). The current study also included variables that span many levels of context, including proximal and distal risk and resilience factors, to externally validate the identified profiles. The inclusion of this array of variables could aid in more effectively characterizing problem behaviors among youth, which can inform more individualized etiological and intervention models. Moreover, given the paucity of research investigating multiple types of exposure to community violence, the present study's utilization of direct and witnessed exposure to community violence provides more information regarding their differential relations to youth adjustment (Anderson & Mayes, 2010; Fowler, Tompsett, Braciszewski, Jacques-Tiura & Baltes, 2009) and high rates of occurrence among at-risk youth.

Of note, there were some limitations. Although no conclusions regarding causality have been made, the cross-sectional nature limits the conclusions that could be drawn. The use of a longitudinal design in future research is needed to disentangle the timing among these variables and to help delineate the relations among CU behaviors, internalizing symptoms, and CP, as well as how they function in at-risk populations. Additionally, the generalizability of the current findings are limited to youth developing in predominantly minority, low income, urban communities given that

socioeconomic status and ethnicity are largely confounded. Further research is needed to better understand the shared risk, as well as mitigating factors for the development of co-occurring internalizing, CP, and CU behaviors in at-risk samples. Future research that assesses emotional and behavioral dimensions, including CU behaviors, among youth in sensitive periods, using multiple informants, considering individual and contextual factors, and evaluating course and treatment response can inform our understanding of youth problem behaviors, particularly among at-risk youth. The implementation of developmental psychopathology principles allots opportunities to identify distinct profiles of youth problem behaviors for which treatment can specifically target all symptoms exhibited by the subgroup of youth, thereby potentially increasing treatment efficacy and effectiveness.

Clinical Implications

Literature on intervention and treatment of youth psychopathology has neglected to consider co-occurring symptoms in profiles of youth psychological dysfunction. This literature has likewise limited the focus to on treatment of internalizing and/or externalizing problems, and CP with and without CU behaviors. Treatment response research which incorporates CU tends to focus on the impact and exacerbating influence of CU behaviors for sustain and dispersed negative outcomes (Waller, Hyde, Grabell, Alves, & Olson, 2015). Modern intervention models of CU and CP, internalizing, and CP are based on behavioral principles, though interventions differ in the direct recipient of the interventions, as well as methods and contexts. Behavioral principles have been effective and efficacious when treating internalizing and CP in youth. However, relevant

treatment response and efficacy literature is mixed regarding the impact of CU behaviors and CP.

Many studies have reported observing findings which suggest higher levels of pretreatment CU are related to worsened responsiveness to treatment and are typically thought to be treatment resistant compared to youth with CP (Houghton, Carroll, Zadow, O'Connor, Hattie & Lynn, 2017; Wilkinson, Waller, Viding, 2016). Yet there is evidence that CU behaviors may be malleable (Hawes & Dadds, 2007). For example, some youth with CU appear to particularly respond to parent-focused interventions and warm parenting practices (Waller, Gardner, & Hyde, 2013). Research shows that youth with high CU have unique neurocognitive characteristics that could guide the individualization of treatments (Frick et al., 2014a), like an overfocus on rewards to the exclusion of punishment cues (O'Brien & Frick, 1996; Pardini, 2006). This is supported by work which has found that standardized behavioral interventions that incorporate punishment and reward techniques have been less efficacious treatments of CU behaviors (Haas, Waschbusch, Pelham, et al., 2011).

Given the presence of concurrent symptoms, interventions which target each set of presenting difficulties have the potential to increase treatment efficacy for these symptom profiles. Moreover, since the family and school environments are candidate contextual factors for shaping CU behaviors, CP, and internalizing problems, intervention which targets these contexts through parent training interventions under certain conditions such as parent training based on social-learning theory (Bansal, Waschbusch, Haas, et al., 2019; O'Connor, Matias, Futh, Tantam, & Scott, 2013), emotional

socialization (Gottman et al.,), or incorporate prosocial skill development (Houghton et al., 2017) could prove fruitful.

Youth with concurrent CU, internalizing, and CP may benefit from interventions which address the co-occurring symptoms by targeting shared areas of risk, like emotion functioning or coping with community experiences as well as parenting practices, given the purported environmental sensitivity present in this subgroup. However, firm conclusions about environmental sensitivity or interrelations among these symptoms and behaviors cannot be drawn given the scarcity of relevant literature. The mixed nature of the effect CU has on response to treatment and lack of investigation into interventions for concurrent CU, internalizing, and CP underscore the need for specificity in the presentation, and diversification of treatment approaches for youth with concurrent problem behaviors and emotional symptoms to individualize treatments and thereby increase treatment efficacy and effectiveness.

CHAPTER 2

REVIEW OF LITERATURE

CU behaviors are conceptualized as a cluster of features based on the affective and interpersonal component of psychopathy (i.e., restricted emotionality, lack of empathy, lack of guilt, and manipulative use of others; Frick et al., 2014a; Frick & White, 2008), and have often been studied among youth as a downward extension of a dimension of adult psychopathy (Frick, 2009). CU behaviors are often examined with conduct problems (CP), which include oppositional defiant disorder (ODD; recurrent behavioral pattern of negativistic, defiant, disobedient, and hostile behavior toward authority figures) and conduct disorder (CD; e.g., aggression, violation of the basic rights of others and age-appropriate norms; American Psychiatric Association, 2013) symptoms more broadly. CU behaviors in childhood and adolescence are predictive of psychopathy in adulthood, even after controlling for CD and other childhood risk factors (Burke, Loeber, & Lahey, 2007; Lynam, Caspi, Moffitt, Loeber, & Stouthamer-Loeber, 2007). CU behaviors with co-occurring CP are linked to negative correlates including genetic, neurocognitive, emotional, personality, and social factors (Cornell & Frick, 2007; Frick & Viding, 2009; Frick & White, 2008); a more persistent course of CP; higher levels of symptom severity (Drabick, Steinberg, & Shields, 2015; Frick, Ray, Thornton, & Kahn, 2014b; Frick & White, 2008); and diminished treatment responsiveness compared to youth with CP without co-occurring CU behaviors (Haas et al, 2011; Hawes & Dadds, 2005). Moreover, youth with co-occurring CP and CU behaviors who experience more life stressors (e.g., chronic community violence exposure, poverty) exhibit more stable CP (Frick & Dantagnan, 2005).

CU behaviors exacerbate risk for negative functioning across various psychosocial domains beyond the risk conferred by CP and this risk can persist into later developmental periods. Though there appears to be relatively high stability in ratings of CU behaviors from childhood to adolescence, especially for parent reports, this level of stability does not imply that these behaviors are unchangeable. In fact, Frick and colleagues (2003) found that despite the high level of stability of CU across the four year study period of non-referred fourth through sixth graders, a significant number of youth initially rated as high on CU behaviors decreased in their level of CU behaviors to below the average threshold at all follow-up assessments. This decrease was associated with lower levels of youth CP, higher quality of parenting practices, and higher socioeconomic status of the youth's parents (Frick, Kimonis, Dandreaux, & Farell, 2003b). Thus, for some youth, CU behaviors appear to be at least somewhat malleable and influenced by factors in the youth's psychosocial environment.

CU behaviors are important in the conceptualization of diagnostic and etiological models of CP (Frick, 2012), particularly given that CU can currently only be diagnosed as a specifier of CD (i.e., with limited prosocial emotions; American Psychiatric Association, 2013). Accordingly, little is known about CU independent of CP, though CU might be adaptive in some circumstances. It is clear that CU behaviors represent a distinct risk-related feature in youth, so it is important to understand CU behaviors independent of CP (Viding & McCrory, 2012). Further, most of what is known about CU behaviors is based on co-occurring CP in clinic-based or justice-involved samples, limiting what we know about how CU behaviors may function in community-based samples or samples of at-risk youth.

Developmental Psychopathology Perspective on CU Behaviors

Often, equifinality (various pathways have the potential to lead to the same outcome; Cicchetti & Rogosch, 1996) and typical vs. atypical development are applied to the study of CP more broadly given the interest in understanding the various processes involved in the development of CP (Greenberg, Speltz, Deklyen, & Jones, 2001). Fewer studies have explored multifinality, that different outcomes are possible for any original starting point, despite burgeoning evidence supporting the use of person-centered analyses to better understand problem behaviors among youth (for reviews, see Cicchetti & Rogosch, 1996; Lee, 2018). Despite findings noting the exacerbating nature of CU behaviors on other CP, it is unclear what is actually known about how these symptoms interrelate with CU. CU behaviors could represent a more nuanced set of behaviors that contribute more than negative effects on functioning.

Exploring these possibilities requires assessing CU independently of CP. For example, findings regarding the influence of contextual risk factors on youth with CU are mixed. Some purport that youth with high CU behaviors delineate a subgroup of youth whose behavioral presentation is not substantially influenced by contextual risk factors (Kroneman et al., 2011), whereas youth with lower levels of CU and CP may be more influenced by contextual factors because CU may provide an emotional buffer to negative contextual influences. In contrast, others have argued that some individuals with CU are significantly impacted by contextual influences (e.g., Sadeh et al., 2010). The mixed nature of the literature underscores the possibility of distinct developmental pathways and thus varying outcomes among youth with CU. To address this question, the present review uses multifinality as a guiding principle given the possibility that there could be

multiple prospective correlates, including positive outcomes, which stem from CU. These differing outcomes could be related to the varying behavioral presentations of CU, behavior problems, and emotional problems in youth, especially those developing in high risk contexts. It is therefore important to connect these differing presentations to relevant literature on normative development to understand processes that can be disrupted and lead to maladaptive outcomes (Frick & Morris, 2004).

Given the associations among contextual influences and CU behaviors among youth, consideration of factors that may confer risk or promote positive functioning despite adversity (resilience) among youth developing in contextually disadvantaged circumstances is paramount. Distinctions between typically developing youth and those developing with behavior problems, and youth with CU and CP compared to youth with CP alone, have been well established in the research literature. The current review presents differences across certain domains among youth with CU behaviors to highlight the possibility that these behaviors may function in other ways besides exacerbating problems and such differences among subgroups of youth with CU may be related to the mixed results in the literature. This approach underscores the need to have a more flexible and multifaceted view of CU behaviors and can inform the identification of youth who are most in need of early intervention. By the same token, designation and clarification of protective factors and processes of resilience can inform interventions to strengthen the youth who are at greatest risk for negative sequelae.

In this paper, the following developmental psychopathology principles will be used to provide a framework: transactional processes, or manners in which the individual selects, influences, and is influenced by context; typical versus atypical development;

multifinality; and risk and protective factors (Drabick & Steinberg, 2011). Given the increased possibility of risk posed to youth who develop in high risk contexts, investigating the different and nuanced behavioral presentations and sequelae (multifinality) across youth is essential. A review of relevant literature on some of the broad social ecological contexts that may affect the development and presentation of CU behaviors follows in efforts to address the idea of adaptability or resilience through CU behaviors. One question of adaptability with CU behaviors refer to the response to environmental threat that results in an outwardly callous/unemotional demeanor due to a sensitivity to environmental effects. CU behaviors may become protective in this sense because they buffer the impact of further environmental insult and may account for increased treatment response to parenting focused interventions among youth with CU. Another question of adaptability refers to constitutional CU behaviors, which begin by buffering effects of environmental insult through decreased emotional reactivity and processing, as well as support increased emotion regulation. CU behaviors of this type also buffer the risk for development of increased internalizing, and perhaps externalizing, symptoms and disorders. Despite the decreased environmental sensitivity, youth with this type of CU behaviors may benefit from adapted interventions, for example, that are focused on rewards as opposed to punishment for appropriate behavior (Haas et al., 2011).

Subtypes of CU Behaviors: Theory

Two subtypes of CU have been theorized (Karpman 1941, 1948). One is primary CU, which depicts individuals with CU that stems from a heritable or innate affective deficit, which is a central component of adult psychopathy (Karpman 1941, 1948). The

other is secondary CU and describes an “escape from emotional situations” (Karpman, 1941, p. 136), or adaptation to experiences of threat that leads to an affective deficit. Secondary, or acquired, callousness suggests that context (e.g., family, neighborhood, peers, school) contributes to the development of CU behaviors among some individuals. Problematic family, school, and neighborhood contexts have consistently been associated with negative changes in behavioral and emotional presentations. Important work that has sought to better understand possible subtypes of psychopathy has focused on differences in the presence of trait anxiety (Krischer & Sececke, 2008; Lee, Salekin, & Iselin, 2010) and the experience of psychological trauma (Kerig et al., 2012).

Generally, youth who experience disadvantaged circumstances are more likely to develop disruptive behavior problems (Brooks-Gunn, Duncan, Klebanov, & Sealand, 1993), though individual characteristics may influence the relation between contextual risk and future antisocial behavior (Loeber & Pardini, 2008). Indeed, there may be different developmental pathways to CU (i.e., constitutional vs. contextual) and the presence or absence of co-occurring internalizing problems in addition to histories of threat are important indicators of diverging presentations of youth with CU (e.g. Bennett & Kerig, 2014; Tatar et al., 2012). Consistent with research on adults (Hicks, Markon, Patrick, et al., 2004), these findings support the general model of subtypes of CU in justice-involved samples by identifying two groups with CU behaviors who are distinguished by levels of anxiety, difficulties with emotion regulation and lability, and histories of trauma (Edens, Skopp, & Cahill, 2008; Falkenbach et al., 2004; Kimonis, Skeem, Cauffman, & Dmitrieva, 2011; Krischer & Sevecke, 2008; Vaughn, Edens, Howard, & Smith, 2009). Other research on justice-involved adolescents with CU found

that the group high on anxiety (i.e., secondary variant) was also more likely to have increased levels of externalizing problems, impulsivity, aggression, and behavioral activation (Kimonis et al., 2012; Lee et al., 2010), and differences in displays of depression (Kimonis et al., 2012; Kimonis, Ray, Branch, & Cauffman, 2010; Lee et al., 2010; Vaughn et al., 2009). In contrast, the group low on anxiety (i.e., primary variant) scored lower on a measure of behavioral inhibition (Kahn, Frick, Kogos, Feeny & Findling, 2013) and exhibited deficits in their processing of emotional stimuli that were not reported in the secondary group (Kimonis et al., 2012).

Environmental Influence

Following a developmental psychopathology perspective of CU behaviors requires the consideration of multiple influences on normative versus atypical behavior and the dynamic and transactional manner through which youth and their broader socioecological context interact throughout development. Compared to typical environments, those characterized by violence and limited resources have a stifling impact on youth's emotional development (Gerard & Buehler, 2004) and youth developing in these high-risk communities are exposed to a multitude of risk factors that hinder emotional, behavioral, and cognitive functioning and are prospectively associated with negative outcomes like CU behaviors (Sadeh et al., 2010). Living in low socioeconomic status (SES), urban neighborhoods is associated with increased exposure to physical and psychosocial stressors (Brody et al., 2001; Merikangas et al., 2010), such as violence, maltreatment, and deviant peers (Gorman-Smith et al., 2004), all of which are associated with behavior problems among youth (Brody et al., 2001; Ellis, Boyce, Belsky, Bakermans-Kranenburg, & Van IJzendoorn, 2011; Gorman-Smith et al., 2004;

Leventhal & Brooks-Gunn, 2004) compared to those developing in better-resourced communities. Further, economic deprivation undermines effective parenting practices that typically foster prosocial development (Macmillan et al., 2004; Webster et al., 2006), highlighting the risk for development of CU behaviors in these circumstances.

Consistent with theory and research, the neighborhood context may be related to CU behaviors and confer risk through heightened exposure to physical and psychosocial stressors, like economic deprivation and violence, for some youth. For example, justice-involved adolescents who are regularly exposed to community violence are more prone to become aggressive and have more cognitive deficits, limiting their ability to cope appropriately (Kimonis et al., 2010). Moreover, chronic exposure to trauma (e.g., community violence) can interfere with emotion recognition, processing, and presentation in ways that constitute a callous-unemotional presentation. This callous-unemotional behavioral style in some cases seems to stem from trauma exposure given prospective links among these constructs; moreover, exposure to trauma has been recently utilized as a way to further parse apart CU behaviors, drawing on seminal work (Karpman, 1941). Porter (1996) extended this model by arguing that individuals who experience trauma may develop a learned emotional detachment as a mechanism of self-protection, which results in an external presentation that could be characterized as callous.

Contrary to emotional deficits inherent in primary CU, individuals with acquired CU behaviors are purported to have the capacity to display a full range of emotions, with inhibited responsivity to others due to internal attempts to suppress their own posttraumatic reactions (Porter, 1996). Indeed, CU behaviors may develop when youth

emotionally detach in efforts to cope with distress associated with exposure to trauma (Porter, 1996). Theorists have utilized this façade of callousness when trying to understand the mechanisms that are associated with antisocial behavior and delinquent youth (Kerig et al., 2012). Thus, researchers have concluded that youth who experience chronic victimization may cultivate a façade of callousness (i.e., a “mask”) and defiance as a method of survival coping (Ford, Chapman, Mack, & Pearson, 2006). As noted, research has divided youth with high CU behaviors into two groups on the basis of varying levels of posttraumatic stress symptoms (Bennett & Kerig, 2014). Research by Tatar et al. (2012) and Vaughn et al. (2009) confirmed these distinctions, finding that youth categorized as secondary CU had higher levels of trauma exposure, and others similarly found more posttraumatic symptoms when compared to primary CU and typically developing boys (Kerig & Sink, 2011; Krischer & Sevecke, 2008). Another study using a mixed-sex sample of adolescents relatedly found that those high on CU behaviors and anxiety also had more trauma exposure (Kahn et al., 2013), highlighting the risk conferred for additional psychopathology in the secondary subgroup.

Processes Involved in Neighborhood Influence Across Subtypes

Given the positive associations between trauma exposure and antisocial behavior, researchers have been curious about the processes involved in the cultivation of this “mask.” Many dimensions of emotion regulation have been implicated in theory and confirmed in research of emotional responses to trauma that provide support for acquired callousness. For example, youth who have experienced trauma may exhibit lack of clarity and poor emotional awareness, given associations among posttraumatic symptoms and difficulty identifying and describing one’s own emotional states (Yehuda, Steiner,

Kahana, et al., 1997). Ford's (2009) posttraumatic "survival brain," or a state in which higher-order processes devoted to emotion and behavior regulation are overridden, suggests youth who experience trauma are at increased risk for poor impulse control, which may underpin the heightened behavioral dysregulation and reactive aggression exhibited by traumatized justice-involved youth (Stimmel, Cruise, Ford, & Weiss, 2014). Another process implicated in the relation between antisocial behavior and trauma exposure is posttraumatic overmodulation, which is characterized by excessive control or repression of unwanted emotions (e.g., via dissociation, avoidance, or numbing) and has been evidenced by neurological hypoarousal (Frewen & Lanius, 2006; Lanius, Vermetten, Loewenstein, et al., 2010).

Research on mechanisms involved in the development of emotional deficits among individuals with CU behaviors is scarce, though some work suggests overmodulation regulates extreme arousal associated with exposure to trauma by some individuals with posttraumatic symptoms (Felmingham, Kemp, Falconer, et al., 2008). Consistent with these conclusions, the relation between CU and trauma exposure was mediated by emotional numbing (particularly of sadness and fear), avoidance, and dissociation (Kerig et al., 2012; Mozley, Lin, & Kerig 2017). A study of youth from under-resourced, urban communities similarly found that youth with the greatest exposure to community violence exhibited the lowest levels of depressive symptoms (Ng-Mak, Salzinger, Feldman, & Stueve, 2010), and lowest resting heart rates (Cooley-Quille et al., 2001; Cooley-Quille & Lorion, 1999). This pattern of findings suggests that youth exposed to high levels of community violence may go through a desensitization process (Fitzpatrick & Boldizar, 1993) that represents a means of coping with chronic

stressors (Osofsky, Wewers, Hann, & Fick, 1993), and adapting to chaotic communities, where these experiences are commonplace (Cooley-Quille et al., 2001). This work with a high-risk sample is consistent with findings that youth exposed to high levels of community violence exhibit lower levels of emotional distress, presumably stemming from emotional numbing (Gaylord-Harden, Dickson, & Pierre, 2016; Ng-Mak et al., 2010). Moreover, detained adolescents who were regularly exposed to community violence (witnessing or hearing about) exhibited higher levels of CU behaviors, which suggests these experiences desensitize some youth to violence around them (Kimonis, Frick, Muñoz, & Aucoin, 2008a). Thus, youth who experience overmodulation may be more likely to evidence CU behaviors than youth who do not engage in overmodulation (Mozley et al., 2017).

Interpersonal trauma exposure (e.g., domestic or community violence witnessing or victimization) is associated with overmodulation (D'Andrea, Ford, Stolbach, Spinazzola, & Van der Kolk, 2012; Green, Goodman, Krupnick, et al., 2000; Kerig, Ward, Vanderzee, & Moeddel, 2009) and may be specifically implicated in CU behaviors. Adolescents who reported exposure to interpersonal trauma displayed higher CU behaviors, and associations between interpersonal trauma exposure and CU were mediated by numbing of fear and sadness (Kerig et al., 2012). Exposure to interpersonal trauma has also been differentially associated with symptoms of overmodulation like dissociation (Briere, 2006), avoidance of negative emotions (Batten, Follette, & Aban, 2002), difficulty labeling emotions (Cloitre, Scarvalone, & Difede, 1997), and fear of emotional experiences (Tull, Jakupcak, McFadden, & Roemer, 2007). This desensitization/numbing view of a callous-unemotional behavioral style is indicative a

buffer from adverse emotional impact due to environmental chaos (Brody et al., 2001; Ellis et al., 2011; Gorman-Smith et al., 2004; Leventhal & Brooks-Gunn, 2004). Thus, acquired CU behaviors may represent an appropriate or expected adaptation to adverse environmental experiences (Belsky & Pluess, 2013; Del Giudice, Ellis, & Shirtcliff, 2011) that may promote resilience among youth.

Emotion recognition and regulation are often considered in the context of primary callousness. Nevertheless, research specifically exploring primary CU and emotion regulation is sparse, though research exploring distinctions in emotion processing across youth with CP and youth with co-occurring CU and CP provides some insight into potential relations between CU and emotion regulation. Youth with CU exhibit deficits in reinforcement learning and difficulty recognizing and processing certain emotions (Blair et al., 2006; Marsh et al., 2008). In particular, youth with CU behaviors exhibit lower levels of response to fear and have difficulty recognizing fear in others (i.e., emotion recognition deficits), which is correlated with reduced amygdala activity (Jones, Laurens, Herba, Barker & Viding, 2009; Lozier, Cardinale, VanMeter, & Marsh, 2014; Marsh et al., 2008; White et al., 2012) and diverted attention from emotionally significant aspects of their environment (i.e., eye gaze, Adolphs et al., 2005; Dadds et al., 2014; Dadds et al., 2008; Whalen, 2004). Thus, this pattern of findings is consistent with lowered responsiveness to parents and others' distress.

Impact of Family Environment Across Subtypes

The family environment and parenting practices are not only affected by conditions in the larger community, but also associated with differential displays of youth behavior due to transactional processes between youth and aspects of the family

environment. However, the conclusions drawn from this literature with regard to CU are limited given that most research compares youth with CP with and without CU. Some researchers purport that CU behaviors can be influenced by and directly influence parenting behavior. For example, negative dimensions of parenting, including parent-reported harshness toward their preschooler-aged children (Waller, Gardner, Hyde, et al., 2012) and corporal punishment in middle childhood (Pardini, Lochman, & Powell, 2007; Viding, Fontaine, Oliver, & Plomin, 2009) predicted higher levels of CU behaviors into adolescence (Frick et al., 2003b). Higher levels of parental warmth are associated with lower levels of CU behaviors; furthermore, greater parental involvement and lower levels of physical punishment lead to decreases in CU behaviors over time (Pardini et al., 2007). Although exposure to these parenting behaviors is not uniquely linked to the development of CU behaviors, and effects and transactional processes of certain parenting practices likely vary by subtype of youth CU. Given this, the family environment is also important for the conceptualization of etiological and functional models of CU behaviors among youth because the affective quality of parent-child relationships may be integral to the process of socializing youth with high CU behaviors (Pasalich, Dadds, Hawes, & Brennan, 2012).

Existing research indicates a potential link between parents' style of emotion socialization and levels of youth CU behaviors, though these relations have received less attention in the literature. Indeed, one of the most influential ways parents socialize youth about emotion is based on how parents appraise and subsequently respond to youth affect (Eisenberg, Cumberland, & Spinrad, 1998). Eisenberg and colleagues (1998; 1999) theorized that parents who ask questions and label their child's emotions may be

scaffolding a greater awareness and understanding of emotions in their child, which is considered a building block of empathy (Baron-Cohen, Golan, & Ashwin, 2009). Parent emotion socialization styles are characterized as either supporting/coaching or dismissing of emotions (Gottman, Katz, & Hooven, 1996; Pasalich et al., 2014). According to Gottman et al. (1996), parents that validate and accept youth affect, encourage youth expression of positive and negative emotions, and see emotions in youth as opportunities for intimacy and teaching are engaging in “emotion-coaching.” In the context of exposure to community violence, supportive relationships with caregivers have a promotive relation with CU (Davis, Ammons, Dahl, & Kliwer, 2015), indicating that supportive relationships with caregivers may compensate for risk associated with exposure to community violence by interacting with CU behaviors to protect against adverse outcomes (Luthar, Cicchetti, & Becker, 2000; Luthar & Goldstein, 2004).

Similarly, Kochanska (1995) argued that youth who are fearful, consistent with correlates of secondary CU, internalize parental socialization norms more readily. Among youth relatively high in anxiety and CU behaviors, exposure to a relatively non-coercive and corrective parental discipline style promotes conscience development, whereas exposure to negative or harsh parenting practices impedes development of conscience and prosocial values (Gershoff, 2002; Kochanska, 1995; 1997). Gentle parental discipline is purported to elicit sufficient levels of discomfort or anxious arousal that fosters internal attributions and effective processing of parental socialization messages for some youth (Kochanska, 1995). However, a callous interpersonal style may be an adaptive response to harsh environmental conditions, including parental rejection, among youth with secondary CU (Skeem, Edens, Sanford, & Colwell, 2003). By this same token, poor

parenting practices have the potential to negatively influence the development or display of CU behaviors among some youth. Lower levels of parental warmth and involvement are prospectively associated with CU behaviors for youth low on anxiety, suggesting a warm and present parenting style may act as a protective factor against CU behaviors for some youth (Pardini et al., 2007). Therefore, youth's ability to internalize parental efforts and parents' practices related to emotion socialization may both play an integral role in shaping CU behaviors and other psychopathology among some youth.

The interpersonal style among youth with primary CU may be the result of a constitutional emotional deficit that interferes with socialization processes during early conscience development (Kimonis et al., 2008a). "Emotion-dismissing" parents invalidate youth affect, encourage avoidance and/or minimization of emotions involving negative feelings, and tend to want to change or fix negative emotions quickly (Gottman et al., 1996; Pasalich et al., 2014). Parents of youth with combined CU and CP are more likely to adopt styles that are less accepting and more dismissing of youth emotional displays of anger and/or sadness (Pasalich et al., 2014). Further, consistent with social learning theory, parents who are less accepting of their child's emotions are less likely to provide an appropriate model of interpersonal behavior that clearly values and considers emotions in others. Youth with high CU behaviors (and co-occurring CP) have reported poorer quality parent-child relationships, marked by parents' disrupted emotional bonds with their child (Fite, Greening, & Stoppelbein, 2008) and less warmth in the parent-child relationship (Pardini et al., 2007; Schneider, Cavell, & Hughes, 2003), as well as harsh forms of parental discipline (e.g., corporal punishment) (Hastings, Zahn-Waxler, Robinson, Usher, & Bridges, 2000). These parent-child interactions contribute to and

lower levels of expressions of guilt following transgressions, concern for other's feelings, and moral internalization (Gershoff et al., 2002; Hasting et al., 2000; Kochanska, Gross, Lin, & Nichols, 2002). Theories posit that transactions between child-specific characteristics like fearlessness and uninhibited temperament and the socializing environment could disrupt parents' efforts to promote conscience development and processing of punishment-focused environmental cues (Cornell & Frick, 2007). Therefore, youth with a fearless temperamental style (consistent with primary CU) may fail to outwardly exhibit comparable levels of distress to parental socialization attempts that are non-coercive and not power assertive compared to more fearful youth (Kochanska, 1991). Some research supports these notions in that when being disciplined, youth with high CU and low anxiety appear to have attenuated motivation to internalize messages regarding the importance of not harming others due to their lack of sufficient arousal by punishment (Dadds & Salmon, 2003; Fowles & Kochanska, 2000; Pardini, 2006), which could be related to their lowered responsiveness to context.

Taken together, the pattern of findings of relations among parenting, CP, and CU suggests that some youth with CU behaviors are responsive to the family environment and the quality of parenting practices confers risk or resilience for psychopathology, whereas other youth with CU are not as affected by parent-child interactions, in positive or negative ways, indicating that in the context of negative parent-child interactions, CU may serve a protective function. Among youth with CU behaviors, fearless youth developing in contexts that lack sufficient warm and effective emotion socialization may have attenuated risk for negative outcomes compared to fearful youth that develop in similarly adverse environments. To evaluate this possibility, it is important to explore the

function of CU behaviors in high-risk contexts; indeed, there could be disparate developmental pathways that contribute to risk or resilience among youth with primary and secondary CU behaviors that may stem from transactional processes between the youth and family environment.

Impact of Peer Interactions Across Subtypes

Similar to other contexts previously reviewed, there is a dearth of research exploring peer interactions across subtypes of CU. However, extensive work comparing youth with CP and CU vs. CP on peer processes, like deviant peer involvement and peer rejection, has been conducted (e.g., Haas et al., 2011). The scarce literature investigating the association between CU behaviors and social functioning is mixed (Haas et al., 2011; Piatigorsky & Hinshaw, 2004), but review of relevant extant literature makes it clear that some youth who affiliate with deviant peers fail to manifest negative outcomes and some of these peer behaviors may be normative (Price et al., 2019). In addition to deviant peer affiliation, peer rejection is typically examined with CP and both processes have been implicated in the development and maintenance of CP (Chen, Drabick, & Burgers, 2015). Deviant peer involvement and peer rejection have been conceptualized as indications of the social network construction and social standing of the youth. The sequential mediation model construes peer rejection and deviant peer affiliation as two factors that mediate the relation between disruptive behavior problems in early childhood and more severe CP into adolescence, highlighting differential effects of peer rejection in childhood versus deviant peer affiliation in adolescence (Coie & Miller-Johnson, 2001; Dierkhising, Ko, Woods-Jaeger, et al., 2013; Goldstein & Rider, 2013; Hyde, Burt, Shaw, Donnellan, & Forbes, 2015). This model also theorizes that behavior problems are shaped by

parenting and other larger socioecological contexts early in childhood (Chen et al., 2015; Coie & Miller-Johnson, 2001; Laird et al., 2001).

Association with deviant peers describes spending time with peers who engage in aggressive and risky behaviors like substance use, truancy, and theft (Price et al., 2019). Theories around these factors provide mixed guidance for hypotheses that could be related to differences among youth with CU. The most consistent finding across studies of peer relationships of youth with CP and youth with co-occurring CP and CU suggests that the latter group is more likely to associate with deviant peers (Goldweber, Dmitrieva, Cauffman, Piquero, & Steinberg, 2011; Kimonis et al., 2004). In addition, peer rejection assessed through peer-, parent-, and teacher reports is related to CU (Barry, Barry, Deming, & Lochman, 2008; Graziano, Ros, Haas, et al., 2016; Waller, Trentacosta, Shaw, et al., 2016), even when youth levels of CP are controlled (Piatigorsky & Hinshaw, 2004). Thus, the few studies assessing peer relations among youth with CP and elevated CU behaviors indicate that this group may experience peer rejection in addition to deviant peer affiliation and, therefore, it is important to consider possible reasons for these problems with peers.

Historically, youth with CU behaviors were thought to present as undersocialized aggressive, meaning these youth are more likely to engage in antisocial or aggressive acts alone rather than in the context of the peer group (American Psychiatric Association, 1980; Hewitt & Jenkins, 1946; Quay, 1993), whereas antisocial behaviors displayed in group contexts may require more planning and organization due to the necessary involvement and collaboration of multiple peers. Research also suggests that youth with co-occurring CP and CU behaviors have the tendency to be more aggressive

(Crapanzano, Frick, Childs, & Terranova, 2011), more likely to display premeditated and planned aggression (Frick et al., 2003a; Kruh, Frick, & Clements, 2005; Pardini, Lochman & Frick, 2003), and more likely to engage in bullying behaviors compared to youth with CP (Ciucci et al., 2014; Fanti, 2013; Fanti, Frick, & Georgiou, 2009; Fanti & Kimonis, 2012; Golmaryami et al., 2016; Viding, Simmonds, Petrides, & Frederickson, 2009).

Matlasz and colleagues (2019) recently found that CP were associated with peer nominations based on social status (e.g., “dominant”), whereas co-occurring CP and CU were associated with peer nominations based on negatively valenced emotions (e.g., “mean,” “cold,” “not nice”); lower perceived individual attributes considered to underlie success in social situations (Barry et al., 2008; Haas, Waschbusch, King, & Walsh, 2015); and poor social support, indicating that CU behaviors are linked to problematic interpersonal functioning beyond what is associated with CP (Andrade, Sorge, Djordjevic, & Naber, 2015; Waschbusch & Willoughby, 2008). Some researchers argue that youth with significant emotion dysregulation, CP, and CU may be rejected by peers as a result of their aggressive behavior. On the contrary, youth with CU also appear capable of forging and maintaining comparable quantities of friendships as youth without CU or CP despite reported levels of aggression and peer dislike (Muñoz et al., 2008), underscoring in-group differences among youth with CU behaviors. Therefore, this group of youth with CU could overlap with those more similar to primary CU behaviors, indicative of reduced environmental influence on their behavior.

Given this pattern of findings, one candidate factor affecting the relation between deviant peer involvement and CU is the child’s social adjustment. No study to date has

directly compared the status and social skills across subgroups of youth with CU to test for possible differences. However, numerous studies have linked emotion dysregulation to problematic peer interactions and relationships, offering possible reasons why youth without co-occurring CU are confronted with peer rejection. Specifically, there is an association between emotional dysregulation and peer rejection (Dodge & Pettit, 2003), and youth with CP tend to be disliked and rejected by conventional peers (Dishion et al., 1991), which is likely related to their lack of appropriate social skills (Loeber & Farrington, 2001). This social deficiency could increase the likelihood of affiliation with deviant peers that support, encourage, and maintain their antisocial behavior (Chen et al., 2015; Dishion et al., 1991; Laird et al., 2001; Vitaro, Brendgen, Tremblay, 2000).

However, children with CP without CU behaviors have been shown to display problems in emotional regulation (Frick et al., 2003b; Loney et al., 2003; Pardini et al., 2003). Only one study has assessed deviant peer affiliations among youth with CP with and without CU and found youth with CU and CP exhibited the highest level of deviant peer association (Kimonis et al., 2004), and this relation was mediated by problems in the child's social relationships and ineffective parenting practices (Kimonis et al., 2004). Youth who exhibit aggression and poor self-regulation, for example, are rejected by the normative peer group because these behaviors violate accepted social and developmental norms. Moreover, this peer rejection fosters opportunities to build relationships among youth with problem behaviors, which in turn provides a proximal context wherein deviant peers influence youth to commit antisocial acts and antisocial behaviors are expressed and valued (Lacourse et al., 2003; Patterson, Dishion, & Yoerger, 2000). This highlights the possibility that youth with co-occurring CU and CP may overlap with youth in the

acquired CU (primary variant) group due to environmental sensitivity. It is therefore possible that problems in social adjustment may also be more related to deviant peer affiliation in youth with acquired CU behaviors.

Although few in number, studies that have examined the relation between self-perceptions of social skills and CU behaviors have noted differences among youth with CP with and without CU. By definition, youth with CU behaviors exhibit several core emotional deficits, including impairment in sharing in another's feelings (affective empathy; Anastassiou-Hadjicharalambous & Warden, 2008) and difficulties understanding another's feelings (cognitive empathy; Dadds et al., 2009), that possibly undermine healthy social interactions (Pasalich, Waschbusch, Dadds, & Hawes, 2013). Therefore, youth with CU behaviors are less likely to respond to and recognize other's negative emotions (i.e., fear and sadness; Pasalich et al., 2013). Yet, despite being aware of the consequences of their own aggressive actions on others (Pardini, 2011), youth high on CU behaviors exhibit less physiological responsivity to other's distress (de Wied, Van Boxtex, Matthys, & Meeus, 2012) and evidence deficits in emotion recognition (Dadds et al., 2006; Blair, Budhani, Colledge, & Scott, 2005; Munoz, 2009). Youth with CU are also relatively accurate when perceiving other's intention of behaviors (Frick et al., 2003b), aware of appropriate social problem solving skills (Waschbusch, Walsh, Andrade, King, & Carrey, 2007), and cognizant of their poor social abilities compared to youth with CP alone (Frick & Dantagnan, 2005; Haas et al., 2015; Willoughby, Waschbusch, Moore, & Propper, 2011). Thus, youth with CU potentially engage in antisocial behaviors not because of misperceptions, but rather because they have deficits in appropriate levels of prosocial emotions (e.g., empathy, caring for others; Frick &

Morris, 2004) and do not express expected levels of concern about the negative consequences of these behaviors on others (Pardini, 2011; Willoughby et al., 2011).

This pattern of findings suggests that youth with CU behaviors, as opposed to CP, may be less affected by poorer quality relationships. Consistent with this possibility, youth with CU behaviors are less likely to report feelings of loneliness, which is defined as an awareness of poor social functioning, and a distressing feeling or other negative reaction to this perception (Asher & Paquette, 2003; Houghton et al., 2017). This definition suggests that there is a subset of youth who exhibit poor social functioning without having some negative reaction to peer rejection (Haas et al., 2018). This decreased distress to problematic social functioning is consistent with evidence that CU behaviors are associated with a lack of distress (Frick & Morris, 2004). Moreover, youth with CU and CP have impairments that disrupt socialization processes that typically discourage antisocial behaviors (Blair et al., 2006; Dadds & Salmon, 2003), including decreased physiological responsiveness to negative emotions (Loney et al., 2003), distress cues (Blair, 1999), and negative facial expressions like fear (Blair et al., 2006; Dadds et al., 2006). Yet, given the dearth of research into self-perceptions of others and social functioning in youth with CP or CU and CP, it cannot be concluded that CU behaviors are uniquely correlated with poorer perceived social functioning or whether the association remains in the context of ratings by others of youth social adjustment or social skills as opposed to self-report (Haas et al., 2018).

Taken together, youth with CU behaviors generally designate a group that does not demonstrate typical or expected levels of care about either one's actions or the impact of their actions on others (Frick et al., 2014b), though there may be differences in these

associations among youth with CU. Moreover, the apparent lack of interest to develop meaningful relationships for some youth with CU (Pardini, 2011) implies a negative association between CU behaviors and loneliness. Thus, some youth with CU behaviors may be protected from subjective feelings of loneliness or other internalizing symptoms in the context of problematic peer relationships given their indifference to their poor peer performance (social skills), as well as making or having friends (Haas et al., 2018). Indeed, for some youth CU behaviors may act as a buffer against negative outcomes and emotional experiences associated with peer rejection through less emotion dysregulation, decreased recognition of negative emotions, and dysfunction of emotion processing than youth with CP alone or CP and co-occurring CU, though research is wanting. Reflecting on the sequential mediation model (Chen et al., 2015) in addition to these distinctions among social functioning, CP, and CU, it is possible that some youth may be protected from certain negative associations and/or sequelae typically related to these problem behaviors through differences in environmental sensitivity, which may contribute to multifinality in peer processes among youth with CU.

The Conceptual Model of Heterogeneity of CU Behaviors

Youth with CU behaviors have historically been studied as a homogeneous group characterized by distinctions in severity of CU behaviors (e.g., Blais, Solodukhin, & Forth, 2014; Flexon & Meldrum, 2013), though early theories regarding CU behaviors suggest that presentations of individuals with CU behaviors are more heterogeneous than distinctions solely based on symptom severity (Cleckley, 1941/1976; Karpman, 1941). Contemporary research similarly supports disaggregating those with CU behaviors by variant type or onset (Fanti et al., 2013; Flexon, 2015; Vaughn et al., 2009), underscoring

the potential for diverging developmental pathways through transactional processes with contextual factors. Secondary psychopathy in adults has been described as a representation of a severe form of environment-contingent emotional disturbance (Yildirim & Derksen, 2015), though not all youth with CU behaviors develop psychopathy (multifinality; Fanti et al., 2013; da Silva, Rijo, & Salekin, 2012). There could be an environmentally influenced pathway in which contextual factors, such as community violence exposure, can lead to decreased sensitivity to emotional stimuli (desensitization; Cooley-Quille et al., 2001) and this change in emotional processing can lead to the development of CU behaviors in some, but not all, children (Frick & Morris, 2004; Kimonis et al., 2004). Conversely, youth with (primary) CU behaviors may be less responsive to negative emotional experiences in the proximal psychosocial environment. As stated, compared to youth with CP only and typically developing youth, youth with CU exhibit fear processing deficits (Jones et al., 2009; Lozier et al., 2014; Marsh et al., 2008; White et al., 2012), lack of attention to emotional stimuli (Dadds et al., 2014), and impaired responsiveness to and recognition of negative emotional cues (Dadds et al., 2008), all of which may affect responsiveness to others' distress and ability to benefit from parental efforts to emotionally socialize, model, and promote appropriate coping strategies.

Consistent with this possibility, CU behaviors were negatively associated with trait anxiety when the level of CP was controlled in a high risk community sample of youth in middle to late childhood (Pardini et al., 2007). In addition, the relation between CU and traumatic experiences is mediated by numbing of their own emotions (e.g., fear and sadness) (Kerig et al., 2012), underscoring the possible association among emotion

processing deficits, desensitization, and attenuated moral development with increased exposure to physical and psychosocial stressors in high-risk communities. Though sparse, research in noninstitutionalized samples suggests youth with CU behaviors may either present as primary (constitutionally callous-unemotional) or secondary CU, acquired as a result of environmental insult (e.g., parental rejection, overindulging, community violence exposure) (Falkenbach et al., 2008; Flexon, 2016; Karpman, 1941/1948). Evidence for this subgroup division is supported by disparate findings across transactions among parenting influences and CU. Ineffective parenting was more strongly associated with CU and externalizing problems among youth with moderate levels of CU in community-based samples in middle childhood (Hipwell, Pardini, Loeber, et al., 2007; Oxford, Cavell, & Hughes, 2003) and in clinic-referred youth in middle childhood to adolescence (Wootton, Frick, Shelton, Silverthorn, 1997) than those with relatively high levels of CU. Taken together, youth with CU who are low on anxiety (primary variant) show deficits in extinction tasks, consistent with underactivity of the amygdala (Arnett, Smith, & Newman, 1997) in response to emotional stimuli (Hiatt, Lorenz, Newman, 2002; Newman, Schmitt, & Voss, 1997; Sutton, Vitale, & Newman, 2002). In contrast, the group with CU but high on anxiety (i.e., secondary variant) shows higher levels of past child abuse and trauma in incarcerated adult samples (Blagov, Patrick, Lilienfeld, et al., 2011; Poythress, Edens, Skeem, et al., 2010).

If youth with primary CU are less responsive to context, ratings of parenting practices across parents and youth may greatly vary. Some researchers have found no association associations among youth reported negative parenting variables and CU (Viding et al., 2009) whereas others using parent reported negative parenting variables

found an association with later CU behaviors (Frick et al., 2003b; Pardini et al., 2007), highlighting the lack of sensitivity to the parenting context in some youth with CU. The environment-contingent emotional disturbance, which is illustrated by development of CU behaviors, includes emotional numbing, avoidance, and dissociation, all of which are associated with decreases in recidivism among traumatized detained youth with CU (Mozley et al., 2017). Thus, despite evidence that CU behaviors are associated with more negative outcomes, it is possible that youth with CU behaviors and trauma histories may have better outcomes than those without CP or with CP alone. This work suggests the need for different treatment approaches to the two variants of youth with CU behaviors (Kimonis et al., 2012) given the relatively limited number of studies on community-based or at-risk samples of youth with CU behaviors (Lee et al., 2010). Taken together, secondary CU behaviors are associated with exposure to adverse contextual influences, but these behaviors may also buffer risk for distress and additional psychological difficulties in the context of exposure to negative influences through youth desensitization.

Clinical Implications

Youth with acquired (secondary) CU may therefore benefit from interventions to address CU behaviors and co-occurring internalizing and/or externalizing problems that focus on enhancing parenting practices given the purported environmental sensitivity present in this subgroup. However, the limited nature of the current research constrains what conclusions can be drawn about the function of CU behaviors. Additionally, less is known regarding CU behaviors among ethnic minority youth in contextually disadvantaged circumstances, a critical gap given their heightened risk for presenting

with CU behaviors and CP and disproportionate representation in low income, urban environments (Aneshensel & Sucoff, 1996; Ezpeleta et al., 2001; Lanza & Drabick, 2011; Leventhal & Brooks-Gunn, 2004) and callousness in higher risk neighborhoods (Meier, Slutske, Arndt & Cadoret, 2008). As CU behaviors increase as SES decreases (Sadeh et al., 2010), CU behaviors may be adaptive and serve to buffer risk under certain contextual demands, like limited resources and violence exposure, though more work is necessary to evaluate this possibility.

Some research on treatment response for antisocial behavior has focused on the impact and influence of CU behaviors (Wilkinson et al., 2016), yet drawing conclusions from extant literature for various methodological and possible conceptual reasons is challenging. This body of work is clouded by the inclusion of CP with CU. The typical approach for treatment of CU behaviors is behavioral interventions, though interventions differ in the direct recipient of the interventions, as well as methods, contexts, and reporters of CU behaviors (Hawes, Price, & Dadds, 2014).

Higher levels of pretreatment CU are related to worsened responsiveness to treatment on measures of CP and youth with CU behaviors, compared to youth solely with CP, are typically thought to be treatment resistant (Houghton et al., 2017; Wilkinson et al., 2016). Indeed, youth with CP and high CU are less responsive to treatments focused on the reduction of negative parenting than those without CU behaviors (Drugli, Fossum, Larsson, & Morch, 2010; Haas et al., 2011; Hawes et al., 2014; Hawes & Dadds, 2005) and those who have lower levels of CU (Hawes et al., 2014). Youth with high CU behaviors respond poorly to interventions that incorporate prosocial skill development (Houghton et al., 2017), parent training (Dadds, Cauchi, Wimalaweera, Hawes &

Brennan, 2012), reduction of negative parenting (Haas et al., 2014), and anger management and problem solving (Caldwell, McCormick, Umstead, & Rybroek, 2007). Youth with high CU have unique neurocognitive characteristics that could guide the individualization of treatments (Frick et al., 2014a), like an overfocus on rewards to the exclusion of punishment cues (O'Brien & Frick, 1996; Pardini, 2006). Given this, it is not surprising that standardized behavioral interventions that incorporate punishment and reward techniques are less efficacious treatments of CU behaviors (Haas et al., 2011).

In contrast, there is evidence that CU behaviors may be malleable (Hawes & Dadds, 2007) and because the family environment is important for shaping CU behaviors, this context can be improved through parent training interventions under certain conditions (Bansal et al., 2019; Hawes et al., 2014), such as parent training based on social-learning theory (O'Connor et al., 2013). In particular, early intervention may be useful for youth with CU behaviors (Viding & McCrory, 2012) and some appear to particularly respond to parent-focused interventions and warm parenting practices (Waller et al., 2013). Moreover, CU has predicted improvement in social skills and peer ratings, problem solving, and negative behaviors in time-out after controlling for CP and attention deficit hyperactivity disorder, which indicates that CU does not consistently predict worsened response to treatment (Haas et al., 2011). Some have found that CP, not CU, is uniquely associated with peer rejection post-treatment (Haas et al., 2011) whereas others found the opposite relation among CU and peer sociometrics (Piatigorsky & Hinshaw, 2004), though this difference could be due to differing methods of obtaining youth CU ratings. Taken together, the mixed nature of the effect CU has on response to treatment could indicate a need for specificity in the classification of youth with problem

behaviors to individualize treatments and thereby increase treatment efficacy and effectiveness. The pattern of these findings also highlights the possibility of disaggregating youth with CU behaviors based on levels of co-occurring problems and responsiveness to contexts, consistent with the two subgroups previously reviewed. Incorporating joint behavior training methods for parents and youth may be better able to capture and treat individual differences in context responsiveness across subgroups of youth with CU, but more work is fundamental in making these determinations.

Directions for Future Research

One issue that confounds present abilities to draw conclusions is the usual reliance on single raters for youth CP and CU. Parent and teacher ratings of CU usually are only modestly correlated and vary for many reasons including CU and CP typically present more severe in the home versus school setting (Burns, Walsh, Servera, et al., 2013; De Los Reyes, 2011), parents are typically actively involved and enroll youth into mental health treatment (Bansal et al., 2019), and teachers may be better reporters of problem behavior, especially at school and with peers, given the breadth of their experience with youth (De Los Reyes, 2011).

Another gap lies in the study of CU behaviors exclusively with CP, which typically involves comparing youth with CU and CP as a homogeneous group with varying levels of CU behaviors to youth with CP alone and healthy controls. Therefore, examining CU behaviors independent of CP may better elucidate the associations among diverging presentations of CU behaviors with contextual influences beyond CP. Most of what is known about CU behaviors is gleaned from research using justice-involved (Kahn et al., 2013) and clinic-referred samples (e.g., Hawes & Dadds, 2007; Manders et al.,

2013). As such, work considering community-based samples are paramount to ascertain whether distinct subgroups of youth with CU behaviors can be identified (Cecil et al., 2014) and thus whether findings from justice-involved youth generalize to other high-risk samples of youth (Kahn et al., 2013). It is also important to seek to replicate results in samples with a large number of ethnic minority individuals and in low-income samples, especially given that concerns about the validity of CU behaviors in ethnic minority samples have been raised (Edens & Cahill, 2007), and rates of trauma may be especially high in low-income samples (Berger, 2005). Moreover, the secondary variant of psychopathy may be more common in samples with high levels of psychosocial stressors. Accordingly, consideration of low income, urban settings is important given that CU behaviors may be adaptive in contexts in which remaining calm and regulated may buffer the impact of exposure to adverse experiences (e.g., community violence), despite evidence that CU behaviors typically confer risk for more negative outcomes. In addition, assessment of the relations between CU behaviors and internalizing symptoms (i.e., anxiety and depression) is an important understudied area that is garnering more attention recently. Consideration of typical versus atypical development, which could indicate whether CU behaviors may be adaptive in some contexts, would also be useful for future research. Last, person-centered analyses, which allow for the exploration of diverging behavioral profiles (e.g., Libon et al., 2014), would be helpful for identification of distinct subgroups of youth with CU behaviors that may differ in terms of correlates, developmental trajectories, and treatment outcomes. Such an approach could facilitate identification of youth with a worse prognosis and application of individualized treatments that can address CU behaviors among youth.

REFERENCES CITED

- Achenbach, T. M., & Edelbrock, C. (1983). Manual for the CBCL and revised child behavior profile. *Burlington, VT: University of Vermont, Department of Psychiatry,*
- Achenbach, T. M. (1991). Manual for the child behavior checklist/4-18 and 1991 profile. *University of Vermont, Department of Psychiatry,*
- Achenbach, T. M., Edelbrock, C., & Howell, C. T. (1987). Empirically based assessment of the behavioral/emotional problems of 2-and 3-year-old children. *Journal of Abnormal Child Psychology, 15*(4), 629-650.
- Ackerman, B. P., D'Eramo, K. S., Umylny, L., Schultz, D., & Izard, C. E. (2001). Family structure and the externalizing behavior of children from economically disadvantaged families. *Journal of Family Psychology, 15*(2), 288.
- Adolphs, R., Gosselin, F., Buchanan, T. W., Tranel, D., Schyns, P., & Damasio, A. R. (2005). A mechanism for impaired fear recognition after amygdala damage. *Nature, 433*(7021), 68-72.
- Aldao, A., Gee, D. G., De Los Reyes, A., & Seager, I. (2016). Emotion regulation as a transdiagnostic factor in the development of internalizing and externalizing psychopathology: Current and future directions. *Development and Psychopathology, 28*(4), 927-946.
- doi:<http://dx.doi.org.libproxy.temple.edu/10.1017/S0954579416000638>

- Alink, L. R. A., Cicchetti, D., Kim, J., & Rogosch, F. A. (2012). Longitudinal associations among child maltreatment, social functioning, and cortisol regulation. *Developmental Psychology, 48*(1), 224.
- American, P. A. (1980). *Quick reference to the diagnostic criteria from DSM-III* The Association.
- American, P. A. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)* American Psychiatric Pub.
- Anastassiou-Hadjicharalambous, X., & Warden, D. (2008). Physiologically-indexed and self-perceived affective empathy in conduct-disordered children high and low on callous-unemotional traits. *Child Psychiatry and Human Development, 39*(4), 503.
- Anderson, E. R., & Mayes, L. C. (2010). Race/ethnicity and internalizing disorders in youth: A review. *Clinical Psychology Review, 30*(3), 338-348.
- Andrade, B. F., Sorge, G. B., Djordjevic, D., & Naber, A. R. (2015). Callous–unemotional traits influence the severity of peer problems in children with impulsive/overactive and oppositional/defiant behaviors. *Journal of Child and Family Studies, 24*(8), 2183-2190.
- Aneshensel, C. S., & Sucoff, C. A. (1996). The neighborhood context of adolescent mental health. *Journal of Health and Social Behavior, , 293-310.*
- Arnett, P. A., Smith, S. S., & Newman, J. P. (1997). Approach and avoidance motivation in psychopathic criminal offenders during passive avoidance. *Journal of Personality and Social Psychology, 72*(6), 1413.

- Asher, S. R., & Paquette, J. A. (2003). Loneliness and peer relations in childhood. *Current Directions in Psychological Science, 12*(3), 75-78.
- Attar, B. K., Guerra, N. G., & Tolan, P. H. (1994). Neighborhood disadvantage, stressful life events and adjustments in urban elementary-school children. *Journal of Clinical Child Psychology, 23*(4), 391-400.
- Bansal, P. S., Waschbusch, D. A., Haas, S. M., Babinski, D. E., King, S., Andrade, B. F., & Willoughby, M. T. (2019). Effects of intensive behavioral treatment for children with varying levels of conduct problems and callous-unemotional traits. *Behavior Therapy, 50*(1), 1-14.
- Bar-Haim, Y., Lamy, D., & Pergamin, L. (2007). Bakermans-kranenburg, & van IJzendoorn. *Mh, , 1-24*.
- Barker, E. D., & Salekin, R. T. (2012). Irritable oppositional defiance and callous unemotional traits: Is the association partially explained by peer victimization? *Journal of Child Psychology and Psychiatry, 53*(11), 1167-1175.
- Baron-Cohen, S., Golan, O., & Ashwin, E. (2009). Can emotion recognition be taught to children with autism spectrum conditions? *Philosophical Transactions of the Royal Society B: Biological Sciences, 364*(1535), 3567-3574.
- Barrera Jr, M., Prelow, H. M., Dumka, L. E., Gonzales, N. A., Knight, G. P., Michaels, M. L., . . . Tein, J. (2002). Pathways from family economic conditions to adolescents' distress: Supportive parenting, stressors outside the family, and deviant peers. *Journal of Community Psychology, 30*(2), 135-152.

- Barry, T. D., Barry, C. T., Deming, A. M., & Lochman, J. E. (2008). Stability of psychopathic characteristics in childhood: The influence of social relationships. *Criminal Justice and Behavior, 35*(2), 244-262.
- Batten, S. V., Follette, V. M., & Aban, I. B. (2002). Experiential avoidance and high-risk sexual behavior in survivors of child sexual abuse. *Journal of Child Sexual Abuse, 10*(2), 101-120.
- Beelmann, A., & Lösel, F. (2006). Child social skills training in developmental crime prevention: Effects on antisocial behavior and social competence. *Psicothema, 18*(3), 603-610.
- Belsky, J., & Pluess, M. (2013). Beyond risk, resilience, and dysregulation: Phenotypic plasticity and human development. *Development and Psychopathology, 25*(4), 1243-1261.
- Bennett, D. C., & Kerig, P. K. (2014). Investigating the construct of trauma-related acquired callousness among delinquent youth: Differences in emotion processing. *Journal of Traumatic Stress, 27*(4), 415-422.
- Berger, L. M. (2005). Income, family characteristics, and physical violence toward children. *Child Abuse & Neglect, 29*(2), 107-133.
- Blagov, P. S., Patrick, C. J., Lilienfeld, S. O., Powers, A. D., Phifer, J. E., Venables, N., . . . Leigh, S. C. G. (2011). Personality constellations in incarcerated psychopathic men. *Personality Disorders: Theory, Research, and Treatment, 2*(4), 293.

- Blair, R. J., Budhani, S., Colledge, E., & Scott, S. (2005). Deafness to fear in boys with psychopathic tendencies. *Journal of Child Psychology and Psychiatry*, 46(3), 327-336.
- Blair, R. J., Colledge, E., Murray, L., & Mitchell, D. (2001). A selective impairment in the processing of sad and fearful expressions in children with psychopathic tendencies. *Journal of Abnormal Child Psychology*, 29(6), 491-498.
- Blair, R. J., Peschardt, K. S., Budhani, S., Mitchell, D., & Pine, D. S. (2006). The development of psychopathy. *Journal of Child Psychology and Psychiatry*, 47(3), 262-276.
- Blais, J., Solodukhin, E., & Forth, A. E. (2014). A meta-analysis exploring the relationship between psychopathy and instrumental versus reactive violence. *Criminal Justice and Behavior*, 41(7), 797-821.
- Brenning, K., Soenens, B., Vansteenkiste, M., De Clercq, B., & Antrop, I. (2021). Emotion regulation as a transdiagnostic risk factor for (non) clinical adolescents' internalizing and externalizing psychopathology: Investigating the intervening role of psychological need experiences. *Child Psychiatry & Human Development*, , 1-13.
- Briere, J. (2006). Dissociative symptoms and trauma exposure: Specificity, affect dysregulation, and posttraumatic stress. *The Journal of Nervous and Mental Disease*, 194(2), 78-82.
- Brody, G. H., Conger, R., Gibbons, F. X., Ge, X., McBride Murry, V., Gerrard, M., & Simons, R. L. (2001). The influence of neighborhood disadvantage, collective

- socialization, and parenting on african american children's affiliation with deviant peers. *Child Development*, 72(4), 1231-1246.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design* Harvard university press.
- Brooks-Gunn, J., Duncan, G. J., Klebanov, P. K., & Sealand, N. (1993). Do neighborhoods influence child and adolescent development? *American Journal of Sociology*, 99(2), 353-395.
- Burgers, D. E., & Drabick, D. A. G. (2016). Community violence exposure and generalized anxiety symptoms: Does executive functioning serve a moderating role among low income, urban youth? *Journal of Abnormal Child Psychology*, 44(8), 1543-1557.
- Burke, J. D., Loeber, R., & Lahey, B. B. (2007). Adolescent conduct disorder and interpersonal callousness as predictors of psychopathy in young adults. *Journal of Clinical Child and Adolescent Psychology*, 36(3), 334-346.
- Burke, J. D., Pardini, D. A., & Loeber, R. (2008). Reciprocal relationships between parenting behavior and disruptive psychopathology from childhood through adolescence. *Journal of Abnormal Child Psychology*, 36(5), 679-692.
- Burns, G. L., Walsh, J. A., Servera, M., Lorenzo-Seva, U., Cardo, E., & Rodríguez-Fornells, A. (2013). Construct validity of ADHD/ODD rating scales: Recommendations for the evaluation of forthcoming DSM-V ADHD/ODD scales. *Journal of Abnormal Child Psychology*, 41(1), 15-26.

- Caldwell, M. F., McCormick, D. J., Umstead, D., & Van Rybroek, G. J. (2007). Evidence of treatment progress and therapeutic outcomes among adolescents with psychopathic features. *Criminal Justice and Behavior*, *34*(5), 573-587.
- Casey, R. J. (1996). Emotional competence in children with externalizing and internalizing disorders. *Emotional Development in Atypical Children*, , 161-183.
- Cecil, C. A. M., Lysenko, L. J., Jaffee, S. R., Pingault, J., Smith, R. G., Relton, C. L., . . . Barker, E. D. (2014). Environmental risk, oxytocin receptor gene (OXTR) methylation and youth callous-unemotional traits: A 13-year longitudinal study. *Molecular Psychiatry*, *19*(10), 1071-1077.
- Cecil, C. A. M., McCrory, E. J., Barker, E. D., Guiney, J., & Viding, E. (2018). Characterising youth with callous–unemotional traits and concurrent anxiety: Evidence for a high-risk clinical group. *European Child & Adolescent Psychiatry*, *27*(7), 885-898.
- Cecilione, J. L., Rappaport, L. M., Verhulst, B., Carney, D. M., Blair, R., Brotman, M. A., . . . Hettema, J. M. (2017). Test–retest reliability of the facial expression labeling task. *Psychological Assessment*, *29*(12), 1537.
- Chen, D., Drabick, D. A. G., & Burgers, D. E. (2015). A developmental perspective on peer rejection, deviant peer affiliation, and conduct problems among youth. *Child Psychiatry & Human Development*, *46*(6), 823-838.
- Cicchetti, D., Ackerman, B. P., & Izard, C. E. (1995). Emotions and emotion regulation in developmental psychopathology. *Development and Psychopathology*, *7*(1), 1-10.

- Cicchetti, D., & Rogosch, F. A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology*, 8(4), 597-600.
- Ciucci, E., Baroncelli, A., Franchi, M., Golmaryami, F. N., & Frick, P. J. (2014). The association between callous-unemotional traits and behavioral and academic adjustment in children: Further validation of the inventory of callous-unemotional traits. *Journal of Psychopathology and Behavioral Assessment*, 36(2), 189-200.
- Cleckley, H. (1941). *The mask of sanity: An attempt to reinterpret the so-called psychopathic personality*. mosby. *St.Louis*,
- Cleckley, H. (1976). *The mask of sanity* 5th edn. *St.Louis, MO: Mosby*, , 346.
- Cloitre, M., Scarvalone, P., & Difede, J. (1997). Posttraumatic stress disorder, self-and interpersonal dysfunction among sexually retraumatized women. *Journal of Traumatic Stress*, 10(3), 437-452.
- Coie, J. D., & Dodge, K. A. (1988). Multiple sources of data on social behavior and social status in the school: A cross-age comparison. *Child Development*, , 815-829.
- Coie, J. D., & Miller-Johnson, S. (2001). Peer factors in early offending. *Child Delinquents: Development, Intervention, and Service Needs*, , 191-210.
- Compas, B. E., Jaser, S. S., Bettis, A. H., Watson, K. H., Gruhn, M. A., Dunbar, J. P., . . . Thigpen, J. C. (2017). Coping, emotion regulation, and psychopathology in childhood and adolescence: A meta-analysis and narrative review. *Psychological Bulletin*, 143(9), 939.

- Cooley-Quille, M., & Lorion, R. (1999). Adolescents' exposure to community violence: Sleep and psychophysiological functioning. *Journal of Community Psychology, 27*(4), 367-375.
- Cooley-Quille, M., Boyd, R. C., Frantz, E., & Walsh, J. (2001). Emotional and behavioral impact of exposure to community violence in inner-city adolescents. *Journal of Clinical Child Psychology, 30*(2), 199-206.
- Cornell, A. H., & Frick, P. J. (2007). The moderating effects of parenting styles in the association between behavioral inhibition and parent-reported guilt and empathy in preschool children. *Journal of Clinical Child and Adolescent Psychology, 36*(3), 305-318.
- Costello, E. J., Burns, B. J., Angold, A., & Leaf, P. J. (1993). How can epidemiology improve mental health services for children and adolescents? *Journal of the American Academy of Child & Adolescent Psychiatry, 32*(6), 1106-1117.
- Crapanzano, A. M., Frick, P. J., Childs, K., & Terranova, A. M. (2011). Gender differences in the assessment, stability, and correlates to bullying roles in middle school children. *Behavioral Sciences & the Law, 29*(5), 677-694.
- Crick, N. R., & Dodge, K. A. (1996). Social information-processing mechanisms in reactive and proactive aggression. *Child Development, 67*(3), 993-1002.
- Cunningham, J. N., Kliewer, W., & Garner, P. W. (2009). Emotion socialization, child emotion understanding and regulation, and adjustment in urban african american

- families: Differential associations across child gender. *Development and Psychopathology*, 21(1), 261-283.
- da Silva, D. R., Rijo, D., & Salekin, R. T. (2012). Child and adolescent psychopathy: A state-of-the-art reflection on the construct and etiological theories. *Journal of Criminal Justice*, 40(4), 269-277.
- Dackis, M. N., Rogosch, F. A., & Cicchetti, D. (2015). Child maltreatment, callous-unemotional traits, and defensive responding in high-risk children: An investigation of emotion-modulated startle response. *Development and Psychopathology*, 27(4), 1527.
- Dadds, M. R., Allen, J. L., McGregor, K., Woolgar, M., Viding, E., & Scott, S. (2014). Callous-unemotional traits in children and mechanisms of impaired eye contact during expressions of love: A treatment target? *Journal of Child Psychology and Psychiatry*, 55(7), 771-780.
- Dadds, M. R., El Masry, Y., Wimalaweera, S., & Guastella, A. J. (2008). Reduced eye gaze explains “fear blindness” in childhood psychopathic traits. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47(4), 455-463.
- Dadds, M. R., Hawes, D. J., Frost, A. D. J., Vassallo, S., Bunn, P., Hunter, K., & Merz, S. (2009). Learning to ‘talk the talk’: The relationship of psychopathic traits to deficits in empathy across childhood. *Journal of Child Psychology and Psychiatry*, 50(5), 599-606.

- Dadds, M. R., Kimonis, E. R., Schollar-Root, O., Moul, C., & Hawes, D. J. (2018). Are impairments in emotion recognition a core feature of callous–unemotional traits? testing the primary versus secondary variants model in children. *Development and Psychopathology, 30*(1), 67-77.
- Dadds, M. R., Perry, Y., Hawes, D. J., Merz, S., Riddell, A. C., Haines, D. J., . . . Abeygunawardane, A. I. (2006). Attention to the eyes and fear-recognition deficits in child psychopathy. *The British Journal of Psychiatry, 189*(3), 280-281.
- Dadds, M. R., & Salmon, K. (2003). Punishment insensitivity and parenting: Temperament and learning as interacting risks for antisocial behavior. *Clinical Child and Family Psychology Review, 6*(2), 69-86.
- Dadds, M. R., Cauchi, A. J., Wimalaweera, S., Hawes, D. J., & Brennan, J. (2012). Outcomes, moderators, and mediators of empathic-emotion recognition training for complex conduct problems in childhood. *Psychiatry Research, 199*(3), 201-207.
- D'Andrea, W., Ford, J., Stolbach, B., Spinazzola, J., & van der Kolk, B.,A. (2012). Understanding interpersonal trauma in children: Why we need a developmentally appropriate trauma diagnosis. *American Journal of Orthopsychiatry, 82*(2), 187.
- Davis, T., Ammons, C., Dahl, A., & Kliewer, W. (2015). Community violence exposure and callous–unemotional traits in adolescents: Testing parental support as a promotive versus protective factor. *Personality and Individual Differences, 77*, 7-12.
- De Los Reyes, A. (2011). Introduction to the special section: More than measurement error: Discovering meaning behind informant discrepancies in clinical assessments

- of children and adolescents. *Journal of Clinical Child & Adolescent Psychology*, 40(1), 1-9.
- De Los Reyes, A., & Kazdin, A. E. (2005). Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin*, 131(4), 483.
- de Wied, M., van Boxtel, A., Matthys, W., & Meeus, W. (2012). Verbal, facial and autonomic responses to empathy-eliciting film clips by disruptive male adolescents with high versus low callous-unemotional traits. *Journal of Abnormal Child Psychology*, 40(2), 211-223.
- Del Giudice, M., Ellis, B. J., & Shirtcliff, E. A. (2011). The adaptive calibration model of stress responsivity. *Neuroscience & Biobehavioral Reviews*, 35(7), 1562-1592.
- Dierkhising, C. B., Ko, S. J., Woods-Jaeger, B., Briggs, E. C., Lee, R., & Pynoos, R. S. (2013). Trauma histories among justice-involved youth: Findings from the national child traumatic stress network. *European Journal of Psychotraumatology*, 4(1), 20274.
- Dishion, T. J., Patterson, G. R., Stoolmiller, M., & Skinner, M. L. (1991). Family, school, and behavioral antecedents to early adolescent involvement with antisocial peers. *Developmental Psychology*, 27(1), 172.
- Dodge, K. A., & Pettit, G. S. (2003). A biopsychosocial model of the development of chronic conduct problems in adolescence. *Developmental Psychology*, 39(2), 349.

- Drabick, D. A. G. y Steinberg, L. (2011) developmental psychopathology. *Encyclopedia of Adolescence*, , 136-142.
- Drabick, D. A. G., Gadow, K. D., & Loney, J. (2007). Source-specific oppositional defiant disorder: Comorbidity and risk factors in referred elementary schoolboys. *Journal of the American Academy of Child & Adolescent Psychiatry*, 46(1), 92-101.
- Drabick, D. A. G., Gadow, K. D., & Loney, J. (2008). Co-occurring ODD and GAD symptom groups: Source-specific syndromes and cross-informant comorbidity. *Journal of Clinical Child & Adolescent Psychology*, 37(2), 314-326.
- Drabick, D. A. G., Gadow, K. D., & Sprafkin, J. (2006). Co-occurrence of conduct disorder and depression in a clinic-based sample of boys with ADHD. *Journal of Child Psychology and Psychiatry*, 47(8), 766-774.
- Drabick, D. A. G., Steinberg, E., & Hampton Shields, A. (2015). Overview of DSM disruptive behavior disorders. *The oxford handbook of externalizing spectrum disorders* Oxford: Oxford University Press.
- Drugli, M. B., Fossum, S., Larsson, B., & Morch, W. (2010). Characteristics of young children with persistent conduct problems 1 year after treatment with the incredible years program. *European Child & Adolescent Psychiatry*, 19(7), 559-565.
- Duggal, S., Carlson, E. A., Sroufe, L. A., & Egeland, B. (2001). Depressive symptomatology in childhood and adolescence. *Development and Psychopathology*, 13(1), 143-164.

- Dunsmore, J. C., Booker, J. A., Ollendick, T. H., & Greene, R. W. (2016). Emotion socialization in the context of risk and psychopathology: Maternal emotion coaching predicts better treatment outcomes for emotionally labile children with oppositional defiant disorder. *Social Development, 25*(1), 8-26.
- Dziak, J. J., Lanza, S. T., & Tan, X. (2014). Effect size, statistical power, and sample size requirements for the bootstrap likelihood ratio test in latent class analysis. *Structural Equation Modeling: A Multidisciplinary Journal, 21*(4), 534-552.
- Eckman, P., & Friesen, W. V. (1976). Pictures of facial affect. consorting psychologies' press, palo alto CA; folkman S, chesney M, McKusick L, ironson G, johnson DS, coates TJ (1991) translating coping theory into an intervention. *The Social Context of Coping, 5*, 239-260.
- Edens, J. F., & Cahill, M. A. (2007). Psychopathy in adolescence and criminal recidivism in young adulthood: Longitudinal results from a multiethnic sample of youthful offenders. *Assessment, 14*(1), 57-64.
- Edens, J. F., Skopp, N. A., & Cahill, M. A. (2008). Psychopathic features moderate the relationship between harsh and inconsistent parental discipline and adolescent antisocial behavior. *Journal of Clinical Child & Adolescent Psychology, 37*(2), 472-476.
- Eisenberg, N., Cumberland, A., & Spinrad, T. L. (1998). Parental socialization of emotion. *Psychological Inquiry, 9*(4), 241-273.

- Eisenberg, N., Fabes, R. A., Shepard, S. A., Guthrie, I. K., Murphy, B. C., & Reiser, M. (1999). Parental reactions to children's negative emotions: Longitudinal relations to quality of children's social functioning. *Child Development, 70*(2), 513-534.
- Eisenberg, N., Spinrad, T. L., & Eggum, N. D. (2010). Emotion-related self-regulation and its relation to children's maladjustment. *Annual Review of Clinical Psychology, 6*, 495-525.
- Ellis, B. J., Boyce, W. T., Belsky, J., Bakermans-Kranenburg, M., & Van IJzendoorn, M. H. (2011). Differential susceptibility to the environment: An evolutionary–neurodevelopmental theory. *Development and Psychopathology, 23*(1), 7-28.
- Essau, C. A., Sasagawa, S., & Frick, P. J. (2006). Callous-unemotional traits in a community sample of adolescents. *Assessment, 13*(4), 454-469.
doi:10.1177/1073191106287354
- Euler, F., Jenkel, N., Stadler, C., Schmeck, K., Fegert, J. M., Kölch, M., & Schmid, M. (2015). Variants of girls and boys with conduct disorder: Anxiety symptoms and callous-unemotional traits. *Journal of Abnormal Child Psychology, 43*(4), 773-785.
- Evans, G. W., Li, D., & Whipple, S. S. (2013). Cumulative risk and child development. *Psychological Bulletin, 139*(6), 1342.
- Ezpeleta, L., Granero, R., de la Osa, N., & Domènech, J. M. (2017). Developmental trajectories of callous-unemotional traits, anxiety and oppositionality in 3–7 year-old children in the general population. *Personality and Individual Differences, 111*, 124-133.

- Ezpeleta, L., Keeler, G., Erkanli, A., Costello, E. J., & Angold, A. (2001). Epidemiology of psychiatric disability in childhood and adolescence. *Journal of Child Psychology and Psychiatry, 42*(7), 901-914.
- Fabes, R. A., Eisenberg, N., & Bernzweig, J. (1990). The coping with children's negative emotions scale: Procedures and scoring. *Available from Authors. Arizona State University,*
- Fabes, R. A., Leonard, S. A., Kupanoff, K., & Martin, C. L. (2001). Parental coping with children's negative emotions: Relations with children's emotional and social responding. *Child Development, 72*(3), 907-920.
- Fabes, R. A., Poulin, R. E., Eisenberg, N., & Madden-Derdich, D. (2002). The coping with children's negative emotions scale (CCNES): Psychometric properties and relations with children's emotional competence. *Marriage & Family Review,*
- Falkenbach, D., Poythress, N., & Creevy, C. (2008). The exploration of subclinical psychopathic subtypes and the relationship with types of aggression. *Personality and Individual Differences, 44*(4), 821-832.
- Fanti, K. A. (2013). Individual, social, and behavioral factors associated with co-occurring conduct problems and callous-unemotional traits. *Journal of Abnormal Child Psychology, 41*(5), 811-824.
- Fanti, K. A., Demetriou, C. A., & Kimonis, E. R. (2013). Variants of callous-unemotional conduct problems in a community sample of adolescents. *Journal of Youth and Adolescence, 42*(7), 964-979.

- Fanti, K. A., Frick, P. J., & Georgiou, S. (2009). Linking callous-unemotional traits to instrumental and non-instrumental forms of aggression. *Journal of Psychopathology and Behavioral Assessment*, 31(4), 285.
- Fanti, K. A., & Kimonis, E. R. (2012). Bullying and victimization: The role of conduct problems and psychopathic traits. *Journal of Research on Adolescence*, 22(4), 617-631.
- Fanti, K. A., & Kimonis, E. R. (2013). Dimensions of juvenile psychopathy distinguish “bullies,” “bully-victims,” and “victims”. *Psychology of Violence*, 3(4), 396.
- Felmington, K., Kemp, A. H., Williams, L., Falconer, E., Olivieri, G., Peduto, A., & Bryant, R. (2008). Dissociative responses to conscious and non-conscious fear impact underlying brain function in post-traumatic stress disorder. *Psychological Medicine*, 38(12), 1771.
- Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007). Polyvictimization and trauma in a national longitudinal cohort. *Development and Psychopathology*, 19(1), 149-166.
- Finkelhor, D., Ormrod, R. K., Turner, H. A., & a. (2007). Poly-victimization: A neglected component in child victimization. *Child Abuse & Neglect*, 31(1), 7-26.
- Fite, P. J., Greening, L., & Stoppelbein, L. (2008). Relation between parenting stress and psychopathic traits among children. *Behavioral Sciences & the Law*, 26(2), 239-248.
- Fitzpatrick, K. M., & Boldizar, J. P. (1993). The prevalence and consequences of exposure to violence among african-american youth. *Journal of the American Academy of Child & Adolescent Psychiatry*, 32(2), 424-430.

- Flexon, J. L. (2016). Callous-unemotional traits and differently motivated aggression: An examination of variants in a noninstitutionalized sample. *Youth Violence and Juvenile Justice, 14*(4), 367-389.
- Flexon, J. L. (2015). Evaluating variant callous–unemotional traits among noninstitutionalized youth: Implications for violence research and policy. *Youth Violence and Juvenile Justice, 13*(1), 18-40.
- Flexon, J. L., & Meldrum, R. C. (2013). Adolescent psychopathic traits and violent delinquency: Additive and nonadditive effects with key criminological variables. *Youth Violence and Juvenile Justice, 11*(4), 349-369.
doi:10.1177/1541204012470850
- Fontaine, N. M. G., Hanscombe, K. B., Berg, M. T., McCrory, E. J., & Viding, E. (2018). Trajectories of callous-unemotional traits in childhood predict different forms of peer victimization in adolescence. *Journal of Clinical Child & Adolescent Psychology, 47*(3), 458-466.
- Fontaine, N. M. G., McCrory, E. J. P., Boivin, M., Moffitt, T. E., & Viding, E. (2011). Predictors and outcomes of joint trajectories of callous–unemotional traits and conduct problems in childhood. *Journal of Abnormal Psychology, 120*(3), 730.
- Ford, J. D. (2009). Neurobiological and developmental research: Clinical implications. In C. A. Courtois, & J. D. Ford (Eds.), (pp. 31-58). New York, NY: Guilford Press.
Retrieved
from <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?di>

rect=true&db=psyh&AN=2009-04501-002&site=ehost-

live&scope=site <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2009-04501-002&site=ehost-live&scope=site>

gin.aspx?direct=true&db=psyh&AN=2009-04501-002&site=ehost-live&scope=site

Ford, J. D., Chapman, J., Mack, J. M., & Pearson, G. (2006). Pathways from traumatic child victimization to delinquency: Implications for juvenile and permanency court proceedings and decisions. *Juvenile & Family Court Journal*, 57(1), 13-26.
doi:10.1111/j.1755-6988.2006.tb00111.x

Fowler, P. J., Tompsett, C. J., Braciszewski, J. M., Jacques-Tiura, A., & Baltes, B. B. (2009). Community violence: A meta-analysis on the effect of exposure and mental health outcomes of children and adolescents. *Development and Psychopathology*, 21(1), 227-259.

Fowles, D. C. (2000). Temperament as a moderator of pathways to conscience in children: The contribution of electrodermal activity. *Psychophysiology*, 37(6), 788-795. Retrieved from <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=s3h&AN=11002282&site=ehost-live&scope=site>
<http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=s3h&AN=11002282&site=ehost-live&scope=site>

Fowles, D. C., & Kochanska, G. (2000). Temperament as a moderator of pathways to conscience in children: The contribution of electrodermal activity. *Psychophysiology*, 37(6), 788-795.

- Frewen, P. A., & Lanius, R. A. (2006). Toward a psychobiology of posttraumatic self-dysregulation. *Annals of the New York Academy of Sciences*, *1071*(1), 110-124.
doi:10.1196/annals.1364.010
- Frick, P. J. (2004). The inventory of callous-unemotional traits. *Unpublished Rating Scale*,
- Frick, P. J. (2009). Extending the construct of psychopathy to youth: Implications for understanding, diagnosing, and treating antisocial children and adolescents. *Canadian Journal of Psychiatry*, *54*(12), 803-812.
doi:10.1177/070674370905401203
- Frick, P. J. (2012). Developmental pathways to conduct disorder: Implications for future directions in research, assessment, and treatment. *Journal of Clinical Child and Adolescent Psychology*, *41*(3), 378-389. doi:10.1080/15374416.2012.664815
- Frick, P. J., Cornell, A. H., Bodin, S. D., Dane, H. E., Barry, C. T., & Loney, B. R. (2003). Callous-unemotional traits and developmental pathways to severe conduct problems. *Developmental Psychology*, *39*(2), 246-260. doi:10.1037/0012-1649.39.2.246
- Frick, P. J., & Dantagnan, A. L. (2005). Predicting the stability of conduct problems in children with and without callous-unemotional traits. *Journal of Child & Family Studies*, *14*(4), 469-485. doi:10.1007/s10826-005-7183-1

- Frick, P. J., Kimonis, E. R., Dandreaux, D. M., & Farel, J. M. (2003). The 4 year stability of psychopathic traits in non-referred youth. *Behavioral Sciences & the Law*, 21(6), 713-736. doi:10.1002/bsl.568
- Frick, P. J., & Morris, A. S. (2004). Temperament and developmental pathways to conduct problems. *Journal of Clinical Child and Adolescent Psychology : The Official Journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53*, 33(1), 54-68. Retrieved from <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=15028541&site=ehost-live&scope=site> <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=15028541&site=ehost-live&scope=site>
- Frick, P. J., Ray, J. V., Thornton, L. C., & Kahn, R. E. (2014a). Annual research review: A developmental psychopathology approach to understanding callous-unemotional traits in children and adolescents with serious conduct problems. *Journal of Child Psychology & Psychiatry*, 55(6), 532-548. doi:10.1111/jcpp.12152
- Frick, P. J., Ray, J. V., Thornton, L. C., & Kahn, R. E. (2014b). Can callous-unemotional traits enhance the understanding, diagnosis, and treatment of serious conduct problems in children and adolescents? A comprehensive review. *Psychological Bulletin*, 140(1), 1-57. doi:10.1037/a0033076
- Frick, P. J., & Viding, E. (2009). Antisocial behavior from a developmental psychopathology perspective. *Development and Psychopathology*, 21(4), 1111-1131. doi:10.1017/S0954579409990071

- Frick, P. J., & White, S. F. (2008). Research review: The importance of callous-unemotional traits for developmental models of aggressive and antisocial behavior. *Journal of Child Psychology and Psychiatry*, 49(4), 359-375. doi:10.1111/j.1469-7610.2007.01862.x
- Gadow, K. D., & Sprafkin, J. (2005). Child and adolescent symptom inventory-4R. *Stony Brook, NY: Checkmate Plus*,
- Gadow, K. D., Sprafkin, J., & Nolan, E. E. (2001). DSM-IV symptoms in community and clinic preschool children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 40(12), 1383-1392.
- Gadow, K. D., Sprafkin, J., Salisbury, H., Schneider, J., & Loney, J. (2004). Further validity evidence for the teacher version of the child symptom Inventory-4. *School Psychology Quarterly*, 19(1), 50.
- Gaylord-Harden, N., Dickson, D., & Pierre, C. (2016). Profiles of community violence exposure among african american youth: An examination of desensitization to violence using latent class analysis. *Journal of Interpersonal Violence*, 31(11), 2077-2101. doi:10.1177/0886260515572474
- Gerard, J. M., & Buehler, C. (2004). Cumulative environmental risk and youth maladjustment: The role of youth attributes. *Child Development*, 75(6), 1832-1849.
- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*, 128(4), 539-579. doi:10.1037/0033-2909.128.4.539

- Gilliom, M., & Shaw, D. S. (2004). Codevelopment of externalizing and internalizing problems in early childhood. *Development and Psychopathology, 16*(2), 313-333.
- Godleski, S. A., Eiden, R. D., Shisler, S., & Livingston, J. A. (2020). Parent socialization of emotion in a high-risk sample. *Developmental Psychology, 56*(3), 489.
- Goldstein, S., & Rider, R. (2005). Resilience and the disruptive disorders of childhood. In S. Goldstein, & R. B. Brooks (Eds.), (pp. 203-222). New York, NY: Kluwer Academic/Plenum Publishers. doi:10.1007/0-306-48572-9_13 Retrieved from <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2005-04216-013&site=ehost-live&scope=site> <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2005-04216-013&site=ehost-live&scope=site>
- Goldweber, A., Dmitrieva, J., Cauffman, E., Piquero, A., & Steinberg, L. (2011). The development of criminal style in adolescence and young adulthood: Separating the lemmings from the loners. *Journal of Youth & Adolescence, 40*(3), 332-346. doi:10.1007/s10964-010-9534-5
- Golmaryami, F. N., Frick, P. J., Hemphill, S. A., Kahn, R. E., Crapanzano, A. M., & Terranova, A. M. (2016). The social, behavioral, and emotional correlates of bullying and victimization in a school-based sample. *Journal of Abnormal Child Psychology, 44*(2), 381-391. doi:10.1007/s10802-015-9994-x
- Gorman-Smith, D., Henry, D. B., & Tolan, P. H. (2004). Exposure to community violence and violence perpetration: The protective effects of family

functioning. *Journal of Clinical Child & Adolescent Psychology*, 33(3), 439-449.
doi:10.1207/s15374424jccp3303_2

Gottman, J. M., Katz, L. F., & Hooven, C. (1996). Parental meta-emotion philosophy and the emotional life of families: Theoretical models and preliminary data. *Journal of Family Psychology*, 10(3), 243-268. doi:10.1037/0893-3200.10.3.243

Grant, K. E., McCormick, A., Poindexter, L., Simpkins, T., Janda, C. M., Thomas, K. J., . . . Taylor, J. (2005). Exposure to violence and parenting as mediators between poverty and psychological symptoms in urban african american adolescents. *Journal of Adolescence*, 28(4), 507-521.

Graziano, P. A., Landis, T., Maharaj, A., Ros-Demarize, R., Hart, K. C., & Garcia, A. (2019). Differentiating preschool children with conduct problems and callous-unemotional behaviors through emotion regulation and executive functioning. *Journal of Clinical Child & Adolescent Psychology*, , 1-13.

Graziano, P. A., Ros, R., Haas, S., Hart, K., Slavec, J., Waschbusch, D., & Garcia, A. (2016). *Assessing callous-unemotional traits in preschool children with disruptive behavior problems using peer reports.* (No. 45).Grantee Submission. Retrieved from <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED568935&site=ehost-live&scope=site> <http://dx.doi.org/10.1080/15374416.2014.971460> <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED568935&site=ehost-live&scope=site> <http://dx.doi.org/10.1080/15374416.2014.971460>

- Green, B. L., Goodman, L. A., Krupnick, J. L., Corcoran, C. B., Petty, R. M., Stockton, P., & Stern, N. M. (2000). Outcomes of single versus multiple trauma exposure in a screening sample. *Journal of Traumatic Stress, 13*(2), 271.
doi:10.1023/A:1007758711939
- Greenberg, M. T., Speltz, M. L., DeKlyen, M., & Jones, K. (2001). Correlates of clinic referral for early conduct problems: Variable- and person-oriented approaches. *Development and Psychopathology, 13*(2), 255-276.
doi:10.1017/S0954579401002048
- Griese, E. R., Buhs, E. S., & Lester, H. F. (2016). Peer victimization and prosocial behavior trajectories: Exploring sources of resilience for victims. *Journal of Applied Developmental Psychology, 44*, 1-11. doi:<https://doi-org.libproxy.temple.edu/10.1016/j.appdev.2016.01.009>
- Gross, J. J. (1998). Antecedent-and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology, 74*(1), 224.
- Guyer, A. E., McClure, E. B., Adler, A. D., Brotman, M. A., Rich, B. A., Kimes, A. S., . . . Leibenluft, E. (2007). Specificity of facial expression labeling deficits in childhood psychopathology. *Journal of Child Psychology and Psychiatry, 48*(9), 863-871.
- Haas, S. M., Becker, S. P., Epstein, J. N., & Frick, P. J. (2018). Callous-unemotional traits are uniquely associated with poorer peer functioning in school-aged

children. *Journal of Abnormal Child Psychology*, 46(4), 781-793.

doi:10.1007/s10802-017-0330-5

Haas, S. M., Waschbusch, D. A., King, S., & Walsh, T. M. (2015). Examining the role of callous-unemotional traits in the attributional styles and self competence evaluations of children with conduct problems and ADHD. *Journal of Psychopathology and Behavioral Assessment*, 37(2), 196-206. doi:10.1007/s10862-014-9459-5

Haas, S. M., Waschbusch, D. A., Pelham, W. E., King, S., Andrade, B. F., & Carrey, N. J. (2011). Treatment response in CP/ADHD children with callous/unemotional traits. *Journal of Abnormal Child Psychology*, 39(4), 541-552. doi:10.1007/s10802-010-9480-4

Hastings, P. D., Zahn-Waxler, C., Robinson, J., Usher, B., & Bridges, D. (2000). The development of concern for others in children with behavior problems. *Developmental Psychology*, 36(5), 531.

Hawes, D. J., & Dadds, M. R. (2007). Stability and malleability of callous-unemotional traits during treatment for childhood conduct problems. *Journal of Clinical Child and Adolescent Psychology*, 36(3), 347-355.

Hawes, D. J., & Dadds, M. R. (2005). The treatment of conduct problems in children with callous-unemotional traits. *Journal of Consulting and Clinical Psychology*, 73(4), 737.

- Hawes, D. J., Price, M. J., & Dadds, M. R. (2014). Callous-unemotional traits and the treatment of conduct problems in childhood and adolescence: A comprehensive review. *Clinical Child and Family Psychology Review, 17*(3), 248-267
- Hewitt, L. E., & Jenkins, R. L. (1946). Fundamental patterns of maladjustment; the dynamics of their origin; a statistical analysis based upon five hundred case records of children examined at the michigan child guidance institute.
- Hiatt, K. D., Lorenz, A. R., & Newman, J. P. (2002). Assessment of emotion and language processing in psychopathic offenders: Results from a dichotic listening task. *Personality and Individual Differences, 32*(7), 1255-1268. doi:10.1016/S0191-8869(01)00116-7
- Hicks, B. M., Markon, K. E., Patrick, C. J., Krueger, R. F., & Newman, J. P. (2004). Identifying psychopathy subtypes on the basis of personality structure. *Psychological Assessment, 16*(3), 276.
- Hipwell, A. E., Pardini, D. A., Loeber, R., Sembower, M., Keenan, K., & Stouthamer-Loeber, M. (2007). Callous-unemotional behaviors in young girls: Shared and unique effects relative to conduct problems. *Journal of Clinical Child and Adolescent Psychology, 36*(3), 293-304.
- Houghton, S., Carroll, A., Zadow, C., O'connor, E. S., Hattie, J., & Lynn, S. (2017). Treating children with early-onset conduct problems and callous-unemotional traits: An empirical evaluation of KooLKIDS. *Emotional and Behavioural Difficulties, 22*(4), 350-364.

- Huey Jr, S. J., & Polo, A. J. (2008). Evidence-based psychosocial treatments for ethnic minority youth. *Journal of Clinical Child & Adolescent Psychology, 37*(1), 262-301.
- Hyde, L. W., Burt, S. A., Shaw, D. S., Donnellan, M. B., & Forbes, E. E. (2015). Early starting, aggressive, and/or callous–unemotional? examining the overlap and predictive utility of antisocial behavior subtypes. *Journal of Abnormal Psychology, 124*(2), 329.
- Iampietro, M., Giovannetti, T., Drabick, D. A. G., & Kessler, R. K. (2012). Empirically defined patterns of executive function deficits in schizophrenia and their relation to everyday functioning: A person-centered approach. *Null, 26*(7), 1166-1185.
doi:10.1080/13854046.2012.721399
- Jaffee, S. R., McFarquhar, T., Stevens, S., Ouellet-Morin, I., Melhuish, E., & Belsky, J. (2015). Interactive effects of early and recent exposure to stressful contexts on cortisol reactivity in middle childhood. *Journal of Child Psychology and Psychiatry, 56*(2), 138-146.
- Jones, A. P., Laurens, K. R., Herba, C. M., Barker, G. J., & Viding, E. *Amygdala hypoactivity to fearful faces in boys with conduct problems and callous-unemotional traits* United States: American Psychiatric Association.
doi:10.1176/appi.ajp.2008.07071050
- Kahn, R. E., Byrd, A. L., & Pardini, D. A. (2013). Callous-unemotional traits robustly predict future criminal offending in young men. *Law and Human Behavior, 37*(2), 87.

Kahn, R. E., Frick, P. J., Golmaryami, F. N., & Marsee, M. A. (2017). The moderating role of anxiety in the associations of callous-unemotional traits with self-report and laboratory measures of affective and cognitive empathy. *Journal of Abnormal Child Psychology*, 45(3), 583-596.

Kahn, R. E., Frick, P. J., Youngstrom, E. A., Kogos Youngstrom, J., Feeny, N. C., & Findling, R. L. (2013). Distinguishing primary and secondary variants of callous-unemotional traits among adolescents in a clinic-referred sample. *Psychological Assessment*, 25(3), 966.

Karpman, B. (1941). On the need of separating psychopathy into two distinct clinical types: The symptomatic and the idiopathic. *Journal of Criminal Psychopathology*, 3, 112-137. Retrieved from <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=1942-00202-001&site=ehost-live&scope=site> <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=1942-00202-001&site=ehost-live&scope=site>

Karpman, B. (1948). Conscience in the psychopath: Another version. *American Journal of Orthopsychiatry*, 18(3), 455.

Karpman, B. (1941). On the need of separating psychopathy into two distinct clinical types: The symptomatic and the idiopathic. *Journal of Criminal Psychopathology*,

- Keiley, M. K., Bates, J. E., Dodge, K. A., & Pettit, G. S. (2000). A cross-domain growth analysis: Externalizing and internalizing behaviors during 8 years of childhood. *Journal of Abnormal Child Psychology*, 28(2), 161-179.
- Kerig, P. K., Bennett, D. C., Thompson, M., & Becker, S. P. (2012). "Nothing really matters": Emotional numbing as a link between trauma exposure and callousness in delinquent youth. *Journal of Traumatic Stress*, 25(3), 272-279.
- Kerig, P. K., & Sink, H. E. (2011). The new scoundrel on the schoolyard: Contributions of machiavellianism to the understanding of youth aggression. In P. K. Kerig, C. T. Barry, K. K. Stellwagen & T. D. Barry (Eds.), (pp. 193-212). Washington, DC: American Psychological Association. doi:10.1037/12352-011 Retrieved from <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2010-17885-011&site=ehost-live&scope=site> <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2010-17885-011&site=ehost-live&scope=site>
- Kerig, P. K., Ward, R. M., Vanderzee, K. L., & Moeddel, M. A. (2009). Posttraumatic stress as a mediator of the relationship between trauma and mental health problems among juvenile delinquents. *Journal of Youth and Adolescence*, 38(9), 1214-1225.
- Kiesner, J. (2002). Depressive symptoms in early adolescence: Their relations with classroom problem behavior and peer status. *Journal of Research on Adolescence*, 12(4), 463-478.

- Kimonis, E. R., Fanti, K. A., Goulter, N., & Hall, J. (2017). Affective startle potentiation differentiates primary and secondary variants of juvenile psychopathy. *Development and Psychopathology, 29*(4), 1149-1160.
- Kimonis, E. R., Frick, P. J., & Barry, C. T. (2004). Callous-unemotional traits and delinquent peer affiliation. *Journal of Consulting and Clinical Psychology, 72*(6), 956.
- Kimonis, E. R., Frick, P. J., Cauffman, E., Goldweber, A., & Skeem, J. (2012). Primary and secondary variants of juvenile psychopathy differ in emotional processing. *Development and Psychopathology, 24*(3), 1091-1103.
- Kimonis, E. R., Frick, P. J., Munoz, L. C., & Aucoin, K. J. (2008). Callous-unemotional traits and the emotional processing of distress cues in detained boys: Testing the moderating role of aggression, exposure to community violence, and histories of abuse. *Development and Psychopathology, 20*(2), 569-589.
- Kimonis, E. R., Frick, P. J., Skeem, J. L., Marsee, M. A., Cruise, K., Munoz, L. C., . . . Morris, A. S. (2008). Assessing callous–unemotional traits in adolescent offenders: Validation of the inventory of Callous–Unemotional traits. *International Journal of Law and Psychiatry, 31*(3), 241-252.
- Kimonis, E. R., Ray, J. V., Branch, J. R., & Cauffman, E. (2011). Anger mediates the relation between violence exposure and violence perpetration in incarcerated boys. Paper presented at the *Child & Youth Care Forum, 40*(5) 381-400.

- Kimonis, E. R., Skeem, J. L., Cauffman, E., & Dmitrieva, J. (2011). Are secondary variants of juvenile psychopathy more reactively violent and less psychosocially mature than primary variants? *Law and Human Behavior, 35*(5), 381-391.
- Kochanska, G. (1995). Children's temperament, mothers' discipline, and security of attachment: Multiple pathways to emerging internalization. *Child Development, 66*(3), 597-615.
- Kochanska, G. (1997). Multiple pathways to conscience for children with different temperaments: From toddlerhood to age 5. *Developmental Psychology, 33*(2), 228.
- Kochanska, G. (1991). Socialization and temperament in the development of guilt and conscience. *Child Development, 62*(6), 1379-1392.
- Kochanska, G., Gross, J. N., Lin, M., & Nichols, K. E. (2002). Guilt in young children: Development, determinants, and relations with a broader system of standards. *Child Development, 73*(2), 461-482.
- Krischer, M. K., & Sevecke, K. (2008). Early traumatization and psychopathy in female and male juvenile offenders. *International Journal of Law and Psychiatry, 31*(3), 253-262. doi:10.1016/j.ijlp.2008.04.008
- Kroneman, L. M., Hipwell, A. E., Loeber, R., Koot, H. M., & Pardini, D. A. (2011). Contextual risk factors as predictors of disruptive behavior disorder trajectories in girls: The moderating effect of callous-unemotional features. *Journal of Child Psychology and Psychiatry, 52*(2), 167-175.

- Krueger, R. F., & Markon, K. E. (2006). Reinterpreting comorbidity: A model-based approach to understanding and classifying psychopathology. *Annu.Rev.Clin.Psychol.*, 2, 111-133.
- Kruh, I. P., Frick, P. J., & Clements, C. B. (2005). Historical and personality correlates to the violence patterns of juveniles tried as adults. *Criminal Justice and Behavior*, 32(1), 69-96.
- Kujawa, A., Klein, D. N., & Hajcak, G. (2012). Electrocortical reactivity to emotional images and faces in middle childhood to early adolescence. *Developmental Cognitive Neuroscience*, 2(4), 458-467.
- Kupersmidt, J. B., & Patterson, C. J. (1991). Childhood peer rejection, aggression, withdrawal, and perceived competence as predictors of self-reported behavior problems in preadolescence. *Journal of Abnormal Child Psychology*, 19(4), 427-449.
- Kushner, S. C. (2015). A review of the direct and interactive effects of life stressors and dispositional traits on youth psychopathology. *Child Psychiatry & Human Development*, 46(5), 810-819.
- Lacourse, E., Nagin, D., Tremblay, R. E., Vitaro, F., & Claes, M. (2003). Developmental trajectories of boys' delinquent group membership and facilitation of violent behaviors during adolescence. *Development and Psychopathology*, 15(1), 183-197.
- Ladd, G. W., Kochenderfer, B. J., & Coleman, C. C. (1997). Classroom peer acceptance, friendship, and victimization: Distinct relational systems that contribute uniquely to children's school adjustment? *Child Development*, , 1181-1197.

- Laird, R. D., Jordan, K. Y., Dodge, K. A., Pettit, G. S., & Bates, J. E. (2001). Peer rejection in childhood, involvement with antisocial peers in early adolescence, and the development of externalizing behavior problems. *Development and Psychopathology, 13*(2), 337.
- Lang, P. J., Bradley, M. M., & Cuthbert, B. (1988). The international affective picture system. *Center for Research in Psychophysiology, University of Florida, Gainesville, USA,*
- Lanius, R. A., Vermetten, E., Loewenstein, R. J., Brand, B., Schmahl, C., Bremner, J. D., & Spiegel, D. (2010). Emotion modulation in PTSD: Clinical and neurobiological evidence for a dissociative subtype. *American Journal of Psychiatry, 167*(6), 640-647.
- Lanza, H. I., & Drabick, D. A. (2011). Family routine moderates the relation between child impulsivity and oppositional defiant disorder symptoms. *Journal of Abnormal Child Psychology, 39*(1), 83-94.
- Lee, E. J., & Bukowski, W. M. (2012). Co-development of internalizing and externalizing problem behaviors: Causal direction and common vulnerability. *Journal of Adolescence, 35*(3), 713-729.
- Lee, S. S. (2018). Multidimensionality of youth psychopathic traits: Validation and future directions. *Journal of Psychopathology and Behavioral Assessment, 40*(1), 86-92

- Lee, Z., Salekin, R. T., & Iselin, A. R. (2010). Psychopathic traits in youth: Is there evidence for primary and secondary subtypes? *Journal of Abnormal Child Psychology, 38*(3), 381-393.
- Leppänen, J. M. (2006). Emotional information processing in mood disorders: A review of behavioral and neuroimaging findings. *Current Opinion in Psychiatry, 19*(1), 34-39.
- Leventhal, T., & Brooks-Gunn, J. (2004). Diversity in developmental trajectories across adolescence: Neighborhood influences. In R. M. Lerner, & L. Steinberg (Eds.), (pp. 451-486). Hoboken, NJ: John Wiley & Sons Inc. Retrieved from <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2004-12826-014&site=ehost-live&scope=site> <http://libproxy.temple.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2004-12826-014&site=ehost-live&scope=site>
- Libon, D. J., Drabick, D. A. G., Giovannetti, T., Price, C. C., Bondi, M. W., Eppig, J., . . . Delano-Wood, L. (2014). Neuropsychological syndromes associated with alzheimer's/vascular dementia: A latent class analysis. *Journal of Alzheimer's Disease, 42*(3), 999-1014.
- Lochman, J. E., & Wells, K. C. (2002). Contextual social–cognitive mediators and child outcome: A test of the theoretical model in the coping power program. *Development and Psychopathology, 14*(4), 945-967. doi:10.1017/S0954579402004157
- Loeber, R., & Farrington, D. P. (2001). *Child delinquents* Sage.

- Loeber, R., & Pardini, D. (2008). Neurobiology and the development of violence: Common assumptions and controversies. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *363*(1503), 2491-2503.
- Loney, B. R., Frick, P. J., Clements, C. B., Ellis, M. L., & Kerlin, K. (2003). Callous-unemotional traits, impulsivity, and emotional processing in adolescents with antisocial behavior problems. *Journal of Clinical Child and Adolescent Psychology*, *32*(1), 66-80.
- Lozier, L. M., Cardinale, E. M., VanMeter, J. W., & Marsh, A. A. (2014). Mediation of the relationship between callous-unemotional traits and proactive aggression by amygdala response to fear among children with conduct problems. *JAMA Psychiatry*, *71*(6), 627-636.
- Luthar, S. S., & Goldstein, A. (2004). Children's exposure to community violence: Implications for understanding risk and resilience. *Journal of Clinical Child and Adolescent Psychology*, *33*(3), 499-505.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, *71*(3), 543-562.
- Lynam, D. R., Caspi, A., Moffitt, T. E., Loeber, R., & Stouthamer-Loeber, M. (2007). Longitudinal evidence that psychopathy scores in early adolescence predict adult psychopathy. *Journal of Abnormal Psychology*, *116*(1), 155.

- Macmillan, R., McMorris, B. J., & Kruttschnitt, C. (2004). Linked lives: Stability and change in maternal circumstances and trajectories of antisocial behavior in children. *Child Development, 75*(1), 205-220.
- Manders, W. A., Deković, M., Asscher, J. J., van der Laan, Peter H, & Prins, P. J. (2013). Psychopathy as predictor and moderator of multisystemic therapy outcomes among adolescents treated for antisocial behavior. *Journal of Abnormal Child Psychology, 41*(7), 1121-1132.
- Marsh, A. A., Finger, E. C., Mitchell, D. G., Reid, M. E., Sims, C., Kosson, D. S., . . . Blair, R. (2008). Reduced amygdala response to fearful expressions in children and adolescents with callous-unemotional traits and disruptive behavior disorders. *American Journal of Psychiatry, 165*(6), 712-720.
- Matlasz, T. M., Frick, P. J., & Clark, J. E. (2020). Understanding the social relationships of youth with callous-unemotional traits using peer nominations. *Journal of Clinical Child & Adolescent Psychology, ,* 1-13.
- Maughan, B., Rowe, R., Messer, J., Goodman, R., & Meltzer, H. (2004). Conduct disorder and oppositional defiant disorder in a national sample: Developmental epidemiology. *Journal of Child Psychology and Psychiatry, 45*(3), 609-621.
- McCutcheon, A. L. (2009). „Basic concepts and procedures in single-and multiple-group latent class analysis”, w: JA hagenaaars, AL McCutcheon (red.). *Applied Latent Class Analysis,*

- McDonough-Caplan, H., Klein, D. N., & Beauchaine, T. P. (2018). Comorbidity and continuity of depression and conduct problems from elementary school to adolescence. *Journal of Abnormal Psychology, 127*(3), 326.
- Meier, M. H., Slutske, W. S., Arndt, S., & Cadoret, R. J. (2008). Impulsive and callous traits are more strongly associated with delinquent behavior in higher risk neighborhoods among boys and girls. *Journal of Abnormal Psychology, 117*(2), 377.
- Merikangas, K. R., He, J., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., . . . Swendsen, J. (2010). Lifetime prevalence of mental disorders in US adolescents: Results from the national comorbidity survey Replication–Adolescent supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry, 49*(10), 980-989.
- Mitchell, D. G. V., Luo, Q., Mondillo, K., Vythilingam, M., Finger, E. C., & Blair, R. J. (2008). The interference of operant task performance by emotional distracters: An antagonistic relationship between the amygdala and frontoparietal cortices. *NeuroImage, 40*(2), 859-868.
- Mitchell, D. G. V., Richell, R. A., Leonard, A., & Blair, R. J. (2006). Emotion at the expense of cognition: Psychopathic individuals outperform controls on an operant response task. *Journal of Abnormal Psychology, 115*(3), 559.
- Moore, A. A., Rappaport, L. M., Blair, R. J., Pine, D. S., Leibenluft, E., Brotman, M. A., . . . Roberson-Nay, R. (2019). Genetic underpinnings of callous-unemotional

- traits and emotion recognition in children, adolescents, and emerging adults. *Journal of Child Psychology and Psychiatry*, 60(6), 638-645.
- Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development*, 16(2), 361-388.
- Morrison Gutman, L., McLoyd, V. C., & Tokoyawa, T. (2005). Financial strain, neighborhood stress, parenting behaviors, and adolescent adjustment in urban african american families. *Journal of Research on Adolescence*, 15(4), 425-449.
- Mozley, M. M., Lin, B., & Kerig, P. K. (2018). Posttraumatic overmodulation, callous–unemotional traits, and offending among justice-involved youth. *Journal of Aggression, Maltreatment & Trauma*, 27(7), 744-758.
- Muñoz, L. C. (2009). Callous-unemotional traits are related to combined deficits in recognizing afraid faces and body poses. *Journal of the American Academy of Child & Adolescent Psychiatry*, 48(5), 554-562.
- Muñoz, L. C., Kerr, M., & Besic, N. (2008). The peer relationships of youths with psychopathic personality traits: A matter of perspective. *Criminal Justice and Behavior*, 35(2), 212-227.
- Muthén, L. K., & Muthén, B. O. (1998). 1998-2017. mplus user's guide. *Los Angeles (CA): Muthén & Muthén*,
- Nelson, J. A., O'Brien, M., Blankson, A. N., Calkins, S. D., & Keane, S. P. (2009). Family stress and parental responses to children's negative emotions: Tests of the

- spillover, crossover, and compensatory hypotheses. *Journal of Family Psychology*, 23(5), 671.
- Newman, J. P., Schmitt, W. A., & Voss, W. D. (1997). The impact of motivationally neutral cues on psychopathic individuals: Assessing the generality of the response modulation hypothesis. *Journal of Abnormal Psychology*, 106(4), 563.
- Ng-Mak, D. S., Salzinger, S., Feldman, R. S., & Stueve, C. A. (2004). Pathologic adaptation to community violence among inner-city youth. *American Journal of Orthopsychiatry*, 74(2), 196-208.
- Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, 3(5), 400-424.
- Nylund, K., Bellmore, A., Nishina, A., & Graham, S. (2007). Subtypes, severity, and structural stability of peer victimization: What does latent class analysis say? *Child Development*, 78(6), 1706-1722.
- O'Brien, B. S., & Frick, P. J. (1996). Reward dominance: Associations with anxiety, conduct problems, and psychopathy in children. *Journal of Abnormal Child Psychology*, 24(2), 223-240.
- O'Connor, T. G., Matias, C., Futh, A., Tantam, G., & Scott, S. (2013). Social learning theory parenting intervention promotes attachment-based caregiving in young children: Randomized clinical trial. *Journal of Clinical Child & Adolescent Psychology*, 42(3), 358-370.

- Oland, A. A., & Shaw, D. S. (2005). Pure versus co-occurring externalizing and internalizing symptoms in children: The potential role of socio-developmental milestones. *Clinical Child and Family Psychology Review*, 8(4), 247-270.
- Osofsky, J. D., Wewers, S., Hann, D. M., & Fick, A. C. (1993). Chronic community violence: What is happening to our children? *Psychiatry*, 56(1), 36-45.
- Oxford, M., Cavell, T. A., & Hughes, J. N. (2003). Callous/unemotional traits moderate the relation between ineffective parenting and child externalizing problems: A partial replication and extension. *Journal of Clinical Child and Adolescent Psychology*, 32(4), 577-585. doi:10.1207/S15374424JCCP3204_10
- Pardini, D. (2011). Perceptions of social conflicts among incarcerated adolescents with callous-unemotional traits: 'You're going to pay. it's going to hurt, but I don't care.'. *Journal of Child Psychology and Psychiatry*, 52(3), 248-255.
- Pardini, D. A. (2006). The callousness pathway to severe violent delinquency. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 32(6), 590-598.
- Pardini, D. A., Lochman, J. E., & Frick, P. J. (2003). Callous/unemotional traits and social-cognitive processes in adjudicated youths. *Journal of the American Academy of Child & Adolescent Psychiatry*, 42(3), 364-371.
- Pardini, D. A., Lochman, J. E., & Powell, N. (2007). The development of callous-unemotional traits and antisocial behavior in children: Are there shared and/or

- unique predictors? *Journal of Clinical Child and Adolescent Psychology*, 36(3), 319-333.
- Pasalich, D. S., Dadds, M. R., Hawes, D. J., & Brennan, J. (2012). Attachment and callous-unemotional traits in children with early-onset conduct problems. *Journal of Child Psychology and Psychiatry*, 53(8), 838-845.
- Pasalich, D. S., Waschbusch, D. A., Dadds, M. R., & Hawes, D. J. (2014). Emotion socialization style in parents of children with callous–unemotional traits. *Child Psychiatry & Human Development*, 45(2), 229-242.
- Patterson, G. R., & Capaldi, D. M. (1990). A mediational model for boys' depressed mood. *Risk and Protective Factors in the Development of Psychopathology*, 141163
- Patterson, G. R., Dishion, T. J., & Yoerger, K. (2000). Adolescent growth in new forms of problem behavior: Macro-and micro-peer dynamics. *Prevention Science*, 1(1), 3-13.
- Petras, H., Schaeffer, C. M., Ialongo, N., Hubbard, S., Muthén, B., Lambert, S. F., . . . Kellam, S. (2004). When the course of aggressive behavior in childhood does not predict antisocial outcomes in adolescence and young adulthood: An examination of potential explanatory variables. *Development and Psychopathology*, 16(4), 919-941.
- Piatigorsky, A., & Hinshaw, S. P. (2004). Psychopathic traits in boys with and without attention-deficit/hyperactivity disorder: Concurrent and longitudinal correlates. *Journal of Abnormal Child Psychology*, 32(5), 535-550.

- Pina, A. A., Polo, A. J., & Huey, S. J. (2019). Evidence-based psychosocial interventions for ethnic minority youth: The 10-year update. *Null*, 48(2), 179-202.
doi:10.1080/15374416.2019.1567350
- Porter, S. (1996). Without conscience or without active conscience? the etiology of psychopathy revisited. *Aggression and Violent Behavior*, 1(2), 179-189.
- Posada, D., & Buckley, T. R. (2004). Model selection and model averaging in phylogenetics: Advantages of akaike information criterion and bayesian approaches over likelihood ratio tests. *Systematic Biology*, 53(5), 793-808.
- Poythress, N. G., Edens, J. F., Skeem, J. L., Lilienfeld, S. O., Douglas, K. S., Frick, P. J., . . . Wang, T. (2010). Identifying subtypes among offenders with antisocial personality disorder: A cluster-analytic study. *Journal of Abnormal Psychology*, 119(2), 389.
- Price, J., Drabick, D. A., & Ridenour, T. A. (2019). Association with deviant peers across adolescence: Subtypes, developmental patterns, and long-term outcomes. *Journal of Clinical Child & Adolescent Psychology*, 48(2), 238-249.
- Proctor, B. D., & Dalaker, J. (2003). *Poverty in the united states: 2002* US Department of Commerce, Census Bureau.
- Quay, H. C. (1993). The psychobiology of undersocialized aggressive conduct disorder: A theoretical perspective. *Development and Psychopathology*, 5(1-2), 165-180.
- Rutter, M. (1997). Comorbidity: Concepts, claims and choices. *Criminal Behaviour and Mental Health*, 7(4), 265-285.

- Sadeh, N., Javdani, S., Jackson, J. J., Reynolds, E. K., Potenza, M. N., Gelernter, J., . . . Verona, E. (2010). Serotonin transporter gene associations with psychopathic traits in youth vary as a function of socioeconomic resources. *Journal of Abnormal Psychology, 119*(3), 604.
- Salcedo, S., Chen, Y., Youngstrom, E. A., Fristad, M. A., Gadow, K. D., Horwitz, S. M., . . . Findling, R. L. (2018). Diagnostic efficiency of the child and adolescent symptom inventory (CASI-4R) depression subscale for identifying youth mood disorders. *Journal of Clinical Child & Adolescent Psychology, 47*(5), 832-846. doi:10.1080/15374416.2017.1280807
- Schneider, W. J., Cavell, T. A., & Hughes, J. N. (2003). A sense of containment: Potential moderator of the relation between parenting practices and children's externalizing behaviors. *Development and Psychopathology, 15*(1), 95-117.
- Schoorl, J., Van Rijn, S., De Wied, M., Van Goozen, S.,H.M., & Swaab, H. (2016). Variability in emotional/behavioral problems in boys with oppositional defiant disorder or conduct disorder: The role of arousal. *European Child & Adolescent Psychiatry, 25*(8), 821-830.
- Schwartz, D., & Gorman, A. H. (2003). Community violence exposure and children's academic functioning. *Journal of Educational Psychology, 95*(1), 163.
- Schwartz, D., & Proctor, L. J. (2000). Community experiences questionnaire. *Journal of Consulting and Clinical Psychology,*

- Sharf, A., Kimonis, E. R., & Howard, A. (2014). Negative life events and posttraumatic stress disorder among incarcerated boys with callous-unemotional traits. *Journal of Psychopathology and Behavioral Assessment, 36*(3), 401-414.
- Shields, A., & Cicchetti, D. (1997). Emotion regulation among school-age children: The development and validation of a new criterion Q-sort scale. *Developmental Psychology, 33*(6), 906.
- Skeem, J. L., Edens, J. F., Sanford, G. M., & Colwell, L. H. (2003). Psychopathic personality and racial/ethnic differences reconsidered: A reply to Lynn (2002). *Personality and Individual Differences, 35*(6), 1439-1462.
- Southam-Gerow, M., & Kendall, P. C. (2002). Emotion regulation and understanding: Implications for child psychopathology and therapy. *Clinical Psychology Review, 22*(2), 189-222.
- Sprafkin, J., Steinberg, E. A., Gadow, K. D., & Drabick, D. A. G. (2016). Agreement among categorical, dimensional, and impairment criteria for ADHD and common comorbidities. *J Atten Disord, 20*(8), 665-673. doi:10.1177/1087054712475083
- Stimmel, M. A., Cruise, K. R., Ford, J. D., & Weiss, R. A. (2014). Trauma exposure, posttraumatic stress disorder symptomatology, and aggression in male juvenile offenders. *Psychological Trauma: Theory, Research, Practice, and Policy, 6*(2), 184.
- Stringaris, A., & Goodman, R. (2009). Mood lability and psychopathology in youth. *Psychological Medicine, 39*(8), 1237.

- Sutton, S. K., Vitale, J. E., & Newman, J. P. (2002). Emotion among women with psychopathy during picture perception. *Journal of Abnormal Psychology, 111*(4), 610.
- Tatar, J. R., Cauffman, E., Kimonis, E. R., & Skeem, J. L. (2012). Victimization history and posttraumatic stress: An analysis of psychopathy variants in male juvenile offenders. *Journal of Child & Adolescent Trauma, 5*(2), 102-113.
- Taylor, J. J., Grant, K. E., Zulauf, C. A., Fowler, P. J., Meyerson, D. A., & Irsheid, S. (2018). Exposure to community violence and the trajectory of internalizing and externalizing symptoms in a sample of low-income urban youth. *Journal of Clinical Child & Adolescent Psychology, 47*(3), 421-435.
- Troy, A. S., Ford, B. Q., McRae, K., Zorolia, P., & Mauss, I. B. (2017). Change the things you can: Emotion regulation is more beneficial for people from lower than from higher socioeconomic status. *Emotion, 17*(1), 141.
- Trumello, C., Babore, A., Candelori, C., Morelli, M., & Bianchi, D. (2018). Relationship with parents, emotion regulation, and callous-unemotional traits in adolescents' internet addiction. *BioMed Research International, 2018*
- Tull, M. T., Jakupcak, M., McFadden, M. E., & Roemer, L. (2007). The role of negative affect intensity and the fear of emotions in posttraumatic stress symptom severity among victims of childhood interpersonal violence. *The Journal of Nervous and Mental Disease, 195*(7), 580-587.

- Vaughn, M. G., Edens, J. F., Howard, M. O., & Smith, S. T. (2009). An investigation of primary and secondary psychopathy in a statewide sample of incarcerated youth. *Youth Violence and Juvenile Justice, 7*(3), 172-188.
- Viding, E., & Kimonis, E. (2017). Callous–unemotional traits in children and youth. *Handbook of Psychopathy, 2nd Edn. the Guildford Press, New York*,
- Viding, E., Fontaine, N. M., Oliver, B. R., & Plomin, R. (2009). Negative parental discipline, conduct problems and callous–unemotional traits: Monozygotic twin differences study. *The British Journal of Psychiatry, 195*(5), 414-419.
- Viding, E., & McCrory, E. (2015). Developmental risk for psychopathy. *Rutter's Child and Adolescent Psychiatry, 6*, 966-980.
- Viding, E., & McCrory, E. J. (2012). Why should we care about measuring callous–unemotional traits in children? *The British Journal of Psychiatry, 200*(3), 177-178.
- Viding, E., & McCrory, E. J. (2018). Understanding the development of psychopathy: Progress and challenges. *Psychological Medicine, 48*(4), 566-577.
- Viding, E., Simmonds, E., Petrides, K. V., & Frederickson, N. (2009). The contribution of callous-unemotional traits and conduct problems to bullying in early adolescence. *Journal of Child Psychology and Psychiatry, 50*(4), 471-481.
- Vitaro, F., Brendgen, M., & Tremblay, R. E. (2000). Influence of deviant friends on delinquency: Searching for moderator variables. *Journal of Abnormal Child Psychology, 28*(4), 313-325

- Wakschlag, L. S., Perlman, S. B., Blair, R. J., Leibenluft, E., Briggs-Gowan, M., & Pine, D. S. (2018). The neurodevelopmental basis of early childhood disruptive behavior: Irritable and callous phenotypes as exemplars. *Ajp*, *175*(2), 114-130.
doi:10.1176/appi.ajp.2017.17010045
- Waller, R., Gardner, F., & Hyde, L. W. (2013). What are the associations between parenting, callous–unemotional traits, and antisocial behavior in youth? A systematic review of evidence. *Clinical Psychology Review*, *33*(4), 593-608.
- Waller, R., Gardner, F., Hyde, L. W., Shaw, D. S., Dishion, T. J., & Wilson, M. N. (2012). Do harsh and positive parenting predict parent reports of deceitful-callous behavior in early childhood? *Journal of Child Psychology and Psychiatry*, *53*(9), 946-953.
- Waller, R., Hyde, L. W., Grabell, A. S., Alves, M. L., & Olson, S. L. (2015). Differential associations of early callous-unemotional, oppositional, and ADHD behaviors: Multiple domains within early-starting conduct problems? *Journal of Child Psychology and Psychiatry*, *56*(6), 657-666.
- Waller, R., Trentacosta, C. J., Shaw, D. S., Neiderhiser, J. M., Ganiban, J. M., Reiss, D., . . . Hyde, L. W. (2016). Heritable temperament pathways to early callous–unemotional behaviour. *The British Journal of Psychiatry*, *209*(6), 475-482.
- Waschbusch, D. A., Baweja, R., Babinski, D. E., Mayes, S. D., & Waxmonsky, J. G. (2020). Irritability and limited prosocial emotions/callous-unemotional traits in elementary-school-age children. *Behavior Therapy*, *51*(2), 223-237.

- Waschbusch, D. A., & Willoughby, M. T. (2008). Attention-deficit/hyperactivity disorder and callous-unemotional traits as moderators of conduct problems when examining impairment and aggression in elementary school children. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 34(2), 139-153.
- Waschbusch, D. A., Walsh, T. M., Andrade, B. F., King, S., & Carrey, N. J. (2007). Social problem solving, conduct problems, and callous-unemotional traits in children. *Child Psychiatry and Human Development*, 37(4), 293-305.
- Webster, C., MacDonald, R., & Simpson, M. (2006). Predicting criminality? risk factors, neighbourhood influence and desistance. *Youth Justice*, 6(1), 7-22.
- Whalen, P. J., Kagan, J., Cook, R. G., Davis, F. C., Kim, H., Polis, S., . . . Maxwell, J. S. (2004). Human amygdala responsivity to masked fearful eye whites. *Science*, 306(5704), 2061.
- White, S. F., Briggs-Gowan, M., Voss, J. L., Petitclerc, A., McCarthy, K., James, R. B., R., & Wakschlag, L. S. (2016). Can the fear recognition deficits associated with callous-unemotional traits be identified in early childhood? *Journal of Clinical and Experimental Neuropsychology*, 38(6), 672-684.
- White, S. F., Marsh, A. A., Fowler, K. A., Schechter, J. C., Adalio, C., Pope, K., . . . Blair, R. J. R. (2012). Reduced amygdala response in youths with disruptive behavior disorders and psychopathic traits: Decreased emotional response versus

- increased top-down attention to nonemotional features. *American Journal of Psychiatry*, 169(7), 750-758.
- Wilkinson, S., Waller, R., & Viding, E. (2016). Practitioner review: Involving young people with callous unemotional traits in treatment—does it work? A systematic review. *Journal of Child Psychology and Psychiatry*, 57(5), 552-565.
- Willoughby, M. T., Waschbusch, D. A., Moore, G. A., & Propper, C. B. (2011). Using the ASEBA to screen for callous unemotional traits in early childhood: Factor structure, temporal stability, and utility. *Journal of Psychopathology and Behavioral Assessment*, 33(1), 19-30.
- Wills, T. A., Simons, J. S., Sussman, S., & Knight, R. (2016). Emotional self-control and dysregulation: A dual-process analysis of pathways to externalizing/internalizing symptomatology and positive well-being in younger adolescents. *Drug and Alcohol Dependence*, 163, S37-S45.
- Wootton, J. M., Frick, P. J., Shelton, K. K., & Silverthorn, P. (1997). Ineffective parenting and childhood conduct problems: The moderating role of callous-unemotional traits. *Journal of Consulting and Clinical Psychology*, 65(2), 301.
- Yehuda, R., Steiner, A., Kahana, B., Binder-Brynes, K., Southwick, S. M., Zelman, S., & Giller, E. L. (1997). Alexithymia in holocaust survivors with and without PTSD. *Journal of Traumatic Stress*, 10(1), 93-100.

Yildirim, B. O., & Derksen, J. J. L. *Clarifying the heterogeneity in psychopathic samples: Towards a new continuum of primary and secondary psychopathy* Elsevier Ltd.

doi:10.1016/j.avb.2015.05.001

Zimmer-Gembeck, M. J., & Skinner, E. A. (2016). The development of coping:

Implications for psychopathology and resilience. *Developmental Psychopathology*, ,
1-61.