A Developmental Perspective on Psychopathic Traits in Adolescence
This dissertation is dedicated to the memories of my mother Fatima, grandmother Ramiza, and mentor Margaret – women with an impeccable ethos whose wisdom and kindness never fail to inspire and guide me.
Abstract


More than half of known crime is committed by 5-6% of the criminal population. Who are these people? Research has shown that it is likely that a majority of these individuals are characterized by having a psychopathic personality. Interestingly, research has shown that psychopathic features are not unique to adults. Youths with high levels of psychopathic traits resemble adult psychopaths in that they are the most frequent, severe and aggressive, delinquent offenders. There is less knowledge, however, about the development of these traits in adolescence, and many fundamental questions have yet to be addressed. The aim of this dissertation is to begin to examine a few of these questions, such as: a) the role of parents and their behavior in the development of psychopathic personality in adolescence; b) patterns of stability and change in psychopathic traits during adolescence; and c) whether or not subgroups of adolescents with high levels of psychopathic traits can be identified in a normative community sample. Overall, the results reveal that a psychopathic personality profile characterizes a small group of youths at particular risk of negative development. This group, as well as showing high levels of psychopathic traits throughout adolescence, report high levels of delinquent behavior, and also experience dysfunctional relationships with their parents. Further, the results reveal important subgroups of adolescents with high levels of psychopathic traits, much in accordance with the literature on adult psychopaths. Whereas one group expresses the personality style of primary psychopaths, another is more aggressive, impulsive, and anxious than the other. Taken together, the results of this dissertation suggest that some adolescents are at particular risk of future negative development. Implications for theory and practice, and for the directions of future research, are discussed.

Keywords: psychopathic traits, adolescents, development, stability, change, parental behavior, subgroups, parenting.

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**List of Studies**

This dissertation is based on the following papers, which hereafter will be referred to by their Roman numerals.

**Study I:** Salihović, S., Kerr, M., Özdemir, M., & Pakalniskiene, V. (2012). Direction of effects between adolescent psychopathic traits and parental behavior. *Journal of Abnormal Child Psychology, 40*(6), 957-969. doi: 10.1007/s10802-012-9623-x


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I. Introduction

Why are some individuals antisocial throughout their life? Is antisocial behavior the manifestation of an innate latent trait or the result of a failure of socialization? To what extent can persistent offenders be identified early? Is there more than one pathway to an antisocial lifestyle? These questions and many others have been the focal interests of criminologists and developmental psychologists for decades. Yet, they remain among the most current and pressing questions today. We know that a very small group, comprising less than 5% of criminal offenders, is responsible for 50% to 70% of all the violent crimes (Moffitt, 1993; Stattin, Kerr, & Bergman, 2010). We know that these offenders are more persistently aggressive, violent, and have an earlier onset of conduct problems than other antisocial individuals. Research has revealed that one common denominator of these people is a personality profile characterized by a lack of empathy and remorse, irresponsibility, and a grandiose sense of self-worth (for a review, see DeLisi & Piquero, 2011). This personality profile, known as psychopathy, has been described as a blueprint for violence, because it characterizes a minority of the most aggressive, violent, and persistent offenders. Interestingly, research has shown that the psychopathic personality profile is not unique to adults. Youths with high levels of psychopathic traits resemble adult psychopaths in that they constitute the most frequent, severe, aggressive, and temporally stable delinquent offenders (for reviews, see Ribeiro da Silva, Rijo, & Salekin, 2012; Forth & Book, 2010). Thus, research on the adolescent expression of psychopathic personality suggests that these youths, when come of age, will be responsible for the lion’s share of the most violent crimes in any Western culture (e.g., Harris, Rice, & Lalumiére, 2001). The purpose of this dissertation is to examine the adolescent expression of the psychopathic personality profile. By applying a developmental perspective, the goals are to advance theory development in the field and delineate processes that adolescents with psychopathic traits have in common.

Background

Arguably, one of the most influential and comprehensive descriptions of the psychopathic personality profile comes from Hervey Cleckley (1941, 1976), an American psychiatrist and acclaimed pioneer in the field of psychopathy. Based on thorough clinical observations of people with a psychopathic personality, Cleckley outlined the core criteria that characterize
a psychopathic person. As the title of his book, *The Mask of Sanity*, implies, Cleckley regarded psychopathy as a mask of normal functioning that conceals an unempathic, amoral, and ruthless individual. With phrases such as “pathological egocentricity and incapacity to love,” “untruthfulness and insincerity,” and “lack of remorse and shame” Cleckley emphasized a deeply rooted emotional deficit, initially hidden behind a mask of normal behavior that enables the psychopath to victimize and manipulate others without concern or restraint. Although some 70 years have passed since the first edition of his seminal work, Cleckley’s ideas remain an important point of reference for modern conceptualizations of psychopathy (e.g., Hare, 1996; Patrick, 2006).

It took until the early 1990s before contemporary scientific research on psychopathy really took off. The scientific endeavor was prompted by the research of Robert Hare who both introduced the construct of psychopathy to the field of criminology and developed a widely used and researched measure of psychopathy, the Psychopathy Checklist—Revised (PCL-R: Hare, 1991, 2003). The PCL-R identifies individuals with the emotional and interpersonal difficulties that are the hallmarks of psychopaths, and who also engage in persistent antisocial behavior and criminality. It is fair to say that the broader field of criminology received the construct of psychopathy with enthusiasm. Not only does psychopathy provide an ideal conceptual framework for studying the development of serious, violent, and chronic antisocial behavior, it also offers an understanding of the causal processes that initiate and maintain a range of socially deviant behaviors. Indeed, psychopathy has been put forth as “the unified theory of delinquency and crime and the purest explanation of antisocial behavior” (DeLisi, 2009, p. 256) because of its ability to use a single construct to connect the dots of antisociality over the life span (e.g., DeLisi & Piquero, 2011; Vaughn et al., 2011).

To date, psychopathy is one of the most important psychological constructs within the criminal justice system (e.g., Harris et al., 2001; Hare, 1996). It has captured the interest of behavioral scientists in many disciplines, and is studied at multiple levels, including analyses of neurobiological foundations (e.g., Patrick, 1994; Blair, 2006), cognitive processes (e.g., Hiatt & Newman, 2006), behavior genetics (e.g., Waldman & Rhee, 2006), early manifestations (e.g., Salekin, 2006), and social influence (e.g., Farrington, 2006; Lykken, 1995). Despite the scientific enthusiasm, however, many important challenges remain. Some of these challenges will be addressed in this dissertation.
What is psychopathy?

Psychopathy is a clinical construct usually referred to as a personality disorder. Today, most clinicians and researchers agree that psychopathy is multidimensional, and consists of a constellation of extreme interpersonal, affective, and behavioral traits (Cooke & Michie, 2001; Hare, 1991, 1996). Among the most salient features of the personality constellation is a callous disregard for the rights of others. It has been suggested that this feature is rooted in a fundamental emotional deficit that, together with an inability to experience guilt or remorse, makes up the core affective deficit of psychopathy (e.g., Cleckley, 1976; Lykken, 1995). Put differently, psychopaths are believed to be unable to experience basic emotions, such as fear, love, empathy, remorse, and if they do, it is only at the most superficial level—they “know the words but not the music” (Johns & Quay, 1962, p. 217). As well as the affective deficits, individuals with a psychopathic personality also have a superficial and dishonest interpersonal style. For example, psychopaths are notorious for being dishonest, manipulative, and having an inflated sense of self-worth. These traits co-occur with a behavioral style characterized by irresponsibility and impulsivity. Persons with this disorder act on the spur of the moment, and without any forethought, which often leads to involvement in a variety of violent criminal activities and transgressions. The syndrome that these traits make up is assumed to be a relatively stable personality disposition, which exists on a continuum within the general population (e.g., Edens et al., 2001; Edens et al., 2006; Monahan & Steadman, 1994; Quinsey et al., 1998; Hare & Neumann, 2008). The working definition, then, emphasizes a group of personality traits that includes callousness, remorselessness, egocentricity, impulsivity, and irresponsible behavior.

Other Terminology. As a personality disorder, psychopathy can only be applied to adults over the age of 18. Therefore, researchers who are interested in the early manifestations of this disorder use a host of terms to describe traits and behaviors that parallel the adult descriptions of psychopathy. For example, one line of research has focused on the presence of callous-unemotional (CU) traits, which are part of the affective component of the psychopathic personality profile (e.g., Frick, 1998; Frick et al., 2003; Frick & White, 2009). An extensive empirical base showing that CU traits characterize a small group of youths with the most serious conduct problems has warranted the insertion of CU traits or Low Prosocial Emotions (LPE) into the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V; American Psychiatric Association,
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2013) as a sub-type specifier of conduct problems. Another line of research, however, has focused on the entire personality constellation of psychopathy in children and youths, referring to psychopathy-like personality or psychopathic traits in order to avoid conflation with the adult construct. Thus, psychopathy is referred to differently depending on the developmental period of study and the measures that are used.

In this dissertation, the focus is on adolescents who display psychopathic personality traits. Henceforth, when I use the term psychopathic traits, I refer to the entire constellation of traits that are subsumed under the psychopathic personality profile (i.e., callous-unemotional, grandiose-manipulative, and impulsive-irresponsible traits). When I refer to callous-unemotional traits, I specifically refer to findings based on this particular dimension only.

**What is not psychopathy?**

The question of whether antisocial behavior is a core characteristic of psychopathy or a consequence is controversial, and the focus of a contentious theoretical debate (Cooke, Michie, & Hart, 2006; Hare & Neumann, 2006; Lilienfeld, 1994; Skeem & Cooke, 2010). The matter is further complicated by the DSM, which includes psychopathy as a subtype of an Antisocial Personality Disorder diagnosis (APSD; American Psychiatric Association, 2013). Although one common denominator of psychopathy and APSD is engagement in frequent and violent antisocial behavior, some authors have argued that criminality in itself is not the essence of the disorder (see, e.g., Skeem & Cooke, 2010). Studies have shown that the relation between APSD and psychopathy is asymmetric—between 50-80 per cent of adult male prison inmates meet the criteria for APSD, whereas only 15-20 per cent can be diagnosed with psychopathy (Skeem, Poythress, Edens, Lilienfeld, & Cale, 2003; Hart & Hare, 1996). In this sense, antisocial personality disorder is a generic diagnosis that is common to a large group of persistently criminal offenders, most of whom are not psychopaths. Thus, psychopathy emphasizes an emotional disorder with a high risk of antisocial behavior, whereas APSD focuses on persistent and severe antisocial behavior alone.

**What do we know about psychopathy?**

There is substantial empirical support for psychopathic adults being prolific and serious offenders who engage in a variety of violent antisocial be-
haviors (for a review, see DeLisi, 2009). Further, these individuals are known to reoffend at a higher rate than non-psychopathic individuals (for reviews, see Douglas, Vincent, & Edens, 2006; Hemphill, Hare, & Wong 1998). The general recidivism rate of psychopathic adults is three times higher than that of non-psychopathic individuals (for a meta analysis, see Hemphill et al., 1998). Finally, it has also been reported that psychopaths do not seem to benefit from therapeutic interventions in the same way as other antisocial adults (Hemphill, Hare, & Wong, 1998; Salekin, Rogers, & Sewell, 1996), and, in some cases, may show even higher crime rates when treated (Hemphill et al., 1998; Shine & Hobson, 2000). Thus, there is empirical support for the idea that the construct of psychopathy identifies a particularly antisocial group of offenders.
II. Psychopathic traits in adolescence

So far, then, the concept of psychopathy has proven useful in understanding severe and persistent antisocial behavior in adults. But it has also inspired scholars to go further, and ask questions about the origins and development of psychopathy. The endeavor was inspired by the idea that violent antisocial behavior rarely starts in adulthood. Indeed, research has shown that a majority of antisocial adults display antisocial tendencies earlier in childhood, and the earlier the onset of antisocial behavior, the greater is the likelihood of being antisocial in adulthood (Robins, 1966, 1978). This line of reasoning can be applied to psychopathy, which, like other personality disorders, is conceptualized as an early emerging, and relatively stable personality disposition. The developmental view of psychopathy is not new—it was first instigated in the late 1940s by a group of scholars who debated over the etiology of psychopathy and the factors that may be linked to its maintenance over the life course (see, e.g., Karpman, 1941; Salekin & Lochman, 2008). However, it is only within the past decade that the field has truly grown—the development of reliable measures to study psychopathic traits in youths has contributed to an expanding empirical base for analyzing the construct (for reviews, see Salekin & Lynam, 2010; Ribeiro da Silva et al., 2012).

Several compelling arguments have been put forward to justify the application of the psychopathy construct in children and youths. The desire better to predict, isolate, and potentially ameliorate developmental precursors to psychopathic behavior provides a few good reasons (e.g., Johnstone & Cooke, 2004; Salekin & Frick, 2005). To better understand the origins of antisocial behavior and the great heterogeneity in antisocial populations are other good reasons. The foremost reason, however, has been to learn about the instability of these traits and at what age they tend to stabilize, so that more effective prevention and intervention methods can be developed (e.g., Salekin, 2002; Andershed, 2010). Indeed, given the body of knowledge showing that treatment of adult psychopaths is generally unsuccessful, and that their rate of reoffending is several times higher than that of offenders without psychopathic traits (Hemphill et al., 1998), the promise of effective treatment and, ultimately, prevention seems closely intertwined with the early identification of youths who are at risk of being persistent offenders. Thus, the downward extension of these ideas from adulthood to childhood and adolescence was motivated by the quest
for a means of ameliorating or eradicating the development of this socially devastating personality profile.

This quest, however, has not been accepted uncritically. In fact, several authors have advocated caution in the study of psychopathic traits in younger populations, given that the construct was initially designed for and applied to adults, and that there was not enough empirical support to attest to whether or not psychopathy, as a temporally stable personality profile, existed among youths (e.g., Seagrave & Grisso, 2002). The concern was whether it is possible to distinguish what may be the early manifestations of a clinically significant disorder from typical processes that are part of normal development. Traits typically associated with psychopathy, such as impulsivity, irresponsible behavior, aggression, grandiosity and lack of awareness of possible consequences, are quite common and normative during adolescence. If normative developmental difficulties were confused with indicators of severe and life-course-persistent antisocial behavior, such confusion could do more harm than good, and become a self-fulfilling prophecy. Furthermore, there are research findings showing that general personality development is a continuous process that does not acquire any reasonable degree of stability until adulthood (e.g., Roberts & DelVecchio, 2002). From this perspective, changes in personality traits in adolescence make it difficult to study any personality constellation, since there is little overall stability. Although initially warranted, the critique of studying earlier expressions of psychopathic traits has been debunked by robust empirical findings showing that it is possible to assess a quite stable personality configuration in adolescents (e.g., Andershed, 2010) that, at least phenotypically, is consistent with adult psychopathy.

What do we know about adolescent psychopathic traits?

To date, the growing empirical base has revealed that the psychopathic personality traits can be identified in children as young as 3 years of age (Colins et al., 2013), and also in adolescents (Andershed, Kerr, Stattin, & Levander, 2002), and that youths high on psychopathic traits show the core temperamental, behavioral and emotional deficits that are the hallmarks of psychopathy, with very much the same factor structure as in adult populations (for reviews, see Forth & Book, 2010; Salekin, Rosenbaum, Lee, & Lester, 2009; Johnstone & Cooke, 2004). As with the adult population, a primary focus of the research endeavor has been to document the link between psychopathic traits and antisocial behavior. With very few exceptions, the literature on youth with high levels of psycho-
pathic traits reports similar patterns of antisocial behavior. For example, delinquent adolescents with psychopathic traits display antisocial behavior earlier, commit more crimes, and reoffend more often and more violently than adolescents without these characteristics (for reviews, see Forth & Book, 2010; Salekin, 2006; Campbell, Porter, & Santor, 2004). Furthermore, studies have shown that interpersonal and affective features of psychopathy specifically predict persistent forms of delinquency (for a review, see Kotler & McMahon, 2005), future recidivism (Pardini, Obradovic, & Loeber, 2006), and antisocial personality disorder symptoms in adulthood (Boccaccini et al., 2007). Moreover, youths with psychopathic traits show similar neuropsychological deficits and neurocognitive problems to those that have been documented in adults (for a review, see Frick & Marsee, 2006; Viding, Blair, Moffitt, & Plomin, 2005). Specifically, recent findings suggest that youths with CU traits share the same distinct neurocognitive impairment in affective processing as has been demonstrated in adult psychopaths (Blair et al., 2006). They show a stronger preference for novel, exciting and dangerous activities (Frick, Cornell et al., 2003; Frick, Cornell, & Bodin, 2003; Frick & Ellis, 1999), reduced sensitivity to punishment cues (Barry et al., 2000), and a preference for a reward-dominant response style, whereby they fail to suppress reward-driven behavior in the face of increasing punishment cues (Barry et al., 2000; O’Brien & Frick, 1996; Blair, Colledge, & Mitchell, 2001). There is also emerging evidence that adolescents with callous-unemotional traits have deficits in processing emotional stimuli, such as fearful and sad facial expressions, which is again in line with studies of adult psychopaths (for a review, see Lynam & Gudonis; Dadds, Perry, & Hawes, 2006; Loney, Frick, Clements, Ellis & Kerlin, 2003; Blair et al., 2001). In sum, then, there seems to be reasonable support for the idea that we can reliably identify psychopathic traits in adolescents that are similar to those in psychopathic adults.

**What is missing?**

Despite the substantial progress made in understanding the psychopathy-like personality in adolescence, the field is still far from offering a unified understanding of the specific personality constellation and its expression in adolescence. Part of the problem has to do with lack of agreement on how to conceptualize the construct in youths. Today, two areas of research dominate the field. One area focuses on understanding the role of callous-unemotional traits in the development of severe antisocial behavior. It has been proposed that CU traits, reflecting the affective deficit of
the syndrome, identify a particularly antisocial group of youths at the
greatest risk of future offending (Frick et al., 2003). This idea has received
considerable support over the past decade and contributed to a more re-
efined understanding of how severe antisocial behavior is maintained over
time. This, however, has been at the expense of progress in developing the
theory of the psychopathic personality constellation in adolescents. Psy-
chopathy, as a construct, is multidimensional and comprises not only af-
fective traits, but also has an interpersonal and a behavioral dimension
(Cooke & Michie, 2001; Salekin et al., 2006; Andershed et al., 2002).
These dimensions are correlated with the affective dimension (i.e., CU
traits), so the effects that are found for CU traits might be due, in part, to
one of the other dimensions. Hence, to contribute to knowledge of the
psychopathy personality syndrome per se, the focus needs to be on the
constellation of traits rather than the callous-unemotional dimension
alone.

Another line of research has focused on the extreme expression of psy-
chopathic traits in institutionalized youth populations. These youths, as
well as showing extreme levels of psychopathic traits, also show a variety
of internalizing and externalizing problems. This is problematic from a
developmental perspective, since it becomes difficult to disentangle causally
related factors from consequences, and provides little information on
how psychopathy develops over time. More importantly, if we are to
make new discoveries about what either hampers or exacerbates the
development of psychopathy before it becomes a chronic disorder, the focus
needs to be on normative community samples rather than on forensic
samples. This assertion is in line with the literature showing that psychop-
athy is a dimensional construct (Guay, Ruscio, Knight, & Hare, 2007;
Edens et al., 2006), which further indicates the importance of examining
the expression of psychopathic traits in normative samples, taking into
account social factors, such as parenting, in order to map the trajectories
of young people with this personality configuration. In sum, although
both of these lines of research have provided the field with relevant
knowledge, there are still gaps in the literature that preclude theoretical
development. In this dissertation, I will argue that what is needed is a de-
velopmental perspective on psychopathic traits in adolescents.

Why developmental? An important goal of developmental research is to
describe normative changes in personality traits. Traditionally, personality
psychologists have conceptualized personality traits as stable and enduring
psychological differences between people that are more or less static
throughout development. This idea has been challenged by contemporary personality and developmental research—there is empirical support for the idea that personality traits are dynamic developmental constructs that change through interactions with the environment (Roberts & DelVecchio, 2000; Caspi & Roberts, 2001; Roberts, Caspi, & Moffitt, 2001). The literature on psychopathy is largely consistent with this view. Theoretically, psychopathy is considered a developmental disorder that results from a complex interaction between social and biological factors (e.g., Saltarisi, 2002; Blair, Robert, & Blair, 2005; Hare, 1996). The interaction, however, is poorly understood. It is generally believed that precursors to psychopathy can be identified very early in childhood (Colins et al., 2013) and that there is heterotypic continuity through childhood, adolescence and adulthood (Fontaine, Rijsdijk, McCrory, & Viding, 2010; Lynam, Caspi, Moffitt, Loeber, & Storuthamer-Loeber, 2009; Lynam et al., 2007). Behavior genetic studies have shown that genes account for a substantial amount of variability in psychopathic traits and their stability over time (Larsson, Andershed, & Lichtenstein, 2006; Forsman, Lichtenstein, Andershed, & Larsson, 2008). However, the factors that contribute to the maintenance of psychopathic traits are less well understood. The role of parenting behaviors for the subsequent development of psychopathic traits, for example, has received little attention despite the apparent role parents play in shaping young people’s lives. A developmental perspective places the development of psychopathic traits in relation to other developmentally relevant factors (e.g., parental behavior and delinquency), in order to track how they influence each other over time. Thus, in order to understand how psychopathy develops, there is a need for a developmental focus.

Why adolescence? Adolescence is viewed as a transitional period between childhood and adulthood, which is characterized by more biological, psychological, and social role changes than any other stage of life except infancy (Feldman & Elliott, 1990). Given growing cognitive capacities (i.e., abstract thinking) in combination with the psychobiological changes and social circumstances that are associated with puberty, adolescence may be an important junction in the etiology of psychopathy—a time when developmental trajectories can take dramatic turns in a positive or negative direction. Moreover, adolescence is also the optimal period for studying how psychopathic personality emerges, because it is possible to capture its full expression more adequately than during the childhood years. For example, the interpersonal features of psychopathy concern
traits and behaviors, such as an inflated sense of self-worth, bragging, conning, and manipulating others, are difficult to observe in children because they require abilities that are not fully developed before adolescence. In adolescence, however, the traits that make up the interpersonal dimension of psychopathy can be reliably assessed using self-report measures (e.g., Andershed et al., 2002). Thus, adolescence seems to be an optimal period to study the full expression of a psychopathic personality profile.

Unanswered questions
In sum, although a large body of literature has increased our understanding of psychopathic traits in adolescence, several fundamental theoretical questions remain unanswered. The role of parental behavior in the development of psychopathic traits is one example. Do parents, through their parenting practices, influence the development of psychopathic traits in adolescents, or is it the other way around? Another example concerns the continuity of psychopathic traits in adolescence—is the psychopathic personality profile (i.e., callous-unemotional, grandiose-manipulative, and impulsive-irresponsible behaviors) stable during adolescence, and for whom is it the most stable? Finally, a third poorly understood question concerns heterogeneity in development—are there different subgroups of youths high on psychopathic traits? Together, answers to these questions will provide important information about developmental processes that are critical to theoretical development in the field of psychopathy in general, and of adolescent psychopathic traits in particular.

Psychopathic traits and parental behavior
Even though theories of the origins of psychopathic traits highlight a broad range of biological influences, such as temperament, genetic factors, and brain structure, all theorists seem to agree that it is the environment that creates the conditions necessary for the development of psychopathy (e.g., Lykken, 1995). One of the most well-established findings in the fields of criminology and developmental psychology places parental and family characteristics in the causal chain leading to antisocial behavior (e.g., Gottfredson & Hirschi, 1990; Laub & Sampson, 1988; Loeber & Stotuthamer-Loeber, 1986; Patterson, 1982). Also, like most forms of antisocial behavior, psychopathy has been linked to problems within the family. Parents’ negative behaviors, such as rejection, neglect and abuse, have been put forth as social factors that are associated with the development of psychopathy (e.g., McCord & McCord, 1964; Quay, 1977;
These parenting characteristics are believed to bring about emotional detachment in children who are temperamentally fearless and impulsive, partly by preventing positive socialization experiences (e.g., Lykken, 1995; Quay, 1977; Salekin, 2002), and contribute to the onset of a callous and unemotional personality. Positive parental behaviors, on the other hand, are thought to work against the development of psychopathic traits by promoting the internalization of prosocial values and behaviors (Lykken, 1995). Thus, there are ideas suggesting that although some children are temperamentally vulnerable to developing psychopathy, parental behavior may actually determine the outcome.

Empirical research has shown that parent’s negative behaviors, such as use of inconsistent discipline and physical punishment, are associated with high scores on callous-unemotional traits (Frick et al., 2003), and also with psychopathic traits in adolescence (Forth, 1995). Similarly, poor parenting practices, such as parental inconsistency, poor parent-child communication and poor supervision, have been associated with stability in callous and unemotional traits (Pardini & Loeber, 2008). Other studies have examined the link using a genetically sensitive design. It has been found that children with high levels of CU traits and antisocial behavior experience higher levels of negative parental behavior than controls or children with callous-unemotional traits only (Larsson, Viding, & Plomin, 2008). Considering positive parental behaviors, there are some findings showing that parental support is linked to decreases in callous-unemotional traits (Frick et al., 2003; Pardini & Loeber, 2008). Thus, the literature on the development of psychopathic traits suggests that the environment, of which parents are a part, may work either to exacerbate or to ameliorate the development of psychopathic traits.

Although theory and research have generally promoted the notion that parental behavior can contribute to or mitigate the development of psychopathic traits, the interrelations between parenting and psychopathic traits are not well understood, particularly during adolescence. Moreover, although previous literature has shown that negative parenting is linked to psychopathic traits, the complex transactional nature of the parent-adolescent relationship has not been modeled extensively. Accordingly, it has been suggested that the link between parental behavior and psychopathic traits might be bidirectional. Quay (1977), for example, has proposed that children who show the temperamental antecedents of psychopathy (i.e., impulsivity, fearlessness, insensitivity to punishment) will be particularly difficult to socialize. This may result in inconsistent parenting
behavior, which, according to Quay (1977), creates a negative cycle that may exacerbate the development of a psychopathy-like personality style. Rather than assuming that parents, through the quality of their parenting, determine whether or not a child will develop psychopathic personality traits, Quay (1977) suggests that the mechanism may lie in the interaction between parents and their children. This idea is in line with theory and research on parent-adolescent relationships, where the link between parent’s behavior and youth behavior is regarded as bidirectional (e.g., Sameroff, 1975; Kuczynski, Lollis, & Koguchi, 2003; Kerr, Stattin, & Pakalniskiene, 2008). However, few studies have looked at parenting and adolescent psychopathic traits, and none has examined the possibility of a dynamic, bidirectional relationship between parents and youths. In short, understanding how parental behavior influences the development of psychopathic traits may fill in the gaps in knowledge of the developmental processes involved in psychopathy—thereby providing new knowledge that could inform prevention and treatment research so that more effective strategies could be developed.

**Stability of psychopathic traits**

One of the most enduring questions in psychology is whether personality remains stable or changes over time (Caspi, 1998; McCrae & Costa, 1990; Roberts & Chapman, 2001; Mroczek & Spiro, 2003). Researchers studying the psychopathy-like personality constellation in adolescence are interested in the same question—the stability or instability of psychopathic traits is a critical issue that is linked to the validity and the utility of the construct because it addresses the issue of whether psychopathic traits, as a coherent syndrome, exist in adolescence. Some authors have even argued that, for the construct to have meaning and be valuable, it must have temporal stability (Seagrave & Grisso, 2002). Thus, another fundamental question about the development of psychopathic traits concerns the stability of the construct over time—are children or youths with high levels of psychopathic traits likely to become adult psychopaths?

The empirical quest to delineate the developmental trajectory of psychopathic personality traits from childhood to adulthood has received much attention over the past decade (for a review, see Andershed, 2010). At this point, however, no study has yet covered the full age range between early childhood and adulthood. In other words, we still do not know whether children who show high levels of psychopathic characteristics will become adult psychopaths. There is, however, some information
about stability across different developmental periods. One of the first studies to examine the stability of psychopathic traits in a sample of community-based children, selected on the basis of extreme scores on psychopathic traits, revealed high test-retest correlations over four years, for both parent- and teacher-reported psychopathic traits (Frick et al., 2003). These results were taken to suggest that psychopathic traits are quite stable in childhood. A few studies have examined the stability of psychopathic characteristics in adolescence. Although using different measures to assess psychopathic traits, the conclusion was that these features showed a moderate to high degree of stability over time (for reviews, see Salekin, Rosenbaum, & Lee, 2008; Andershed, 2010). Similarly, one study examined the prospective relationship between psychopathic traits in adolescence and psychopathy assessed at age 24 (Lynam et al., 2007). The association for the global score of psychopathic traits was modest \((r = .31)\), but given the lag of 10 years between the first and the second measurement, it was concluded that psychopathic traits show considerable stability from adolescence to adulthood. This conclusion was drawn despite the results showing it was the stability of antisocial behavior, rather than of psychopathic traits, that accounted for most of the stability (Lynam et al., 2007). Based on these findings, what conclusion can be drawn about the stability of psychopathic traits in adolescence?

If one scrutinizes the literature on stability carefully, it becomes evident that most of our knowledge is based on estimates of rank-order stability. This methodological approach, although frequently used in longitudinal research, does not account for variability in development because it only reveals the degree to which people, relative to other people in a sample, maintain their initial rank. Studies that have examined mean-level stability in psychopathic traits or callous-unemotional traits have similar limitations, namely, that they can only inform about the general, average pattern of change in the entire sample, and therefore conceal the extent of individual differences in stability. Knowledge of individual differences, and how they form distinct pathways is important, because it can help identify, at an early stage, youths who appear to be at the greatest risk of later maladjustment, and makes it possible to distinguish them from youths with minor or more transient problems. In other words, both of these approaches focus on general trends, and both mask less common developmental patterns. This applies particularly to the study of psychopathy, since it is a non-normative developmental pattern that characterizes only a small group of youths. Thus, in order to understand the development of
psychopathic traits, it is necessary to go beyond the question of whether they increase or decrease in adolescence, and investigate both inter-individual differences and intra-individual changes of this phenomenon.

Another gap in knowledge concerns the stability and change in the defining dimensions of the psychopathic personality constellation (e.g., Andershed, 2010). Most previous studies have examined just one dimension or a set of psychopathic traits (e.g., CU traits) in isolation, or composite psychopathy scores (e.g., CPS: Lynam et al., 2007, 2009), which leaves the question of stability or change on the interpersonal and behavioral dimensions unanswered. This is a relevant question given the empirical evidence that psychopathy is a multifaceted and dimensional construct, meaning that the development of one dimension may be influenced by the other two. For example, there is literature showing that the different dimensions of psychopathy have different correlates (for a review, see Feilhauer & Cima, 2013), and play different roles in the link between parenting and conduct problems (Edens et al., 2008). Furthermore, it has been reported that there is greater stability in the dimensions of psychopathic personality concerned with impulsivity and antisocial behavior than in those concerned with grandiose interpersonal style or callous-unemotional traits (Lynam et al, 2007). What these findings suggest is that, in order truly to track the development of a multidimensional construct such as psychopathic personality, each dimension should be studied separately and independently from the other dimensions and the overall composite score. In other words, describing the development of only one dimension (e.g., CU traits) is not enough to describe the development of psychopathic traits, since the development of callousness may or may not be influenced by the remaining two dimensions. At this point, no previous study has examined the developmental trajectories of all three dimensions in a single study across adolescence.

**Heterogeneity among adolescents with psychopathic traits**

There has been a continuing debate in the literature on psychopathy about whether psychopathy is a homogeneous phenomenon or whether discrete subgroups of people with psychopathic traits can be distinguished. Theoretically, it is widely accepted that the development of psychopathy can originate from innate biological dispositions as well as environmentally influenced factors (e.g., Cleckely, 1976; Lykken, 1995). For example, there is a longstanding idea that the phenotypic expression of psychopathy can be the end result of two etiologically distinct pathways. Karpman
(1946) was among the first to suggest that some psychopaths are most likely “born” (i.e., for a primary subtype) and that some are “made” (a secondary subtype). The primary difference between primary and secondary psychopaths has been related to levels of negative emotionality and anxiety (e.g., Blackburn, 1998; Lykken, 1995; Mealey, 1995; Porter, 1996). The primary type is believed to be the result of a congenital deficit that, through an innate emotional impairment, predisposes a person to develop psychopathic traits. Primary psychopaths are cold, cunning, manipulative, and generally flat in their emotional reactions in general and their anxiety in particular. They are proactively aggressive, but not necessarily antisocial. Some authors have proposed that the primary type is the classic, prototypical psychopath described by Cleckley (1976)—a person devoid of emotions. The secondary type, in contrast, is believed to have been exposed to a negative, harsh, and adverse environment in early childhood. Traumatic experiences, and an unstable and unloving family environment, are thought to contribute to an emotional detachment that, in turn, facilitates the development of psychopathic traits. Secondary psychopaths are characterized by an antisocial lifestyle, a short temper, and reactive aggression. Compared with primary psychopaths, they are characterized as risk-takers, and are prone to negative emotionality and anxiety. Thus, it is believed that distinct causal factors may have the same outcome—psychopathic personality.

Several studies have identified subgroups that resemble theoretical conceptualizations of the primary and secondary subtypes in adult-offender samples that differ on anxiety and other behavioral and physiological factors (e.g., Skeem, Johansson, Andershed, Kerr, & Louden, 2007; Swogger & Kosson, 2007). Recent findings on adolescent-offender samples point in the same direction—anxiety seems to be a distinguishing feature of youths with high scores on measures of psychopathic traits (e.g., Kimonis, Frick, Cauffman, Goldweber, & Skeem, 2012; Kimonis, Skeem, Cauffman, & Dmitrieva, 2011; Lee, Salekin, & Iselin, 2010). Youths who scored high on psychopathic traits and anxiety (i.e., the high-anxious group) reported more negative emotionality, attention problems, impulsivity, anger, and childhood abuse, and were more affected by distressing emotional stimuli than their low-anxious counterparts (Kimonis et al., 2011; Kimonis et al., 2012). Further, it has been reported that the high-anxious subgroup displayed more psychiatric symptoms, drug use, delinquent behavior, and trauma history than the low-anxious group (Vaughn et al., 2009; Veen et al., 2011). It should be noted that two other studies
did not identify the proposed subgroups. For example, Lee et al. (2010) found that anxiety did not discriminate between primary and secondary subtypes in a sample of male adolescent offenders. There was only support for a high-anxious group, which most closely resembled the secondary variant, and no low-anxious (i.e., primary) group emerged. Warenham et al. (2009), on the other hand, found a low-anxious group of adolescent offenders but did not identify a high-anxious subgroup. In general, then, there is some, albeit inconclusive, empirical support for the idea that high-anxious and low-anxious subgroups can be identified among youths in forensic settings.

Although there is some research suggesting that anxiety differentiates between what may be the proposed subtypes of psychopathy in adolescence, there is a need to address this question from another angle—namely, whether these groups can be identified among youths in community samples. This is particularly important given that it is increasingly understood that psychopathic traits are distributed along a continuum rather than constituting a discrete taxon or categorical entity (for review, see Poythress & Skeem, 2006). This, in itself, suggests that there is variation in expression of the traits, and is an argument for studying the full range of expressions in samples with normative distributions. Thus, focusing solely on institutionalized youth populations who are at the high end of the distribution of psychopathic traits precludes information about the developmental aspects of psychopathic traits. Indeed, if we are to unravel the etiology of psychopathy and give more precision to treatment programs, a more accurate specification of unique subgroups is needed.

This dissertation

In sum, several questions concerning the adolescent expression of psychopathic traits have not been answered. Through the lens of developmental psychology, the goal of this dissertation is to contribute new knowledge about the expression of psychopathic traits from early to middle adolescence. To achieve this, I focused on three fundamental questions, which address different aspects of development. One is whether parental behavior, positive or negative, predicts changes in psychopathic traits over time, or whether adolescent’s psychopathic traits predict subsequent changes in parental behavior. From the literature, it seems that there are ideas supporting both directions of effects, but the question has not been examined to account for a bidirectional influence. To answer this question, I used cross-lagged panel design models to examine the directions of effects be-
between a range of positive and negative parental behavior and psychopathic traits at four time points in adolescence. A second, fundamental question concerns the degree of stability in psychopathic traits during adolescence. Some research findings suggest that psychopathic traits are relatively stable throughout adolescence and, on average, show very little mean-level change over time (see, e.g., Andershed, 2010). However, these studies only examined the mean-level trend for an entire sample and did not consider inter-individual differences in intra-individual change—how youths, relative to themselves, change over time. To answer this question, I used latent class growth modeling to examine the trajectories of the three core dimensions of psychopathy: callous-unemotional traits, grandiose-manipulative traits, and impulsive-irresponsible behavior. Indeed, since the construct of psychopathy is multidimensional, distinguishing between different facets can lead to more detailed and specific information about the construct. Finally, a third unanswered question concerns heterogeneity in the expression of psychopathic traits in adolescence. Both the theoretical and the empirical literature suggest that psychopathy and psychopathic traits are expressed differently depending on level of anxiety (e.g., Karpman, 1946). These subgroups have been identified in incarcerated adult and adolescent samples, but no previous study has examined whether these groups can be observed in a normative community sample of youths. I used latent class analysis to examine whether subgroups that resemble theoretical conceptualizations of primary and secondary types can be found among adolescents from a normative community sample. Together, the answers to these questions will aim to provide a developmental perspective on the adolescent expression of psychopathic traits.

The following research questions are posed in this dissertation:

**Study I:** What are the directions of effects between parental behaviors and adolescent psychopathic traits?

**Study II:** Are psychopathic traits, measured on separate dimensions, stable in adolescence—and for whom?

**Study III:** Are there unique subgroups of adolescents with high levels of psychopathic traits and different levels of anxiety that parallel the descriptions of primary and secondary subtypes?
III. Method

Participants and Procedure

The samples for this dissertation come from a larger community-based project, “10-to-18”, in which all adolescents aged between 10 and 18 years and their parents in a midsized town in Sweden participated. The aim of the project was to understand the roles of parents, peers, and individual characteristics in the development of adolescent adjustment problems and delinquency. The first data collection took place in the fall of 2001, and the data were collected annually for five years. Demographically, the town population was about 26,000 at Time 1, and the community had a similar unemployment rate to the rest of the country (4%). The average income was somewhat lower than the country average. Twelve percent of the inhabitants had a foreign background, which is comparable with 14% for the entire country. All students in grades 4 through 10 (roughly aged 10 to 18) were asked to participate in the study each year. Each year, one cohort graduated from high school and left the study, while another cohort of 4th graders came into the study.

The adolescents were recruited in classrooms during school time. They were informed about the kinds of questions that would be part of the questionnaire, and how long it would take to complete them. They were also informed that participation was voluntary, and that they could do something else if they did not wish to participate. The adolescents were guaranteed that their participation was confidential, and that their answers would not be revealed to anyone else. They filled in the questionnaires during regular school hours in sessions administered by trained research assistants. Neither teachers nor other school personnel were present during that time. No one was paid for participating, but for each of the classes 4 through 6 we made a small donation to the class fund, and for each of the classes in grades 7 through 12 we held a drawing for movie tickets. Overall, youth participation rates were over 90% each year.

Parents participated every second year by filling in questionnaires and returning them in prepaid postages. The parents were informed about the study beforehand in meetings held in the community and by letter in the mail. With the letter they received a postage-paid card to return in case they did not want their children to take part in the study (1% of the parents did so). They were also informed that they could withdraw their child.
from the study at any time they pleased. Overall, parent participation rates were about 70% each year. Örebro University’s Ethics Board approved the study, including all the measures used.

Sample for Study I
The analytic sample for Study 1 included adolescents who were in 7th through 9th grade at Time 1. They were followed in four annual assessments. Eight hundred and seventy-five adolescents (90% of the target sample), 464 boys (53%) and 411 girls (47%), participated at Time 1. To determine whether those who participated on all four occasions differed from those who did not, we compared participants with complete data and participants with data missing for at least one of the waves. These groups differed significantly on several variables in the study. The adolescents who did not participate in the study at all the time points were younger, reported somewhat higher scores on psychopathic traits and problem behavior, and reported experiencing more negative parental behavior than other youths. Nonparticipation was unrelated to gender in all waves.

Sample for Study II
For the second study, the target sample was all adolescents in grades 7 through 9 at Time 1. To be included in the analyses, the participants were required to have at least three waves of data on all variables. Forty youths did not meet this criterion and were removed from the data set. To determine whether those who participated differed from those who did not, we compared participants who had data for at least three time points with participants who had data missing for all waves. These groups differed significantly on only two measures. Specifically, adolescents who did not participate in the study at all time points were somewhat higher on delinquent behavior and reported experiencing more negative parental behavior than adolescents who were included in the analyses. Nonparticipation was unrelated to gender in all waves. The final analytic sample, then, included 1,068 adolescents—547 boys (51%) and 521 girls (49%), with a mean age of 13.41 years (SD = 1.46) at Time 1.

Sample for Study III
For the third study, students in all 7th through 9th grade classes in the city (N = 982) comprised the target sample. Of the 982 youths, 914 (93% of the target sample; 51% boys) were present on the day of data collection
and answered the questionnaires. Study III, then, is based on cross-sectional data.

**Measures**

For the studies in this dissertation, we mainly used adolescent self-reports of their own and their parents’ behaviors towards them. Only measures assessing adolescent’s anxiety and symptoms of Attention Deficit/Hyperactivity Disorder (ADHD) were reported by adolescents’ parents.

**Psychopathic traits**

To measure adolescent psychopathic traits, we used the Youth Psychopathic Traits Inventory (YPI; Andershed et al., 2002). The YPI is a self-report instrument designed to capture psychopathic traits in community samples of youths 12 years and older. The reliability and construct validity of this instrument have been reported elsewhere (Andershed, 2010; Andershed et al., 2002; Declercq, Markey, Vandist, & Verhaeghe, 2009; Poythress, Dembo, Wareham, & Greenbaum, 2006; Skeem & Cauffman, 2003). Participants responded to 50 items, which made up 10 internally consistent subscales. The four-point response scale ranged from 1 (Does not apply at all) to 4 (Applies very well). Because psychopathic personality appears to be a multidimensional construct, the YPI items can be summed to yield three factor scores that reflect the three separate dimensions of psychopathic personality profile—affective, interpersonal and behavioral—which is consistent with findings from previous studies on adult populations (e.g., Cooke & Michie, 2001).

**Grandiose-manipulative dimension.** The grandiose, manipulative dimension comprised 20 items from four subscales: Dishonest Charm, Grandiosity, Lying, and Manipulation. Examples of the items were: “I have the ability to con people by using my charm and my smile,” “I am better than everyone else,” and “Sometimes I find myself lying without any particular reason.”

**Callous-unemotional dimension.** The callous-unemotional dimension comprised 15 items from three subscales: Unemotionality, Remorselessness, and Callousness. Some examples of items were: “I think that crying is a sign of weakness, even if no one sees you,” “I usually feel calm when other people are scared,” and “I have the ability not to feel guilt and regret about things that other people would feel guilty about.”

**Impulsive-irresponsible dimension.** The impulsive, irresponsible dimension included 15 items for Impulsiveness, Thrill-seeking, and Irresponsibil-
ity. Examples of the items were: “I prefer to spend my money right away rather than save it,” “I like to be where exciting things happen,” and “I have probably skipped school or work more than most other people.”

**Delinquent behavior**

For Study I, Study II, and Study III, we asked the youth’s about their engagement in a variety of delinquent activities. This scale has been validated in a Swedish sample through comparison with official records (Magnusson, Dunér, & Zetterblom, 1975; Kerr & Stattin, 2000), and similar scales have been validated in North American samples (Hirschi, Hindelang, & Weiss, 1980). It can be used to produce a global score for delinquent behavior, and also four separate factor scores reflecting *serious offences*, *minor offences*, *violence*, and *substance use*. Response options for all items were on a five-point scale: 1 (*no, it has not happened*), 2 (*1 time*), 3 (*2 to 3 times*), 4 (*4 to 10 times*), and 5 (*more than 10 times*). In Study I and II, we used a global score of delinquent behavior, and in Study III we used scores on the four separate scales.

*Delinquency.* Adolescent-reported delinquency was measured with 19 questions about delinquent activities that are commonly included in self-report measures (see, e.g., Haynie, 2001). The behaviors included shoplifting; being caught by the police; vandalizing public or private property; taking money from home; creating graffiti; breaking into a building; stealing from someone’s pocket or bag; buying or selling stolen goods; stealing a bike; being in a physical fight in public; carrying a weapon; stealing a car; stealing a moped or motorcycle.

*Serious offences.* Youths responded to four questions about their engagement in serious offences. The items were: “Have you participated in breaking into a home, shop, stand, storage building or other building with the intention of taking things during the last year?” “Have you participated in taking a car without permission during the last year?” “Have you taken a moped, motorcycle, or vespa without permission during the last year?” and “Have you taken part in stealing something from a car during the last year?”

*Minor offences.* To indicate their engagement in minor, less serious offences, the youths were asked six questions about their behavior during the last year. The items were: “Have you taken things from a store, stand, or shop without paying during the last year?” “Have you, purposely, destroyed things such as windows, street lights, telephone booths, benches, gardens, etc. during the last year?” “Have you taken money from home
that was not yours during the last year?” “Have you been part of painting graffiti, or writing with markers or spray-paint on, for example, a sidewalk during the last year?” and “Have you taken a bicycle without permission during the last year?”

**Violence.** The youths were asked six questions about their use of violence during the last year. The items were: “Have you threatened or forced someone to give you money, cigarettes, or anything else during the last year?” “Have you taken part in a street fight in town during the last year?” “Have you carried a weapon (e.g., brass knuckles, bat, knife, switchblade, or some other weapon) in school or in town during the last year?” “Have you intentionally hurt someone with a knife, switchblade, brass knuckles, or some other weapon during the last year?” “Have you been part of beating someone so that you believe or know that he or she needed to be treated at the hospital during the last year” and “Have you taken part in threatening or forcing someone to do something that he or she didn’t want to do during the last year.”

**Substance use.** Three questions tapped substance use. The items were: “Have you drunk so much beer, liquor, or wine that you got drunk during the last year?” “Have you smoked hashish (marijuana, cannabis) during the last year?” and “Have you used any drugs other than hashish (marijuana, cannabis) during the last year?”

**Aggression**

For Study III, we used two scales to measure aggression that were developed in the “10-to-18” project. The response options were 1 (*does not apply at all*), 2 (*does not apply well*), 3 (*applies fairly well*), and 4 (*applies exactly*).

**Reactive aggression.** There were six items measuring aggressive behavior. The items were: “If I am really angry I usually throw, hit or kick things,” “If I am mad at someone, I don’t hesitate to hit him/her,” “If I am mad at someone, I ignore him/her and don’t talk to him/her,” “When someone teases me, I get mad and tease back,” “If someone stresses me, I often get very mad,” and “I can’t tolerate being provoked--I’ll start fighting.”

**Proactive aggression.** We also asked the youths whether they engaged in proactive acts of aggression. This scale comprised five items. The items were: “If I am mad at someone I can say bad things to him/her, even though he/she hasn’t said anything bad to me,” “I pick a fight with people I don’t like, even though they haven’t done anything to me,” “I often feel
angry without any special reason,” “I like to tease and say mean things to others, even though they haven’t said or done anything against me,” and “If I don’t like someone, I show it by teasing or mocking him/her.”

Attention Deficit/Hyperactivity Disorder

In Study III, we assessed the youths’ ADHD symptoms. To measure ADHD symptoms, we used the Swanson, Nolan and Pelham Rating Scale (SNAP-IV), which has shown good reliability (Bussing et al., 2008). The measure was developed to assess ADHD symptoms according to DSM-IV and can be used in community-based populations. Parents reported how well different statements applied to their adolescent’s behavior. Response options ranged from 1 (does not apply at all) to 4 (applies exactly). The measure consists of three separate subscales: hyperactivity, impulsivity, and attention problems.

Hyperactivity. Parents were asked to respond to five statements about their youths. The items were: “Often leaves his/her place and has difficulties sitting still in situations that demand sitting still,” “Often has difficulties with keeping his/her hands or feet still, or can’t sit still,” “Often talks excessively much,” “Doesn’t like doing things that demand calmness and stillness,” and “Often seems to be ‘on the go’ or at ‘top revs’.”

Impulsivity. We assessed the youths’ impulsivity by asking their parents to report on three items. These items were: “Often has difficulties waiting for his/her turn,” “Often answers before the question has been asked,” and “Often interrupts others or jumps in to their conversations or activities.”

Attention problems. Attention problems were measured using nine statements. Parents responded to statements such as: “Is often distracted by things that happen around him/her,” “Often has difficulties with maintaining attention during a longer period of time,” “Often has difficulties in following instructions and therefore often fails to complete tasks,” “Very often has difficulties in organizing tasks and activities,” “Often loses things that are necessary to accomplish tasks and activities.”

Anxiety

In Study III, parents responded to six questions about their youths’ behavior. The scale was created for the “10-to-18” project and contained the following items: “Often worries about things without a reason,” “Often thinks about everything that can go wrong or bad before he/she does things,” “Is often more nervous than others in his/her age,” “Often has problems with falling asleep because his/her thoughts are about difficult
things,” “Often worries about things that could happen in the future,” and “Worries a lot unnecessarily. Response options ranged from 1 *(does not apply at all)* to 4 *(applies exactly)*.

**Parental behaviors**
We asked the youths about their relationship with their parents in a number of ways, and these measures were used in Study I and Study II. All the measures were part of a larger battery created within the “10-to-18” project to tap parents’ positive and negative responses to adolescents’ misconduct, and included separate reports about mothers and fathers. Generally, the reports for mothers and fathers were highly correlated \(r = < .67\) and, for this reason, we aggregated the two.

**Positive parental behavior**
Parents’ positive behaviors were measured with two scales—*attempted understanding* and *warmth*.

*Attempted understanding*. To measure parents’ attempted understanding, youths were asked five questions about their mothers and fathers typical reactions towards them when they had done something the parents really did not like (Tilton-Weaver et al., 2010). The items were “Talks to you at once,” “Are clear about what they think, but are open for discussions,” “Honestly wants to understand why you did what you did,” “Tries to understand how you thought and felt,” and “Tries to talk through without creating new conflicts.” The response options were 1 *(never)*, 2 *(sometimes)*, and 3 *(most often)*.

*Warmth*. To assess emotional closeness, youths were asked to respond to six statements about how warm they perceived their mothers and fathers to be, respectively (Kerr & Stattin, 2003). The items were concerned with mothers and fathers separately: Your mom/Your dad: “Praises you for no special reason,” “Shows he or she cares for you with words and gestures,” “Does small things that make you feel special (e.g., wink, smile),” “Constantly shows how proud he/she is of you,” “Focuses on the positive and seldom the negative things you do,” and “Always shows his/her love to you without any reason—almost regardless of what you do.” There were three response options, ranging from 1 *(never)* to 3 *(most often)*.

**Negative parental behavior**
Parents’ negative behaviors were assessed with three scales—*angry outbursts*, *coldness-rejection*, and *negative reactions to disclosure*. 
Angry outbursts. To measure parents’ angry outbursts, the youths were asked to respond to the stem question: “What happens if you do something your parents really dislike?” They could give their responses on a three-point scale: 1 (never), 2 (sometimes), and 3 (most often). The items were “Becomes very angry and has an outburst,” “Has a hard time controlling his/her irritation,” “Screams and yells at you,” “Quarrels and complains loudly,” and “Has outbursts of anger and tells you off.”

Coldness-rejection. The youths were asked six questions about their mothers and fathers acting coldly and rejecting them, and how each parent typically reacted when they had done something he or she really did not like (Persson, Stattin, & Kerr, 2004). The items were “Is silent and cold towards you,” “Makes you feel guilty for a long time,” “Avoids you,” “Doesn’t talk to you until after a long while,” “Disregards your views or ideas,” and “Ignores you if you try to explain.” The response items were on a three-point scale, ranging from 1 (never) to 3 (most often).

Negative reactions to disclosure. Parent’s negative reactions to disclosure were measured with six items (Kerr, Stattin, & Trost, 1999). The items were “Have you ever told your parents things and later regretted that you did?” “Have you been punished for something that you spontaneously told your parents?” “Have you ever told your parents things and later regretted that you did?” “Have your parents ever used what you told them against you?” “Do your parents bring up things that you told them in confidence again and again?” and “Have your parents ever made fun of things you happened to tell them about yourself and your life?” The youths gave their responses on a five-point scale, with the response options were: 1 (has never happened), 2 (some single time), 3 (from time to time), 4 (pretty often), and 5 (very often).
IV. Results

Study I
What role does parents’ behavior play in the development of psychopathic traits? In this study, we used a cross-lagged panel design to look at the directions of effects between parental behaviors and adolescent psychopathic traits, both assessed annually over four years. We considered positive parental behavior, operationalized as warmth and attempted understanding, negative parental behavior, operationalized as angry outbursts, coldness and rejection, and negative reactions to disclosure. In addition to testing the directions of effects between parental behavior and psychopathic traits, we included delinquency in all models to estimate the unique effects of both psychopathic traits and delinquency on parental behavior, and considered the potential moderating role of adolescent gender.

Our results revealed several findings. First, adolescent psychopathic traits seem to influence parents into increasing their use of negative behaviors and decreasing their use of positive behaviors. Specifically, adolescents with psychopathic traits reported that their parents increased in angry outbursts, coldness and rejection, and negative reactions to disclosure, and showed decreases in warmth and attempted understanding over four years between early and middle adolescence. Notably, there was some evidence that parental behavior influenced changes in adolescent psychopathic traits. It seemed that positive parental behaviors, such as warmth and understanding, predicted changes in psychopathic traits. These effects were much less consistent and held only over one year, however. Second, it seemed to be the personality features, specifically, to which parents were reacting rather than the more overt delinquent behaviors that typically co-occur with a psychopathic personality. Finally, gender did not moderate the associations. In essence, our results show good support that adolescent psychopathic traits predict changes in parents’ positive and negative behaviors. Parents’ behavior, however, does not seem to influence subsequent changes in psychopathic traits during middle adolescence.

Study II
In Study I, we found little support for the idea that parental behavior influences adolescents’ psychopathic traits. One explanation in the literature is that psychopathic traits, as early emerging characteristics, are quite stable through development and should therefore also be less susceptible to
change. Accordingly, in Study II, we examined the stability of the full psychopathic personality constellation in adolescence. Even though the question of stability has received some attention, and some studies have focused on adolescence, several questions about stability have not been addressed in earlier research. For example, it has been shown that psychopathic traits are relatively stable during adolescence (for a review, see Anderson, 2010). These findings, however, were based on rank-order and mean-level estimates, which at best only tell us about the average trend within a sample. This is a limitation because not all youths follow the same developmental trajectory. Some youths may start low and increase, others may start high and decrease, and yet others may start high and remain high on psychopathic traits over time. The possibility of different developmental patterns has not been examined previously. Another question that has not been addressed in previous research concerns the stability of the three dimensions of the psychopathic personality profile. A majority of previous studies have focused on callous and unemotional traits in isolation, or composite psychopathy scores, which is a problem because psychopathic personality is a multifaceted and dimensional construct. In other words, inferring stability for the whole profile from studies of CU traits is inadequate because the development of the other dimension may influence the development of CU and affect the stability of the whole construct. In other words, stability and change of each separate dimension of the psychopathic personality constellation needs to be examined independently of the other in order to understand the developmental patterns that ultimately result in psychopathy.

In Study II, we built on and extended the previous literature by examining the developmental trajectories of adolescent psychopathic traits over four years. Considering that psychopathy is a multidimensional construct, we examined the developmental course of each of the dimensions independently of the others. Furthermore, it is generally recognized that stability or instability of psychopathic traits is linked to external factors, such as parental behavior and delinquency. Building on Study I, we examined the extent to which the development of parental behavior and delinquency co-occurred with the developmental trajectories of psychopathic traits.

Using latent class growth modeling, we examined the joint developmental trajectories of callous-unemotional traits, grandiose-manipulative traits, and impulsive irresponsible behavior over four years in adolescence. Our findings revealed that the development of psychopathic traits is heterogeneous, and characterized by both stability and change. Most of the
adolescents in our sample exhibited low to moderate levels of psychopathic traits that either declined or were stable over time. Specifically, a low-decreasing trajectory was characterized by low levels on all three dimensions of psychopathy, which continued to decrease over time. These youths reported the most positive relationships with their parents and the lowest levels of delinquency. A moderate-decreasing trajectory comprised about 38% of the sample, and was characterized by somewhat elevated levels of psychopathic traits that decreased over the four years. Youths in this group had good-quality relationships with their parents and displayed generally low levels of delinquency. The moderate-stable trajectory, on the other hand, comprised youths with somewhat elevated levels of psychopathic traits that were stable over the four years. These youths reported increasing levels of delinquent behavior and deteriorating relationships with their parents, with increasing levels of negative parental behavior over time. Finally, one small group (11%) of adolescents followed a markedly elevated trajectory from the start. These adolescents maintained high levels of grandiose-manipulative traits, and remained high on callous-unemotional traits and impulsive-irresponsible behavior, despite significant but small decreases on these two latter dimensions. The same adolescents also reported the highest initial levels of negative parental behavior and lowest levels of positive parental behavior, which were either stable or deteriorated over time. Not surprisingly, adolescents with the highest levels of psychopathic traits were the same adolescents who reported the highest levels of delinquency over time than any other group. In sum, the evidence points to multiple pathways rather than a single pathway in the development of psychopathic traits during middle adolescence. A majority of adolescents who started with low or moderate levels of psychopathic traits decreased on all three dimensions over time. Nevertheless, there were adolescents who did not exhibit change on any of the dimensions, and also those who maintained relatively high levels, despite decreasing somewhat over time.

Study III
Through Study I and Study II we learned that the development of psychopathic traits is a heterogeneous process, and that some youths show much higher levels of psychopathic traits than their peers already in early adolescence. These youths maintain high levels of psychopathic traits over four years, and they are the ones who report experiencing high levels of negative parental behavior. In Study III, we were interested in parsing the
heterogeneity further by examining whether unique subgroups could be identified among youths with high levels of psychopathic traits. Based on previous research and theory, we hypothesized that we would identify a low-anxious and a high-anxious subgroup of adolescents with relatively high scores on psychopathic traits. Given previous findings, we expected that these subgroups would differ significantly from each other on measures of aggression, delinquent behavior, attention problems, and impulsivity. Specifically, we expected that the adolescents who scored high on both psychopathic traits and anxiety (i.e., high-anxious subgroup) would be more impulsive, have more attention problems, and show more reactive aggression and delinquency, than the low-anxious subgroup. In contrast, we expected that adolescents with psychopathic traits and low scores on anxiety (i.e., low-anxious subgroup) would have higher scores on proactive aggression than the high-anxious group and show higher levels of core dimensions of the psychopathic personality profile, such as callousness, grandiose-manipulative traits, and impulsive-irresponsible behavior. Given the normative nature of our sample, we anticipated that other groups would emerge with varying levels of psychopathic traits and anxiety.

Using latent class analysis, we identified five groups of adolescents characterized by low, average, or high levels of psychopathic traits and low or high scores on anxiety. As expected, two relatively small classes \( n = 32 \) had high scores on psychopathic traits. One was characterized by high levels of psychopathic traits and anxiety \( n = 12 \), the other by high psychopathic traits and low anxiety \( n = 22 \). For descriptive purposes, we labeled these groups as comprising youths with low-anxious and high-anxious psychopathic traits, respectively. The remaining three groups (low, average, anxious) comprised the majority of the sample \( n = 880 \), and were characterized by low or average scores on psychopathic traits and low or high scores on anxiety. For descriptive purposes, we will refer to youths in these classes as non-psychopathic since they were not characterized by elevated levels of psychopathic traits. Thus, consistent with our hypothesis, there were two relatively small groups of adolescents who were high on psychopathic traits but differed in levels of anxiety. Cluster validation showed that although these groups were relatively small, they differed from each other and the other three groups in several theoretically meaningful ways—high-anxious adolescents with high levels of psychopathic traits were more impulsive, aggressive, and engaged in serious offending to a greater extent than low-anxious youths with high levels of
psychopathic traits. Thus, there appears to be meaningful subgroups of adolescents with high levels of psychopathic traits, which can be distinguished on the basis of level of anxiety.
V. Discussion

A developmental perspective

The main purpose of this dissertation is, from a developmental perspective, better to understand the expression of psychopathic traits in adolescence. I have argued that several unanswered questions have hampered theory development in the field, and that one way to overcome the theoretical limitations is to focus on development. The studies in this dissertation were designed to start to address these limitations by examining three fundamental questions, and how they relate to the development of psychopathic traits in adolescence. If I were to summarize the findings of these three studies into one broad message, I would say that psychopathic personality traits characterize a small group of youths at particularly high risk of future negative development. This conclusion, however, does not provide any new knowledge. For a more nuanced view, one needs to go deeper into the details of the studies. Then, it becomes clear that parental behavior, one causal factor linked to antisocial behavior and psychopathy from childhood and through adolescence, does not really have an effect on youths with psychopathic traits. This finding, although provocative, is not new. What is novel, however, are the results showing robust and consistent effects of psychopathic traits on parents’ behaviors. Study I and Study II show that, while parents’ coldness, angry outbursts, rejection, and lack of warmth and understanding do not really effect changes in their youths’ psychopathic traits, youths’ psychopathic traits predict changes in parents’ behaviors. There was some support for the idea that parents’ warmth and understanding predict decreases in psychopathic traits, but these effects were not robust and held over only one year. Thus, there seems to be a largely one-sided direction of effects, rather than one that is reciprocal or parent-driven. Another finding of this dissertation is that the psychopathic personality constellation is quite stable in adolescence. Nor is this finding new—previous research has documented a similar trend (e.g., Frick et al., 2003; Andershed, 2010). What is novel, however, is the finding of both stability and change in the defining dimensions of the construct. Given that most previous studies have focused on studying either the development of callous-unemotional traits alone (e.g., Pardini & Loeb, 2008) or stability of the entire profile (e.g., Lynam et al., 2009), this is the first study to examine developmental patterns of the callous-unemotional, grandiose-manipulative, and impulsive-irresponsible behav-
Adolescent psychopathic traits and parental behavior

In the introduction to this dissertation, I posed three questions that I considered fundamental to the construct of psychopathic traits in adolescence. The first question concerned the role played by parenting behavior in the development of adolescents’ psychopathic traits. Up until now, the link between parental behavior and psychopathic traits in adolescence has been poorly understood. This is surprising given the proximity of parents throughout a child’s development and the well-established role of parenting in the development of antisocial behavior. Moreover, although studies have shown that approximately 60% of the variability in adolescent psychopathic traits can be attributed to genes, this also means that approximately 40% of the variability comes from non-shared environmental factors (for a review, see Viding & Larsson, 2010). Only a few studies have
examined the link between parental behaviors and psychopathic personality by looking at parent-to-adolescent effects (Frick et al., 2003; Lynam et al., 2008; Pardini & Loeber, 2008) or child-to-parent effects (Larsson et al., 2008). The reciprocal links, however, have not been addressed in a single study. In Study I, we examined the reciprocal links between a range of positive and negative parental behaviors and psychopathic traits over four years. We controlled for delinquency, because we believed it was likely that parents would be influenced more by overt delinquent behaviors than by their youths’ personality characteristics. For explorative purposes, we included gender as a moderator to examine potential gender differences.

Does parental behavior predict changes in psychopathic traits or is it the other way around, namely that psychopathic traits predict changes in parental behavior? The most straightforward answer to this question is that parents and adolescents influence each other, since there is evidence of bidirectional links in the current study. This is in line with a large literature on bidirectional links between parenting and adolescent behavior (e.g., Kerr & Stattin, 2003; Kerr, Stattin, & Pakalniskiene, 2008; Huh et al., 2006). A more fine-grained answer, however, seems to be that parental behavior has little influence on adolescent psychopathic traits, per se. There are at least two possible explanations for this. One has to do with the inherent insensitivity to punishment that has been observed in children and youths with high levels of psychopathic traits (Frick, 1998; O’Brien & Frick, 1996). Children with a fearless temperament are less responsive to cues of punishment that parents or other caregivers apply when trying to promote prosocial attitudes and development of conscience (Kochanska, 1997). A lot of the interaction between parents and youths involves communications of approval or disapproval through overt behavior or emotional cues (e.g., smiles, frowns, expressions of sadness). However, if these cues are not salient to the adolescent, they will have little influence on his or her behavior. This idea has been explored in a few studies, and it has been shown that youths with conduct problems who are high on callous and unemotional traits are less influenced by parental behavior than youths with conduct problems who are low on these traits (Edens, Skopp, & Cahill, 2008; Oxford, Cavell, & Hughes, 2003; Wootton, Frick, Shelton, & Silverthorn, 1997). The authors explained their results by suggesting that youths’ low sensitivity to punishment nullifies the effect of parental behavior in this group. Thus, one explanation is that the cognitive deficit displayed by youths high on psychopathic traits prevents them from
learning and changing their behavior, which results in typical parental behavior not having an effect on these youths. Another explanation has to do with the developmental period that was examined. Adolescence is characterized by the pursuit of autonomy and separation from parents. It is a transitional period, which may explain why parenting behavior does not influence psychopathic traits to a greater extent—the extent of parental influence in general tends to decrease throughout adolescence.

*Do parents react more to psychopathic traits or to delinquent behavior?* Many studies have shown that psychopathic traits and delinquency are strongly correlated (for a review, see Forth & Book, 2010). This raises the possibility that parents may be more perceptive of and reacting more to their youths’ delinquent behaviors than their personality characteristics. Our findings show that parents react more to psychopathic traits more than the delinquent behaviors that are associated with them, which indicates the importance of separating the construct of antisocial behavior from that of psychopathy.

**Stability of psychopathic traits in adolescence**

The second question that I posed at the outset of this dissertation concerned the stability and change of psychopathic traits in adolescence. I have argued that, although several studies have examined stability and change in psychopathic traits in adolescence, the degree of intra-individual stability is far from clear. I also noted that no previous studies have examined developmental trajectories on all three dimensions of the psychopathy construct. Thus, in order to understand the development of the personality profile, we need to go beyond asking whether youths high on psychopathic traits increase or decrease over time to understanding unique patterns of development and how these are linked to developments in youths’ environments.

*Are psychopathic traits stable from early to middle adolescence?* There are two potential answers to this question. One is yes—there was little to suggest that psychopathic traits changed substantially over four years in adolescence. The adolescents who reported high initial levels maintained highest levels over time, despite significant decreases in callous-unemotional traits and impulsive-irresponsible behavior. However, another possible answer is no—psychopathic traits, even at the most extreme levels, showed significant change on two defining dimensions. This is a plausible interpretation given that we observed significant declines at both group level and among youths on the high trajectory. It is important to
note that the degree of change, although significant, was small. Even though adolescents with the highest levels of psychopathic traits decreased on two dimensions out of three, they still maintained the highest levels of psychopathic traits relative to the other groups, and were significantly higher on delinquency and negative parental behavior over time. This puts them on a particularly risky trajectory towards future negative development, and it seems quite likely that the “extreme 5%” who will be responsible for the majority of crime come from groups with similar characteristics (see, e.g., DeLisi & Piquero, 2011; Vaughn, Salas-Wright, DeLisi, & Maynard, 2013). This assertion is based on the vast literature documenting that the most extreme and stable antisocial behaviors are disproportionately founded in genetic and personality factors (e.g., Barnes & Boutwell, 2012). The overall conclusion, then, is that there seems to be both stability and change in the constellation of psychopathic traits in adolescence.

The results of Study II add to the existing body of literature by showing that there is not just one, general trajectory for psychopathic traits. Rather, the development is complex, both with respect to the development of the different dimensions of psychopathy and the initial levels on these dimensions. Some youths seem to show extreme levels of psychopathic traits even in early adolescence. Whether or not adolescents with high levels of psychopathic traits become psychopaths is an empirical question, but there are studies showing a high degree of stability during childhood and adolescence, and between adolescence and adulthood (Fontaine, Rijsdijk, McCrory, & Viding, 2010; Frick, Kimonis, Dandreaux, & Farell, 2003; Lynam et al., 2009; Lynam, Loeber, & Stouthamer-loeber, 2008; Pardini & Loeber, 2008). This speaks for the heterotypic continuity in development. Not surprisingly, the results of Study II revealed another group of youths who are on a risky path. The moderate-stable group is concerning because of the stability of their psychopathic traits and the increasingly negative environment in which members of this group find themselves. Their levels of delinquency increased over time, as did negative interactions with their parents. Although we do not know the future trajectory for this group, it seems likely that some of these youths will continue on to a criminal lifestyle.

For whom are psychopathic traits stable? The second aim of Study II was to take a close look at the environments of youths with different developmental trajectories. In other words, we were interested in going beyond just demonstrating patterns of change to describe the youths for
whom psychopathic traits were stable. From our results, it is clear that the quality of the relationships with parents differs between youth on the different trajectories. For example, adolescents with initially high levels on all three dimensions reported experiencing the highest levels of negative parental behavior and the lowest levels of parental warmth, as well as the highest levels of delinquency. This is in line with some previous studies where parental practices have been linked to stability in psychopathic characteristics (Blonigen et al., 2006; Larsson et al., 2006; Viding et al., 2005). Given the findings of Study I, we also know that the direction of effects is from adolescents to parents—parents seem to decrease the quality of their parenting in response to the youths’ psychopathic traits rather than the other way around, which indirectly suggests that negative parenting behavior is not an important factor in predicting the stability of high levels of psychopathic traits. We cannot, however, rule out the possibility that parental behavior, at an earlier point in development, may have influenced changes in psychopathic traits. But, according to previous literature on parent-child relationships, any such interaction is probably reflective of a bidirectional process where parents and children influence each other (e.g., Kerr et al., 2008). The picture, then, is one of a small percentage of adolescents at increased risk of continuing on a negative spiral.

**Heterogeneity in adolescent psychopathic traits**

The third area that I addressed in this dissertation concerned heterogeneity—whether or not unique subgroups of adolescents high on psychopathic traits can be identified in a normative community sample. I have argued that this question is important with regard to both theory and treatment. Regarding theory, it has been suggested that anxiety is an important factor that accounts for two different etiological pathways to psychopathy. Identifying groups of adolescents with high levels of psychopathic traits who differ in levels of anxiety would provide further theoretical support for this suggestion. Regarding treatment, knowledge of different subgroups can make for more precise interventions and, ultimately, successful treatments.

*Are there unique subgroups of adolescents high on psychopathic traits that parallel the primary and secondary subtypes found in adults?* The answer to this question seems to be yes. The results of Study III show that there are two groups, albeit small, that are characterized by high levels of psychopathic traits and different levels of anxiety. Consistent with earlier theoretical ideas and empirical findings, youths who were high on psychopathic traits and anxiety (i.e., high-anxious subgroup) were found to re-
port more attention problems, impulsivity, and aggression, and to be engaged in serious offending to a greater extent than low-anxious youths with high levels of psychopathic traits.

It is important to note that the results of Study III are based on cross-sectional data, and, for this reason, we cannot establish whether or not the groups found reflect the unique etiological pathways that theorists have suggested. However, given that these groups were identified in a normative sample of community youths, where the base rates of psychopathic traits are generally low, the findings do suggest that there is meaningful variability in development. This, in turn, suggests that level of anxiety—the key distinguishing feature between the groups—may be an important moderator of development.

**Implications for theory**

In the Introduction to this dissertation, I have argued that there are important gaps in knowledge that preclude development of theory of psychopathic personality in adolescence. This dissertation adds to the body of theoretical literature in four ways. First, there appears to be a small group of youths who, already in adolescence, show high, above-average levels of psychopathic traits that are accompanied by high levels of delinquent behavior (Study II and Study III). Whether or not members of this group continue on this trajectory through to adulthood is an unanswered question, but all current knowledge suggests that a majority of today’s antisocial adults come from groups with similar characteristics. This is in line with some previous studies showing that a similar trajectory can be observed even in childhood (e.g., Fontaine et al., 2011), which adds further support for the validity of the construct in adolescence. Thus, in terms of etiology, psychopathic personality traits can be identified from early adolescence, and they define a group of youths at increased risk of future negative development.

A second contribution to theory lies in the identification of different developmental patterns involving callous-unemotional, grandiose-manipulative, and impulsive-irresponsible behaviors. The results of Study II clearly show that the development of psychopathy encompasses more than just callous and unemotional traits. Grandiose and manipulative traits, for example, constituted the only dimension that did not change significantly over time, whereas callousness, the dimension that has received most attention in the previous literature, decreased over the same period. Although the extent of change was small, it is likely that the devel-
Development of callousness does not occur in isolation from developments on the other dimensions, especially among youths with the highest levels of these traits. Furthermore, findings from a recent study suggest that the entire constellation of traits, rather than CU traits alone, is a better predictor of conduct problems among young children (Colins et al., 2013). Thus, despite the strong arguments that have been made for the callous-unemotional dimension as most central to identifying a psychopathy-like subgroup of antisocial youth (for a review, see Frick & White, 2008), there is clearly more to the syndrome of psychopathy and the development of this personality profile. Hence, studying just one indicator in this personality constellation is not sufficient if the goal is to explain the development of psychopathy per se.

A third contribution to theory is that parental behavior, positive or negative, seems to have little to do with the development of psychopathic traits in adolescence. Although it was evident that youths with the highest levels of psychopathic traits experienced the highest levels of negative parental behavior over time (Study II), we also know that parents increased in negative behaviors in reaction to their youths’ psychopathic traits (Study I). The mechanism behind this process is difficult to determine with accuracy. It may have to do with the adolescent developmental period, and the overall decreasing influence of parents on youth behavior. But, it may also be that by adolescence, parents have exhausted their efforts to influence their youths, which suggests that the direction of effects may be the reverse in childhood. Whether or not this is the case is left for future research to establish, but, given the literature on parent-child relationships, it seems likely that the link is bidirectional. In sum, adolescence seems to be a period when parents have little to do with the subsequent development of their youths’ psychopathic traits.

A fourth contribution to theory in the field of psychopathic traits in adolescence is the need of considering heterogeneity in development. Although the findings of Study III were cross-sectional, they converge with an increasing number of studies showing that the equivalents of primary and secondary subtypes can be identified in forensic and normative samples of adolescents. This is an important finding, in that almost all theoretical accounts of psychopathy posit the possibility of different subgroups or subtypes. Yet, most empirical research treats the construct as a unitary phenomenon. Given that it is hypothesized that these subgroups have different etiologies and correlates, they may also require different treatments and interventions. If the goal is to contribute knowledge that will lead to
effective treatment, then heterogeneity cannot be ignored. In this way, this dissertation adds to the body of work on the development of psychopathy by showing that theoretically meaningful subgroups can be identified even among normative community youths, which also provides support for the validity of the construct in adolescence.

**Implications for practice**

What conclusions can practitioners draw from these findings? One clear conclusion is that psychopathic traits are expressed in adolescence, and that they may be early indicators of an emerging adult personality disorder. The findings underscore the importance of studying psychopathic personality early and considering the personality profile in practice.

Another clear conclusion is that the development of psychopathic traits is a heterogeneous process. In other words, there is not just one developmental pattern. Nor does psychopathic traits have just one type of expression. According to the findings of Study II, some youths enter early adolescence with well-above average levels of callousness, grandiose-manipulative traits, and impulsive and irresponsible behavior. It is therefore likely that these adolescents show above-average levels even during childhood. Hence, there seems to be continuity in development among youths with the most extreme levels of these traits. On the basis of this presumption, treatment efforts may need to be implemented much earlier during childhood to avert what otherwise may be a course toward severe behavior problems in adulthood. This is not to say that youths, by the time they reach adolescence, are entirely resistant to treatment. It is important to note that the degree of change was normative, and it is possible that, had the youths been exposed to specific efforts aimed at reducing the severity of their psychopathic traits during this time period, we would have seen less stability. However, the extreme levels of delinquent behavior displayed by the group already in adolescence suggests that intervention efforts that would have had at least a shot at altering this trajectory should be implemented well before the onset of adolescence.

**Strengths and limitations**

This dissertation has some limitations that should be mentioned. The most obvious limitations are the restricted developmental period and the restricted array of social influences considered. For example, the period of adolescence covers a greater range of ages than is addressed in this disser-
tation, and a wider array of social influences than just parental behavior. Despite this, I believe that the goal of describing the typical expressions of psychopathic traits during adolescence has been achieved. Another limitation is the use of adolescents’ self-reports of both their own behavior and their parents’ behavior. This increases the risk of shared-method variance, and a variety of sources reporting would have been desirable and optimal. Moreover, it has been questioned whether self-reports are appropriate instruments to measure traits in people who are known to be manipulative, deceptive, and egocentric, and who are likely to distort information for their own benefit. This assumption was examined in a recent meta-analysis comparing two common self-report measures of psychopathy in adult populations. The results revealed that people who scored high on psychopathy were not more likely to “fake good” or present themselves in a more positive light (Ray et al., 2013). In other words, it seems that self-reported psychopathy measures are not necessarily untrustworthy or tainted by deceptive response styles (Miller, Jones, & Lynam, 2011). Although no previous studies have examined the relation between response bias and measures of psychopathic personality in adolescence, it seems unlikely that social-desirability has biased the results in this dissertation. The results are based on the YPI, which is a measure specifically designed with the social-desirability bias in mind. The items were formulated in such a way that youths high on psychopathic traits would perceive them as positive. The measure has been validated in a number of different cultures, and holds good psychometric properties (see e.g., Kotler & McMahon, 2010). Nevertheless, future studies should replicate the finding using other sources of information. A third limitation concerns the results of Study III, which were based on cross-sectional data, and therefore need to be considered in light of the limitations typically associated with such data. Future studies are needed to replicate the existence of high and low-anxious psychopathy subgroups using longitudinal data.

Despite the aforementioned limitations, the current dissertation has considerable strengths that contribute to the literature on the psychopathic personality in adolescence. First, with the exception of the findings of Study III, the ones in this dissertation are based on a large longitudinal data set for which community youths were reporting for over four years. This allowed the tracking of developmental trajectories (Study II), and the determination of the causal ordering of variables (Study I) that are generalizable to normal populations of adolescents. Second, we used a validated measure of psychopathic traits that represents the current conceptualiza-
tion of psychopathy as a multifaceted higher-order construct. Both the YPI total score and the scores for its separate dimensions have good internal consistency and have been shown to form a solid higher-order construct (Andershed et al., 2002). A third strength of this dissertation is the use of both person-centered (Study II and Study III) and variable-centered approaches (Study I). Person-centered approaches are based on the assumption that there is meaningful heterogeneity in a sample of people, and are suitable for describing groups of individuals who share particular traits or behaviors. Studying psychopathic personality in a normative sample is particularly suited for person-centered analyses because it enables identification of categories of people who are similar within groups and different between groups (Larsen & Hoff, 2006). Given that psychopathic traits are dimensional and exist on a continuum, ranging from low to high, the variable-centered approach is also justified because it takes into account the full range of possible scores on psychopathic traits.

**Future directions**

In this dissertation, I have raised the need for theory development in the field, and I have contributed by examining three fundamental theoretical questions. Where do we go from here?

One way to move forward is to consider how the different dimensions of the psychopathy construct contribute to the stability of the whole syndrome. There is a wealth of knowledge about how callous-unemotional traits relate to different correlates and outcomes, but there is very little knowledge of the development of grandiose-manipulative traits and impulsive-irresponsible behaviors, and their specific relations to external variables. For example, studies have shown that, although associated, the dimensions have unique correlates and relate differently to the same outcomes (e.g., Caldwell, 2011; Feilhauer & Cima, 2013). This speaks for the importance of understanding the development of these defining dimensions and their unique contributions to the stability of the personality profile, in its entirety. Another arena for future research concerns the childhood expression of psychopathic traits. Indeed, some studies have shown that the three-factor model of psychopathy can be identified among children as young as 3 years old (Colins et al., 2013). Given that psychopathy is regarded as a developmental disorder with an early onset, the role of the environment in understanding the mechanisms of development has been understudied. This needs to be improved on if we are to understand the complex mechanisms underlying the disorder. Moreover, considering
the heterogeneity in development of psychopathic traits, it will be up to future research to examine whether secondary, high-anxious subgroups are more susceptible to treatment, or whether the environment can influence changes in their behavior patterns over time.

In sum, it is safe to say that the study of psychopathy and child and adolescent psychopathic traits has received growing research interest. I have argued that it is not enough simply to document whether psychopathic traits increase or decrease over time. Instead, it is of interest to track developmental outcomes over time as a function of changes in developmentally relevant individual, family, or peer variables. Then, and only then, it will it be possible to disentangle the complex array of biological and social factors that have been shown to influence the onset and the development of psychopathy.
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