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## CHAPTER 1. INTRODUCTION

Adolescence is a critical period for the development and consolidation of behaviors, values, aspirations, and attitudes that impact current and future options and outcomes. Adolescence is also a time filled with changing risk and protective factors operating at both the individual and social/contextual levels. Many teenagers have reported engaging in increasing levels of risky behaviors such as drinking alcohol, smoking cigarettes, and taking drugs from early to late adolescence (cf., Johnston, O'Malley, Bachman, & Schulenberg, 2011) and experiencing an overall decline in achievement and motivation over the junior high and high school years (cf., Wigfield, Byrnes, & Eccles, 2006). At the same time, adolescents have reported rising levels of self-esteem (Greene & Way, 2005), more egalitarian and less conflictual interactions with parents, and increasingly close and supportive friendships (De Goede, Branje, & Meeus, 2009; Rubin, Bukowski, & Laursen, 2011).

Given that adolescence is a period of such rapid change, it is a perfect time to study changes in the beliefs, behaviors, and relationships that are associated with the challenges and opportunities during this stage of life. Media portrayals suggest that many youth are getting caught up in risky behaviors and relationships as they pass from early to late adolescence (e.g., [http://www.nytimes.com/2014/06/29/opinion/sunday/why-teenagers-act-crazy.html?\\_r=0](http://www.nytimes.com/2014/06/29/opinion/sunday/why-teenagers-act-crazy.html?_r=0)) and, as a consequence, experiencing major mental and physical health problems. Is this the case? A longitudinal examination of adolescents' beliefs,

behaviors, emotional functioning, and relationships is needed to answer this question. Determining whether these trajectories vary by gender, race/ethnicity, or their intersection, as well as socioeconomic status (SES), will tell us whether the answer varies by major social groups in the United States. Together, these results will help us understand the nature of the risks our adolescents face as they develop and provide insights into how we might better support their healthy development.

A comprehensive, integrated description of such normative changes from early to late adolescence is sorely lacking. Such a systematic effort is highly regarded as one of the main goals in the developmental science of adolescence (Baltes, Reese, & Nesselrode, 1977; Lerner, 2007) and is considered the primary basis of formulating developmental models in context (Bronfenbrenner, 2009; Eccles et al., 1993; Lerner, 2007; Magnusson, 1985; 2003). The need is especially marked for racial/ethnic (R/E) minority adolescents, who remain underrepresented in studies of normative development. One reason for this research gap is the dearth of longitudinal data documenting developmental changes from early to late adolescence for R/E minority youth from a wide range of socioeconomic backgrounds (Hagen, Nelson, & Velissaris, 2004). Such an investigation would provide a much-needed portrait of African American and European American youth during a formative and unique period of development.

Drawing upon the Maryland Adolescent Development in Context Study (MADICS), we sought to fill this knowledge gap through a wide-ranging description of changes in aspects of risky and positive youth development from each of the major domains of adolescent development including psychological well-being, R/E identity, academic functioning, problem behaviors, and family and peer characteristics. In keeping with a long tradition in developmental psychology of providing an 'as accurate

as possible' narrative of changes across important periods of development, we estimated the growth trajectories of the most commonly studied indicators of functioning for a locally-representative sample of African American and European American youth from early through late adolescence. We adopted a unified but parsimonious approach to describing developmental pathways in both intrapersonal and interpersonal spheres, thus bringing together in one document a wide-ranging picture of adolescence for a sample of young people in the United States.

Our study provides a unique contribution to the literature, as few longitudinal datasets include both African American and European American adolescents from a broad and comparable range of socioeconomic backgrounds that span from 12 to 20 years of age. Until quite recently, most studies comparing African American and European American youth have confounded race/ethnicity and family SES. This sample was purposively selected to overcome this limitation by studying African American and European American adolescents growing up in families with as comparable social class statuses as possible given the context of the United States, attending the same school system, and living in the same geographical region.

### **Theoretical Framework**

In order to understand healthy adolescent development, it is essential to consider both the adolescent and the social-ecological context within which development occurs (Bronfenbrenner & Morris, 2006; Eccles, et al., 1993; Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999; Lerner, 2007). Many characteristics of both adolescents and their developmental context can be conceptualized strategically in terms of risk and protective factors. The science of prevention (Coie et al., 1993) highlights the importance of identifying risk factors to prevent the occurrence of problem behaviors before they become less amenable to change (Catalano et al., 2012;

Hawkins, Catalano, & Miller, 1992; Welsh & Farrington, 2007) and recognizing the positive factors that promote healthy development or mitigate problem behaviors (Gootman & Eccles, 2002; Losel & Farrington, 2012). In order to effectively minimize risk and boost protection at the right time for various adolescents, it is necessary to chart the developmental trajectories of characteristics, behaviors, and contexts associated with risk and protective factors from early to late adolescence, examining variations in different groups of youth. As it stands, studies that have examined these pathways in adolescence have focused on a narrow set of behaviors and contexts (e.g., Kim, Oesterle, Catalano, & Hawkins, 2015; Van Der Put et al., 2011). A comprehensive assessment of how these characteristics, behaviors, and contexts typically change during adolescence – and whether these changes vary according to adolescents' family status, SES, gender, race/ethnicity, and the intersection of gender and race/ethnicity – will provide important information regarding the optimal timing of risk prevention and enhanced protection for different groups of adolescents.

Exactly what are risk and protective factors? Are they different from each other or are they the opposite ends of similar factors? Family climate, for example, can be a major risk factor, where hostile, but can also be conceived of as a protective factor for youth who live in a supportive family context. Are these just the opposite ends of a continuum of negative to positive family context? Or, is it useful to make clear distinctions between what are conceptualized as risk factors versus protective factors? Sameroff and Gutman (2004) argued that the answer to this latter question is, “yes,” if our goal is to create interventions designed to reduce risk and increase protection. Based on the common conceptualization of risk factors as those factors that increase the likelihood of risk, and protective factors as those that facilitate healthy development, they concluded it is useful to distinguish the two. Unfortunately, connotative meanings

are frequently overlapping, and denotative meanings are often conflicting (Gutman, Sameroff, & Cole, 2003).

In its earliest conception, the term protective factor was reserved for only those factors that counteract the effects of risk (Garmezy, Masten, & Tellegen, 1984; Rutter, 1987). However, many researchers have used the term protective factor to refer to all potentially positive influences regardless of the individual's risk levels. In order to lessen the imprecision of the use of the term protective, Sameroff (2000) proposed that when a variable has a positive but non-interactive direct effect it should be labeled as *promotive* to contrast it with a *protective* variable; whereas the term *protective* should be reserved for those variables that protect those at risk. Some researchers also refer to promotive factors as *developmental assets* because they are assumed to facilitate healthy development regardless of the presence or absence of risk (Ford & Lerner, 1992). In short, both conceptually and empirically, the terms promotive factors and developmental assets overlap considerably (Schwartz, Pantin, Coatsworth, & Szapocznik, 2007).

In this study, we focused on two key perspectives for understanding, predicting, and intervening in adolescent development; namely, resilience and positive youth development. Although these two perspectives are both rooted in the notion of plasticity, where individual development can be redirected by changing the nature of the individual-context relationship (Schwartz et al., 2007), they differ in their implications for the study of adolescent development. Resilience research focuses on relatively successful development, despite experiencing major adversity, and elucidates the role of protective factors in buffering the negative effects of risk. Positive youth development, in contrast, emphasizes that positive developmental trajectories are the result of mutually beneficial relationships between the individual and aspects of their

context that promote healthy development (Benson, Scales, Hamilton, & Sesma, 2006; Lerner, 2005; 2007). Lerner and his colleagues (see Lerner, 2007) identified five characteristics of positive youth development that they labelled as the Five Cs: confidence, competence, character, caring, and connection. These Cs include positive psychosocial and relational constructs such as self-esteem, academic competence, interpersonal skills, and connections to family, friends, and community.

These two approaches have complementary strengths and weaknesses. Resilience, for example, acknowledges the negative effects of risk but tends to neglect indicators of positive development; in contrast, positive youth development highlights the strengths inherent in young people but overlooks the role of risk factors and the possibility of negative outcomes in development. Bringing together these two frameworks provides a more holistic approach to understanding optimal adolescent development (Kia-Keating, Dowdy, Morgan, & Noam, 2011; Schwartz et al., 2007). This goal guided our selection of the developmental measures of adolescence included in this monograph. We examined a broad set of characteristics, behaviors, and social contexts related to the major developmental tasks of adolescence; namely, identity formation, the maintenance of psychological well-being during a turbulent period of development, the completion of schooling and training for the transition into adulthood, the exploration of behaviors associated with adulthood, the shift in relationships within one's family and peer groups, and coping with living in a socially-stratified culture.

As a first step, we differentiated characteristics, behaviors, and contexts that should be viewed as risky versus protective. To achieve this goal, we were mindful of the extent to which any particular characteristic, behavior, or context might serve as either a risk or protective factor and could vary as a function of race/ethnicity, gender, SES, and developmental stage. For instance, although having controlling parents might

be considered a risk factor for middle-class European American adolescents, it might be a protective factor in African American families living in high-risk neighborhoods, especially during early adolescence (Smetana, Campione-Barr, & Daddis, 2004). Furthermore, what might be deemed as risky or protective at one point in time may not be risky or protective at another. For example, first alcohol use between the ages of 11 and 14 constitutes a heightened risk for progression to later alcohol disorders, whereas first alcohol use at age 19 and older is associated with a very low risk of developing disorders (DeWit, Adlaf, Offord, & Ogborne 2000). Although we discuss these nuances where pertinent, we distinguished factors that are considered risky and lead to worse outcomes from factors that are typically viewed as positive and facilitate healthy development for most adolescents.

The classification of our constructs as either risky or protective was based on previous empirical research detailed below in the subsections for each domain. We did not distinguish between promotive and protective factors in our categorization, given their extensive overlap in positive spheres of development (Schwartz et al., 2007). However, it is important to point out that, for given youth at specific times in development, these positive factors may take on promotive or protective effects, depending on the characteristics of the youth and the outcome in question. With these categories in mind, risk factors assessed in our study include: suffering from poor psychological well-being, facing high levels of R/E discrimination, engaging in problem behaviors, experiencing controlling parents and negative parent-adolescent relationships, and having a lot of friends engaged in risky behaviors. Promotive/protective factors include: good psychological well-being; developing a positive R/E identity; holding high educational and occupational aspirations and educational expectations; possessing positive academic self-beliefs, values, and

motivation; and enjoying positive parent and peer relationships, communication, and support.

### **Adolescent Development**

The developmental period from early to late adolescence is distinctive in its multitude of concurrent changes across various contexts and dimensions (Eccles et al. 1993). Adolescents' assessment and construction of both themselves and their surroundings are typically assumed to shift markedly as a result of changes in the social contexts that adolescents inhabit, the social norms to which adolescents are expected to respond, biologically-programmed brain maturation, socially-mediated cognitive growth, and the nature of social relationships (Eccles et al., 1993). These biological and social forces are likely to influence the course of adolescents' trajectories. As a result, the phase of life between early to late adolescence is an ideal period to examine trajectories of developmental change, as reflected in their intra-individual and interpersonal worlds. As noted earlier, we considered multiple domains, each of which represents significant contexts of adolescent development.

Within each of these domains, a summary of previous findings regarding normative longitudinal trajectories and how these might vary according to socio-demographic characteristics is presented below. In particular, the following points were addressed: (a) why this domain is important to study in adolescence; (b) what the research says about how the measures we studied reflect either risk, promotive, or protective factors; (c) what the longitudinal trajectories look like; and (d) how they differ by gender and race/ethnicity. Where pertinent, we include our hypotheses about what we expect to find, given the current literature.

### **Psychological Well-Being.**



Adolescence is a particularly important period for investigating trajectories of psychological well-being. Given the myriad of physical and social changes facing adolescents, changes and stability in psychological functioning signify how youth are managing during this developmental stage (Eccles et al., 1993). In general, most youth manage to navigate through adolescence with relatively high and stable self-esteem (Birkeland, Melkevik, Holsen & Wold, 2012) and feelings of resiliency (Vecchione, Alessandri, Barbaranelli & Gerbino, 2010). At the same time, however, approximately one in four or five adolescents meet the criteria for a mental health disorder with severe impairment across their lifetime (Merikangas et al., 2010). The majority of mental health problems emerge during adolescence (Merikangas et al., 2010, Hudson, Hiripi, Pope, & Kessler, 2007) – including mood disorders, behavioral problems, and eating pathology – underscoring the need for prevention and early intervention during this developmental stage (Cohen et al., 1993; Kim-Cohen et al., 2006; Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993). In our study, we examined a number of risk factors related to psychological well-being: anger, depressive affect, eating disorders, and expectations of negative life chances, as well as two promotive/protective factors: self-esteem and resiliency. It is important to note that resiliency here does not refer to the theoretical framework of resilience. Rather, resiliency here refers to the psychological ability to adapt to challenges and new situations. Thus it is somewhat analogous to the currently popular concept of grit (Duckworth, Peterson, Matthews, & Kelly, 2007).

Numerous studies have documented the risk, promotive, and protective effects of adolescents' psychological functioning on a wide range of outcomes. Negative indicators of psychological functioning in childhood and adolescence predict mental health problems in adulthood as well as a number of deleterious outcomes, including antisocial behavior, poor social relationships, alcoholism, and substance abuse (Card,

Stucky, Sawalani, & Little, 2008; McLeod, Horwood, & Fergusson, 2016; Measelle, Stice, & Hogansen, 2006). In terms of promotive effects, having high self-esteem predicts long-term success and well-being in a number of domains including work, relationships, and mental and physical health (Orth & Robins, 2014); in contrast, low self-esteem predicts poor physical and mental health, low economic prospects, and high levels of criminal behavior in adulthood (Orth, Robins, & Robert, 2008; Trzesniewski et al., 2006). Resiliency has been shown to predict less alcohol use in adolescence (Wong et al., 2006). Together, these findings suggest that boosting these positive factors in adolescence may both promote healthy development and protect against adverse outcomes, both concurrently and in the future.

Longitudinal studies have generally shown either stability or increases in both positive and negative aspects of psychological well-being during adolescence, although there are variations depending on the specific indicator examined. For example, previous studies have found a pattern of increasing depressive symptoms from early to middle adolescence (Cole et al., 2002; Garber, Keiley, & Martin, 2002) and declining levels of depression and anger in late adolescence and early adulthood (Galambos, Barker, & Krahn, 2006; Galambos & Krahn, 2008; Ge, Natsuaki, & Conger, 2006). Eating disorders have been shown to increase steadily during adolescence, peaking in early adulthood (Hudson et al., 2007; Measelle et al., 2006). An increase in self-esteem has also been demonstrated during adolescence (Erol & Orth, 2011; Orth & Robins, 2014) and emerging adulthood (Galambos et al., 2006). Resiliency, on the other hand, has been shown to remain stable across adolescence (Vecchione et al., 2010). However, few studies have examined multiple trajectories of psychological well-being across the entire period of adolescence. Given the available findings, we expected an initial increase in the levels of depression, anger, eating disorders, and self-esteem in early

adolescence followed by declines in depression and anger but continued increases in self-esteem and eating disorders during late adolescence. We had no predictions for expectations of negative future life events because this has rarely been studied, and we expected our indicator of resiliency to remain stable.

In terms of gender differences, female adolescents generally evidence worsening trajectories on several indicators of psychological well-being compared to male adolescents; for example, females are more likely than males to report increasing levels of depression (Cole et al., 2002; Garber et al., 2002). Although some studies have also shown stereotypic gender differences for self-esteem (Baldwin & Hoffmann, 2002; Block & Robins, 1993; Zimmerman, Copeland, Shope, & Dielman, 1992), others have found no differences in the developmental trajectories of self-esteem between males and females (Erol & Orth, 2011). The prevalence of eating disorders is also greater for female than for male adolescents (Smink, Hoeken, & Hoek, 2012), with an increase in girls' eating pathology from early to late adolescence (Measelle et al., 2006), peaking around age 18 to 21 (Hudson et al., 2007). Although boys generally report higher levels of aggression compared to girls (Card et al., 2008), there is little evidence of gender differences in the developmental trajectories of aggression (Brody et al., 2003; Kim, Kamphuis, Orpinas, & Kelder, 2010). Therefore, we hypothesized that gender differences would be evident for most of our indicators, with females showing lower and deteriorating psychological well-being compared to males. For anger and expectations of negative chances, we expected that males would have higher levels but similar trajectories compared to females.

There is much less research examining these psychological functioning trajectories for racially/ethnically diverse adolescents, particularly those that untangle the effects of race/ethnicity, gender, and SES. On the one hand, African American

adolescents report higher levels of self-esteem (Bachman, O'Malley, Freedman-Doan, Trzesniewski, & Donnellan 2011) and sharper increases from early adolescence to adulthood (Erol & Orth, 2011) compared to European American youth. On the other hand, some studies show African American adolescents reporting higher levels of depression compared to European American adolescents (Adkins, Wang, & Elder, 2009; Gore & Aseltine, 2003), with persistent R/E differences in parallel trajectories that did not converge from adolescence to young adulthood (Brown, Meadows, & Elder, 2007). Furthermore, earlier research indicated that much of the R/E gap in depression is explained by SES differences (Adkins et al., 2007). Thus, we hypothesized that African American adolescents would show a greater increase in self-esteem from early to late adolescence than would European American adolescents but that the rate of change in depressive symptoms would be similar for both. As there is a dearth of research examining R/E differences in the adolescent trajectories for our other measures of psychological well-being, we made no predictions for these other indicators.

### **R/E Identity and Discrimination**

The development of psychosocial identity is considered a critical task of adolescence (Erikson, 1950). Adolescence is a pivotal period in which to examine changes in identity as it is a time when abstract reasoning abilities increase and the exploration of one's identities becomes salient. Nevertheless, there has been surprisingly little longitudinal research on R/E identity development, until most recently (French, Seidman, Allen, & Aber, 2006). In response to previous calls to examine the development of ethnically diverse children and adolescents (Garcia-Coll et al., 1996; McLoyd, 1990; McLoyd & Steinberg, 1998; Phinney, 1990), there has been a substantial increase in the attention to ways in which one's race/ethnicity affects human development (Eccles, Wong, & Peck, 2006). Some of this work has focused on

content and processes associated with R/E identity formation (e.g., Phinney & Ong, 2007; Seaton, Scottham, & Sellers, 2006; Sellers et al., 1998). Other scholars have focused explicitly on the impact of discrimination on various aspects of mental health and school engagement (e.g., Ogbu, 2003; Wong, Eccles & Sameroff, 2003). Finally, others have examined R/E identity and socialization within the contexts of family and friendships (e.g., Hughes et al., 2006; Kao & Joyner, 2004; Parke & Buriel, 1998; Quillian & Campbell, 2003). Although studies are beginning to examine adolescents' construction of, and experiences related to, their race/ethnicity, developmental research is still needed to document changes in these beliefs and identities from early to late adolescence for African American and European American males and females (Côte, 2009; Eccles & Roeser, 2011). In this monograph, we examined R/E importance and involvement, R/E friendship networks, and experiences of R/E discrimination.

Research into resilience has highlighted the importance of R/E identity as a protective factor, particularly for African American adolescents exposed to adverse circumstances (Caldwell et al., 2004; Miller & MacIntosh, 1999; Sellers, Copeland-Linder, Martin, & Lewis, 2006; Tynes, Umana-Taylor, Rose, Lin, & Anderson, 2012; Williams, Aiyer, Durkee, & Tolan, 2014; Wong et al., 2003). These studies have demonstrated that having a strong, positive connection to one's R/E group buffers the impact of multiple stressors, including R/E discrimination, on a range of outcomes. Research has also shown that having same R/E friendships is associated with more positive outcomes (Schneider, Dixon, & Udvari, 2007), whereas having cross R/E friendships is associated with lower well-being and more conflictual friendships, especially for African American adolescents (McGill, Way, & Hughes, 2012). However, there is evidence that cross R/E friendships have a promotive effect: Having cross R/E friends has been associated with lower perceived vulnerability (Graham, Munniksma, &

Juvonen, 2014) and declines in relational victimization (Kawabata & Crick, 2011). For R/E discrimination, a multitude of recent studies has documented the adverse impact of these experiences on African American adolescents, in terms of both undermining their academic achievement and exacting a heavy toll on their psychological and physical health (e.g., Brody et al., 2014; Caldwell, Kohn-Wood, Schmeelk-Cone, Chavous, & Zimmerman, 2004; Cooper, Brown, Metzger, Clinton, & Guthrie, 2013; Greene, Way, & Pahl, 2006; Harris-Britt, Valrie, Kurtz-Costes, & Rowley, 2007; Huynh & Fuligni, 2010; Seaton, Neblett, Upton, Hammond, & Sellers, 2011; Smith-Bynum, Lambert, English, & Jalongo, 2014; Wang & Huguley, 2012; Williams, Neighbors, & Jackson, 2003; Wong et al., 2003).

In terms of longitudinal trajectories, studies of diverse R/E samples have shown that R/E identity increases in early and middle adolescence, with R/E group-esteem increasing in both early and middle adolescence and R/E identity exploration increasing in middle adolescence (French et al., 2006) and into the college years, in terms of both R/E identity exploration and commitment (Syed & Azmitia, 2009). In one study of urban, low-income African American adolescents, Pahl and Way (2006) reported a quadratic pattern in the exploration of one's R/E identity for African Americans from middle to late adolescence, with the peak rates of exploration occurring in middle adolescence followed by declines in the salience of identity exploration. In another longitudinal study of African American adolescents, however, there was no evidence of developmental changes in R/E centrality, which measures the extent to which race/ethnicity is a defining characteristic for the individual, or in private regard, which measures how individuals personally feel about their race/ethnicity (Seaton, Yip, & Sellers, 2009). Given the little available longitudinal evidence, we tentatively expected

increases in R/E involvement and importance with a peak occurring in middle adolescence.

Regarding R/E friendships, research has shown that same R/E friendships tend to be more stable compared to cross R/E friendships (Aboud, Mendelson, & Purdy, 2003; Rude & Herda, 2010). Some research has shown that R/E friendships peak in early adolescence and then remain stable throughout high school (Shrum, Check, & MacD, 1988). However, studies examining cross race/ethnicity friendships have shown a decline over time, especially after the transition to high school (Aboud & Janani, 2007; Epstein, 1986). We therefore hypothesized similar trajectories for our measures of same and cross R/E friendships.

For age-related changes in perceived R/E discrimination, there is somewhat inconsistent evidence. In Greene et al.'s (2006) study of African American adolescents, perceived rates of R/E discrimination by both adults and peers increased across the high school years. In Seaton et al.'s (2009) longitudinal examination of African American adolescents aged 14 to 18, perceived R/E discrimination decreased slightly during middle adolescence and then increased in late adolescence (Seaton et al., 2009). Other studies have shown that there are several distinct longitudinal patterns of change in perceived R/E discrimination (Brody et al., 2014; Niwa, Way, & Hughes, 2014). For example, Brody and colleagues (2014) found two longitudinal classes of perceived discrimination for African American adolescents from 16 to 18 years: (1) high, stable and (2) low, increasing. Although relatively little research exists documenting these processes through the entire adolescent period, available findings suggest that increasing levels of perceptions of discrimination may be expected for African American adolescents.

There is little longitudinal research examining gender differences in these constructs for either African American or European American adolescents. In two of the only studies examining gender differences in trajectories of perceived R/E discrimination for African American adolescents, males not only reported more R/E discrimination than females as they aged, the negative consequences of perceived R/E discrimination were stronger for males than for females (Smith-Bynum et al., 2014; Wang & Huguley, 2012). Given the scarcity of research, we made no predictions about gender differences in the trajectories of R/E identity or friendships but expected that African American males would report a greater rate of increase in perceived R/E discrimination compared to African American females.

In terms of R/E differences in the longitudinal pathways of these constructs, much of the research has focused on R/E minorities. In one of the two studies of both African American and European American youth, various aspects of R/E identity increased from early to middle adolescence for both groups, but the increases were stronger for African American adolescents (French et al., 2006). In another study, African American adolescents started college with higher levels of R/E identity exploration and commitment compared to European American adolescents, but there were no R/E differences in their linear slopes (Syed & Azmitia, 2009). As our study explored the R/E identity of African American adolescents only, we did not entertain any predictions for group differences in the trajectories. There is also little work comparing the longitudinal trajectories of R/E friendships and discrimination between African American and European American adolescents. Here, we have the available data to examine R/E differences but did not have any specific predictions regarding whether such differences would be evident.



## **Academic Functioning**

Schools represent one of the most important social contexts for adolescents, influencing many aspects of their development (Wigfield et al., 2006). Adolescents not only spend most of their waking hours in school or in the pursuit of school-related activities, they must also navigate the various academic, social, and institutional demands of the school environment. Schools are where most adolescents interact with non-familial adults, socialize with their peers, encounter intellectual challenges, engage in extracurricular activities, and adjust to institutional culture (Elmore, 2009; Eccles & Roeser, 2011). Although some adolescents flourish in the school environment, most more or less manage to make it, and still others feel alienated and disengaged from school leading to subsequent school failure and dropout (Cohen & Smerdon, 2009). Factors that differentiate adolescents' school experiences include not only their academic achievement but also students' academic self-related beliefs and attitudes and their engagement in, and identification with, school (Eccles & Roeser, 2011). In this monograph, we examined indicators of adolescents' academic functioning such as academic achievement and their aspirations and expectations, motivational beliefs, and positive school identification.

The riskiest times for poor academic functioning are during and immediately following the transitions from elementary to middle school and then again from middle school to high school. In accordance with stage-environment fit theory (Eccles & Midgley, 1989), youth confront changes in the organizational, social, and instructional processes of the school, which may not meet their developing needs as adolescents. The transition to high school, in particular, has been shown to be the riskiest time for subsequent academic failure and school dropout (Cohen & Smerdon, 2009), especially

for disadvantaged students (Finn, 1989). Research has emphasized the importance of boosting academic achievement, academic competence, and school engagement to prevent these negative school outcomes (Casillas et al., 2012; Eccles et al., 1993; Eccles & Gootman, 2003; Wang & Dishion, 2012; Wang & Fredricks, 2014). There are also numerous studies highlighting the importance of academic functioning to prevent subsequent negative outcomes including substance abuse, engagement in problematic behaviors, and psychological problems (e.g., Bradley & Greene, 2013; Henry, Knight, & Thornberry, 2012; Verboom, Sijtsema, Verhulst, Penninx, & Ormel, 2014) and to promote positive well-being and educational success (e.g., Stiglbauer, Gnambs, Gamsjäger, & Batinic, 2013; Wang & Eccles, 2012).

There is substantial evidence that many students experience declines in academic-related outcomes and performance across both middle school and senior high school (Eccles & Midgley, 1989; Gutman, 2006; Gottfried, Fleming, & Gottfried, 2001; Wigfield et al., 2006). Evidence also indicates that academic task- and self-related beliefs (e.g., see Eccles et al., 1993; De Fraine, Van Damme, & Onghena, 2007; Gniewosz, Eccles, & Noack, 2012) and school engagement and identification, on average, decrease across adolescence (Roeser & Eccles, 1998; Wang & Dishion, 2012). In light of these findings, we expected to find similar declines in most of our measures of academic functioning. For educational expectations, however, Mello (2008) found a decrease in educational expectations from age 14 to 16, followed by an increase until age 20, and then a decrease from ages 20 to 26. For occupational expectations, Mello (2009) found an increase from 14 to 18 years and then a slight decline to age 26. We thus predicted that educational expectations, on average, would decline, whereas occupational aspirations would increase from early to mid-adolescence, although these trends may either reverse or stabilize in later adolescence.

Regarding gender differences, studies have typically shown that female adolescents outperform male adolescents in academic performance during middle school, high school, and university (Voyer & Voyer, 2014). Female adolescents also have higher educational and occupational aspirations and expectations and school motivation, but lower levels of academic self-concept, compared to their male peers (Gutman & Schoon, 2012; Huang, 2012; Mello, 2008; Schoon, Martin, & Ross, 2007). In terms of race/ethnicity, African American adolescents usually report higher educational and occupational aspirations and more engagement in their school work than do European Americans (Johnson, Crosnoe, & Elder, 2001), yet the Black-White achievement gap still persists in American schools (Kao & Thompson, 2003; Magnuson & Waldfogel, 2008).

There is a dearth of research examining gender and R/E differences in academic functioning from early to late adolescence, particularly in diverse samples with similar distributions of SES. Mello (2008, 2009), in a study of educational and occupational expectations from adolescence to young adulthood, reported that gendered and R/E patterns were generally stable across this developmental period. Furthermore, studies of African American adolescents have shown similar declines in academic-related outcomes and performance as those shown in European American adolescents (Gutman & Midgley, 2000; Roderick, 2003). Given this, we hypothesized that there would be mean-level differences according to gender and race/ethnicity but that these gaps would not diverge from early to late adolescence, with the exception of academic self-concept. Research has shown that females report a sharper decline in academic self-concept compared to males in a sample of Dutch adolescents (De Fraine et al., 2007), whereas males report a steeper decline compared to females in a sample of African American adolescents (Dotterer, Lowe, & McHale, 2014). Therefore, we postulated that

there would be a significant interaction between gender and race/ethnicity for this particular construct.

### **Problem Behaviors**

Adolescence is a particularly vulnerable period for engagement in problem behavior and experimentation with various substances. For some adolescents, the teen years are the years of peak involvement in problematic behaviors, with early and rapid increases in such behaviors during the early and middle adolescent years and then marked declines in late adolescence and adulthood. There has been a great deal of renewed concern over the role that brain maturation may play in some adolescents' participation in risky behaviors (Steinberg, 2005). This research suggests that heightened risk-taking during adolescence may be normative, biologically driven and, perhaps, inevitable (Steinberg, 2008). Others suggest that such changes are rare and just as likely to reflect the socially-constructed stresses associated with adolescence in modern societies (Eccles et al., 1993, Lerner, 2007). However, regardless of the cause, adolescents' maturing brains are vulnerable to the physical effects of using alcohol, nicotine, and drugs and, thus, these behaviors are quite risky during this period of development (Clark, Thatcher, & Tapert, 2008; Crews, He, & Hodge, 2007). Cognitive deficits resulting from alcohol and drug use in childhood and adolescence have potentially harmful consequences for subsequent academic, social, psychological, and occupational functioning in adulthood (Squeglia, Jacobus, & Tapert, 2009). Thus, in this monograph, we examined trajectories of substance use (i.e., cigarette, alcohol, and marijuana use) associated with biological risk, problematic behaviors at school that put academic achievement at risk, and illegal behaviors associated with delinquency.

Early onset of these types of problematic behaviors are among the most commonly identified risk factors for subsequent problems in adulthood (Windle & Windle, 2012).

The potential for developing lifetime substance abuse and dependence is substantially greater when an individual's first exposure to alcohol, nicotine, or illicit drugs occurs during adolescence rather than in adulthood (Breslau, Kilbey, & Andreski, 1993; Grant & Dawson, 1997). The earlier that an individual begins using nicotine, alcohol, or other drugs, the higher their risk of meeting the clinical criteria for substance use disorders later in adulthood (Steinberg, 2008). There has also been considerable research conducted on childhood-onset and adolescent-onset antisocial behaviors as significant predictors of mental health and substance abuse disorders and criminality in adulthood (Lynam, Caspi, Moffitt, Loeber, & Stouthamer-Loeber, 2007; Moffitt, Caspi, Harrington, & Milne, 2002). Consequently, these early-onset problem behaviors are often the focus of prevention programs to delay or prevent their initiation (Kandel & Yamaguchi, 2002; Spoth, Trudeau, Gyll, Shin, & Redmond, 2009).

Most longitudinal studies have shown that average levels of engagement in problem behaviors increase during adolescence and then decrease in adulthood. The average rate of alcohol and cigarette use has been found to increase steadily from early to late adolescence (Lloyd-Richardson, Papandonatos, Kazura, Stanton, & Niaura, 2002). Average levels of engagement in aggressive and criminal activities also have been shown to increase from early to mid- adolescence but then level off (Hirschi & Gottfredson, 1983; Moffitt, 1993), peaking around age 17 (Piquero, 2007). Given these previous findings, we hypothesized that frequency of engagement in these types of problem behaviors would increase from early to late adolescence, although some of these behaviors may stabilize in late adolescence. However, given the low rates of these types of behaviors at all ages (see <http://www.monitoringthefuture.org/>), we predicted that the overall rates would be low.

Problem behaviors may also vary across the gender and race/ethnicity of the

adolescent (see Chassin, Hussong, & Beltran, 2009). For example, European American and male adolescents typically report higher levels, and faster rates of increase, of alcohol, cigarette, and substance use than do African American and female adolescents (Bray, Adams, Getz, & Baer, 2001; Chen & Jacobson, 2012; Wallace, Bachman, O'Malley, Johnston, Schulenberg, & Cooper, 2002; Webb, Bray, Adam, & Getz, 2002). Thus, we expected that males and European Americans would both engage in more substance use and show faster rates of increase in their use from early to late adolescence than would females and African Americans. Although adolescent males consistently report higher levels of engagement in delinquent behaviors than do female adolescents, studies have revealed few gender and R/E differences in either the shape or the patterns of these trajectories (Bongers, Koot, Van Der Ende, & Verhulst, 2004; Lynne-Landsman, Graber, Nichols, & Botvin; 2011; Miller, Malone, & Dodge, 2010). In line with these findings, we hypothesized that although males would report higher levels of engaging in delinquent behaviors and having school problems than would females, the slopes of these trajectories would be similar for all groups.

### **Family Characteristics**

One of the salient developmental tasks confronting adolescents is establishing themselves as autonomous beings (Eccles et al., 1993; Erikson, 1959; Smetana, 2000; Steinberg, 1990). As children in the United States mature, their relationships with their parents evolve from being hierarchical and dependent to becoming more egalitarian and independent and, ultimately, to the adolescents taking primary responsibility for their own lives (Smollar & Youniss, 1989). These changes may lead adolescents to question their parents' authority and push for more decision-making power with their parents while also spending more time with their peers and progressively less time with their parents (Laursen, Coy, & Collins, 1998). These developmental changes may

precipitate disruptions in the parent–adolescent relationship, including heightened conflict and diminished support and closeness, that may continue until these relationships and roles are re-negotiated (Collins, 1995). This set of findings and beliefs has fueled the idea that youth turn from their parents and families to their peer groups during adolescence. But is this true? Other studies suggest that parents continue to matter a great deal to their adolescent children throughout adolescence and adulthood (Collins & Laursen, 2004; DeVore & Ginsburg, 2005; Steinberg, 2001). In this monograph, we included indicators of risky parenting – such as intrusive, strict, and negative parenting – and promotive/protective parenting, such as family social support, communication, and positive identification with parents.

Family characteristics can operate as risk, promotive, and protective factors for adolescents (Deković, 1999; Fergus & Zimmerman, 2005; Gutman, Sameroff, & Eccles, 2002; Masten, 2001). Positive parenting practices both delay the likelihood of engaging in risky behavior and reduce an increase in their continued engagement. These parenting practices also predict higher levels of healthy development, particularly among adolescents living in very risky neighborhoods (DeVore & Ginsburg, 2005). Authoritative parenting – which is characterized by a high degree of parental warmth and support, consistent limit setting, open communication, and high levels of supervision – predicts a number of positive developmental outcomes in adolescence (DeVore & Ginsburg, 2005; Juang & Silbereisen, 2002; Steinberg, Mounts, Lamborn, & Dornbusch, 1991) and reduced levels of engagement in negative outcomes such as drug use (Montgomery et al., 2008). In contrast, harsh, controlling parenting is associated with adolescent depression, anxiety, and externalizing behaviors, even after controlling for the effects of other parenting measures (Bender et al., 2007). Adolescents who have warm and close relationships with their parents are better adjusted (Attar-Schwartz,

2015; Gutman & Eccles, 2007) and engage in less risky behaviors associated with cigarette, alcohol, and drug use (Gutman, Eccles, Peck, & Malanchuk, 2011; Resnick et al., 1997; Tilson et al., 2004).

Many scholars have reported that children undergo a stressful period with their parents during adolescence (Eccles et al., 1993; Smetana, 1988, 1989; Steinberg, 2001). Parent-adolescent conflict often peaks during early adolescence; the emotional intensity of this relationship increases during middle adolescence and then stabilizes (Laursen et al., 1998). Parental control, on the other hand, declines from early to late adolescence and youth tend to provide their parents with less knowledge about their whereabouts, activities, and peer relationships as they grow older (Keijsers & Poulin, 2013; Wang, Dishion, Stormshak, & Willett, 2011). As youth progress through adolescence to young adulthood, interactions with parents generally become more egalitarian and less conflictual (De Goede et al., 2009; Rubin et al., 2011). Based on these findings, we predicted that our measures of perceived parental control would peak in early adolescence and then decline, stabilizing in late adolescence.

Researchers have also documented that feelings of support, emotional closeness, and time spent with parents generally decline during adolescence (Conger & Ge, 1999; Larson, Richards, Moneta, Holmbeck, & Duckett, 1996; Meeus, Iedema, Maassen, & Engels, 2005; Steinberg, 1988; Wang et al., 2011). Most notably, there have been documented declines in supportive parenting from early to mid-adolescence, followed by stability in young adulthood (Shanahan, McHale, Crouter, & Osgood, 2007). We thus predicted that our measures of supportive parenting would follow a similar trajectory.

In terms of gender differences, females typically report closer relationships with their parents than do males (Geuzaine, Debry, & Liesens, 2000; Gilligan, 1982; Gilligan, Lyons, & Hammer, 1990). However, there is less evidence that gender moderates



developmental trajectories of parent-adolescent relationships more generally (Laursen & Collins, 2004). In a study of adolescents' perceptions of their relationship with their parents, for example, there were no gender differences in the patterns of developmental change for perceived parental conflict and parental power (i.e., relative power and dominance of parents) from early to late adolescence (De Goede et al., 2009). Parental support, warmth, and closeness also showed similar declines from early to middle adolescence for both males and females (De Goede et al., 2009; Kim et al., 2015; Wang et al., 2011). However, from middle to late adolescence, females reported an increase in parental support and closeness; in contrast, males reported a decrease in parental closeness and no change in perceived parental support during this period (De Goede et al.; Kim et al.). Another recent study found that, following a decline in communication during early adolescence for both genders, females reported more intense parent-adolescent communication from middle to late adolescence, whereas adolescent males reported stable, low levels of parent-adolescent communication from middle adolescence onwards (Keijsers & Poulin, 2013). Thus, we predicted more positive slopes in parent-adolescent relationships for females than for males from middle to late adolescence only.

Previous research indicates that normative patterns of relinquishing parental control during adolescence may differ across race/ethnicity, with adolescents from European American families reporting lower levels of, and more rapid declines in, parental control compared to adolescents from African American families (e.g., Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Smetana et al., 2004; Steinberg et al., 1991). Smetana et al. (2004) suggested that parental control is more normative during early adolescence in African American middle-class families than in European American middle-class families and may protect African American adolescents from the

pervasive risks of racism and prejudice. In addition, strict parental control and emphasis on obedience among some lower-income R/E minority families may be an adaptive strategy to protect teenagers from the dangers of the neighborhood in which they live (Furstenberg et al., 1999). If so, then the African American versus European American differences found in some studies might reflect group differences in the likelihood of living in risky neighborhoods. In this monograph, we have the opportunity to look at these trajectories for African American and European American adolescents living in the same neighborhoods.

However, regardless of one's neighborhood of residence and one's normative levels of parental controls, both theory and research suggest that European American and African American parents come to allow greater decision-making opportunities and reduce their controlling strategies as their adolescent children mature (Gutman & Eccles, 2007). These findings suggest that the gradual transformation from a hierarchical relationship to a more egalitarian one during the adolescent years is a normative process for most families, regardless of race/ethnicity. Less is known about variations in closeness according to race/ethnicity or SES background, especially regarding different norms and cultural forms of family relationships and obligations (Laursen & Collins, 2009). However, cultural comparisons show that greater diversity often exists within rather than between these groups (Harkness & Super, 2002). As such, similar developmental trajectories for indicators of family relationships have been found in R/E minority families (e.g., Fuligni, 1998; Choe, Stoddard, & Zimmerman, 2014), despite the fact that African American adolescents tend to report more positive feelings toward their parents than do European American adolescents (Gutman & Eccles, 2007). We thus hypothesized that although mean-level differences might be evident in measures of parental control and closeness, the patterns of developmental

change would be quite similar between African American and European American adolescents.

### **Peer Characteristics**

Much attention has been focused on the heightened importance of peers during adolescence. As adolescents mature, they gain increasing independence from their parents and become closer to their peer group. During adolescence, youth are increasingly likely to turn to their friends as sources of support (Değirmencioglu, Urberg, Tolson, & Richard, 1998; Levitt, Guacci-Franco, & Levitt, 1993; Wilkinson, 2004). At times, this increase in peer focus may undermine parental influence (Steinberg, 2001). Research has suggested that the preference for peers peaks in early to middle adolescence and then gradually declines in late adolescence (Rubin et al., 2011; Steinberg & Silverberg, 1986). By late adolescence, most adolescents have developed a healthy balance between their parents and their peers, relying on both for support (Fuligni, Eccles, Barber, & Clements, 2001). These changes render adolescence an ideal time to study longitudinal trajectories of peer characteristics and relationships. Here, we examined the trajectories of both peer risk factors, including negative friendships and friends' endorsement of drug use, as well as promotive and protective aspects of peer relationships, including communication, support, and positive friendships.

Scholars have shown that peers can operate either as risk or protective factors in relation to adolescent development (Dodge, Dishion, & Langsford, 2006; Hartup, 1996; Wang & Dishion, 2012). On the one hand, adolescents who associate with riskier peers have more opportunities to take part in risky behaviors, receive more positive reinforcement for engaging in such behavior, and are more likely to engage in problem behavior in the future compared to their peers who associate with less risky friends

(Dishion, 2000; Goldstein, Davis-Kean, & Eccles 2005; Patterson, Dishion, & Yoerger, 2000). Having friends who approve of drug use has also been shown to predict higher rates of cigarette, alcohol, and marijuana use (Mason, Menis, Linker, Bares, & Zaharakis, 2014).

On the other hand, friends also provide necessary support and communication for adolescents. Having positive peer support has also been linked to a number of positive outcomes, including academic achievement. Adolescents who had friends who liked school or did well in school had fewer academic problems compared to those whose friends were less academically oriented (Crosnoe, Cavanagh, & Elder, 2003), and adolescents who had supportive friends were more engaged in school compared to those who had less supportive friends (Li & Lerner, 2011). Peer support has also been shown to be a protective factor in supporting the academic achievement of high-risk African American adolescents (Gutman et al., 2003). Positive peer characteristics, including peer support and high quality friendships, have further been found to buffer adolescents from negative outcomes, such as depression (Costello, Swendsen, Rose, Dierker, 2008; Gutman & Sameroff, 2004) and peer victimization (Goldbaum, Craig, Pepler, & Connolly, 2003).

Although many studies have examined the correlates and consequences of adolescents' peer relationships, a dearth of longitudinal research has investigated the developmental trajectories of peer characteristics themselves (Lansford, Dodge, Fontaine, Bates, & Pettit, 2014). In those few exceptions, studies have shown that friendships become increasingly closer and supportive from early to late adolescence (De Goede et al., 2009; Rubin et al., 2011; Way & Greene, 2006), although friendship quality has been found to decline from late adolescence (Lansford et al., 2014). Given the general increase in the importance of peers during this period, we predicted an

increase in the extent of communication with one's peers as well as perceived peer closeness and support, which may stabilize or decline approaching late adolescence.

There is also some longitudinal evidence that being affiliated with deviant peers increases from early to middle adolescence (Simons-Morton & Chen, 2009; Wang & Dishion, 2012). This seems very likely given that that average rates of engagement in risky behaviors increase over adolescence. Thus, we predicted that, on average, adolescents would report having more friends who engaged in risky behaviors and endorsed the use of drugs from early to middle adolescence, which again may stabilize or decline in late adolescence, but we expected that these rates would be relatively low.

Studies have also found that the quality of friendships varies by adolescents' gender. For example, adolescent females consistently report having more friendship support, greater communication with their friends, and more prosocial friends compared to adolescent males (see Fuligni, Hughes, & Way, 2009; Kim et al., 2015; and Rose & Rudolph, 2006, for reviews). Longitudinal research on friendship quality for male and female adolescents from different R/E groups is extremely limited, with most longitudinal studies focusing on younger children over brief periods of time or middle class, European American adolescents (Fuligni et al., 2009). However, studies focusing on racially/ethnically-diverse youth have also shown similar improvements in friendship support during adolescence, with males reporting a sharper increase in the perceptions of the quality of their same-sex, closest friendships compared to females (Way & Green, 2006). Given the lack of evidence, however, we did not make any predictions about gender or R/E differences in the developmental trajectories of peer characteristics in our sample.

## **Current Study**

Using Hierarchical Linear Modelling (HLM), our first goal was to describe the developmental trajectories of a population of African American and European American adolescents living on the Eastern Seaboard of the United States at the turn of the 21<sup>st</sup> century. Using risk-protection and positive youth development frameworks, we selected developmental measures based on the normative tasks of adolescence and the most widely studied indicators in the three major contexts of development –families, peer groups, and schools. Our second goal was to investigate whether these trajectories varied by parents' marital status and SES and adolescents' race/ethnicity, gender, and the intersection of their race/ethnicity and gender.

To satisfy the systematic investigation of adolescent trajectories, we retained the same covariates within each model for purposes of comparison. With an economically diverse but socioeconomically comparable sample of African American and European American adolescents, we examined growth curve trajectories within each domain of functioning and how they varied according to adolescents' gender and race/ethnicity, parents' SES and marital status, and the interaction between adolescents' gender and race/ethnicity. Considering that little research has been devoted to interactions among demographic variables (Schwartz, Montgomery, & Briones, 2006), understanding the longitudinal trajectories of intra-individual processes particularly related to diversity including gender, race/ethnicity, and the intersection between the two, can greatly enhance our understanding of adolescent development (Smetana et al., 2006).

The youth came from a county near Washington DC in which the socioeconomic backgrounds of the African American and European American families were more similarly distributed than in most other counties in the United States. This county was selected purposefully in order to control for differences in the kinds of social and physical experiences that are commonly associated with social class and thus often

confound comparisons between African American and European American youth. This choice does not mean that we believe that socioeconomic conditions are unimportant to our understanding of R/E differences in human development. Quite the contrary, we believe that such conditions are so important and so poorly understood that one cannot easily look at the generalizability of developmental trajectories across African-American and European-American youth in samples that confound R/E differences with family SES differences. Admittedly, it is unfeasible to achieve absolute comparability in this culture at this historical period between various subgroups within the larger population of youth in the United States; thus, it was also important to investigate the effects of key socio-demographic variables including parents' SES and marital status. Nevertheless, this constraint on selecting the community in which to conduct this study made obtaining equivalently representative samples of other R/E groups within the United States impossible.

Regarding the organization of our monograph, Chapter 2 describes the sample, procedures, and measures of the study in more detail. Chapter 3 provides some preliminary analyses and an overview of our analytic plan. Chapters 4 to 9 report the results for each domain. Within each of these chapters, we describe the trajectories of each measure, in turn, allowing a short discussion of individual findings. We conclude each of these chapters with a summary and discussion of the findings, taken as a whole, in relation to our predictions, for the particular domain in question. Where appropriate, we highlight how these findings relate to those shown in previous chapters. Lastly, Chapter 10 provides a comprehensive view of the developmental trajectories for the domains taken together; first examining these findings through the lens of risk, promotion, and protection at each stage of adolescent development and then identifying similarities and differences in the mean levels and/or slopes of these trajectories

according to adolescents' gender, race/ethnicity, and their interaction as well as parents' SES and marital status. This chapter also includes discussions of the limitations of our study and potential future research. We end with overarching conclusions about our findings.