START:AV
Knowledge Guide

A Research Compendium on the START:AV
Strength and Vulnerability Items

Jodi L. Viljoen, Tonia L. Nicholls, Keith R. Cruise,
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# Table of Contents

ABOUT THE AUTHORS ......................................................................................................................... 4

INTRODUCTION .................................................................................................................................. 5

ITEM 1: SCHOOL AND WORK .................................................................................................................. 8

ITEM 2: RECREATION .............................................................................................................................. 10

ITEM 3: SUBSTANCE USE ....................................................................................................................... 12

ITEM 4: RULE ADHERENCE ................................................................................................................ 14

ITEM 5: CONDUCT ................................................................................................................................. 16

ITEM 6: SELF-CARE ............................................................................................................................... 18

ITEM 7: COPING .................................................................................................................................... 20

ITEM 8: IMPULSE CONTROL .................................................................................................................. 22

ITEM 9: MENTAL/COGNITIVE STATE ................................................................................................. 24

ITEM 10: EMOTIONAL STATE ............................................................................................................... 26

ITEM 11: ATTITUDES ............................................................................................................................ 28

ITEM 12: SOCIAL SKILLS ...................................................................................................................... 30

ITEM 13: RELATIONSHIPS .................................................................................................................. 32

ITEM 14: SOCIAL SUPPORT .................................................................................................................. 35

ITEM 15: PARENTING ............................................................................................................................. 38

ITEM 16: PARENTAL FUNCTIONING ..................................................................................................... 40

ITEM 17: PEERS ..................................................................................................................................... 42

ITEM 18: MATERIAL RESOURCES ....................................................................................................... 44

ITEM 19: COMMUNITY .......................................................................................................................... 46

ITEM 20: EXTERNAL TRIGGERS ........................................................................................................... 48

ITEM 21: INSIGHT .................................................................................................................................. 50

ITEM 22: PLANS ..................................................................................................................................... 52

ITEM 23: MEDICATION ADHERENCE ................................................................................................. 54

ITEM 24: TREATABILITY ....................................................................................................................... 56

CULTURE (CASE-SPECIFIC) ................................................................................................................. 58

SUMMARY ........................................................................................................................................... 60

TABLE 1: PRIOR RESEARCH ON PREDICTORS OF ADVERSE OUTCOMES ........................................... 63

TABLE 2: PRIOR RESEARCH ON PREDICTORS OF ADVERSE OUTCOMES IN FEMALE AND MALE YOUTH .............................................................. 64

REFERENCES ...................................................................................................................................... 66
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Introduction

The Short-Term Assessment of Risk and Treatability: Adolescent Version (START:AV; Viljoen, Nicholls, Cruise, Desmarais, & Webster, with contributions by Beneteau-Douglas, 2014) is a risk assessment and intervention-planning guide for male and female adolescents in mental health, justice, and other related settings. Its ultimate aim is to guide evidence-based intervention planning and facilitate communication between individuals and agencies involved in an adolescent’s care.

Key Features

The START:AV has several distinguishing features:

**Comprehensive and Integrative Assessment of Risks:** Rather than focusing on a single outcome of concern (e.g., violence or suicide), the START:AV examines adolescents’ risks for multiple adverse outcomes including: harm to others and rule violations (i.e., violence, nonviolent offenses, substance abuse, unauthorized absences such as running away and school dropout) and harm to the adolescent (i.e., suicide, non-suicidal self-injury, victimization, health neglect).

**Strengths and Vulnerabilities:** Rather than focusing only on factors that increase risk for adverse outcomes, which is the predominant model in the risk assessment field, the START:AV is a balanced assessment guiding assessors to simultaneously consider both strengths and vulnerabilities associated with adverse outcomes. To facilitate this, each START:AV item is rated simultaneously for both strengths and vulnerabilities.

**Focus on Change and Intervention-Planning:** Rather than viewing adolescents and their social contexts as static entities, the START:AV recognizes that adolescence is a period of enormous change. Thus, it facilitates a dynamic approach to assessment and treatment planning by orienting professionals to strengths and vulnerabilities that are potentially modifiable. Furthermore, it is designed to be re-administered at least every three months, to ensure it is an up-to-date reflection of adolescents’ present treatment needs. Both item ratings and adverse outcomes are informed by historical information while retaining the focus on dynamic item ratings.

**Structured Yet Flexible:** The START:AV guides professionals to systematically consider each adolescent’s Strengths and Vulnerabilities on 24 items. The START:AV also offers some flexibility, inviting professionals to add Case-Specific Items (e.g., culture) and consider these items as additional sources of strength and vulnerability. In addition, professionals can also add Case-Specific Adverse Outcomes and make structured professional judgments of low, moderate, or high risk on these outcomes.

Purpose of this Knowledge Guide

The current guide, which we refer to as the START:AV Knowledge Guide, is an accompanying resource for the START:AV User Guide (Viljoen et al., 2014). Its main purpose is to summarize research on the factors that predict adverse outcomes in adolescents. This review was conducted prior to the development of the START:AV User Guide; it guided our decisions about items to include in the START:AV and provided the foundation for the development of the START:AV.

Since the START:AV was developed, a number of studies have evaluated it. These studies are summarized in a separate document, the START:AV Annotated Bibliography (Bhanwer, Shaffer, & Viljoen, 2015).
In this Guide, we provide a review of research relevant to each item in the START:AV. The START:AV is informed by a social-ecological framework (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006), which recognizes that adolescents are embedded in multiple, interrelated contexts (e.g., family, school, peers, community).

The first set of items on the START:AV pertain to the Individual Adolescent, including the adolescent's behavioral, emotional, cognitive, and interpersonal functioning (i.e., Items 1-12 School and Work, Recreation, Substance Use, Rule Adherence, Conduct, Self-Care, Coping, Impulse Control, Mental/Cognitive State, Emotional State, Attitudes, Social Skills).

The second set of items pertain to the adolescent's Relationships and Environment, including relationships with caregivers and other involved adults, peers, and the quality of the adolescent's broader community (i.e., Items 13-20 Relationships with Caregivers and Other Adults, Relationships with Peers, Social Support from Adults, Social Support from Peers; Parenting, Material Resources, Peers, Community, External Triggers).

The final set of items pertain to the adolescent's Response to Interventions and assess the adolescent's attitudes towards, compliance with, and responsiveness to interventions (i.e., Items 21-24 Insight, Plans, Medication Adherence, and Treatability). We define interventions broadly to include therapy but also broader rehabilitation services (e.g., probation supervision).
History and Risk of Adverse Outcomes

The START:AV assesses the adolescent’s history and future risk of adverse outcomes in two domains. The first domain focuses on Harm to Others and Rule Violations (i.e., externalizing behaviors). This domain includes: Violence (any actual, attempted, or threatened physical harm to others), Non-Violent Offenses (criminal acts and offenses such as property crimes and other non-violent crimes), Substance Abuse (problematic use or misuse of controlled substances, pharmaceutical drugs, or household substances), and Unauthorized Absences (absences from school, residences, and services, such as school dropout, and running away from home or treatment programs).

The second domain of adverse outcomes focuses on Harm to the Adolescent. This domain includes: Suicide (suicidal actions for which there is some intent on the part of the adolescent to kill him/herself), Non-Suicidal Self-Injury (NSSI; intentional damage to bodily tissues without suicidal intent), Victimization (harmful behaviors that others perpetrate against the adolescent, including physical, sexual, emotional, or relational victimization; property crime; and neglect), and Health Neglect (behaviors that may affect the adolescent’s physical health, such as unhealthy diet, inadequate exercise, sleep problems, and risks to sexual health).

Layout of the Guide

For each item and adverse outcome, we provide the following information:

Definition and Conceptual Issues: We begin by providing a definition of each item, drawing from the available research and professional literature.

Developmental Course: Next, to ground each item in an understanding of adolescent development, we review research on the relevance of the item to adolescents. In particular, we discuss prevalence rates in normative samples, and developmental trajectories. For instance, for Item 3: Substance Use, we discuss the proportion of adolescents that try drugs, and at what age this experimentation typically begins.

Relationship to Outcomes: Given that the START:AV aims to help predict adverse outcomes such as violence and victimization, we provide information from the research literature demonstrating how the items are associated with adverse outcomes. This literature review guided our decisions about which items to include in the START:AV, and about our item anchors (see Table 1).

Gender Considerations: To help provide a gender-informed perspective, we describe relevant gender considerations. We examine whether gender differences typically occur in the level and expression of the item in normative samples, and whether predictive associations between the item and adverse outcomes differ by gender (see Table 2).

Caveat

In this guide, we provide a separate review of each item, as our purpose was to identify which items to include in the START:AV. However, looking at items in singularity does not provide the full picture. Indeed, relationships between items and outcomes may be complex, as items may can interact with each other. For instance, symptoms of mental disorder may be a weak predictor in and of itself, but when coupled with substance abuse, it may become a powerful predictor (Monahan et al., 2001). Similarly, substance use may interact with other risk factors (e.g., delinquent peers) to produce a heighten risk of rearrests (Schubert, Mulvey, & Glasheen, 2011). Also, most studies find that single items are not especially strong predictors of adverse outcomes in and of themselves. However, it is only when risk factors are combined and examined in combination do they become more robust predictors of outcomes (Appleyard, Egeland, van Dulmen, & Sroufe, 2005; Herrenkohl et al., 2000). This reinforces the need to think about items holistically rather than as separate entities. Readers should keep these caveats in mind as they review this guide.
**Item 1: School and Work**

This item focuses on the adolescent’s commitment to school and/or work (e.g., effort, attendance) and his/her school or work achievement (e.g., successes, grades).

**Definition and Conceptual Issues**

Commitment or engagement in school is a multi-faceted concept that includes not only the adolescent’s behavior (e.g., participation in academic activities), but also their emotional engagement (e.g., connectedness to school) and motivation (e.g., effort; Fiedricks et al., 2004). Commitment to school and school achievement are often intertwined; adolescents with a strong commitment to school often achieve better academic grades (Bryan et al., 2012). That said, school and work achievement is also heavily influenced by adolescents’ cognitive abilities, personality, and motivational factors, such as conscientiousness and need for achievement (Bratko, Chamorro-Preuzic, & Saks, 2006; Hodis et al., 2011).

In addition to attending school, many adolescents are employed, either in paid or volunteer positions (Bachman et al., 2011; Staff et al., 2009). However, work involvement is not necessarily protective. Indeed, research shows that high intensity work may be associated with increased risk behaviors and reduced school involvement. Thus, this item focuses primarily on school, and recognizes that high intensity work may in fact be a risk factor (Bachman et al., 2011).

**Developmental Course**

Adolescents’ academic performance and engagement is important in shaping their long-term career opportunities, including eligibility for entry into post-secondary training and various careers. Although international rates of high school drop-out have declined since the 1970s, more recent estimates suggest that approximately 7% of young people in developed countries do not complete high school (Chapman et al., 2010; Organisation for Economic Co-operation and Development, 2009). Rates for minority youth are considerably higher. For example, high school drop-out rates are 13% for youth who are African-American, and 18% for youth who are Native American (Chapman et al., 2011).

Research has found that intrinsic motivation for school decreases from childhood to adolescence, and external motivators become increasingly important (Gottfried et al., 2001/2007). School curriculum becomes more challenging and adolescents are expected to develop career plans, which may be contingent on their academic performance. School transitions (i.e., transition to middle or high school) can be challenging periods and it is fairly common for grades to temporarily decline during these transitions (Weiss & Bearman, 2007). During high school, many adolescents also work in paid positions, with approximately 80 to 90% of American adolescents reporting paid employment at some point during high school (Staff et al., 2009).

**Gender Considerations**

Historically, concerns were expressed regarding girls’ school achievement, particularly in areas such as math. More recently, concerns have shifted to the school performance of boys, with recent research showing that girls often outperform boys in many countries (Jha & Kelleher, 2006). For instance, data from a national annual survey in the United States found that, from the 1980s to the 2000s, girls’ modal high school grade point average increased whereas boys’ grade point average did not change (Fortin, Oreopoulos, & Phipps, 2015). Furthermore, girls report higher aspirations for post-secondary education than boys.
School commitment and school achievement have been found to protect against adverse outcomes in both boys and girls (e.g., Hart & Mueller, 2013; Herrenkohl, Catalano, Hemphill, & Toumbourou, 2009). Studies examining gender differences in associations have been equivocal; some studies indicate that school commitment is more protective against delinquency for girls (e.g., Anderson, Holmes, & Ostresh, 1999; Daigle, Cullen, & Wright, 2007), whereas others note that it is more important for boys (e.g., Rosenbaum & Lasley, 1990).

**Relationship to Outcomes**

| School commitment and school achievement are associated with positive outcomes, such as reduced risk of: violence, non-violent offending, substance abuse, unauthorized absences (e.g., running away), suicide, and non-suicidal self-injury. High intensity of work involvement is associated with some adverse outcomes such as substance abuse and non-violent offending. |

**Violence:** Commitment to school, strong school achievement, and good study skills have been found to protect against violence and aggression in adolescents (Bradley & Greene, 2013; Henry, Tolan, Gorman-Smith, & Schoeny, 2012; Herrenkohl, Lee, & Hawkins, 2012).

**Non-Violent Offenses:** While employment is often thought to reduce risk of delinquency, intense employment (>20 hours/week) is associated with higher rates of offending (Staff et al., 2009); this may be, because youth who are predisposed to crime report a greater desire to work and to be independent (Apel et al., 2007). On the other hand, moderate hours of employment (< 20 hours/week) do not appear to be as problematic (Staff et al., 2009). Low levels of commitment to school is linked with a higher likelihood of engaging in non-violent offending (Jenkins, 1995), while strong school achievement is protective against offending (Hoffman, Erickson, & Spence, 2013).

**Substance Abuse:** Youth who work long hours in paid positions have limited engagement in school activities (Bachman et al., 2011). Adolescents who show poor school achievement are at greater risk for substance use than adolescents with good school achievement (Bradley & Greene, 2013; Li & Lerner, 2011).

**Unauthorized Absences:** School difficulties, such as poor grades, are predictive of running away from home (Whitbeck & Hoyt, 1999). In contrast, school engagement (e.g., participation, feelings of belonging) and good academic achievement protect against school absenteeism and drop-out (Fredricks et al., 2004).

**Suicide:** Youth who have high levels of school engagement tend to report lower suicide ideation (Carter et al., 2007). Some studies find low school achievement is associated with heightened risk for suicidal behaviors, which may be due to the negative effects of depression (Lewis et al., 1988).

**Non-Suicidal Self-Injury:** Several studies have found a link between self-reported school failure or school struggles and reporting past self-harm behaviors (Brunner et al., 2007; Richardson, Bergen, Martin, Roeger, & Allison, 2005). These academic difficulties may reflect underlying issues, such as depression.

**Victimization:** School achievement does not appear to be a significant risk factor for peer victimization (Cook et al., 2010). That said, youth who are victimized by peers may potentially withdraw from school and attain poorer academic performance as a result (Nakamoto & Schwartz, 2010). Studies also indicate that parental maltreatment may contribute to problems completing homework and reduced academic achievement (Slade & Wissow, 2007).

**Health Neglect:** Adolescents who have healthy diets and exercise regularly are more likely to perform well in school (Chomitz et al., 2009; Florence et al., 2008). Usually, this is interpreted as evidence that diet and exercise affect school achievement rather than vice versa, but causal evidence is limited.
**Item 2: Recreation**

This item focuses on how the adolescent spends his/her time outside of school and work, including appropriate, prosocial, and constructive use of activities, and/or antisocial and destructive activities.

**Definition and Conceptual Issues**

A large proportion of adolescents’ time is spent in leisure or recreation activities. For instance, in the United States, adolescents spend more than six hours a day (or nearly half of their waking hours) in leisure activities (see Zick, 2010). In examining how adolescents use this time, it is important to consider the extent to which activities are prosocial and positive in nature. Some activities help to build skills and facilitate positive outcomes (e.g., art clubs, music lessons, reading), whereas other activities may have few positive impacts or may even be harmful (e.g., watching television, playing violent video games; Eccles et al., 2003).

Another important consideration is the degree of structure and supervision. Structured activities are typically defined as activities that are organized, supervised by adults, often focus on skill-building, and include regular contact, such as weekly events (Mahoney, 2000; Mahoney et al., 2006; Osgood, Anderson, & Schaffer, 2005). Examples include sports teams, performance activities (e.g., school band, drama, dance), and extra-curricular clubs and activities (e.g., student government, math clubs; Eccles et al., 2003). Unstructured activities, in contrast, are typically defined as less formal activities, such as hanging out with friends, going to the mall, or watching television.

**Developmental Course**

With the transition into adolescence, children tend to experience an increase in unsupervised time. However, the use of leisure time varies significantly for adolescents in different countries. On average, American adolescents spend less time doing schoolwork than adolescents in East Asia and Europe, and have more free time than adolescents in other industrial countries (Larson & Verma, 1999; Larson & Seepersad, 2003). Much of adolescents’ free time is spent socializing with friends. For instance, American adolescents spend an average of 2-3 hours “hanging out” or socializing with friends; these rates are substantially lower in East Asia (i.e., 45-60 minutes). Also, the use of media devices is common (e.g., computers, digital music players, cell phones, televisions). For instance, in the United States, adolescents spend more than six hours a day using media devices (Roberts & Foehr, 2008).

Many adolescents (e.g., over 50% of American high school students) are involved in extracurricular activities, such as sports or clubs; these activities may provide important opportunities to develop useful skills, feeling a sense of belonging to a valued group, engaging in prosocial activities, and developing leadership skills and supportive social networks with peers and adults (Eccles et al., 2003; Feldman & Matjasko, 2005). Although a significant proportion of adolescents participate in sports or physical activity, rates of physical activity decline steeply between ages 13 and 18 (Sallis, 2000).

**Gender Considerations**

Boys have been found to engage in higher rates of unstructured social activities than girls, which has been cited as a possible reason for the higher prevalence of delinquency in boys compared to girls (Osgood et al., 1996). Girls tend to withdraw from sports and physical activities at an earlier age and at a steeper rate than boys (Kirshnit, Ham, & Richards, 1989), possibly as a result of body image concerns and teasing (Slater & Tiggeman, 2011). Unstructured and unsupervised activity appears to be a vulnerability factor for both girls and boys (e.g., Anderson & Hughes, 2008; Osgood & Anderson, 2004).
**Relationship to Outcomes**

Unstructured and unsupervised time can increase risk for violence, non-violent offenses, substance abuse, suicide, and victimization, whereas involvement in supervised, skills-based activities (e.g., school clubs) can be protective. Sports involvement appears to protect against suicide, NSSI, and health neglect (e.g., obesity) but may heighten risk for substance use and non-violent offenses.

**Violence:** Unstructured leisure time is a risk factor for violence (Hawkins et al., 1998). Also, involvement in contact sports (e.g., football) is associated with increased fighting (Kreager, 2007), but the direction of this effect is unclear; youth with a propensity for violence may choose to participate in contact sports. Adolescents who habitually play violent videogames have higher rates of aggression than other adolescents, even after controlling for previous aggression (Anderson et al., 2008).

**Non-Violent Offenses:** Adolescents who spend more hours in unstructured time with peers than is typical are more likely to engage in criminal activity (Osgood & Anderson, 2004), whereas constructive use of time is protective (Hoge, Andrews, & Leschied, 1996). That said, boys who play sports have higher rates of delinquency than boys involved in non-athletic extracurricular activities (Gardner, Roth, & Brooks-Gunn, 2009). This is possibly because those with a greater propensity for violence may choose to participate in those activities.

**Substance Abuse:** Unstructured time with peers, such as going to parties, is a risk factor for alcohol and drug use (Osgood et al., 1996). Although sports participation carries a number of benefits, it is also linked to a heightened risk of alcohol use (Mays et al., 2010). High levels of media exposure (e.g., music videos, advertisements for alcohol, movies) have also been linked to increased rates of substance use in adolescents (Primack, Kraemer, Fine, & Dalton, 2009; Robinson, Chen, & Killen, 1998).

**Unauthorized Absences:** Participation in extracurricular activities and school sports has been found to reduce risk of school dropout, particularly for high-risk adolescents (Mahoney, 2000; Marsh & Kleitman, 2003).

**Suicide:** Participation in sports may reduce suicide risk, at least in boys (Lester et al., 2010), although it is unclear whether this is explained through the impact on depression, self-esteem, or through some other means. Engagement in (and enjoyment of) social and structured activities can be protective (Ramey et al., 2010), whereas solitary and unstructured activities heighten risk for suicide (Mazza & Eggert, 2001).

**Non-Suicidal Self-Injury:** In one study of older adolescents with a history of self-harm, youth described socializing with others, exercising, and participating in recreational sports as among the most frequently used, and effective methods they employed to resist urges to engage in self-harm (Klonsky & Glenn, 2008).

**Victimization:** Adolescents who spend large amounts of unsupervised time with peers have higher rates of victimization, possibly because they are involved in activities that place them at risk (Schreck et al., 2002). Interscholastic athletes (e.g., on school teams) are less likely to be bullied by peers (Peguero, 2008). However, there is some evidence to suggest that students who are involved in numerous school extracurricular activities experience higher rates of bullying than do other adolescents (Feldman & Matjasko, 2005).

**Health Neglect:** Participation in sports is associated with healthier diets and reduced obesity (Croll et al., 2006; Olds et al., 2011), whereas sedentary activities are associated with an increase in weight problems (Koezuka et al., 2006; Motl et al., 2006). However, involvement in some sports, such as dance, gymnastics, or other sports with weight restrictions, are associated with problematic eating behaviors in girls and boys (Hausenblas & Carron, 1999; Stoutjesdyk & Jevne, 1993). Excessive use of electronic media is associated with reduced sleep (Cain & Gradisar, 2010) and obesity (Casiano et al., 2012).
Item 3: Substance Use

This item examines the adolescent’s alcohol and drug use, including the impact of substance use on the adolescent’s functioning and the adolescent’s views of his or her substance use.

Definition and Conceptual Issues

Most conceptualizations of problematic substance use include physiological and psychological features, such as cravings (e.g., a strong urge to use the substance) and tolerance (e.g., the requirement of increasing amounts of the substance to become intoxicated), and withdrawal symptoms during periods of abstinence (American Psychiatric Association, 2013; ICD, 2010). Substance use can lead to various negative effects such as family and social discord, reduced involvement in previous activities, reduced ability to fulfill obligations, legal ramifications, and associated health risks, such as contracting or spreading communicable diseases.

The development of substance use problems is linked to biological, psychological, social, and environmental factors, such as family history of substance dependence, externalizing disorders, and impulsivity (Conrod, Castellanos-Ryan, & Strang, 2010; Goldman, Oroszi, & Ducci, 2005; Krank, Stewart, O’Connor, Woicik, Wall, & Conrod, 2011; Lynskey, Heath, & Nelson, 2002). Substance use can alter brain functioning and chemistry, which can lead to ongoing addiction (Kennedy & Kilts, 2009). Also, according to the self-medication hypothesis, individuals may engage in substance use as a way to avoid psychological pain (Comeau, Stewart, & Loba, 2001).

Developmental Course

The initiation of alcohol, marijuana, and other illicit drug use rapidly accelerates during early adolescence and peaks in late adolescence (Chen & Kandel, 1995). The misuse of prescription drugs among adolescents (e.g., Adderall) is also on the rise. In a large survey of American adolescents, 34% of 13-year-olds, and 88% of 17-year-olds reported having used alcohol. In addition, 53% of 17-year-olds reported having used marijuana, and 31% reported using other drugs (Young et al., 2002). However, these rates vary based on local norms (Vega et al., 2002).

Growing neurodevelopmental evidence suggests that adolescence is a period of heightened vulnerability to addiction (Chambers, Taylor, & Potenza, 2003). After peaking in adolescence, substance use typically starts to decline in the mid-20s (Chen & Kandel, 1995). However, some adolescents and adults progress into serious drug use. Often, individuals who use hard drugs, such as heroin or cocaine, have first tried other less serious drugs, such as alcohol and marijuana (Kandel et al., 1992), but this is not always the case (Tarter, Vanyukov, Kirisci, Reynolds, & Clark, 2006). Although alcohol and marijuana are sometimes thought to act as a gateway to harder substances, this link may be explained by common risk factors, such as a genetic predisposition or family history (Cleveland & Wiebe, 2008; van Leeuwan et al., 2001).

Gender Considerations

Boys are typically at a higher risk for developing substance use problems than girls (Young, Corley, Stallings, Rhee, Crowley, & Hewitt, 2002). However, girls may be at a temporary higher risk for alcohol and/or marijuana use in comparison to same-aged boys (Johnson, O’Malley, et al., 2012; Kandel, 2000). Boys may be more susceptible to become dependent on alcohol, sedatives, and marijuana, while girls may exhibit higher rates of dependence on amphetamines and cocaine (Kandel, 2000; Lev-Ran, Strat, Imtiaz, Rehm, & Le Foll, 2013).

Substance use increases the risk of adverse outcomes in both boys and girls (Friedman, 1998). However, in some cases, the strength of associations might vary across gender. Specifically, boys involved in substance use appear to be more likely than girls to commit non-violent offenses (Li & Feigelman, 1994). Conversely, substance use may be more strongly linked with victimization (Popovici, Homer, Fang, & French, 2012), and perpetration of dating violence in girls than in boys (Foshee, Linder, MacDougal, & Bangdiwala, 2001).
**Relationship to Outcomes**

Substance use is a well-established predictor of numerous adverse outcomes, including violence, non-violent offenses, school drop-out (i.e., unauthorized absences), suicide, NSSI, victimization, and health neglect. Conversely, research indicates that abstinence from substance use and drug refusal skills are protective.

**Violence:** Use of certain substances, such as alcohol (Miczek et al., 1994), may lead to aggression due to the immediate pharmacological effects. In contrast, other substances, such as marijuana, hallucinogens, or opioids, do not tend to elicit violent behavior (Boles & Miotto, 2003; Goldstein, 1985). However, the heightened anxiety, depression, and agitation that occurs during withdrawal from use of most substances can increase aggression (Lavine, 1997). Also, individuals may engage in violence to support a drug habit (Blumstein, 1995).

**Non-Violent Offenses:** The disinhibitory properties of some substances may increase risk for criminal activity (Popovici, Homer, Fang, & French, 2012). Also, individuals who chronically abuse substances are more likely than non-substance users to engage in crime to obtain resources to support their addiction, or become involved in distributing illegal substances (Goldstein, 1985; Pedersen & Skardhamar, 2010; Stewart, Gossop, Marsden, & Rolfe, 2000).

**Substance Abuse:** Substance use is clearly a risk factor for substance abuse, although not all use leads to abuse. Certain substances, including opiates and cocaine, are more likely than others to result in addiction and negative health consequences (Nutt, King, Saulsbury, & Blakemore, 2007). In contrast, adolescents who abstained entirely from marijuana use appeared to achieve better health outcomes during adulthood (Ellickson et al., 2004; Tucker, Ellickson, Collins, & Klein, 2006).

**Unauthorized Absences:** Adolescents who use substances frequently are more likely to run away from home (Tucker et al., 2011). In a longitudinal study, early drinking did not predict school dropout possibly because alcohol use is common in adolescence (Ellickson et al., 1998).

**Suicide:** Substance use elevates risk of suicide (Esposito-Smythers & Spirito, 2004). Adolescents with a substance use disorder are 5 to 13 times more likely to die by suicide than those without such a disorder (Kelly et al., 2001; Marttunen & Pelkonen, 2000).

**Non-Suicidal Self-Injury:** Substance use disorders occur at higher rates among adolescents who engage NSSI compared to adolescents who do not report past self-harm (D’Eramo, Prinstein, Freeman, Spirito, & Grapentine, 2004).

**Victimization:** Adolescents who engage in substance use are more likely to be victimized than non-substance users. For instance, adolescent girls who were heavy alcohol users were at a higher risk for being a victim of crime, in comparison to non-alcohol using girls and boys (e.g., weekly alcohol binges meant a 29% higher probability for boys being victimized and 71% higher probability for girls; Popovici, Homer, Fang, & French, 2012; see also Young, Grey, Abbey, Boyd, & McCabe, 2008).

**Health Neglect:** Adolescents who use substances are more likely than non-substance users to engage in unhealthy eating habits (Neumark-Sztainer et al., 1997), limited exercise (Tur et al., 2003) and also are more vulnerable to engaging in risky sexual activity than other sexually active youth (Li, Stanton, Cottrell, Burns, Pack, & Kaljee, 2001). In contrast, adolescents who abstained entirely from marijuana use appeared to achieve better health outcomes during adulthood than adolescents who did not (Ellickson et al., 2004; Tucker, Ellickson, Collins, & Klein, 2006).
Item 4: Rule Adherence

This item is focused on the extent to which the adolescent has followed or broken rules, regulations, conditions, or agreements across contexts (e.g., home, school, treatment).

Definition and Conceptual Issues

Adolescents are embedded within various social systems (e.g., peers, family, school, work, community, society; Bronfenbrenner, 1977), each with their own rules and regulations. Rule adherence refers to rule-breaking behaviors, as well as rule-following behaviors, in all of these systems, such as the rules of their family (e.g., curfew), residence (e.g., program participation), school (e.g., completing required coursework, attendance), and society (e.g., laws). Thus, it includes a broad range of antisocial behaviors, such as running away, truancy, substance use, stealing, setting fires, and committing acts of vandalism (Achenbach & Rescorla, 2001).

This item focuses on what social domain theory (Turiel, 1983) refers to as moral rules. Moral rules regulate behaviors that affect individuals' rights, justice, and welfare. As examples, moral rules stipulate that it is wrong to steal, hit, or inflict emotional harm on others. This item also captures some conventional rules. Conventional rules coordinate social interactions and vary across cultures and settings. As examples, conventional rules stipulate that adolescents must attend school and follow the specific rules of treatment facilities.

Beyond considering whether or not a youth follows rules, it is also important to consider the extent to which youth appreciate the need for and benefits of rules. Appreciation of rules may protect against adverse outcomes (e.g., Flanagan, Stout, & Gallay, 2008; Killen, Leviton, & Cahill, 1991; Nucci, Guerra, & Lee, 1991).

Developmental Course

Rule-breaking behaviors, such as school truancy and treatment non-compliance, show increases in frequency during adolescence (Henry, 2007; Harpaz-Rotem et al., 2004). Testing limits and questioning the rules imposed upon them is an important way for youth to develop their autonomy and sense of self, and, conversely, the development of self-efficacy is integral to rule adherence (Broadhead-Fern & White, 2006). Also, compared to adults, adolescents are more sensitive and oriented towards rewards or reinforcements, particularly from peers, rather than the negative consequences of rule-violating behaviors (Steinberg et al., 2008). Thus, some degree of rule breaking is developmentally normative (LaFontana & Cillessen, 2009); however, frequent or serious rule-breaking is less common and associated with adverse outcomes. In general, we expect youth to demonstrate an increasing understanding and appreciation of rules over the course of adolescence (Bongers, Koot, van der Ende, & Verhulst, 2004; Broidy et al., 2003; LaFontana & Cillessen, 2009).

In addition to rule-breaking behaviors, rule-following behaviors serve an important developmental role and can contribute to the development of adaptive, prosocial skills in other domains including: negotiating, problem solving, accepting criticism, being patient, following instructions, and being respectful (Kivett & Warren, 2002). Moreover, rules can contribute to safe and stable environments for youth and those around them, but also may have important secondary benefits. For instance, the rules of residential settings, such as shelters or juvenile justice facilities, may encourage socially acceptable behavior in other settings (Dalton & Pakenham, 2002).

Gender Considerations

Research suggests that boys engage in more rule-breaking behavior than do girls (e.g., Crane-Ross, Tisak, & Tisak, 1998; Rescorla et al., 2007), which may be attributable to their level of understanding and appreciation of the rules (Crane-Ross et al., 1998). Though boys may demonstrate greater propensity for rule breaking than girls, rule adherence itself appears to have similar validity in predicting adverse outcomes for both boys and girls.
Relationship to Outcomes

Numerous studies indicate that a failure to follow rules is associated with increased risk of violence, non-violent offenses, substance abuse. Some research also suggests that rule adherence is linked to suicide, NSSI, victimization, and unauthorized absences (e.g., running away). Research on the link between rule adherence and health neglect is limited.

Violence: Research supports a very strong relationship between rule-breaking behaviors in a variety of settings (e.g., destroying property, getting into fights, lying, cheating, threatening people, skipping school and using obscene language), and violence, including aggression and bullying, as well as violent crime (Ferguson et al., 2009). Conversely, specific rule-following behaviors (e.g., completing school assignments on time) and appreciation of rules, appears to be negatively associated with bullying and other forms of violence (Goldstein & Tisak, 2010; Wei & Chen, 2012); however, research evidence is limited as most studies focus on associations between rule violations and violence.

Non-Violent Offenses: Non-violent offending includes noncompliance with societal rules and is associated with diverse forms of rule breaking. For example, a study of youth ages 10 to 14 years revealed a moderate association between rule-breaking behavior and committing nonviolent crime (Ferguson et al., 2009). Moreover, appreciation of rules, and consequently rule following, is (negatively) associated with non-violent offending. For instance, low regard for rules has been shown to precede delinquency (Liska & Reed, 1985).

Substance Abuse: The relationship between rule adherence and substance abuse is well documented and shows increases in rule-breaking. More specifically, violation of moral rules is associated with increases in substance abuse. To demonstrate, one study found rebelliousness was associated with risk for marijuana use (Brook, Adams, Balka, & Johnson, 2002). Another study found peer reinforcement of rule-breaking behavior was associated with escalation in alcohol, tobacco, and marijuana use (Dishion, Capaldi, Spracklen, & Li, 1995).

Unauthorized Absences: Taking or attempting to take unauthorized absences, including truancy and running away, is a form of rule breaking (Achenbach & Rescorla, 2001). Past difficulties with rule adherence (e.g., poor school attendance, running away) can predict future running away behaviors (Alexander, Entwisle, & Horsey, 1997; Courtney & Zinn, 2009).

Suicide: Empirical evaluations of the relationship between rule adherence and suicide are scant, but suggest indirect associations with suicidal behaviors. Specifically, research has shown rule-breaking behaviors to co-occur with predictors of suicide, such as anxiety, depression, and social problems (Achenbach & Rescorla, 2001).

Non-Suicidal Self-Injury: What limited research exists supports a negative association between rule adherence and NSSI. For example, incarcerated male adolescents who reported self-injury engaged in more rule violations, and also were more disruptive in school, compared to those referred for other psychiatric reasons and to the general population (Chowanec, Josephson, Coleman, & Davis, 1991).

Victimization: The literature on victimization and rule adherence is small, but provides conceptual and empirical support for their association. Studies show that youth who are both victims and perpetrators of aggression also engage in many other rule-breaking behaviors, such as starting fights in class, disruptive behavior, criminal or delinquent behavior (e.g., Burton, 2003; Esbensen, Huizinga, & Menard, 1999; Scholte, Engels, Overbeek, de Kemp, & Haselager, 2007).

Health Neglect: Research examining rule adherence and self-neglect is limited, but suggests an indirect, inverse relationship; that is, as rule following increases, risk of self-neglect decreases. For example, research on self-concept shows a link between rule breaking and self-neglect (e.g., Ybrandt, 2008; Ybrandt & Armelius, 2010).
Item 5: Conduct

This item focuses on behaviors that could *compromise* the safety or well-being of self and others (e.g., aggression, suicide attempts). It also examines behaviors that could *promote* the safety or well-being of self and others (e.g., helping others, avoiding dangerous situations).

**Definition and Conceptual Issues**

Broader than the Rule Adherence item, Conduct refers to behaviors that jeopardize or promote the safety and well-being of the adolescent, as well as the safety and well-being of those around them. This item is rated on actual, observed, or documented behavior, not the underlying reasons or motivations for the behavior. This item should not be confused with or coded based upon a diagnosis (or not) of conduct disorder. That said, behaviors relevant to the diagnosis are highly relevant to coding this item (e.g., defiant behavior, deliberately annoying others), to the extent that such behaviors have occurred during the reference period. Given the focus is on the well-being of the adolescent and others, non-suicidal self-injury (NSSI) and suicide attempts are also coded under this item.

Moreover, this item requires consideration of antisocial and prosocial behaviors. Importantly, prosocial behaviors represent distinct behaviors that may not only exert protective effects against adverse outcomes, but also may increase positive outcomes, such as increased self-esteem, social adjustment, and academic achievement (Barber, Eccles, & Stone, 2001; Chen, Chang, Lin, & He, 2008; Chung-Hall & Chen, 2010; Wentzel, Filisetti, & Looney, 2007).

**Developmental Course**

Adolescence is accompanied by an increased risk for conduct-related problems. For instance, many adolescents who engage in delinquent behaviors and offending show a pattern of adolescent onset of problematic behaviors (i.e., first exhibiting these behaviors in early adolescence (Moffitt, 1993)). In addition, suicidal behaviors peak at approximately age 16 (Nock et al., 2008), and the prevalence rates of NSSI is approximately two to three times greater among adolescents than adults (e.g., Muehlenkamp & Gutierrez, 2004; Klonsky, 2011; Ross & Heath, 2002).

There is now considerable evidence that some behaviors – both antisocial and prosocial – are relatively stable over time and across youth (Carlo, Crockett, Randall, & Roesch, 2007; Crapanzano, Frick, & Childs, 2011; Stemmler & Lösel, 2012). Indeed, youth who show stable externalizing and internalizing behaviors over time may be at particularly high risk for adverse outcomes (Loeber, Russo, & Stouthamer-Loeber, 1994). On the other hand, adolescence is a period of enormous change, as well. For instance, many adolescents, particularly youth who show an adolescent-onset of conduct problems, show declines in conduct problems as they mature and transition into adulthood (Moffitt, 1993; Odgers et al., 2008).

**Gender Considerations**

Overall, boys tend to engage in offending and general delinquency at higher rates than do girls (Gorman-Smith & Loeber, 2005; Lancot & LeBlanc, 2002). Although girls are more likely to attempt suicide than boys, these attempts tend to be less lethal in nature, and thus, the rate of completed suicides is higher for boys (Nock et al., 2008). NSSI is commonly believed to be more prevalent in female adolescents than among male adolescents; however, studies often find similar rates of NSSI across gender (Andover et al., 2012; Jacobson & Gould, 2007). Finally, some research suggests that girls engage in more cooperative, helping and altruistic behaviors than do boys (Fisher & Grégoire, 2006; Schwartz, Keyl, Marcum & Bode, 2009), although the evidence is mixed. While the prevalence of specific behaviors may differ between boys and girls (e.g., delinquency), conduct toward self and others appears to predict adverse outcomes in both boys and girls with similar effectiveness.
Relationship to Outcomes

Research shows that conduct problems (e.g., aggression) predict violence towards others, non-violent offenses, and substance abuse, but also suicide, NSSI, and victimization. Internalizing behaviors (e.g., self-injury) also predict these outcomes. Although examined less frequently than problem behaviors, some studies suggest that prosocial behaviors, such as helping and altruistic behaviors, may protect against adverse outcomes, such as non-violent offending.

Violence: Conduct problems are positively associated with violence towards others, including both reactive and proactive aggression (e.g., Kemptes, de Vries, & van Engeland, 2005). In contrast, evidence regarding associations between prosocial behaviors and aggression is mixed. In one study, prosocial behaviors were inversely associated with violence (McMahon et al., 2013); in another study, prosocial behavior had no significant associations with violence (Kokko et al., 2006); and, in yet another, prosocial and aggressive behaviors were positively correlated (Berger & Rodkin, 2012).

Non-Violent Offenses: Conduct problems, particularly externalizing behaviors, are a consistent predictor of nonviolent offending (Fergusson et al., 2005); research also supports associations between internalizing behaviors and nonviolent offending (Sohn, 2003). In addition, though attended to less frequently in the literature, prosocial behaviors also demonstrate strong negative associations with the likelihood of non-violent offending (e.g., Hämäläinen, & Pulkkinen, 1995, 1996).

Substance Abuse: Conduct is a robust predictor of substance abuse. For instance, conduct problems have been associated with a 4-fold increase in the likelihood of illicit drug dependence (Fergusson et al., 2005). Research also demonstrates that adolescents who exhibit prosocial behaviors are less likely to engage in substance use than adolescents who do not demonstrate similar prosocial behaviors (Barber et al., 2001; Carlo et al., 2011).

Unauthorized Absences: Conduct problems are associated with unauthorized absences, including truancy and running away; however, unauthorized absences have typically been examined as predictors rather than an outcome of conduct problems (e.g., Herrenkohl, Lee & Hawkins, 2012; Lewin, Davis, & Hops, 1999). Thus, further research is needed.

Suicide: Early conduct problems, both externalizing and internalizing, are consistently associated with increased risk of suicide attempts (Fergusson et al., 2005). While conceptual links have been made (e.g., Garbarino, 2010; Pettingell et al., 2008), few studies have examined the potential protective effects of prosocial behaviors, with the focus instead addressing the associations between receipt of (rather than engagement in) prosocial behavior from others (e.g., social support) and suicidal behaviors.

Non-Suicidal Self-Injury: Engaging in antisocial behaviors has been associated with NSSI (Laye-Gindhu & Schonert-Reichl, 2005); however, the relationship is hypothesized to be indirect rather than direct, with emotional distress, anger, and self-esteem serving as possible mediating mechanisms. Research similarly suggests an indirect, inverse relationship between prosocial behaviors and NSSI (e.g., Naylor, Cowie, Walters, Talamelli, & Dawkins, 2009), though research evidence is limited.

Victimization: A range of conduct problems (e.g., aggression towards others) have been associated with increased victimization (e.g., Woodward & Fergusson, 2000; Yan, Howard, Beck, Shattuck, & Hallmark-Kerr, 2010). Internalizing behaviors, such as NSSI and suicidal behaviors, are also associated with victimization risk, including bullying and violent victimization (e.g., Perren, Ettekal, & Ladd, 2013; Hafton et al., 2003). Children with externalizing conduct problems are more likely to be physically abused and neglected by parents (Stith et al., 2009). Also internalizing problems are associated with increased risk of physical abuse and neglect (Stith et al., 2009).

Health Neglect: The association between conduct problems and health may be especially strong during mid-adolescence, a particularly vulnerable period for risk of health neglect (Ybrandt, 2008). Few studies have examined links between prosocial behaviors and health-neglect, and what limited evidence exists, is mixed. For example, in one study, prosocial behavior was not associated with negative self-appraisal which can lead to self-neglect (Rudolph, Caldwell, & Conley, 2005). In another study, helping behavior was associated with better health outcomes, but the nature of the association (direct or indirect) was unclear (Schwartz et al., 2009).
**Definition and Conceptual Issues**

Health compromising behaviors are common among adolescents, particularly those with mental health or behavioral difficulties (Fulkerson, Sherwood, Perry, Neumark-Sztainer, & Story, 2004), and have been linked to a range of adverse outcomes. For instance, insufficient sleep (i.e., less than 7-8 hours per night) is associated with heightened risk for poor academic performance, being overweight and obese, risk of motor vehicle accidents, and suicide (Clark & Harvey, 2012; Malone, 2011; Noland, Price, Dake, & Telljohann, 2009).

Additionally, research has often found a gap between desired health behaviors and actual behaviors. For instance, although many adolescents self report the importance of a balanced diet and engaging in exercise (Lewis-Moss, Paschal, Redmond, Green, & Carmack, 2008), many adolescents actually have unhealthy eating patterns. Also, adolescents show high rates of risky sexual behavior (Kim, 2010). Thus, adolescent sexual behavior is an important aspect of self-care and health behavior. Adolescent attitudes toward abstinence and having positive intentions about sex are relevant in predicting the probability of adolescents engaging in sex (Masters et al., 2008).

**Developmental Course**

Many adolescents show some limitations in self-care behaviors. A large American study found that 14% of surveyed high school students did not engage in physical activity (of at least 60 minutes in duration) during the past seven days, and 31% of students reported more than three hours of sedentary activity on an average school day (Eaton, Kann, Kinchen, Shanklin et al., 2012). Between 5% and 17% of students reported consuming no fruit, vegetables, or consuming milk during the previous seven days and 15% were overweight (Eaton et al., 2012; van Kooten et al., 2005). Sleep problems are also common; international studies have found that up to 16% of adolescents have insomnia (LeBourgois, Giannotti, Cortesi, Wolfson, & Harsh, 2005).

Adolescents show greater autonomy in decision-making regarding diet, exercise, and hygiene as they become older. Nevertheless, many problematic patterns of self-care are influenced by social-ecological context, including family of origin and peer networks (Maharaj, Nunes, & Renwick, 2009; Mahoney & Parente, 2009). Caregivers often play an important role given the need for benefits coverage, transportation, and costs associated with healthcare services. Family disorganization is associated with adolescent sleep disturbances (Billows, Gradisar, Dohnt, Johnston, & McCappin, 2009). Also, family and peer factors influence compliance with diet and self-care regimens in adolescents with diabetes (Dashiff et al., 2008; Palladino & Helgeson, 2012). Contextual factors, such as quality of parent-child relationship and school-connectedness, also interact with adolescents’ attitudes about sex to predict a variety of risky sexual behaviors (e.g., condom use, early sex initiation, sex while under the influence of substances; see Shneyderman & Schwartz, 2013).

**Gender Considerations**

Unhealthy weight control behaviors, such as vomiting and laxative use, are more common in girls than in boys (Isomaa, Isomaa, Marttunen, Kaltiala-Heino, & Björkqvist, 2009). Also, girls experience more body image concerns and pressures to be thin than boys (Gouveia, Frontini, Canavarro, & Moreira, 2014). On the other hand, boys often experience a desire to be more muscular, and have higher rates of steroid use than girls (Neumark-Sztainer, Story, Falkner, Beuhring, & Resnick, 1999). Adolescent girls tend to withdraw from physical activity at an earlier age and steeper rate than boys (Kirshnit, Ham, & Richards, 1989). In general, poor self-care is relevant to adverse outcomes in both boys and girls (e.g., Cartwright, Wardle, Steggle, Simon, Croker, & Jarvis, 2003; Janssen, Craig, Boyce, & Pickett, 2004; Mahalik, Levine, Coley, McPherran, Lombardi, Doyle, Lynch, Markowitz, & Jaffee, 2013). However, some possible gender differences may exist in associations. In particular, being overweight may be associated with substance use among girls, and both violence in boys (see Farhat,
Iannotti, & Simons-Morton, 2010). Additionally, among female adolescents, being obese or underweight, and having poor physical health is associated with suicidal behaviors (Bae et al., 2005; Borowsky et al., 2001; Eaton et al., 2011).

**Relationship to Outcomes**

<table>
<thead>
<tr>
<th>Inadequate sleep has been linked to multiple adverse outcomes, including violence, substance abuse, suicide, NSSI, and victimization. Unhealthy eating habits are elevated among adolescents who engage in NSSI and suicidal behaviors, as well as those who engage in violence and offending. Also, adolescents who are overweight are at increased risk for suicide and victimization. However, adolescents who are physically active have reduced health risk behaviors.</th>
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**Violence:** Disrupted or insufficient sleep is associated with violent behaviors such as fighting and aggression (Dahl, 2006; Ireland & Cuplin, 2006). Additionally, adolescents who engage in aggression report higher rates of dysfunctional eating patterns (Kennedy et al., 2011; Miotto et al., 2003).

**Non-Violent Offenses:** Insufficient sleep is related to anger, impulsivity, and aggression, all of which can lead to offending. Additionally, juvenile offenders who are more concerned with health, illness, and bodily functioning are more likely to be involved in property offenses (Glaser et al., 2002). Unhealthy eating habits are associated with delinquency (van Kooten et al., 2007). However, causal patterns are not clear; therefore, health problems and unhealthy diet are best viewed as possible risk markers. Similarly, engaging in delinquent behavior is more often predictive of risky sexual behavior rather than risky sexual behavior predicting increases in delinquent behavior (Miller, Malone, & Dodge, 2010).

**Substance Abuse:** Sleep deprivation is associated with increased risk of stimulant use (Groom & Gromov, 2009; Noll et al., 2006). Youth may increase their use of stimulants, alcohol, and substances to heighten arousal (Noll et al., 2006). Improving maladaptive sleep patterns may lead to a reduction in substance abuse problems (Bootzin & Stevens, 2005). Additionally, maladaptive eating patterns like those seen in eating disorders, are often co-morbid with substance abuse (Mann et al., 2014). Increased rates of risky sexual behaviors are found among adolescents with substance abuse problems (Bryan, Schmiege, & Magnan, 2012; Tapert, Aarons, Sedlar, & Brown, 2001).

**Unauthorized Absences:** Direct evidence linking self-care and unauthorized absences is limited. Inadequate sleep is related to impulsivity (Dahl, 2006), which may contribute to runaway attempts. Although homeless adolescents are vulnerable to poor health (Rew, 2003), adequate self-care is associated with resilience (Williams, Lindsey, Kurtz, & Jarvis, 2001).

**Suicide:** Inadequate sleep and frequent nightmares are associated with increased risk for attempted and completed suicide (Goldstein et al., 2008; Liu, 2004). In addition, disordered eating patterns are often seen in adolescents with anorexia nervosa and bulimia and are associated with attempted and completed suicide (Miotto, et al., 2003). Adolescents who are overweight also have elevated suicide risk (Crow et al., 2008).

**Non-Suicidal Self-Injury:** Trouble sleeping is a strong predictor of subsequent self-harm behaviors (Wong et al., 2011). Adolescents with disordered eating, including poor awareness of internal cues, and difficulties with impulse regulation have been shown to be at an increased risk for NSSI (Ross, et al., 2009). Sexual risk taking has not been directly linked to NSSI.

**Victimization:** Sleep deprivation may increase risk for re-victimization; sleepy youth may misinterpret volatile situations, fail to notice danger cues, and/or be ineffective at escaping threatening situations (Noll et al., 2006). Overweight adolescents are at increased risk for peer victimization (Gray et al., 2008). Once a youth becomes the target of weight-based victimization, the risk for re-victimization increases with age (Puhl & Luedicke, 2012).

**Health Neglect:** Health neglecting behaviors (e.g., lack of exercise) are associated with ongoing risk for health neglect (Sallis et al., 2000). Furthermore, these behaviors are often correlated with each other. For instance, unhealthy eating habits are associated with unsafe sex practices and negatively associated with hygiene and physical activity (van Kooten, et al., 2007). In contrast, good self-care predicts decreases medical problems (Callaghan, 2006).
Item 7: Coping

This item examines the extent to which coping strategies are adaptive (e.g., seeks help or information from prosocial supports, as necessary; when appropriate, independently handles stressors) or maladaptive (e.g., avoids dealing with problems or uses harmful forms of coping).

Definition and Conceptual Issues

Coping is defined as “a person’s constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding resources of the person” (Lazarus & Folkman, 1984, p. 141). Coping strategies can be either voluntary or involuntary and include adaptive (e.g., positive reappraisal) and maladaptive (e.g., self-blame, rumination, catastrophizing) dimensions (see Compass et al., 2001; Legerstee, Garnefski, Verhulst, & Utens, 2011).

Research has differentiated between 1) problem-focused coping, which is coping that attempts to alter the source of stress, and 2) emotion-focused coping, which is focused on reducing or managing emotional distress associated with a stressful situation (Lazarus & Folkman, 1984). Another conceptualization of coping differentiates between avoidant coping (i.e., disengagement) and active coping (i.e., engagement). Avoidant coping reflects efforts at disengaging from the stressor, and is often maladaptive and associated with poor adolescent mental health outcomes (e.g., distress, depression, anxiety, externalizing behaviors; Wilkinson, Walford, & Espnes, 2000). In contrast, active or engagement coping is defined as purposeful, constructive attempts to manage and respond to a stressor (Compass et al., 2001); it includes problem-focused coping and some form of emotion-focused coping (e.g., support seeking, emotional regulation). Problem-solving and active coping are associated with less internalizing and externalizing problems and higher social and academic competence (Fields & Prinz, 1997). Individuals are more likely to use problem-focused strategies for controllable stressors and emotion-focused strategies for uncontrollable stressors (Hampel & Peterman, 2005; Terranova et al., 2011).

Developmental Course

Adolescents learn and develop coping skills based on prior personal experiences, observing coping responses of others around them, awareness of their own vulnerabilities in managing stressful situations, and available social supports from peers and adults (Ireland et al., 2005). Social support as a source of coping increases in adolescents compared to younger children but shows few changes during adolescence (Clarke, 2006; Eschenbeck, Kohlmann, & Lohaus, 2007). Also, the use of adaptive emotion coping and cognitive coping strategies increase across adolescence, possibly due to improved emotion regulation and abstract thinking skills. However, age differences in problem solving coping during adolescence has not been detected, suggesting that problem-solving coping skills are likely acquired in middle to late childhood. At-risk youth (e.g., juvenile offenders, youth with mental illness in residential or inpatient settings) have been found to use more maladaptive coping strategies than other adolescents (e.g., Ebata & Moos, 1991; Ireland et al., 2005).

Gender Considerations

Girls endorse greater use of emotion-focused strategies than boys (Tyson, Baffour, & Tram, 2010). Also, girls are more likely than boys to seek out help from others (Raviv, Sills, Raviv, & Wilansky, 2000). In comparison, boys tend to use more avoidant strategies (Eschenbeck, Kohlmann, & Lohaus, 2007). Emotion coping and cognitive coping ( rumination) have an especially strong link to maladaptive coping in early adolescents (De Boo & Spearing, 2010; Hampel & Peterman, 2005).

Poor coping is associated with increased risk for adverse events in both boys and girls (e.g., Brady, Tschann, Pasch, Flores, & Ozer, 2009; Laurent, Catanzaro, & Callan, 1997). Some differential associations between coping and outcomes may exist. For example, among homeless youth, using alcohol and drugs as a means for coping has been found to be related to increased suicidal ideation for both boys and girls, but avoidant coping is associated with feeling trapped only for girls (Kidd & Carroll, 2007). With regard to offending behavior, later delinquency in boys who were exposed to community
violence was decreased in those who used avoidant coping, whereas for girls, avoidant coping was associated with an increased risk of delinquent behavior (Rosario, Salzinger, Feldman, & Ng-Mak, 2003).

**Relationship to Outcomes**

Avoidant coping specifically has been linked to violence, non-violent offenses, substance abuse, unauthorized absences (e.g., running away), victimization, and health neglect (e.g., overeating, unhealthy diets). Conversely, problem-focused and active coping protects against suicide attempts and NSSI. Although active coping has a positive association with psychosocial health when stressors are controllable, it does not appear protective when stressors are uncontrollable (e.g., parental conflict).

**Violence:** Maladaptive coping (e.g., using substances, getting angry at others, and relational aggression) is more likely to be used by violent male and female adolescents compared to nonviolent youth with self-reported exposure to violence and victimization also being higher in violent boys and girls (Flannery, Singer, & Wester, 2003).

**Non-Violent Offenses:** Emotional and avoidant coping have been associated with interpersonal problems in adolescent offenders that may increase risk for peer-influenced delinquent acts (Ireland et al., 2005). Antisocial youth show lower levels of adaptive coping techniques (Hasking, 2007).

**Substance Abuse:** Avoidant and other ineffective coping strategies are associated with substance abuse in diverse populations of adolescents including incarcerated youth (Eftekhari, Turner, & Larimer, 2004), youth in residential treatment (Wei, Heckman, Gay, & Weeks, 2011), and at-risk community youth (Ohannessian, Bradley, Waninger, Ruddy, Hepp, & Hesselbrock, 2010)

**Unauthorized Absences:** Avoidant and negative cognitive coping styles have been identified among adolescent boys who are homeless (Votta & Manion, 2004) with disengagement coping (i.e, problem avoidance, social withdrawal, avoidance of negative emotions) being higher in homeless versus non-homeless adolescents (Votta & Manion, 2003).

**Suicide:** Suicidal adolescents report lower adaptive coping responses to stressful life events compared to non-suicidal adolescents (Chagnon, 2007; Piquet & Wagner, 2003). The use of active coping strategies by suicidal adolescents predicted greater reduction in suicidal thoughts and behaviors (Piquet & Wagner, 2003). Dialectical Behavior Therapy (DBT) skills training increases adaptive coping skills and has been associated with reductions in suicidal ideation in adolescents (Perepletchikova et al., 2011).

**Non-Suicidal Self-Injury:** Maladaptive coping, such as poor emotion regulation and poor problem-solving, predicts recent NSSI behaviors in adolescents (Hasking, Coric, Swannel, Martin, Thompson, & Frost, 2010). Also, adolescents with thoughts of deliberate self-harm or a history of NSSI behaviors endorse greater use of avoidant coping behaviors than youth with no histories of self-harm (Evans, Hawton, & Rodham, 2005).

**Victimization:** Adolescents who use aggressive tactics to change situations or cope report higher levels of exposure to neighborhood violence, consisting of both victimization and witnessing violence (Rasmussen, Aber, & Bhana, 2004). Maladaptive coping is associated with increased trauma symptoms among youth (Flannery et al., 2003). Similarly, sexually abused adolescents endorse greater use of avoidant coping strategies with avoidant coping mediating sex abuse victimization and severity of trauma symptoms (Bal, van Oost, de Bourdeaudhuij, & Crombez, 2003).

**Health Neglect:** Avoidant coping behaviors have been associated with general health concerns (Wilson, Pritchard, & Revaale, 2005), as well as overeating and unhealthy diet attitudes in particular, among adolescents with low self-esteem (Martyn-Nemeth, Penckofer, Gulanic, Velsor-Friedrick, & Bryant, 2009) and among youth with chronic medical problems such as diabetes and HIV infection (Jaser & White, 2011; Orban et al., 2010).
Item 8: Impulse Control

The item focuses on the extent to which an adolescent acts with forethought (e.g., considers consequences of behaviors), controls impulses, and/or engages in risk-taking behaviors.

**Definition and Conceptual Issues**

Impulsivity includes reactive responding to negative experiences and emotions, low tolerance for frustration (i.e., tendency to lose patience or abandon tasks that are frustrating), a lack of planning, and sensation seeking (i.e., deliberately searching out exciting and risky experiences; Whiteside & Lynam, 2001). Venturesomeness, which has been defined as a disposition towards taking calculated risks with an awareness and consideration of the consequences, may include functional aspects of impulsivity (Brunas-Wagstaff, Tilley, Verity, Ford, & Thompson, 1996). Adolescents who are venturesome may be stronger at evaluating options quickly, anticipating and planning for possible consequences, and expressing themselves clearly under pressure, and thus may be a strength. Context may affect impulsivity. For instance, adolescents may be more focused on short-term outcomes when raised under conditions of maltreatment, greater family adversity, or financial hardship (Laucht, Skowronek, Becker, Schmidt, et al., 2007; Lengua, 2006; Lovallo, Farag, Sorocco, Acheson, Cohoon, & Vincent, 2012).

Impulsivity is commonly associated with externalizing symptoms, including conduct and oppositional disorders (APA, 2013), and is a core feature of Attention Deficit/Hyperactivity Disorder (ADHD; Toplak, Pitch, Flora et al., 2009). However, impulse control difficulties may also be relevant to internalizing disorders, such as depression and bipolar disorder (Bello, Leichsenring, & Chabrol, 2004; d’Acremont & VanderLinden, 2007; Steingard et al., 2002; Swann et al., 2008).

**Developmental Course**

Impulse control is a higher-order cognitive function that develops gradually over time. Biologically, the ability for impulse control is linked to the frontal region of the brain (Fuster, 1997). Neuroimaging studies have observed continued structural and functional changes to this brain region through adolescence and into early adulthood (Giedd, 2008; Gogtay et al., 2004). Additionally, in comparison to adults, children and adolescents are more challenged on various behavioral tasks that require impulse control (Steinberg et al., 2008). In comparison to adults, adolescents also have a more limited ability to understand the consequences of their behaviors, particularly long-term consequences (Steinberg & Cauffman, 1998).

Although adolescents’ impulse control abilities are not yet fully-developed, adolescence is a period of increasing autonomy. Sensation-seeking peaks during the adolescent time period; thus, adolescence has been described as akin to starting an engine without a fully skilled driver behind the wheel (Dahl, 2001).

**Gender Considerations**

Girls tend to display stronger impulse control skills than boys, and develop their skills at an earlier age (Kochanska, Murray, & Harlan, 2000; Rafaelli, Crockett, & Shen, 2005). When examining the different aspects of impulsivity, girls tend to self-report more problems with regulating urges and impulses under difficult circumstances, such as emotional distress, while boys report higher levels of sensation seeking (d’Acremont & Van Der Linden, 2005).

In general, impulse control has been found to predict adverse outcomes in both girls and boys (e.g., Baker & Yardley, 2002; Donohew et al., 2000). However, there is some evidence to suggest gender differences might be relevant to the prediction of some adverse outcomes. For instance, highly impulsive boys were found in one study to be more likely to use alcohol in comparison to highly impulsive girls (Baker & Yardley, 2002). Mixed results have been found regarding whether boys are more likely to make “impulsive” suicide attempts (Simon et al., 2002; Wyder & De Leo, 2007).
**Relationship to Outcomes**

**Impulsivity** is often associated with a host of difficulties and adverse outcomes, including violence, non-violent offending, substance abuse, unauthorized absences (e.g., school dropout), suicide, NSSI, victimization, and health neglect (e.g., overeating, sleep disturbances).

**Violence:** Impulsivity has consistently been associated with violence towards others in a variety of samples and contexts (Farrington, 1989; Modecki, 2008; White, Moffitt, Caspi, Bartusch, Needles, & Stouthamer-Loeber, 1994). Furthermore, impulsivity has been identified as a key factor in persistent aggression (White, Moffitt, et al, 1994; Pulkkinen, Lyyra, & Kokko, 2009).

**Non-Violent Offenses:** Adolescent offenders with higher levels of restraint (including impulse control) are less likely to engage in delinquent behavior, such as vandalism and shoplifting (Farrell & Sullivan, 2000), or re-offending (Steiner, Cauffman, & Duxbury, 1999) than youth who fail to demonstrate those skills. Furthermore, one study found that adolescents who show improvements in their impulse control were more likely to desist in their offending behavior (Monahan, Steinberg, Cauffman, & Mulvey, 2009). However, most of these studies combine non-violent and violent offending.

**Substance Abuse:** Impulsivity increases vulnerability to subsequent substance-related problems (Verdejo-García et al., 2008). In contrast, adolescents with high levels of impulse control abilities have been found to have lower rates of substance use than other adolescents with lower level of impulse control abilities (Mauricio et al., 2009).

**Unauthorized Absences:** Impulsivity and poor self-control predict school dropout and school truancy (Henry, Caspi, Moffitt, Harrington, & Silva, 1999; Veenstra et al., 2010). Individuals with high levels of impulsivity are also more likely to drop out of substance use treatment (Moeller et al., 2001).

**Suicide:** Numerous studies have found impulsivity to be a significant predictor of suicide attempts (Horesh, Gothelf, Ofek, Weizman, & Apter, 1999; Sanislow et al., 2003). However, trait impulsivity (i.e., a personality variable that predisposes individuals to risk taking) may be more important than state impulsivity (Joiner, 2005).

**Non-Suicidal Self-Injury:** Impulsivity is thought to play a key role in self-harm behavior (Mann, Watermaux, Haas, & Malone, 1999). One study found that impulsivity uniquely contributed to the risk for self-harm behaviors, beyond the effect of depression (Javdani, Sadeh, & Verona, 2011). It is important to note that self-harming behaviors may be planned. Thus, NSSI, in and of itself, is not necessarily impulsive.

**Victimization:** Adolescents who are impulsive are at greater risk for victimization (Nofziger, 2009; Smith & Ecob, 2007). Impulsive behavior may also “evoke or otherwise precipitate victimization” (Piquero et al., 2005, p. 58). For instance, impulsive adolescents may say or do things that provoke others or put themselves in danger.

**Health Neglect:** Impulsivity has been linked to overeating and binging/purging behavior (Boisseau, Thompson-Brenner, Eddy, & Satir, 2009; Nederkoorn et al., 2006), as well as sleep problems (Moore et al., 2011). In addition, youth high in impulsivity and sensation-seeking are more likely to engage in risky sexual behaviors, such as having sex while intoxicated or unprotected sex (Donohew, Zimmerman, Cupp, Novak, Colon, & Abell, 2000).
**Definition and Conceptual Issues**

Cognitive functioning reflects not only general overarching ability (often referred to as “g” or general intelligence; Spearman, 1904) but also consists of more specific processes, such as attention, perception, memory, verbal ability, reasoning, and executive functioning (defined as the ability to initiate, plan, control, and achieve complex goal-oriented behaviors; Lezak, Howieson, Loring, Hannay, & Fischer, 2004; Willis, Dumont, & Kaufman, 2011).

Mental health symptoms are one factor that can affect cognitive functioning. For instance, adolescents with depression often process information more slowly and experience disturbances in short-term memory (Klimkeit, Tonge, Bradshaw, Melvin, & Gould, 2011). Individuals with post-traumatic stress disorder may experience difficulties in memory and attention, and may be distracted by internal stimuli (MacDonald, Vasterling, & Rasmusson, 2011; Vasterling, Brailey, Constans, & Sutker, 1998). Schizophrenia is associated with broad cognitive difficulties, such as memory impairment and word-finding ability (Heinrichs & Zakzanis, 1998; Mesholam-Gately et al., 2009). Similar to adults, the duration of untreated psychosis in first-episodic psychosis impacts overall functioning including cognitive functioning (Fraguas et al., 2014) with early intervention impacting negative symptoms among adolescents with early-onset psychosis (Calvo et al., 2014). Executive dysfunction and slow processing speed predict reduced daily living skills in adolescents with psychosis (Puig et al., 2012).

**Developmental Course**

Developmental neuroscience studies illustrate that brain development occurs until the early 20s, with adolescence characterized by synaptic pruning and growth in white matter (Giedd et al., 1999; Sowell, Thompson, Holmes, Jernigan, & Toga, 1999). These changes, in turn, impact cognitive development and reasoning. Although adolescents often demonstrate adult-like analytical cognitive abilities in controlled environments by age 15 or 16, their judgment in real-world settings is less developed compared to adults (Albert & Steinberg, 2011). In particular, adolescents are more likely to make risky decisions as a result of their heightened sensitivity to immediate rewards (Spear, 2009; Steinberg et al., 2008), and their vulnerability to peer influence (Gardner & Steinberg, 2005). Also, higher-order executive functions continue to develop even into late adolescence. For instance, youth in late adolescence show improvements in the ability to inhibit responses (Luna et al., 2001), and apply strategic problem-solving (Luciana, Collins, Olson, & Schissel, 2009).

Adolescence is a period of heightened susceptibility to mental illnesses and symptoms which may interfere with cognitive state (Paus, Keshavan, & Giedd, 2001). The peak age of onset of mental disorders is approximately age 14 (Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005). Although serious psychotic disorders do not typically develop until late adolescence or early adulthood, thought impairments associated with schizophrenia may be evident in the premorbid stages of this disorder and may contribute to the development of schizophrenia (MacCabe, 2008). According to Kelleher et al. (2012), the prevalence of psychotic symptoms, such as auditory hallucinations or delusions, among adolescents was 7.5%. However, research evidence is accumulating that first-episode onset during adolescence has a slower, less noticeable onset that leads to longer delays in treatment relative to first-episode onset in adulthood (Joa et al., 2009).

**Gender Considerations**

Gender differences in cognitive functioning are often small (Vogel, 1990). Compared to boys, girls tend to show slightly higher higher verbal reasoning, episodic and recognition memory, and attention (Gershon, 2002; Lewin, Wolgers, & Herlitz, 2001; Voyer, Postma, Brake & Imperato-McGinley, 2007; Vogel, 1990). In contrast, boys tend to show higher non-verbal reasoning and visuospatial processing. Boys may exhibit symptoms of thought disorder at an earlier age than girls, but the impact on cognitive functioning appears similar across genders (Hafner, 2003; Hollis, 1995). In general, the
negative impacts of mental and cognitive difficulties are highly similar across genders, but may manifest themselves slightly different. For instance, attention problems in boys are more strongly linked with increased risk for aggression than is found among girls (Gershon, 2002; Sibley, Pelham et al., 2011). Both boys and girls with cognitive impairments are at risk for victimization and sexual abuse, though girls may be at a heightened risk (Balogh et al., 2001).

**Relationship to Outcomes**

| Cognitive difficulties, such as impairments in verbal abilities and low intelligence, are associated with risk of violence, offending, substance abuse, unauthorized absences (e.g., school dropout), suicidal behaviors, and victimization. Psychotic symptoms are associated with increased risk of adverse outcomes, such as substance abuse and suicide attempts. Conversely, good judgement and reasoning abilities predict reduced risks of adverse outcomes such as offending and suicide attempts. |

**Violence:** Low IQ and executive functioning difficulties (i.e., planning) are strong predictors of violent behavior (Farrington & Loeber, 2000; Séguin et al., 1995). Little research has examined links between psychotic symptoms and violence in adolescents. However, a recent study suggested that psychotic experiences (e.g., hearing voices) increased adolescent violence risk (Kinoshita et al., 2011).

**Non-Violent Offenses:** Adolescents with lower IQ scores are at heightened risk of offending, and may possibly turn to delinquency due to reduced school success compared to their peers (Lynam, Moffitt, & Stouthamer-Loeber, 1993; Moffitt, Gabrielli, Mednick, & Schulsinger, 1981). Furthermore, verbal abilities, executive functions, and attention have well-established links to offending (Moffit, 1993).

**Substance Abuse:** Youth with substance use disorders tend to score lower on IQ, memory, and other cognitive tests than other adolescents; however, associations are modest and causal directions are unclear (i.e., substance abuse may lead to cognitive impairments and vice versa; Hanson et al., 2011; Tarter et al., 1995). Drug use (especially cannabis) may be a predisposing risk factor for psychotic symptoms (Van Gastel et al., 2012). At the same time, psychotic symptoms appear to lead to further drug use (Mackie, Castellanos-Ryan, & Conrad, 2011).

**Unauthorized Absences:** Low IQ and poor academic achievement test scores increase risk for school drop-out and truancy (Jimerson, Egeland, Sroufe, & Carlson, 2000), and rates of school dropout are high among adolescents experiencing thought disturbances and early psychosis (Goulding, Chien, & Compton, 2010). Also, adolescents who are homeless have been found to have high levels of cognitive impairment (Parks, Stevens, & Spence, 2007).

**Suicide:** For boys, poor performance on cognitive tests (e.g., reading, writing, numbers) at age 13 are associated with heightened risk of suicide, whereas this relationship may not hold for girls (Andersson et al., 2008). Psychotic symptoms are associated with heightened risk for suicide attempts in adolescents (Kelleher et al., 2012), whereas good planning and problem-solving may be protective (Dour, Cha, & Nock, 2011). Adolescents who engage in suicidal behaviors may have heightened rates of learning disabilities (McBride & Siegel, 1997; Rourke, Young, & Leehaars, 1989).

**Non-Suicidal Self-Injury:** Depressed adolescents who have self-harmed have poorer decision-making skills than other youth (Oldershaw et al., 2009). Adolescents who have experienced psychotic symptoms (e.g., delusions, hallucinations) have been found to be at increased risk for self-harm compared to adolescents who deny those experiences (Nishida et al., 2010).

**Victimization:** Adolescents with learning difficulties and cognitive impairments may be at increased risk for abuse and broad forms of victimization, such as physical, sexual, and emotional abuse and neglect, due to their greater vulnerabilities (Balogh et al., 2001; Spencer et al., 2005). However, directionality is unclear and this relationship is not necessarily causal; it could, instead, be due to shared risk factors (Govindshenoy & Spencer, 2007).

**Health Neglect:** Adolescents with higher cognitive functioning are less likely to engage in unhealthy behaviors, such as watching TV and consuming stimulant drinks (Anstey et al., 2009; Ciarrochi et al., 2012). However, contrary to adults, one study found that higher IQ scores were linked with decreased exercise in adolescents (Ciarrochi et al., 2012).
**Item 10: Emotional State**

This item focuses on emotional states, including positive, neutral, or negative emotions (e.g., hopefulness, depression, anger). It also examines the ability to regulate emotions.

**Definition and Conceptual Issues**

Research indicates that affective states can be classified into two broad types, negative affect (e.g., anger, depressed mood, irritability, fear, nervousness) and positive affect (e.g., cheerfulness, energeticness, sense of pleasure, well-being). In contrast to the vast amount of research on negative affect, our understanding of positive affect is limited but has been recently advanced by the field of positive psychology (Hunter & Csikszentmihalyi, 2003; Hurley & Kwon, 2012). According to one conceptualization for instance, positive affect includes joviality, self-assurance, and attentiveness and is related to constructs such as happiness and a subjective sense of well-being (Watson & Naragon, 2009). Although some research suggests that negative and positive affect are opposite ends of a bipolar construct (Russell & Carroll, 1999), others studies indicate that they are distinct aspects of affect (Lonigan, Hooe, David, & Kistner, 1999; Watson & Tellegen, 1985).

In addition to the presence or absence of positive and negative affect, the ability to control or regulate one’s emotions is also important in protecting against a range of adverse outcomes, such as non-suicidal self-injury, substance use, and aggression (Adrian et al., 2011). Emotion regulation is commonly defined as “the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one’s goals” (Thompson, 1994, pp. 27-28).

**Developmental Course**

Although adolescence has been thought of as a period of “storm and stress,” this view has been challenged because many adolescents do not experience significant turmoil (Arnett, 1992, p. 339). That said, the transition to adolescence is accompanied by a heightened risk for emotional difficulties. Depression and anxiety are higher during adolescence than childhood (Buchanan, Eccles, & Becker, 1992). In addition, adolescents tend to experience more rapid and extreme changes in their emotional states than do adults (Larson et al., 1980; Roberts et al., 2006). In a sample of 10,000 US adolescents (Merikangas et al., 2010), prevalence of mood disorders was 14.3%, with 11.7% diagnosed with major depression or dysthymia, and 2.9% with bipolar disorder.

The manners in which emotional difficulties are expressed vary across developmental periods; this is referred to as heterotypic continuity (Kagan, 1969). For instance, although anxiety and depression have a very high degree of overlap during childhood they may become increasingly differentiated with age (e.g., Cole, Truglio, & Peeke, 1997). Moreover, whereas in childhood, anxiety often centers on separation from parents, during adolescence, social fears become common (Weems, 2008; Westenberg et al., 2007). Adolescents also experience higher levels of self-conscious emotions, such as embarrassment (Rankin et al., 2004; Westenberg et al., 2007), and more difficulties in regulating their emotions than do adults (Dahl, 2004; Silver et al., 2012).

**Gender Considerations**

During adolescence, some important gender differences in emotional functioning emerge. For instance, starting in adolescence, girls experience a heightened risk of depression in comparison to boys (Nolen-Hoeksema & Girgus, 1994). Girls may be less likely to express their feelings of disappointment or frustration than boys, whereas boys are more likely to express their negative affect (Cole, Zahn-Waxler, & Smith, 1994). In juvenile justice samples, rates of depression and anxiety disorders vary depending on gender. In a six-month prevalence study, 21.6% of incarcerated girls were diagnosed with major depression, in comparison to 13.0% of boys (Teplin, Abram, McLelland, Dulcan, & Mericle, 2002). Similarly, girls were more likely to be diagnosed with an anxiety disorder than boys (30.8% vs. 21.3%, respectively). Poor emotion regulation and negative emotional state is associated with adverse outcomes (e.g., suicide, substance abuse) in both girls and boys (Conway, 2005). Boys who have difficulties coping with anger and regulating emotions exhibit more physical
aggression than girls; genders differences in both the meaning and methods of emotional expression contribute to this gender difference (Sullivan, Helms, Kliwer, & Goodman, 2010).

**Relationship to Outcomes**

Emotional state is relevant to a variety of adverse outcomes, but the relationship varies by emotion. Anger is strongly linked to violence, whereas depression and anxiety have the strongest links to outcomes such as suicide and NSSI. In contrast, positive affect (e.g., hope) predicts against outcomes such as suicide. Strong emotion regulation skills protect against multiple adverse outcomes (e.g., aggression, NSSI).

**Violence:** Anger can act as a precipitating factor for violent behavior in adolescents (Cornell et al., 1999). In addition, boys and girls with poor emotion regulation skills are more likely to react aggressively when angered (Calvete & Orue, 2012). Although anxiety is sometimes assumed to protect against violent behavior, research is mixed (Hodgins, Barbareschi, & Larsson, 2011). Among justice-involved boys exposed to community violence, emotion regulation problems (i.e., irritability/anger) predict reactive aggression (Stimmel, Cruise, Ford & Weis, 2014).

**Non-Violent Offenses:** Although anger may predict non-violent offending, the findings are somewhat less consistent than for violent offending (Baron, 2007). Some studies report that depression heightens the risk of delinquency (e.g., Ritakallio et al., 2008; Vieno et al., 2008), whereas other studies find that it decreases the risk of delinquency (Vermeiren et al., 2002). Research on the relationship between anxiety and offending is also mixed (Hodgins et al., 2011), though there is some evidence that anxiety sensitivity is related to antisocial behavior, particularly in boys (Nebbitt, Lambe, & Williams, 2008). Posttraumatic stress symptoms measured in boys (that include problems in arousal and emotional reactivity) significantly predict both the number of prior arrests and severity of delinquency during the past year (Becker & Kerig, 2011).

**Substance Abuse:** Depression and anxiety are associated with increased rates of substance use (Kandel et al., 1999), as is anger (Eftekhari et al., 2004; Swain et al., 1989). Emotion regulation is protective (Wills & Dishion, 2004; Wong et al., 2013) and some evidence suggest positive affect is linked to reduced substance use (Wills, Sandy, Shinar, & Yaeger, 1999).

**Unauthorized Absences:** Depressed affect is a risk factor for running away (Tucker et al., 2011). Also, depression and anxiety predict poor school attendance (Kearney, 2008). However, studies are mixed as to whether depression predicts school dropout after controlling for social, familial, and individual factors, such as affiliations with delinquent peers (Fergusson & Woodward, 2002; Quiroga, Janosz, Bisset, & Moran, 2013).

**Suicide:** Depression, hopelessness, and anxiety have well-established ties to suicidal behavior (Spirito & Esposito-Smythers, 2006), as do difficulties in emotion regulation (Zlotnick, Donaldson, & Spirito, 1997). Some studies indicate that anger is significantly associated with suicide attempts but this finding has not always been supported (Daniel et al., 2009). In contrast, emotional well-being protects against suicide (Borowsky et al., 1998).

**Non-Suicidal Self-Injury:** NSSI is linked to emotional distress (e.g., depression, anxiety) and anger problems (Laye-Gindhu & Schonert-Reichl, 2005). Many adolescents who engage in deliberate self-harm do so to regulate negative emotions such as sadness and tension (Mikolajczak, Petrides, & Hurry, 2009; Nixon, Cloutier, & Aggarwal, 2002; Nock & Prinstein, 2004). Thus, strong emotion regulation skills can serve a protective function against adolescents engaging in NSSI (Zaki, Cofman, Rafaeli, Berenson, & Downey, 2013).

**Victimization:** Adolescents with depression and anxiety are more vulnerable to peer victimization and child abuse (Reijntjes et al., 2010; Turner et al., 2010). As such emotion regulation difficulties may increase vulnerability for peer victimization (Shields & Cicchetti, 2001).

**Health Neglect:** Depression and anxiety are associated with sleep problems during adolescence (Morrison et al., 1998). In addition, depressed affect is predictive of unhealthy diet (Jacka et al., 2010). Emotion regulation difficulties predict eating disorder symptoms and compulsive exercise (Goodwin, Haycraft, & Meyer, 2012; Sim & Zeman, 2006).
Item 11: Attitudes

This item focuses on the adolescent’s views of risky/adverse behaviors and healthy/positive behaviors. It also examines the perceived consequences of these behaviors.

**Definition and Conceptual Issues**

Attitudes refer to an adolescent’s positive or negative evaluation of a particular behavior, such as substance abuse or high school achievement; they are influenced by beliefs linking the behavior to possible outcomes (see Ajzen, 2011; 2012). For example, if an adolescent believes that stealing from others will not lead to negative repercussions (e.g., believes the victim will be covered by insurance, does not think he will be caught) then he or she may develop attitudes supportive of stealing. On the other hand, if stealing from others violates the adolescent’s values and morals, he or she be more likely to refrain from this behavior (see Bandura et al., 1996; Halgunseth et al., 2013).

In addition, adolescents who believe that risk behaviors will result in positive outcomes (e.g., respect from peers) may be more likely to engage in that behavior. For instance, adolescents who believe that aggression is effective are more likely to engage in proactive and reactive aggression (Crapanzano, Frick, & Terranova, 2010; see also Kashdan, Collins, & Elhai, 2006). Hostile schemas (e.g., viewing the world as a dangerous or unsafe), hostile attribution bias (misattribution of hostile intent in ambiguous social situations) have also been identified as important antecedents to reactive aggression (Dodge & Coie, 1987; Dodge & Rabiner, 2004). Adolescents with callous-unemotional (CU) traits tend to have attitudes supportive of a variety of risk behaviors, such as distorted views of moral transgressions and empathy deficits (see Frick, Ray, Thornton, & Kahn, 2013). The wide range of adolescent antisocial cognitions and beliefs suggest the need to consider specificity and context (see Butler, Leschied, & Fearon, 2007). For example, specific attitudes reflecting acceptance of suicide has been linked to a range of adolescent suicide behaviors (see Arnautovska & Grad, 2010).

**Developmental Issues**

Families are very influential to the development of attitudes in early childhood, whereas peers become increasingly influential in shaping attitudes during adolescence. For instance, inconsistent parenting and early environmental adversity contribute to the development of cognitive biases (i.e., hostile schemas and hostile attribution bias) in early childhood (see Dodge, 2006). During adolescence, actual peer attitudes and the perception of what one’s peers support or condone influence positive and negative youth behavior (Iselin et al., 2012; Lally, Bartle, & Wardle, 2011; Mason et al., 2013). Several models have been proposed to explain the development of callous-unemotional traits in children and adolescents (see Frick, Ray, Thornton, & Kahn, 2014). According to one model, a fearless temperament interferes with the development of conscience. According to another model, children and adolescents develop CU traits as a result of the lack of autonomic reactivity to signs of distress from others, resulting in low empathy. Finally, contrary to other models, researchers identified a subgroup of adolescents with acquired callousness (Kerig, Bennett, Thompson, & Becker, 2012) who have elevated rates of anxiety and high levels of exposure to physical and sexual abuse in early childhood (see Kimonis et al., 2012).

**Gender Considerations**

Male youth tend to have attitudes that are more supportive of violence and offending than do female youth (Funk et al., 1999). Also, boys are less likely than girls to believe that stopping or reducing alcohol use will have benefits (Metrik, McCarthy, Frissel, MacPherson, & Brown, 2004). Higher levels of CU traits have been found in adjudicated boys compared to girls, especially in physically and relationally aggressive boys (Stickle, Marini, & Thomas, 2012). CU traits predict future marijuana use and impairment in boys with conduct problems but not girls (Wyms & others, 2012). Specific beliefs related to negative body image are a risk factor for NSSI in girls but not boys but the same beliefs are implicated in suicide risk for both genders (Muehlenkamp & Brausch, 2012, Rodriguez-Cano et al., 2006). Feeling safe in intimate relationships appears to be a gender-specific predictor of risky sexual behavior for adolescent girls (Fantasia, Sutherland, & Kelly-Weeder, 2012).
**Relationship to Outcomes**

Characteristics reflecting callousness (i.e., lack of empathy, low remorse, irresponsible) are associated with multiple risk outcomes (e.g., violence, non-violent offending, substance abuse). For other adverse outcomes, attitudes tend to be context specific (e.g., permissive attitudes toward suicide associated with suicide risk). Attitudes that reject or devalue a particular risk behavior is often associated with decrease in that risk behavior.

**Violence:** Chronically angry youth, who view the world as threatening and interpret others’ actions as hostile, are more likely to view violent behavior as appropriate (Brezina, 2010). Adolescents who report being insulted or who do not share intimate communication with significant others tend to hold attitudes supportive of aggression (Mesch et al., 2003). CU traits predict social goals reflecting dominance, revenge, forced respect, low concern about punishment, and less concern about victim suffering; these factors are linked to adolescent aggression (Pardini, 2011; Pardini, Lochman, & Frick, 2003).

**Non-Violent Offenses:** Experiences of strain or anger may distort attitudes in youth, weakening the belief that crime is wrong, increasing the belief that crime is justified, and in turn, increasing risk for non-violent offending (Agnew, 2006; Shulman et al., 2011). Adolescents with relatively high levels of narcissistic attitudes and low self-esteem have high rates of conduct problems (Barry, Frick, & Killian, 2003). Adolescents who hold accepting attitudes toward delinquency engage in higher rates of antisocial behaviors three years later (Halgunseth, Perkins, Lipold, & Nix, 2013). Also, studies show reduced recidivism in treatment programs that target negative attitudes and beliefs (see Kethineni & Braithwaite, 2011).

**Substance Abuse:** Adolescent boys with CU traits, especially the impulsive/irresponsible dimensions, are more likely to use alcohol and marijuana, and have use-related impairment (Hillegaag, Das, & de Ruiter, 2010; Wymb s, 2012). Endorsing favorable attitudes toward substance use is associated with self-reported intent to use substances in adolescents (Puente et al., 2008; Teichman & Kefir, 2000).

**Unauthorized Absences:** Attitudes reflecting school disengagement (i.e., low educational aspirations) play a role in youth truancy behaviors (Henry & Huizinga, 2007). Also, low self-esteem and low self-efficacy are associated with runaway behavior and homelessness in youth (Maccio & Schuler, 2012; DeBate & Thompson, 2005).

**Suicide:** Adolescents who endorse specific beliefs reflecting attraction to death and repulsion to life have higher levels of suicide ideation and score higher on measures of suicide risk (Osman et al., 2000). A permissive attitude toward suicide (people have the right to take their own life) is associated with suicide ideation, plans, attempts (see Arnautovska & Grad, 2010). Negative attitudes and feelings toward one’s body (appearance, care, protection, comfort) are linked to past and future suicide attempts in males and females (Orbach et al., 2011; Rodriguez-Cano et al., 2006).

**Non-Suicidal Self-Injury:** Adolescents with histories of NSSI self-report lower physical attractiveness compared to adolescents with no NSSI history (Claes et al., 2010). Detained youth with attitudes supporting NSSI are more likely to have a history of NSSI (Tsai et al., 2011). Adolescents engaging in self-harm report lower mindfulness and self-esteem than other youth (Lundh et al., 2007). In addition, negative body image may represent a necessary but not sufficient risk factor for NSSI in adolescent girls (Bjarehed & Lundh, 2008; Muehlenkamp & Brausch, 2012).

**Victimization:** Attitudes supporting physical dating violence are associated with physical dating violence perpetration and victimization among adolescent boys and girls (Ali, Swahn, & Hamburger, 2011). Adolescent self-esteem problems are associated with direct and indirect victimization from peers (Bosacki, Dane, & Marini, 2007). Self-esteem problems and negative attitudes toward school are specifically associated with youth who are victims of bullying and identified at higher rates among youth who acknowledge both engaging in and being a victim of bullying (Duke, Stein, & Zane, 2009).

**Health Neglect:** Among detained adolescents, self-reported hostility predicts poor sleep quantity and quality (Ireland & Culpin, 2006). However, adolescents who endorse favorable attitudes toward exercise engage in higher levels of exercise (Graham, Sirard, & Neumark-Sztainer, 2011). Attitudes and perceptions regarding how often same-age peers consumed healthy and unhealthy foods significantly predicted adolescents’ intake of healthy and unhealthy foods (Lally, Bartle, & Wardle, 2011). Adolescents who perceive a low level of risk associated with sexual behaviors were more likely to engage in riskier sexual behaviors (Tenkorang, 2013).
Item 12: Social Skills

This item examines the adolescent’s social competence, and ability to accurately interpret and navigate social situations (e.g., read social cues accurately, solve conflicts effectively, shows good communication skills versus having difficulty interpreting social cues and lacking manners).

**Definitional and Conceptual Issues**

Current conceptualizations of social skills often differentiate between social skills and social competence. *Social competence* is defined as an overall evaluation of an individual’s effectiveness in social situations. In contrast, *social skills* are defined more narrowly to focus on specific behaviors or the “more molecular responses” underlying social competence (Nangle et al., 2010, p. 6). Social skills include 1) desire to engage in social situations; 2) behavioral skills such as communication skills, assertiveness, and negotiation; 3) emotional skills such as an ability to respond appropriately to emotional cues; and 4) cognitive skills such as social problem-solving skills (Dubois & Felner, 1996). Social skill difficulties can occur at various phases in social interactions, namely in encoding and interpreting social cues, generating alternative responses, selecting and enacting an appropriate response, and evaluating outcomes (Crick & Dodge, 1994).

**Developmental Course**

While many rudimentary social skills are learned during childhood, adolescence calls for a broader set of social skills as peer contexts become more complex and new types of relationships emerge, such as romantic relationships and relationships with a broader set of adults (e.g., employers, coaches, teachers; Brown & Larson, 2009; Choudhury, Blakemore, & Charman, 2006; Hall-Lande, Eisenberg, Christenson, & Neumark-Sztainer, 2007). Limitations in social skills may carry particularly serious costs for adolescents, given adolescents’ emphasis on peer relationships. For instance, there is evidence that while social withdrawal is relatively common during childhood, it comes at a greater cost during adolescence, resulting in significant reductions in peer acceptance (Rubin et al., 1998).

While many social skills start to form at an earlier age, higher order social skills, such as an ability to understand others’ perspectives, continue to develop during adolescence, possibly as a result of ongoing brain development (Beauchamp & Anderson, 2010). The ability to solve social problems and negotiate interpersonal situations also continues to develop during this developmental period (Berg, 1989; Brion Meisels & Selman, 1984). Adolescents’ new social-cognitive abilities generally are not yet well-integrated and can fluctuate considerably (Kidwell, Fischer, Dunham, & Baranowski, 1983). Thus, adolescents ”may appear quite mature and perceptive at one time and regress into egocentric states... at another” (Sillars, Smith, & Koerner, 2010, p. 9).

**Gender Considerations**

Girls may develop certain social skills (e.g., communication) at an earlier age than boys (Eriksson et al., 2012). Furthermore, given that girls place a greater emphasis on self-disclosure and communication in relationships (Furman, 1996), these skills may be particularly important for girls.

Social skills, such as interpersonal negotiation, have been found to protect against adverse outcomes in both girls and in boys (e.g., Barkin, Smith, & DuRant, 2002; Burt, Obradović, Long, & Masten, 2008). For males who experienced early maltreatment, having poor social skills were found to be linked to increased likelihood of later violence in comparison to females (Topitzes, Mersky, Reynolds, 2012). Peer victimization was more likely to occur in males who lacked the social skill of assertiveness in comparison to females (Bakker, Ormel, Lindenberg, Verhulst, & Oldehinkel, 2011). Similarly, in boys who were more frequently able to use assertiveness to refuse drugs, less poly-drug use occurred, whereas this association was not present in girls (Epstein, Botvin, & Doyle, 2009). Gender differences were not apparent for other outcomes.
Relationship to Outcomes

Strong social skills are associated with reduced risk for violence, offending, substance abuse, unauthorized absences (e.g., running away), suicide, NSSI, victimization, and health neglect. The ability to solve social problems appears to be particularly important in preventing adverse outcomes (e.g., violence). Also, some social skills are particularly relevant to specific outcomes; for instance, social isolation is linked to suicide ideation, and low assertiveness is linked to substance use.

Violence: Deficits in social problem-solving skills are associated with violence and aggression (Hawkins, Kosterman, Catalano, Hill, & Abbott, 2005). Also, adolescents who engage in aggression are more likely to incorrectly perceive others’ intent as hostile (Dodge, 1980).

Non-Violent Offenses: Interpersonal negotiation skills have been found to protect against delinquent behavior in adolescents (Leadbeater, Hellner, Allen, & Aber, 1989). In addition, one study found that after receiving a social skills intervention that included training in problem-solving skills, adolescents were significantly less likely to be involved in a high variety of crime and to obtain a criminal record (Hawkins, Kosterman, Catalano, Hill, & Abbott, 2005).

Substance Abuse: Strong social skills, – such as an ability to say “no”, interpersonal negotiation skills, and competent social decision-making – can help protect against alcohol, tobacco, and other drug use in adolescence (Barkin, Smith, & DuRant, 2002; Botvin & Kantor, 2000; Leadbeater et al., 1989). Adolescents who demonstrated poor social skills (e.g., poor ability to handle peer deviance) were more likely than peers to have an increase in their substance use (Allen, Chango, Szwedo, Schad, & Marston, 2012).

Unauthorized Absences: Interpersonal negotiation skills have been found to help protect against runaway behaviors in female and male adolescents (Leadbeater et al., 1989). Also, adolescents may avoid attending school to avoid social situations that they find difficult to navigate (Kearney, 2008).

Suicide: Adolescents who engage in suicidal behaviors have been found to have certain social skill difficulties (King & Merchant, 2008), particularly social isolation (Haynie, South, & Bose, 2006), low assertiveness (Brent, Kolko, Allan, & Brown, 1990), and limitations in social problem-solving abilities (Speckens & Hawton, 2005).

Non-Suicidal Self-Injury: Social skills deficits may be an underlying factor associated with NSSI among adolescents. Adolescents with a history of NSSI often show difficulties in problem solving and are more likely to select maladaptive responses to problems (Nock & Mendes, 2008). For instance, some adolescents engage in NSSI in an attempt to communicate their feelings to others (e.g., emotional pain, anger, distress), gain attention or connections with others, or remove themselves from aversive social situations (Nock & Prinstein, 2004, 2005).

Victimization: Adolescents who are victimized by peers are more likely than other youth to have limitations in social competence and a lower peer status (Cook et al., 2010, p. 67). For instance, they may be socially isolated, less popular than other adolescents, and perceived as less likeable. Limited social competence is also a risk factor for child abuse (Stith et al., 2009).

Health Neglect: Research suggests that strong social problem-solving skills and assertiveness protect against unhealthy dieting (Huon et al., 2008). Conversely, social isolation during adolescence is associated with later physical health problems during adulthood (Caspi et al., 2006).
This item focuses on the quality of the adolescent’s relationships, particularly his/her connectedness, and manner of relating to others (e.g., empathetic, manipulative). It consists of two parts:

13a: Relationships with Caregivers and Other Adults: This includes adolescents’ relationships with caregivers (e.g., biological, adoptive, foster caregivers) and other adults who play an important role, such as grandparents, teachers, coaches, and service providers.

13b: Relationships with Peers: This includes adolescents’ relationships with friends, romantic partners, siblings, and co-residents.

**Definition and Conceptual Issues**

Relationships that are adaptive and healthy are characterized by strong attachment or connectedness (Bowlby, 1982). Attachment is defined as “an affectional tie or bond” between one individual and another person (Ainsworth et al., 1978, p. 100). While caregivers serve a primary attachment role (Armsden & Greenberg, 1987; Rice, 1980), adolescents can also develop close connections with peers and other adults (Laible, Carlo, & Raffaelli, 2000). Research demonstrates that adolescents form attachment hierarchies including multiple attachment figures (Rosenthal, & Kobak, 2010). Connectedness is a term that was popularized by health researchers and refers to adolescent’s sense of “closeness” and belonging (Resnick, Harris, & Blum, 1993, p. S6).

Conflict is another important dimension of adolescents’ relationships with peers, caregivers, and other adults, and can be an indicator of relationship quality. Although some disagreement is normative in close relationships, adolescents who engage in or experience high levels of interpersonal conflict are at heightened risk for numerous adverse outcomes (Lauren & Collins, 1994; Shantz & Hartup, 1992). Finally, adolescents’ interpersonal style or manner of relating to others has a significant impact on their ability to form and maintain healthy relationships. Some adolescents have significant callous and unemotional traits, such as lack of empathy and guilt (Frick & White, 2008; Frick, Ray, Thornton, & Kahn, 2013), which can impact the quality of their relationships. For instance, adolescents who exhibit callous and unemotional characteristics are less likely to attempt to rectify interpersonal conflicts, and instead express a greater desire for revenge and dominance (Pardini, 2011). In contrast, other adolescents show high levels of empathy, which facilitates the development of healthy relationships (Duan & Hill, 1996; Eisenberg & Fabes, 1990).

Some adolescents may have poor relationships with peers but strong relationships with their parents. Others may develop strong relationships with peers as a means of compensating for negative relationships with caregivers (Madden-Derdich, Estrada, Sales, Leonard, & Updegraff, 2002). Thus, the START:AV considers these domains separately.

**Developmental Course**

Relationships undergo considerable change during adolescence. Adolescents spend less time with their parents/caregivers than do children (Larson et al., 1996). At the same time, most adolescents continue to look to their parents for closeness and a secure base (Nickerson & Nagle, 2005). As adolescents strive for autonomy, they may increasingly regulate the information they share with parents (Keijsers & Laird, 2010), and many adolescents keep secrets from their parents on a daily basis (Smetana et al., 2010). Conflict between parents and children often increases with the transition to adolescence, typically peaking in mid-adolescence (Laursen & Collins, 2004; Steinberg & Morris, 2001). However, despite common perceptions, high intensity conflict is not the norm (Steinberg, 2001). In fact, in normative samples, over half of adolescents report that they are generally satisfied with their relationships with their parents (Arnett, 1999; Rutter, Graham, Chadwick, & Yule, 1976).

Peer relationships become more salient during adolescence as well as more complex (Brown & Larson, 2009). Peer cliques and peer crowds (i.e., larger groups of adolescents who share a similar reputation, such as “jocks”) start to form. Romantic relationships also emerge during this time period, and peer relationships become closer and more intimate (Buhrmester &
Adolescents, especially young adolescents, may have some difficulty understanding other's perspectives, which can impact the quality of their relationships. Although empathy starts to develop at an early age, it continues to develop during adolescence (Davis & Franzoi, 1991; Eisenberg et al., 2005). Also, adolescents may have more difficulties than adults in recognizing others’ perspectives, and are more likely to believe that their emotions and experiences are unique (Frankenberger, 2000).

**Gender Considerations**

Girls report stronger attachment to peers and a higher degree of intimacy in their relationships than boys, and thus may be more sensitive to relationship discord (Ma & Huebner, 2008). Research also indicates that girls spend more time with their parents/caregivers and interact more with them than boys (Fair Worthen, 2012). High quality relationships have been found to protect against adverse outcomes in both girls and in boys (e.g., Resnick et al., 1997). However, family conflict may be a particularly strong predictor of substance use in girls compared to boys (Skeer et al., 2011).

**Relationship to Outcomes**

**Relationships with Caregivers and Other Adults**

Secure attachments and strong connections with caregivers and other adults are associated with reduced risks for violence, non-violent offenses, substance abuse, unauthorized absences (e.g., running away), suicide, NSSI, victimization, and health neglect (i.e., sexual risk-taking). Conversely, family conflict is associated with increased risk for adverse outcomes, such as suicide, NSSI, and victimization.

**Violence:** Connectedness to parents and other adults protects against violent behavior (Henrich, Brookmeyer, & Shahar, 2005; Resnick, Ireland, & Borowsky, 2004). Adolescents with callous and unemotional traits such as lack of empathy tend to show more severe and persistent aggression, whereas high empathy is protective against violent behaviors (Björkqvist, Österman, & Kaukiainen, 2000; Miller & Eisenberg, 1988).

**Non-Violent Offenses:** Adolescents who have strong connections to their caregivers, and those who share information with caregivers tend to show lower rates of offending (Allen et al., 1996; Finzi, Ram, Har-Even, Shnit, & Weizman, 2001; Laird & Marrero, 2010). Also, family conflict increases the risk of juvenile offending (Patterson, Capaldi, & Bank, 1991).

**Substance Abuse:** Strong connectedness to parents/caregivers protects against alcohol and marijuana use (Resnick et al., 1997). Additionally, adolescents who share and disclose information to their parents/caregivers tend to engage in lower rates of substance use (Soenens et al., 2006). In contrast, family conflict increases risk of substance use (Skeer et al., 2011).

**Unauthorized Absences:** Many adolescents who run away from home perceive a lack of closeness or caring in their relationships with their parents/caregivers (McGarvey et al., 2010), and have high levels of parent-child conflict (Adams, Gullotta, & Clancy, 1985; Zide & Cherry, 1992). Also, school absenteeism is common among adolescents with high rates of family conflict (Corville-Smith, Ryan, Adams, & Dalicandro, 1998).

**Suicide:** Research has indicated that female and male adolescents who perceive themselves to have a close relationship with their parents/caregivers and other family members are less likely to attempt suicide (Borowsky et al., 1997; Lessard & Moretti, 1998). Conflicts with parents/caregivers may precipitate suicide attempts (Brent, Bridge, Chen, & Chiappetta, 1999; Hawton, Fagg, & Simkin, 1996).

**Non-Suicidal Self-Injury:** Connectedness to parents/caregivers protects against NSSI (Kaminski et al., 2010). Family conflicts are associated with increased risk of NSSI, particularly in adolescents who have difficulties regulating their emotions (Adrian et al., 2011). Also, frequency of NSSI is inversely associated with quality of relationships with mothers and fathers (Di Pierro, Sarno, Perego, Gallucci, & Madeddu, 2012).

**Victimization:** Adolescents with strong relationships with caregivers are less likely to experience peer victimization (Earl & Burns, 2009), suggesting that family connectedness may protect against peer victimization experiences. Problematic
family relationships are associated with peer victimization (Cook, Williams, Guerra, Kim, & Sadek, 2010). Family conflict is also a robust risk factor for child physical abuse, with studies finding large effect sizes (Stith et al., 2009).

**Health Neglect:** Relatively limited research has examined the relationship between the quality of an adolescent’s relationships and health-neglecting behaviors. However, family connectedness is associated with reduced sexual risk-taking, even in at-risk adolescents (Markham et al., 2003).

**Relationships with Peers**

Peer conflict is associated with heightened risk of violence towards others, suicide attempts, and NSSI. Strong connectedness to peers can protect against suicide. On the other hand, if a youth has strong connections to antisocial peers this can increase risk for outcomes such as violence and offending. Thus, this item focuses on the quality of the peer relationship, including whether peer relationships promote the adolescent’s health and well-being. Lack of empathy and other callous-unemotional traits is associated with increased risk of violence, non-violent offenses, substance abuse, and possibly suicide attempts.

**Violence:** Peer conflicts can trigger violence, particularly in youth with callous-unemotional traits (Pardini, 2011). Whereas high empathy is protective against violent behaviors (Björkqvist, Österman, & Kaukiainen, 2000; Miller & Eisenberg, 1988), callousness and lack of empathy is associated with severe and persistent aggression (Frick & White, 2008). However, if a youth has strong relationships with peers who are violent or antisocial, it may heighten risk for violence (Bender & Lösel, 1997; Hawkins et al., 1998).

**Non-Violent Offenses:** A number of studies show that callous-unemotional traits are associated with increased risk of antisocial behavior and offending in adolescents (Frick et al., 2013). Similarly, close connections with delinquent peers is associated with increased risk of offending (Bender & Lösel, 1997).

**Substance Abuse:** Research in this area is mixed. One study found that negative peer interactions did not predict future alcohol or marijuana use (Branstetter, Low, & Furman, 2011). In fact, given that friendships may increase opportunities to drink alcohol, lack of close peer relationships may predict lower substance use (Martin-Storey et al., 2011; Kramer & Vaquera, 2011). However, conflicts with siblings may have an indirect effect in predicting substance use (Low et al., 2012). Callous-unemotional traits predict future substance use in adolescents (Wymbs et al., 2012).

**Unauthorized Absences:** Research in this area is limited. Adolescents report that opportunities to socialize with peers motivate them to stay in school (Kortering, Konold, & Glutting, 1998). On the other hand, strong connections with peers who quit school can increase an adolescent’s risk of school dropout (Cairns, Cairns, & Neckerman, 1989).

**Suicide:** Lack of close friendships are a risk factor for suicide attempts (Johnston et al., 2002). In addition, conflicts with peers and romantic partners may precipitate suicide attempts (Brent, Bridge, Chen, & Chiappetta, 1999; Hawton, Fagg, & Simkin, 1996). While there is some evidence that cruelty to peers is also a risk factor for suicide attempts (Johnston et al., 2001), other research suggests that callous-unemotional traits are associated with reduced risk (Javdani et al., 2011).

**Non-Suicidal Self-Injury:** Peer conflicts are associated with increased risk of NSSI, particularly in adolescents who have difficulties regulating their emotions (Adrian et al., 2011). Also, adolescents who self-injure often describe themselves as loners (Adler & Adler, 2005). However, one study found the relationship between peer connectedness and NSSI to be non-significant (Kaminski et al., 2010).

**Victimization:** Problematic peer relationships are a strong predictor of peer victimization (Cook, Williams, Guerra, Kim, & Sadek, 2010). However, having a best friend can decrease risk of peer victimization (Bollmer et al., 2005).

**Health Neglect:** Positive friendship qualities (e.g., communication, trust, acceptance) have been found to protect against unhealthy and disordered eating (Schutz & Paxton, 2007). Supportive relationships with peers is also associated with reduced sexual risk-taking (Ahmad et al., 2014).
Item 14: Social Support

This item focuses on the quality of support (e.g., emotional or practical assistance) that others provide, and the degree to which the adolescent is accepting of support. It consists of two parts:

14a: Social Support from Adults: This includes adults who play an important role, such as teachers, coaches, grandparents, therapists, and other service providers. Social support from parents is not included here, as this is considered in Item 15: Parenting.

14b: Social Support from Peers: This includes social support from peers, including friends, romantic partners, siblings, and co-residents.

Definition and Conceptual Issues

Social support may take several different forms: 1) emotional support refers to the expression of caring, reassurance, and empathy; 2) instrumental support focuses on the provision of material aid (e.g., help with homework); and 3) informational support involves the provision of information such as giving advice (House & Kahn, 1985). Research suggests that perceived support (i.e., adolescents’ perceptions that they have individuals they can turn to for help) has a greater impact on adjustment than enacted support (i.e., the support that an adolescent actually receives; Chu et al., 2010). Furthermore, perceived support is more important in predicting adjustment than simply the size and density of an adolescent’s social network (Chu et al., 2010). According to the stress buffering model, social support is particularly beneficial for individuals who are experiencing adversity (Cohen, 2004), suggesting it may moderate or buffer risk factors.

This item also captures more generally how others treat the adolescent, including experiences of acceptance and rejection. Research on adolescent peer relationships has often classified adolescents into the following categories: popular, rejected, neglected (neither liked nor disliked), and controversial (both liked and disliked) (Brown & Larson, 2009). However, notably, adolescents who have high social status (i.e., perceived popularity) are not necessarily well-liked (i.e., sociometric popularity).

This item is subdivided into adults and peers, as the nature and function of social support differs in these contexts. In particular, in supportive relationships with adults, the adult typically has more responsibility and authority than does the adolescent. In peer relationships, both parties are more equivalent in their status and roles. As such, peers may provide different forms of support than adults (e.g., emotional support versus material aid).

Developmental Course

Adolescents’ social ecologies include multiple potential sources of support, including parents and caregivers, other relatives, peers, teachers, and neighbors (Furman & Buhrmester, 1985). Research has found that most adolescents can identify at least one adult who is not part of their family who plays an important role in their lives, such as a teacher, employer, coach, or other mentor (Hamilton & Hamilton, 2004). Compared to adults, adolescents need higher levels of support from others, given their lesser autonomy (Belle, 1989). However, adolescents’ relationships with social support providers can be quite different than those found in adult relationships. In particular, children and adolescents tend to have vertical relationships with social support providers in which adults are in positions of greater authority or power rather than equals (Hartup, 1989; Russell, Pettit, & Mize, 1998).

Although the existence of supportive relationships with adults is particularly important for adolescents, peer relationships can also provide supportive elements (Berndt, 1989), such as intimacy and disclosure, a dependable bond, affection, a sense of worth, guidance or advice, and nurturance (Furman & Buhrmester, 1985). Despite the fact that parents remain the primary supportive relationship for most youth, individuals increasingly turn to peers and romantic partners for support and closeness throughout their adolescence (Allen & Land, 1999; Furman & Buhrmester, 1992; Nickerson & Nagle, 2005). When adolescents are rejected by prosocial peers, they may increasingly turn to deviant peers (Patterson, Capaldi, & Banks, 1991).
**Gender Considerations**

Girls are more likely than boys to seek out help from others (Raviv, Sills, Raviv, & Wilansky, 2000), and report receiving more social support than boys (Colarossi, 2000). However, boys and girls report similar levels of satisfaction with their social support from friends.

Based on a meta-analysis, social support is a stronger predictor of well-being (e.g., conduct, health, psychological adjustment) in girls than boys (Chu et al., 2010). Although peer rejection has negative impacts for both adolescent boys and girls (Hawker & Boulton, 2000), it may have an especially strong adverse effect on girls (Bond, Carlin, Thomas, Rubin, & Patton, 2001) because girls tend to show higher levels of sensitivity and concern about peer evaluation (Kuperminc, Blatt, & Leadbeater, 1997; LeGreca & Stone, 1993; Rudolph & Conley, 2005).

**Relationship to Outcomes**

**Social Support from Adults**

The presence of social support from adults, such as teachers and families, is associated with reduced risk for violence, non-violent offending, substance abuse, unauthorized absences (e.g., school truancy), suicide, and NSSI. Supportive relationships with teachers may be particularly important, possibly because in some cases, teachers may be more likely to exert positive and prosocial influences than other sources of social support (Chu et al., 2010). Adult support is a stronger predictor of adolescent well-being than is peer support (Chu et al., 2010).

**Violence:** Social support from family and teachers is associated with reduced risk for conduct problems such as aggression among adolescents (Chu et al., 2010). Furthermore, teacher support also is associated with higher rates of desistance in adolescents with a history of violence (McNeely & Falci, 2004).

**Non-Violent Offenses:** Based on a meta-analysis, social support from adults (e.g., teachers, families, relatives) is associated with reduced risk for conduct problems such as delinquency (Chu et al., 2010).

**Substance Abuse:** High levels of perceived support from adults are associated with reduced risk of substance use (Kim et al., 2009; Urberg et al., 2005). Teacher support (i.e., perceptions that teachers care about them and are fair) has been found to protect against marijuana use and alcohol use (McNeely & Falci, 2004).

**Unauthorized Absences:** Adolescents who have low levels of teacher support are at higher risk for school absenteeism and dropping out of school (Lagana, 2004). In particular, adolescents who are victimized by teachers (e.g., humiliated, cursed at, slapped) report higher fears of attending classes (Astor, Benbenishty, Zeira, & Vonokur, 2002). Also, low family support is associated with poor treatment adherence in adolescents and higher rates of treatment dropout (King, Hovey, Brand, Wilson, & Ghaziuddin, 1997).

**Suicide:** Lack of family support is associated with a heightened risk for suicidal behavior in adolescents. For instance, one study of adolescents who were discharged from a psychiatric hospital, found that adolescents who had low family support had greater suicidal behavior and ideation six months following their hospitalization (King et al., 1995). Another study found that low family support predicted suicidality even in young adulthood (Lewinsohn et al., 2001). Among adolescents with suicidal ideation, teacher support is associated with lower rates of suicide attempts (McNeely & Falci, 2004).

**Non-Suicidal Self-Injury:** Individuals who engage in NSSI perceive themselves as having less social support, and as such, engage in NSSI in an effort to gain social support, attention, and a sense of belonging (Nock, 2008). A national cohort study in Denmark found that social support partially mediated the relationship between traumatic life events and NSSI (Christoffersen, Møhl, DePanfilis, & Vammen, 2015); in adolescents with high social support, the relationship between traumatic events and NSSI was reduced.

**Victimization:** Victims of peer bullying report having lower levels of social support from teachers than do other adolescents (Demaray & Malecki, 2003). Furthermore, in adolescents who are victimized by peers, research has found that teacher support acts as a buffer in reducing the likelihood of developing mental health symptoms following victimization (Yeung & Leadbeater, 2010).
**Health Neglect:** Social support may mitigate risk for dysfunctional eating patterns (e.g., binging) for girls and boys (Ferreiro, Seoane, & Senra, 2012; Stice, Presnell, & Spangler, 2002). A meta-analysis found a significant and moderate effect size for the relationship between health (e.g., exercise, eating habits, obesity) and social support (Chu et al., 2010).

**Social Support from Peers**

Peer rejection is also associated increased risk of adverse outcomes such as suicide, NSSI, and violence. In part, this is because rejected adolescents tend to develop friendships with deviant peers. The impact of peer support varies considerably depending on the quality of the support. If an adolescent has social support from antisocial peers, this can increase risk for outcomes such as violence and offending. Thus, this item focuses on the quality of the social support, including whether the support provided is healthy and appropriate.

**Violence:** Adolescents who are rejected by prosocial peers tend to develop friendships with antisocial peers, which in turn increases risk of violence (Vitaro, Pedersen, & Brendgen, 2007). For instance, research findings indicate that support from antisocial peers may increase risk of aggression in male and female adolescents (Bender & Lösel, 1997).

**Non-Violent Offenses:** Peer rejection predicts general delinquency (Patterson et al., 1991). In part, this may be because rejected children may turn to deviant peer groups as a source of support. Although peer support may slightly reduce risk for antisocial behavior in adolescents who are otherwise well-adjusted, it has been found to be associated with a heightened rate of delinquency in adolescents who are antisocial (Bender & Lösel, 1997).

**Substance Abuse:** Perceived social support from peers has sometimes been shown to increase rather than decrease risk for substance use, as peers may encourage substance use (Wills et al., 2004). For instance, adolescents who are popular have heightened rates of alcohol and marijuana use when compared to their peers, whereas adolescents who are unpopular may have fewer opportunities to engage in substance use (Mayeux et al., 2008; Prinstein et al., 2011). That said, it is possible that a lack of support from prosocial peers could indirectly heighten risk of later substance use. To demonstrate, an early review speculated that poor social skills could lead to rejection by prosocial peers, which in turn lead to affiliations with delinquent peers and a heightened risk of substance use (Spooner, 1999), although we were unable to identify studies that directly illustrated this relationship. Given that our review indicated that the influence of social support likely depends on whether or not the social support is prosocial in nature, the START:AV rating criteria for this item focuses on prosocial support.

**Unauthorized Absences:** Adolescents who are victimized or rejected by their peers have higher rates of school absenteeism than their peers and report higher concerns about safety and fears of attending classes (Astor, Benbenishty, Zeira, & Vonokur, 2002; Dale, Price, & Telljohann, 2003). Being bullied (i.e., an extreme form of peer rejection) can even increase risk of high school dropout (Cornell, Gregory, Huang, & Fan, 2013).

**Suicide:** Peer rejection is associated with increased risk for suicide attempts in adolescents (King & Merchant, 2008). In adolescent inpatients, peer rejection and lack of support from friends is associated with suicide ideation (Prinstein, Boergers, Spirito, Little, & Grapentine, 2000).

**Non-Suicidal Self-Injury:** Lack of peer support is a risk factor for NSSI (Heath et al., 2009; Hilt, Cha, & Nolen-Hoeksema, 2008). According to Nock’s (2008) elaborated social theory, individuals who engage in NSSI perceive themselves as having less social support, and as such, may sometimes engage in NSSI in an effort to gain social support, attention, and a sense of belonging.

**Victimization:** Adolescents who are victimized by peers tend to report lower rates of social support from peers than non-victimized adolescents (Demaray & Malecki, 2003; Pouwelse et al., 2011). However, having a best friendship relationship can help protect adolescents against subsequent peer victimization, particularly when the friendship is healthy (Boulton et al., 1999).

**Health Neglect:** Adolescents with supportive peers are less likely to have dysfunctional eating patterns (Stice et al., 2002). Adolescents are more likely to engage in exercise and physical activity when their friends support exercise (Beets, Cardinal, & Alderman, 2010; Duncan, Duncan, & Strycker, 2005).
Item 15: Parenting

This item focuses on the supervision (i.e., clear rules, appropriate discipline) and support (e.g., warmth, caring) provided by the adolescent’s caregivers. It also includes abuse and neglect by caregivers.

**Definition and Conceptual Issues**

Parenting refers to the care and upbringing of a child to adulthood that is provided by biological parents or other adults (such as extended family, adoptive parents, and foster parents) who take on the role of the primary care-giver(s). Support and control are two critical dimensions of parenting (Baumrind, 1991). Support refers to caregiver behaviors that make the child feel accepted and approved, such as love, warmth, responsiveness, sensitivity, and intimacy. Control refers to the demands and limits placed on the child, such as expectations, supervision, and discipline techniques. Adolescents tend to fare best when their caregivers provide high support as well as control; this is referred to as authoritative parenting (Baumrind, 1991; Steinberg, 2001). This item also includes stability and changes in caregivers (e.g., placement in foster care; Adam & Chase-Lansdale, 2002). It captures all forms of parental maltreatment, including physical abuse (i.e., actions that could injure the adolescent, such as hitting, slapping, and punching; Straus, 1979), sexual abuse (i.e., such as unwanted sexual touching; Centres for Disease Control and Prevention, 2004), emotional abuse (e.g., name calling; Wolfe & St. Pierre, 1989), and child neglect (i.e., failure to provide the adolescent with basic necessities, such as appropriate shelter, health care, education, care and supervision; Widom, 1997).

**Developmental Course**

Over the course of adolescence, youth spend less time with their parents (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996), and the link between parenting factors and adolescent risk behaviors (e.g., delinquency, substance use) may weaken as adolescents grow older (Hoeve et al., 2009). Nevertheless, parenting remains extremely important. Parent-adolescent relationships set the stage for an adolescent’s relationships with peers and romantic partners, and play a significant role in adolescents’ behavioral and emotional functioning (Morris, Cui, & Steinberg, 2013; Steinberg, 2001). Furthermore, most adolescents continue to rely on their parents for support (Furman & Buhrmester, 1992). Many parents find adolescence to be a challenging developmental period. Parents often find the arguments that they have with their adolescents more upsetting than do adolescents themselves (Silverberg & Steinberg, 1990). Also, with the transition to adolescence, children view their parents as increasingly human and prone to mistakes; many parents find this de-idealization difficult (Steinberg, 2001). During adolescence, a key task for parents and adolescents is to negotiate and support the adolescent’s growing autonomy while retaining supportive ties (Phinney, Kim-Jo, Osorio, & Vilhjalsdottir, 2005). When parents relinquish supervision before an adolescent is ready, it can lead to adverse outcomes.

**Gender Considerations**

Parents often monitor their daughters’ behaviors more than their sons (Bottcher, 1995). Further, parents may be more likely to accept delinquent behavior in their sons than their daughters (Fagan, Van Horn, Hawkins, & Arthur, 2007). Boys and girls experience similar rates of maltreatment, but girls are more likely to be sexually abused (May-Chahal & Cawson, 2005). Overall, parenting predicts adverse outcomes of adolescent boys and girls (Moeller, 2001).

Some studies suggest that parenting may be more important for girls than boys (or vice versa); findings are mixed (Blum, Ireland, & Blum, 2003; Bronte-Tinkew et al., 2006). Same sex parents appear to have a particularly strong influence; that is, mother’s support is important for girls, while father’s support is important for boys (Hoeve et al., 2009). History of sexual abuse increases the likelihood of risky sexual behaviors in both adolescent girls and boys (Homma, Wang, Saewyc, & Kishor, 2012). Also, a meta-analysis did not find any gender differences in associations between child abuse and suicide.
increased risk for violent behavior in adolescents (Moeller, 2001), whereas a combination of support and firmness, high expectations, and intensive supervision is protective (Lösel & Farrington, 2012). Abuse and neglect during infancy, childhood and adolescence can be a risk factor for violent behavior (Widom, 1997).

**Non-Violent Offenses:** Limited parental monitoring and parental neglect, hostility, and rejection are associated with increased risk for delinquency in adolescent boys and girls (Hoeve et al., 2009). Separation from and changes in caregivers during adolescence has also been found to predict increased rates of delinquency (Adam & Chase-Lansdale, 2002; Keller, Catalano, Haggerty, & Fleming, 2002).

**Substance Abuse:** The absence of supportive parenting is associated with higher rates of adolescent substance use (Petrakis et al., 1998), whereas parental monitoring is protective, particularly for young adolescents (Van Ryzin, Fosco, & Dishion, 2012). Inconsistencies in caregivers is associated with drug use in adolescent girls (Adam & Chase-Lansdale, 2002; Keller, Catalano, Haggerty, & Fleming, 2002).

**Unauthorized Absences:** Adolescents with authoritative parents (i.e., who demonstrate acceptance and supervision) are more likely to complete school (Blondal & Adalbjarnardottir, 2009). Negative family relationships (e.g., abuse) predict running away from home (Zide & Cherry, 1992). Low parental support is also associated with poor treatment adherence and increased treatment drop-out (King et al., 1997).

**Suicide:** Warm and caring parental interactions protect against suicide attempts in adolescents, whereas a lack of parental monitoring and "affectionless control" heightens risk for suicide attempts (King et al., 2001; Newman, Harrison, Dashiff, & Davies, 2008). Abuse is also associated with increased risk for suicidal behavior (Devries et al., 2014; Norman, Byambaa, Butchart, Scott, & Vas, 2012).

**Non-Suicidal Self-Injury:** Verbal and physical abuse by parents is associated with elevated risk of NSSI (Mossige, Huang, Straiton, & Roen, 2014). Also, childhood sexual abuse is an established risk factor for NSSI, although the link may not be as large as assumed (Klonsky & Moyer, 2008).

**Victimization:** Parents who have negative relationships with their adolescent, rely on harsh punishment, and perceive their adolescent as a problem are at increased risk for abusiveness (Stith et al., 2009). Positive family environment is associated with reduced peer victimization, although its effects are modest (Cook et al., 2010).

**Health Neglect:** Inactivity and unhealthy diet is associated with overly-indulgent parenting as well as lack of parental monitoring and involvement (Eaton et al., 2012). Poor parent-adolescent communication is elevated in youth with eating disorders (Lattimore et al., 2000). Also, negative parenting is linked to adolescent sleep problems (Brand et al., 2009). Sexual abuse is a significant risk factor for a variety of risky sexual behaviors (Homma, Wang, Saewyc, & Kishor, 2012) including trading sex and further sexual and physical victimization (Tyler, Gervais, & Davidson, 2013). Also, child abuse significantly predicts the development of obesity during the life course, particularly for females (Danese & Tan, 2014).
Item 16: Parental Functioning

This item focuses on caregiver stress, coping, and health. It also examines whether caregivers model positive or negative behaviors (e.g., strong work ethic vs. violence, unhealthy lifestyle).

**Definition and Conceptual Issues**

Parental health behaviors and functioning (e.g., antisocial behavior, alcoholism, criminality) can have an important impact on adolescents’ own health and development (Moeller, 2001). For instance, adolescents who have parents who engage in violence, offending, and substance use are at heightened risk for these behaviors (Farrington, 1989). One theoretical explanation for the intergenerational transmission of risk behaviors is through role-modeling. For example, adolescents who observe their caregivers using alcohol as a coping mechanism are more likely to emulate this strategy (Windle, 1996). Also, adolescents may use substances with a parent as a strategy to develop a relationship with an often emotionally unavailable substance abusing parent (Lopez, Katsulis & Robillard, 2009). Similarly, according to Bandura’s social learning theory, adolescents may emulate aggressive acts they perceive as beneficial (Bandura, 1973). Sutherland’s Differential Association theory (1939) proposes that parents transfer to their children a value system that normalizes violence (Chapple, 2003; Sutherland, 1939).

Adolescents who witness intimate partner violence between their parents are not only at heightened risk for violence towards others, they are also at increased risk of being physically abused. Even ‘minor’ intimate partner violence (e.g., pushing, shoving) has been found to result in double the frequency of severe assaults on a child by the victim of the intimate partner abuse (Straus & Smith, 1990).

Given the importance of caregivers’ health, many leading interventions focus on addressing parental needs and functioning. Multisystemic Therapy, a leading approach for the treatment of problem behaviors in adolescents, includes a focus on the role of family members in changing individual, family, and environmental factors that contribute to adolescent problem behavior (Hengeller & Schoenwald, 2012). Furthermore, research reviews indicate that family interventions significantly reduce the time juveniles (with a history of delinquency) spend in institutions as well as juveniles’ rates of subsequent arrests (Caldwell, & Van Rybroek, 2013; Woolfeden, Williams, & Peat, 2001).

**Developmental Course**

Studies indicate that up to one in five children and adolescents live in families in which a parent meets criteria for a mental illness (Reupert, Maybery, & Kowalenko, 2013). As adolescents are exposed to wider social contexts, it is possible that the role of parental functioning declines as individuals mature. For instance, the effect of being exposed to parental alcohol intoxication is a stronger predictor of suicide risk for younger adolescents than older adolescents (Rossow & Moan, 2012). Nevertheless, parental functioning remains a critical influence and important predictor of adverse outcomes in adolescents. Studies show, for example, that exposure to intimate partner violence has a similar impact on adolescents as on younger children (Evans, Davies, & DiLillo, 2008).

**Gender Considerations**

Exposure to intimate partner violence is a significantly stronger predictor of externalizing risk outcomes (e.g., aggression) for boys than for girls (Carlson, 1990; Evans, Davies, & DiLillo, 2008). Boys exposed to intimate partner violence are also more likely to run away (Carlson, 1990). One study of the relationship between parental imprisonment and offspring offending found that this relationship was only significant for sons (Besemer et al., 2011).
Relationship to Outcomes

Adolescents whose parents engage in negative or risky behaviors such as violence, non-violent offending, suicide attempts, or poor health behaviors (e.g., eating unhealthy foods) are more likely to engage in these behaviors. In addition, adolescents who are exposed to intimate partner violence between parents are more likely to engage in violence, substance abuse, unauthorized absences (i.e., running away), and suicide attempts.

**Violence:** Adolescents with parents who have been involved in criminal activity or who have attitudes supporting of violence are more likely to be violent (Hawkins et al., 2000). Being exposed to intimate partner violence in childhood significantly predicts adolescent violent behavior (McCloskey & Lichter, 2003).

**Non-Violent Offenses:** Youth with incarcerated parents experience a 10% increase in risk for antisocial behavior (Murray, Farrington, & Sekol, 2012).

**Substance Abuse:** Adolescents with parents who have been involved in criminal activity or who have attitudes supporting of violence are more likely to be violent (Hawkins et al., 2000). Being exposed to intimate partner violence in childhood significantly predicts adolescent violent behavior (McCloskey & Lichter, 2003).

**Unauthorized Absences:** Adolescents who run away from home are more likely to come from homes characterized by violence, chaos and/or substance abusing parents (Springer, 2001). Adolescents are more likely to drop out of school if their parents have dropped out whereas risk for dropout is much lower among adolescents whose parents have completed post-secondary education (Foley, Gallipoli, & Green, 2009).

**Suicide:** Parental suicide, suicide attempts, and parental psychiatric illness increase the risk of adolescent suicide (Gould et al., 2003; King et al., 2009). Parental heavy drinking, especially exposure to intoxicated parents, (Rossow & Moan, 2012) and access to firearms in the house are significant risk factors for suicide (Gould et al., 2003). Adolescents who have lost a parent to suicide are three times more likely to die by suicide (Geulayov et al., 2012).

**Non-Suicidal Self-Injury:** One longitudinal study found that parental history of NSSI and suicide attempts did not predict subsequent NSSI in their child (Cox et al., 2012). However, other research has found that family history of suicidal ideation, violence, and drug use (Deliberto & Nock, 2008), maternal depression (Hankin & Abela, 2011), parental history of serious illness or disability (Laye-Gindhu & Schonert-Reichl, 2005), and parental unemployment are risk factors for NSSI (Brunner et al., 2014). Thus, parental functioning appears to have a significant impact on NSSI (Arbuthnott & Lewis, 2015).

**Victimization:** Adolescents whose parents engage in a variety of problem behaviors, including substance abuse and criminal behavior, are more likely to experience victimization (Esbensen, 1999). Parental stress and lack of social support from parents are well-established predictors of abuse, as is intimate partner violence between parents (Coohey, 1996; Dubowitz & Bennett, 2007; Knous-Westfall, Ehresnsha, MacDonell, & Cohen, 2012). Furthermore, living in a dangerous family and having a chaotic, multi-problem family environment may contribute to victimization and polyvictimization (i.e., experiencing multiple forms of victimization; Finkelhor et al., 2009).

**Health Neglect:** Adolescents who smoke are more likely to have parents who smoke (de Vries, et al., 2003; Kandel & Wu, 1995). Adolescent girls with Type 1 diabetes, when compared to a control group, were more likely to come from families with high levels of family weight concerns (Mellin et al., 2004). Also, childhood exposure to intimate partner violence is associated with heightened risks for weight problems (Jun et al., 2012).
**Definition and Conceptual Issues**

Adolescents exert negative or positive influences on their peers’ behaviors through the modelling and explicit encouragement of certain types of behaviors (Gifford-Smith, Gifford-Smith, Dodge, Dishion, & McCord, 2005). However, the high levels of similarity found between adolescents and their peer group is not simply a one-way process of peer influence (Elliott, Huizinga, & Ageton, 1985; Elliott & Menard, 1996; Thornberry, 1987). Instead, adolescents also tend to select friends that exhibit similar types of behavior. Thus, both peer selection and peer influence/socialization play a role.

Although the negative influences of adolescents’ peers are often emphasized, peers can also exert healthy and prosocial influences. For instance, affiliation with prosocial peers has been found to help buffer against aggression in adolescents with genetic predispositions towards aggression (Burt & Klump, 2013). Adolescents often belong to multiple friendship networks and thus can have a combination of friends who engage in prosocial, positive, and healthy behaviors as well as friends who engage in antisocial, negative, and unhealthy behaviors (e.g., Rice, Stein, & Milburn, 2008). As such, the START-AV examines both strengths as well as vulnerabilities in peer behaviors and influence rather than assuming prosocial and negative peers are the opposite ends of a single continuum.

**Developmental Course**

Peer influence appears to be a particularly strong factor in explaining risk behaviors, such as offending, in adolescence (Moffitt, 1993; Patterson, Dishion, & Yoerger, 2000). Compared to children, adolescents spend greater amounts of unsupervised time with peers, and experience increased exposure to deviant peer behaviors. For instance, affiliations with antisocial peers peaks at approximately age 15 (Elliott & Menard, 1996; see also Lacourse, Nagin, Tremblay, Vitaro, & Claes, 2003). In addition, adolescents show heightened susceptibility to peer influence compared to children and adults, with peer influence also peaking during mid-adolescence (Steinberg & Monahan, 2007). Adolescents are more likely to make risky decisions in the presence of peers than when they are alone (Gardner & Steinberg, 2005). That said, prosocial and healthy peers can exert positive influences, such as increases in prosocial behaviors (e.g., cooperation and helping; Barry & Wentzel, 2006).

In general, adolescent peer relationships tend to evolve quickly. Over the course of a school year, over one-third of friendship groups dissolve (Cairns & Cairns, 1994; Ryan, 2001), and on average, the romantic relationships of early adolescents last for several weeks or months (Feiring, 1999). However, relationship stability increases from early to late adolescence (Brown & Larson, 2009). As adolescents become more entrenched in deviant behaviors, they may transition from peer groups who are predominantly prosocial to those that are mixed or predominantly deviant (Elliott & Menard, 1996).

**Gender Considerations**

In general, girls in normative samples tend to be exposed to lower levels of peer delinquency than boys, and experience less pressure to engage in delinquent behavior by their peers (Weerman & Hoeve, 2012). However, girls tend to be exposed to higher levels of peer influence related to attaining an ideal body weight, such as pressure to diet than boys (Liebman, Gauvin, Bukowski, & White, 2011; Oliver & Thelen, 1996). During mid-adolescence, girls appear to be somewhat more resistant to negative peer influence than do boys (Sumter, Bokhorst, Steinberg, & Westenberg, 2009).

Peer influence is a robust predictor of health risk behaviors in both girls and boys; similarly, prosocial peers are protective across genders (Kaufmann, Wyman, Forbes-Jones, & Barry, 2007). The strength of these associations may differ somewhat by gender. Compared to boys, girls’ alcohol use (Mrug & McCay, 2012; Dick et al., 2007), NSSI behaviors (Prinstein et al., 2007), and healthy peers can exert positive influences.
2010), and sexual risk taking (Smith, Udry, & Morris, 1985) may be more influenced by their peers who also engage in these behaviors. Some studies suggest that, compared to boys, girls’ offending behavior may be more strongly predicted by antisocial peer influence, particularly from older male boyfriends (Emler, Reicher, & Ross, 1987; Simons et al., 1994; Warr, 1996), but research is mixed (Piquero, Gover, MacDonald, & Piquero, 2005; Weerman & Hoeve, 2012).

**Relationship to Outcomes**

Adolescents who have peers that engage in offending, substance abuse, unauthorized absences (e.g., running away), suicide, NSSI, and health neglect are more likely to engage in these behaviors themselves. Also, affiliating with delinquent peers increases risk for victimization. Conversely, having friends who are prosocial and/or engage in healthy and positive behaviors (e.g., sports teams, school activities, volunteer work and leadership opportunities) is protective.

**Violence:** Association with delinquent peers is a well-established risk factor for violence (Elliott & Menard, 1996), as is gang involvement (Herrenkohl et al., 2000). On the other hand, prosocial friends have been found to protect against violence (Prinstein et al., 2011).

**Non-Violent Offenses:** Association with delinquent peers is one of the most robust predictors of adolescent offending (Elliott & Menard, 1996; Thornberry & Krohn, 1997). Gang involvement predicts offending even beyond the impact of delinquent peers (Battin, Hill, Abbott, Catalano, & Hawkins, 1998), and delinquent siblings also increases risk (Farrington et al., 2001). Moreover, the ability to resist peer influence is protective (Monahan, Steinberg, & Cauffman, 2009).

**Substance Abuse:** Negative peer influence and delinquent peers are associated with increases in drug use (Dishion & Medici Skaggs, 2000; Marshal, Molina, & Pelham, 2003; McDonough, Jose, & Stuart, 2015; Walden, McGue, Lacano, Burt, & Elkins, 2004). In contrast, prosocial friends protect against substance abuse (Prinstein et al., 2011). Peer attitudes supporting substance use increases adolescent substance use while peer attitudes of disapproval are associated with decreased use of substances (Mason et al., 2013).

**Unauthorized Absences:** Adolescents are at greater risk for school dropout if their friends have also dropped out (Cairns, Cairns, & Neckerman, 1989). Also, adolescents with delinquent friends are more likely to engage in school truancy, whereas those with friends that value school tend to achieve better school outcomes (Chen, 1997).

**Suicide:** When adolescents have friends who engage in suicidal behaviors, they are more likely to engage in these behaviors themselves (Prinstein et al., 2001). Being bullied by peers is a well-established predictor of suicide attempts (Klomek et al., 2009). Adolescent experiences of sexual dating violence have been linked to increased risk for suicide (Holmes & Sher, 2013).

**Non-Suicidal Self-Injury:** Adolescents who have close friends that engage in NSSI or other risk behaviors are at increased risk for NSSI themselves (Nock et al., 2010). Adolescents may emulate their peer’s NSSI behaviors to create bonds or gain attention (Heilbron & Prinstein, 2008), and/or they might select friends with whom they have shared vulnerabilities (Giletta et al., 2013). Experiencing peer bullying is a risk factor for NSSI (Fisher et al., 2012).

**Victimization:** Adolescents who affiliate with delinquent peers are at higher risk for victimization, potentially because of greater exposure to high risk situations (Schreck & Fisher, 2004).

**Health Neglect:** Peer encouragement of thinness and dieting has been found to predict dieting and bulimic symptoms, with especially strong effect sizes for girls (McCabe & Ricciardelli, 2001; Quiles Marcos et al., 2013). Peer influence also predicts physical activity (Salvy, Haye, Bowker, & Hermans, 2012). Finally, girls are more likely to engage in high risk sexual behaviors if they perceive that their friends engage in these behaviors (Walter et al., 1992).
**Item 18: Material Resources**

**Definition and Conceptual Issues**

Material resources is a broad term that can encompass a number of factors that relate to the day-to-day structure and stability of the adolescent’s living situation. As emphasized by Maslow’s (1943) hierarchy of needs, individuals’ basic needs must be met before other types of therapeutic change can be undertaken. Thus, a primary rationale for including this item in the START:AV is to include attention to these basic needs in planning treatment. As most adolescents are not living independently, this item typically focuses on caregiver provision of material resources. However, in cases in which the youth is living independently, such as if the youth is emancipated and/or homeless, a focus is placed directly on the youth’s own resources. This item also considers the income available to the adolescent (Anderson & Hughes, 2008). According to “routine activity theory,” the possession of spending money confers opportunities for adolescents that can enhance social status. At the same time, access to money may also facilitate deviant or offending behavior (e.g., purchasing drugs). Adolescents’ access to material resources (e.g., clothing, food, shelter, transportation) is often linked to family income, and overall socioeconomic status (SES), which can be influenced by factors such as family structure and stability. For instance, two-parent families often have more economic resources than single parent families (Bachman, Coley, & Carrano, 2012). Material needs can also vary depending on other life circumstances of the adolescent. For example, adolescents who are parents experience a much higher level of material resource needs related to housing, income, and childcare, and thus experience greater economic disadvantages (Mollborn, 2007). Also, adolescents from impoverished environments are at increased risk for physical and mental health difficulties, which can create further economic strains and resource needs (Powell-Young, 2012). However, impoverished environments, (i.e., living at or below poverty) are variable across different regions and ethnic or racial backgrounds but can be found in both urban and rural areas (Irvin, 2012).

**Developmental Course**

For the most part, adolescents are reliant on parents or caregivers to provide basic material resources (e.g., clothing, food, shelter). Therefore, the evaluation of access to resources should involve an assessment of family income, SES, and a consideration of recent events that may impact the family’s ability to provide these basic needs (e.g., changes in employment, illness, divorce). The effect of poverty on adolescent risk behaviors is well documented but this effect is partially explained by parenting difficulties and stress associated with economic disadvantage (Chung, Hawkins, Gilchrist, Hill, & Nagin, 2002). The availability and influence of family material resource factors may also differ by race. Crouch and colleagues (2000) found that as family income increased, risk for violence decreased for Caucasian youth but had no protective effect for Black and Hispanic youth. As adolescents age, their opportunities to earn income expands from parental allowances in early adolescence to summer jobs and part-time employment in middle to late adolescence. During this time period, adolescents’ responsibility for managing material resources can increase with greater demands being placed on some adolescents including emancipated minors, adolescents transitioning from foster care, and adolescents who are parents.

**Gender Considerations**

There is some evidence of gender differences in how adolescents cope with poverty-related stress. One study found that, under high levels of poverty-related stress, level of family conflict predicted internalizing symptoms among adolescents (DeCarlo Santiago & Wadsworth, 2008). Primary control coping (i.e., emotion regulation, emotional expression) buffered the effect of family conflict for girls but not boys. Economic disadvantage has been found to contribute to adverse outcomes in both girls and boys. However, homelessness may be a particularly strong risk factor for physical and sexual
victimization, and trading sex in girls (Tyler, Gervais, & Davidson, 2013). Moving away from community disorganization and disadvantage may also play an important role in reducing adolescent females' risk for criminal activity (Kling, Ludwig, & Katz, 2005; Stevens, Morash, & Park, 2011). Also, studies report higher rates of “survival sex” and “street victimization” found among gay, lesbian, and bisexual adolescents compared to heterosexual adolescents (Whitbeck et al., 2004).

**Relationship to Outcomes**

Material resource problems can have a direct and indirect influence on adverse outcomes. Low income is associated with increased risk of violence, non-violent offending, substance abuse, unauthorized absences (e.g., school drop-out), suicide, victimization (e.g., peer victimization), and health neglect. Furthermore, unstable housing and homelessness is an important predictor of substance abuse, physical and sexual victimization, and health-neglect (e.g., trading sex, lack of dental, medical attention, unhealthy or inadequate diet). On the other hand, having more than adequate resources is not always a strength. For instance, adolescent access to private transportation can increase risk for delinquency.

**Violence:** Poor or unstable housing is related to increased violent behavior among adolescents (MacDonald & Gover, 2005; Valdez et al., 2007). Also, adolescents living in lower income public housing may display elevated rates of violence, fights, arrests, and incarcerations (Bowie, 2004).

**Non-Violent Offenses:** Poverty and low SES can increase risk for offending (Defoe, Farrington, & Loeber, 2013; Sun Chu, & Sung, 2011). Also, access to income and private transportation has been shown to increase delinquency by facilitating the ease of such behavior and movement away from authority figures (Anderson & Hughes, 2009). Adolescents aging out of foster care often face difficulties including lack of affordable housing, low-wage employment, and unreliable family support which can increase the likelihood of delinquency. Conversely, placement stability and school enrollment may serve as protective factors (Ryan et al., 2007).

**Substance Abuse:** Homelessness and poor housing is linked to increased substance use (Lambert et al., 2004; Tyler, Gervais, & Davidison, 2013). Adolescents with low SES tend to have higher rates of substance abuse (Furr-Holden et al., 2010). However, adolescents with high SES may also be at risk for substance abuse (e.g., binge drinking, marijuana), as greater financial resources may lead to increased ability to purchase substances (Humensky, 2010).

**Unauthorized Absences:** Adolescents living on the streets or with unstable housing tend to have more extensive histories of homelessness (Haber & Toro, 2004). In addition, adolescents may be more likely to leave home when there are inadequate resources in the home (An et al., 2003). Adolescents with low income are also at increased risk for school dropout (Harding, 2003) and premature termination and drop out from treatment (Block & Greeno, 2011).

**Suicide:** A couple of studies have reported that adolescents with low SES are more likely to attempt suicide (Horwitz, Czyz, & King, 2015; Kang et al., 2015). A population-based study of adults also found higher rates of suicide attempts in families with low household incomes (Sareen, Afifi, McMillan, & Asmundson, 2011).

**Non-Suicidal Self-Injury:** Research on the relationship between NSSI and family income is mixed (Arbuthnott & Lewis, 2015). Some research has reported that that families of adolescents who engage in NSSI have significantly lower incomes than do other families (Baetens et al., 2014; see also Cox, 2012), whereas other studies have not found significant differences (Arbuthnott & Lewis, 2015).

**Victimization:** As family income decreases, adolescents’ chances of being victimized and/or exposed to violence increases (Bowie, 2004; Crouch et al., 2000). Additionally, adolescents from families of low affluence report higher prevalence of being victims of bullying (Due et al., 2009; Elgar et al., 2009). Homelessness increases risk for victimization (e.g., trading sex, physical victimization, sexual victimization), particularly among girls (Tyler, Gervais, & Davidson, 2013).

**Health Neglect:** Homelessness has been linked to prostitution and survival sex, increasing the risk for sexual health problems (Tyler et al., 2013, Whitbeck et al., 2004). Family poverty is associated with poor physical health and obesity (Martin, Frisco, Nau, & Burnett, 2012). Adolescents involved in the child welfare system and low income girls appear to engage in elevated rates of sexual risk behaviors (Leslie et al., 2010; Wilson et al., 2012).
Item 19: Community

This item focuses on the safety, cohesiveness, and quality of the adolescent’s neighborhood and school (e.g., level of violence and crime, availability of services).

**Definition and Conceptual Issues**

As highlighted in Bronfenbrenner’s social-ecological model (1979), community factors can contribute to adaptive and maladaptive outcomes among adolescents. Examples of important community factors linked to adaptive and maladaptive outcomes include neighborhood cohesion (i.e., “the trusting network of relationships and shared values and norms of residents in a neighborhood”; Brisson, 2015), structural and economic factors (e.g., availability of recreational opportunities and other resources, neighborhood poverty, residential mobility), and exposure to harmful or stressful events in the community (e.g., violence, victimization, drug use, and criminal behavior within school or community). This item also includes a consideration of the school and work environment. School climate is defined as the atmosphere or milieu of the school, such as quality of instruction, quality of student-teacher relationships, and responses to bullying (Cohen, McCabe, Michelli, & Pickeral, 2009).

Communities where residents feel their neighbors are willing to intervene for the greater good are found to be safer and more productive, irrespective of economic status (Erikson et al., 2012). This may be partly due to greater informal surveillance of adolescent behaviors (Browning, 2012). Other community features, such as high rates of violence, crime, and poverty, may lead to social modeling and provide adolescents with access to and opportunities for risky behaviors. Notably, neighborhood factors can impact individual adolescents differently. For instance, as many as 50% to 96% of adolescents residing in urban areas are exposed to violence (Stein, Jaycox, Kataoka, Rhodes, & Vestal, 2003). However, violence exposure does not necessarily lead to adverse impacts, as adolescents may become desensitized or develop positive coping strategies (Terr, 1991; Wilson & Rosenthal, 2003).

**Developmental Course**

Over the course of development, adolescents gain increasing independence and spend more time away from family and extended time in their community (Tucker et al., 2013). Therefore, the influences of neighborhood characteristics may differ at various stages of development. For instance, structural characteristics of the environment (e.g., neighborhood walkability, proximity to grocery stores or fast food restaurants) may have a greater impact on obesity in adolescents than children (Papas et al., 2007), possibly because adolescents have greater access to their environments than do children. However, neighborhood disadvantage is a weaker predictor of ongoing victimization and perpetration in late adolescence than middle adolescence, possibly because older adolescents may be more mobile or able to escape the effects of disadvantaged neighborhoods and have already established their identities (Matjasko et al., 2010).

**Gender Considerations**

Some research suggests that parents sometimes place more restrictions on girls than on boys, which limits their exposure to community-based risk factors (Cernkovich & Giorcho, 1987). Community factors influence risk outcomes in both girls and boys. It is unclear whether the relative impact of community factors for violence and delinquency is higher in girls or boys, or vice versa (Fagan & Wright, 2013). However, one study found neighborhood disadvantage was more strongly linked to female violence than male violence (Zimmerman & Messner, 2010).

With respect to school climate, girls tend to perceive school environments more favorably than boys (Wang & Dishion, 2012). However, research on whether gender moderates the relationship between school climate and adverse outcomes is inconsistent. Some studies indicate that general school climate is a stronger predictor of externalizing problems such as delinquency and drug use in boys (Kumpferminc et al., 1997), whereas other studies have generally failed to find gender differences in the strength of these associations (Wang & Dishion, 2012).
**Relationship to Outcomes**

Living in a socially cohesive and well-resourced neighborhood is typically a protective factor, whereas living in a disadvantaged community is more likely to be associated with adverse outcomes, such as violence, offending, substance abuse, unauthorized absences (e.g., running away, school truancy), suicide attempts, victimization, and health neglect (e.g., sexual risk-taking). However, some impoverished neighborhoods have high levels of social cohesion and formal and informal supervision, which can buffer against risks. Positive school climate has been shown to protect against behaviors such as violence, offending, substance abuse, and unauthorized absences (e.g., school dropout).

**Violence:** Adolescents living in disadvantaged neighborhoods show higher rates of violence than adolescents from economically advantaged neighborhoods (Fabio et al., 2010). In addition, even after controlling for individual characteristics, high quality schools predict lower violence (Kowaleski-June, 2000). A meta-analysis indicated that school climate is a significant predictor of violent behavior, with moderate effect sizes (Steffgen, Recchia, & Viechtbauer, 2013).

**Non-Violent Offenses:** Adolescents who live in neighborhoods characterized by high crime and low perceived safety engage in higher rates of adolescent offending (Hartinger-Saunders et al., 2012). Students living in highly disadvantaged neighborhoods given the opportunity to attend better schools, have been found to experience a reduction in general offending when compared to their peers who did not attend better schools (Deming, 2012). A large study of American secondary schools found that schools perceived by students to have fair and clear rules had lower levels of delinquency (Gottfredson, Gottfredson, Payne, & Gottfredson, 2005).

**Substance Abuse:** Adolescents who live in neighborhoods in which substances are easily accessible are at heightened risk for substance abuse (Browning, 2012). In contrast, adolescents living in neighborhoods which exert more informal social control have reduced alcohol and cannabis abuse (Erikson et al., 2012). Also, adolescents who report that their school is safe and that their teachers are effective are less likely to use alcohol even if living in a disadvantaged neighborhood (Browning, 2012). Notably, marijuana use is elevated in neighborhoods with high unemployment, whereas binge drinking is higher in neighborhoods with greater perceived safety (Tucker et al., 2013).

**Unauthorized Absences:** Adolescents exposed to high rates of victimization in their neighborhood are at increased risk for running away (Tyler & Bersani, 2008). Neighborhood disorganization has been shown to predict higher rates of school truancy (Bowen, Bowen, & Ware, 2002). School interventions focused on improving school climate may reduce school absenteeism and dropout (Weinstein et al., 1991).

**Suicide:** Even after controlling for background variables such as depression, social support, and negative life events, neighborhood poverty has been found to remain a significant predictor of suicide attempts (Benburg, Thorlindsson, & Sigufsdottir, 2009; Dupéré et al., 2009). In addition, communities which reinforce positive expectations have been found to help reduce the risk of adolescent suicidal behaviors (Maimon et al., 2010).

**Non-Suicidal Self-Injury:** Some evidence suggests that adolescents living in disadvantaged neighborhoods are at greater risk for self-harm (Ayton, Rasool, & Cottrell, 2003). Another study indicated that social fragmentation (e.g., population turnover) and social deprivation was associated with increased rates of deliberate self-harm (Hawton, Harriss, Hodder, Simkin, & Gunnell, 2001). On the other hand, studies are inconsistent (see Heilbron et al., 2014).

**Victimization:** Adolescents from less affluent and/or dangerous communities are more likely to experience victimization (Pedersen, 2001), including victimization from multiple sources including physical assault, sexual victimization, and peer victimization (Finkelhor et al., 2009).

**Health Neglect:** Access to places to exercise is associated with increased physical activity and decreased obesity (Gordon-Larsen, Nelson, Pagel, & Popkin, 2006; Lovasi, Hutson, Guerra, & Neckerman, 2009). Neighborhoods with high crime and substance use have higher rates of sexual transmitted infections (Lang et al., 2010). Also, research suggests a link between neighborhood poverty and sexual risk-taking (Rodgers & McGuire, 2009).
Item 20: External Triggers

This item examines salient life events, experiences, and cues that may act as a tipping point or turning point, and increase or decrease the adolescent’s risk of experiencing adverse outcomes (e.g., traumatic events, successes).

Definition and Conceptual Issues

Many adverse outcomes have been found to be triggered by precipitants or cues, or conversely, prevented or reduced by turning points represented by positive experiences, and opportunities. These events can be either ongoing or recent. For instance, research has found that as many as 70% of adolescent suicides have identifiable triggers, such as interpersonal conflicts and losses, in the month preceding the suicide (Marttunen, Aro, & Lönnqvist, 1993).

Potential traumatic event exposures, such as victimization, can act as triggers for numerous adverse events such as running away from home and retaliatory violence (e.g., Whitbeck & Hoyt, 1999), and polyvictimization (i.e., the experience of multiple different types of victimization) is associated with particularly severe outcomes (Finkelhor, Ormrod, Turner, & Hamby, 2005). Furthermore, behavioral theories emphasize that problem behaviors (such as re-occurring aggression and self-harm) are often preceded by reliable antecedents or cues (e.g., exposure to drug paraphernalia; Hanley, 2012; Smith & Iwata, 1997). In contrast, other events may act as positive influences or turning points. For instance, the formation of stable intimate relationships, employment, or school achievements may trigger desistance from crime (Blomberg, Bales, & Piquero, 2012; Roisman, Aguilar, & Egeland, 2004; Sampson & Laub, 1993).

Developmental Course

Adolescents experience a broad range of potential stressors and triggers, such as interpersonal conflicts, problems in school and work, break-ups in romantic relationships, and parental divorce (Low et al., 2012). Also, developmental transitions, such as transferring to middle and high school, learning to drive, and taking on responsibilities outside of the home (e.g., babysitting, work placements) can provide opportunities for personal successes or also act as stumbling blocks (Benner, 2011; Seidman et al., 1994).

Certain external triggers may have an especially significant impact on adolescents. For instance, adolescents have a heightened sensitivity to peer influence (Crowder & South, 2003; Li, Barrera, Hops, & Fisher, 2002; Steinberg et al., 2007), and to cues signalling rewards and pleasure (e.g., Somerville, Jones, & Casey, 2010). Also, the influence of external variables may change as the adolescent gets older. For instance, stressful events such as exposure to violence may have a more negative impact on younger adolescents than older adolescents, possibly because adolescents gain capacities for emotion regulation and coping as they mature (Schwab-Stone et al., 1999). The impact of triggering events can be buffered by other factors. For example, the negative influence of an alcoholic or abusive parent may be buffered if the adolescent has strong attachments to school (Ludwig & Warren, 2009).

Gender Considerations

External triggers are important across gender, but may affect male and female adolescents somewhat differently. Specifically, stressful life events may heighten the risk of adverse outcomes such as delinquency and substance use to a greater extent in girls than in boys (Windle, 1992). Also, one study showed that girls exposed to violent events were more likely than boys to report substance use (Lee et al., 2012). On the other hand, delinquency escalates the risk of victimization to a greater extent in boys than in girls (Lauritsen et al., 1991).
**Relationship to Outcomes**

Ongoing or recent events, such as interpersonal conflicts, relationship break-ups, and victimization experiences, may serve as precipitants for adverse outcomes. For instance, interpersonal conflicts can trigger violence, unauthorized absences (e.g., running away), suicide, NSSI, and health neglect (e.g., binge eating). Environmental cues, such as exposure to drug-related stimuli, can trigger risk for substance use. Although research on positive events is limited, positive experiences, such as the development of stable relationships and school achievements, can protect against offending.

**Violence:** Recent victimization can trigger a desire for retaliation (Copeland-Linder et al., 2007). For instance, one study found that adolescents who were treated in an emergency room after being the victim of assault were at elevated risk of committing a violent act, especially in the first four weeks after the hospital visit (Wiebe et al., 2011). Perceived threat (Dodge & Coie, 1987) and recent gang conflict (Rosenfeld et al., 1999) may also trigger violence.

**Non-Violent Offenses:** Many adolescent crimes are committed in the context of socializing with delinquent peers and while under the influence of alcohol, indicating that these factors may serve as triggers for delinquent behaviors (Goldweber et al., 2011; Prichard & Payne, 2005). Conversely, desistance from offending is linked to stable intimate relationships, employment, and educational achievement (Blomberg et al., 2012; Sampson & Laub, 1993).

**Substance Abuse:** Exposure to drug paraphernalia, favorite spots to use substances, or substance-using peers may trigger cravings for substances (Niaura, 2000; Nickerson et al., 2011). As some adolescents drink to cope with negative emotions (Kuntsche, Knibbe, Gmel, & Engels, 2005), adverse events such as break-ups and exposure to violence may also lead to substance abuse (Barroso et al., 2008; Lee et al., 2012). On the other hand, many former drug users are able to trace their cessation to particular events, such as the formation of positive relationships, returning to school, or avoiding cues for drug use (Granfield & Cloud, 2001; Teruya & Yih-Ing, 2010).

**Unauthorized Absences:** Negative family relationships (e.g., abuse) and family conflicts predict running away from home (Zide & Cherry, 1992). Conflicts with treatment staff can similarly precipitate running away from an inpatient setting or home (Siegel & Callesen, 1993).

**Suicide:** Salient interpersonal and intrapersonal events, such as the breakup of romantic relationships, being the target of bullying, and having a friend attempt/commit suicide, can contribute to suicide risk in adolescents (Brent et al., 1999; Cooper, 2012; Evans, Hawton, & Rodham, 2004). Media reporting of suicides and access to weapons can also play a role in elevating the risk of adolescent suicide (e.g., Hawton, Saunders, & O’Connor, 2012).

**Non-Suicidal Self-Injury:** NSSI may be triggered by relationship conflicts, life stressors, and possibly seeing online images or reading descriptions of NSSI (Hankin & Abela, 2011; Lewis & Baker, 2011). Frequent bullying predicts self-harm even after other relevant factors such as premorbid emotional problems are taken into account (Fisher et al., 2012).

**Victimization:** Being drunk, high, or in contexts where others are using substances may increase risk for victimization, including sexual assaults (Young et al., 2008). Also, when an adolescent engages in delinquent or provoking behaviors, it can heighten victimization risk (Finkelhor & Asdigan, 1996; Lauritsen, Sampson, & Laub, 1991).

**Health Neglect:** External triggers such as family, and performance or relationship stress could lead to disordered eating, including bulimic symptoms in some cases (Blodgett & Lerner, 2012). Also, a study with adolescents found that stressful events, such as excessive credit card debit and the ending of a long-term relationship, predict extreme weight control and binge eating (Loth et al., 2008).
**Item 21: Insight**

This item examines the adolescent’s awareness of his or her problems (e.g., violence, non-suicidal self-injury) and strengths. Also, it examines recognition of the need for intervention.

**Definition and Conceptual Issues**

This item focuses on insight regarding mental illnesses as well as other difficulties, such as substance use, suicide, and victimization. Insight consists of multiple components including: 1) awareness of having a mental illness or other difficulty, 2) understanding the social consequences of the mental illness or other difficulty, 3) awareness of the need for treatment, 4) awareness of specific signs and symptoms of the mental illness or other difficulty, and 5) attribution of symptoms to the mental illness or other difficulty (see Amador & Gorman, 1998; Parellada, Boada, Fraguas, Reig et al., 2011).

Insight is also relevant to other areas of functioning and behaviors including substance use, suicide, and victimization by focusing on specific elements of insight (i.e., problem recognition and desire for help; see Culp, Clyman, & Culp, 1995; Edelen, Tucker, Wenzel, Padock et al., 2007; Grella & Joshi, 2003). Insight related to risk outcomes is best examined by considering the extent to which the adolescent recognizes specific motivation thoughts/beliefs, circumstances, and situations that serve as risk factors for the outcome of interest. For instance, level of insight into risk for nonviolent offending may include recognition of the role of specific motivating thoughts/beliefs, life stressors, negative peer group involvement, and level of substance use (see Childs, Sullivan, & Gulledge, 2011; Logan-Greene et al., 2010). Similarly, insight into non-suicidal self-injury may include insight into depression, self-esteem problems, and a need to hurt oneself as motivations for self-harm behaviors (see Laye-Gindhu & Schonert-Reichl, 2005).

**Developmental Course**

Younger adolescents, and those adolescents who have severe psychotic symptoms or cognitive problems, tend to show lower levels of insight than other adolescents (Parellada et al., 2011). In addition, risk-taking research shows that, although adolescents are often aware that their risk behaviors may result in injury or other negative consequences, they frequently minimize these risks and place a greater emphasis on the perceived benefits rather than costs (Cohn, Macfarlane, Yanez, & Imai, 1995).

In adolescents, level of insight, particularly problem recognition and need for treatment, is influenced by parental factors. Most adolescents who require mental health treatment require attention and assistance from adults both in recognizing the distress of their child and navigating/accessing mental health services (Logan & King, 2001). In addition, parents from minority groups appear to be less likely to report mental health problems in their children (Roberts, Alegria, Roberts, & Chen, 2005). Members of minority groups tend to categorize mental illness or mental health problems dichotomously (“normal” versus “crazy”; Hines-Martin et al., 2003; Lindsey, Korr, Broitman, Bone et al., 2006). As such, an adolescent may be reluctant to seek treatment due to perceived stigma.

**Gender Considerations**

Some research has demonstrated that boys have less knowledge about mental health issues and are less likely than girls to report a willingness to use mental health service (Chandra & Minkovitz, 2006). In other words, level of insight might vary across gender. However, little work has explored how gender might impact the relationship between insight and various outcomes. As such, there is currently no evidence regarding if the strength of the association between insight and adverse outcomes differs by gender.
**Relationship to Outcomes**

Some research suggests that lack of insight predicts health neglect (e.g., poor self-care) and unauthorized absences (e.g., poor treatment adherence), as well as other adverse outcomes, such as violence, offending, and victimization in adolescents. On the other hand, higher insight may be associated with increased risk for suicide attempts.

**Violence:** Although little research has examined the relationship between insight and violence in adolescents, a study with adult psychiatric patients with mania found that patients who lacked insight into their mental health showed heightened levels of aggression (González-Ortega, Mosquera, Echeburúa, & González-Pinto, 2010). Also, research suggests that adolescents are more likely to engage in aggression when they view aggression as an effective and an appropriate means of achieving their goals, rather than as a problematic response (Egan, Munson, & Perry, 1998; Huesmann & Guerra, 1997). Social information processing and social interaction deficits (e.g., hostile attribution bias) are common in adolescents who engage in physical and relational aggression (see Lansford et al., 2006; Voulgaridou, Kokkinos, 2015) suggesting an indirect link between insight and aggression or violence. Interventions that target decreasing social international processing deficits (e.g., personal approval of aggression) have resulted in lower aggression rates (see Nixon & Werner, 2010).

**Non-Violent Offenses:** Research indicates that adolescents are less likely to engage in offending when they recognize these behaviors as problematic. Specifically, studies demonstrate that perceived risk of being caught may deter theft and delinquency, whereas perceived rewards (e.g., excitement and social status) increased the risk of offending (Matsueda, Kreager, & Huizinga, 2006; Nixon & Werner, 2010).

**Substance Abuse:** Many adolescents classified as heavy drinkers (over 80%) do not recognize they have a problem (McLennan, Shaw, Shema, Gardner et al., 1998). Furthermore, adolescents who fail to recognize problems associated with substance use show lower levels of alliance with substance abuse service providers (Garner, Godley, & Funk, 2008).

**Unauthorized Absences:** Absence without leaves from residential treatment centers tend to occur in the early stages of treatment when adolescents may have limited recognition of their difficulties (Guest, Baker, & Storaasli, 2008). Low insight is also associated with low treatment adherence (Parellada et al., 2011).

**Suicide:** Adolescents who demonstrate greater insight into their mental illness appear to be at greater risk for depression, suicidal ideation, and suicidal behaviors (Schwartz-Stav, Apter, & Zalsman, 2006). In addition, a meta-analysis found that high insight was associated with an increased risk for suicide attempts with a small but significant effect size (Vilaplana et al., 2015). This is concerning given that adolescents at risk for suicide often do not perceive a need for help or consistently seek out mental health services when suicidal (Freedenthal & Stiffman, 2007).

**Non-Suicidal Self-Injury:** Adolescents who engage in self-harm often have limited insight into the lethality of their behaviors, and thus may kill themselves unintentionally (Stanley, Gameroff, Michalsen, & Mann, 2001).

**Victimization:** Some studies have found that adult women with sexual victimization experiences have more difficulties detecting and/or responding to risk during analogue sexual victimization scenarios (Soler-Baillo, Marx, & Sloan, 2005; Walsh, DiLillo, & Messman-Moore, 2012), it is unknown at what age this vulnerability is first evident but it may be relevant to adolescents, as well. Studies indicate that adolescents who experience victimization (e.g., assaults, threats) often do not seek mental health services (Guterman, Hahm, & Cameron, 2002), possibly because of a limited recognition of the impact of victimization and need for treatment.

**Health Neglect:** Low insight among youth with psychotic disorders is associated with greater functional impairment including problems with self-care (O’Herlihy et al., 2004). On the other hand, awareness and concerns about sexually transmitted infections are associated with increased rates of condom use (Hingson, Strunin, Berlin, & Heeren, 1990).
This item evaluates the extent to which plans are clear, feasible, and either appropriate (e.g., plans to attend post-secondary training) or harmful to self or others (e.g., plans to commit suicide or violence).

**Definition and Conceptual Issues**

Planning refers to how an adolescent thinks about, establishes, and takes steps toward completion of goals (Winstok, 2009) and is a critical component contributing to self-organized behavior (Luciana, Collins, Olson, & Schissel, 2009) with implications for understanding both adaptive and maladaptive behaviors in adolescents. As a process, it involves cognitive self-regulation (organizing thoughts, feelings, and actions toward a goal), behavioral regulation, and perspective taking (e.g., forethought).

An important aspect of planning is future orientation, which is defined as adolescents’ attitudes towards and perceived control regarding their future (see Robbins & Bryan, 2004). Future orientation can be either positive or negative, and can serve either strength or vulnerability functions. For example, endorsement of positive future orientation by adjudicated adolescents is associated with lower scores on risk behaviors (substance use and risky sexual behavior; Robbins & Bryan, 2004). Planning and setting goals, as well as the ability to engage in problem solving regarding barriers, are viewed as critical skills toward achieving behavioral change and reduced risk behaviors (e.g., substance use, delinquency) within a cognitive-behavioral framework (Arnold et al., 2007; Lightfoot et al., 2011). In general, short-term task oriented goals are preferable to long-term distal goals (Bandura, 1982), particularly for adolescents (Scarborough et al., 2010). Planning and goal setting also provides adolescents with the opportunity for interpersonal exchange. For example, collaborating on goals with peers or adults can help enhance social support (Scarborough et al., 2010).

**Developmental Course**

Planning and goal-setting can help build adolescents’ self-efficacy and social networks, and contribute to cognitive development (Scarborough, Lewis, & Kulkarni, 2010). Compared to adults, adolescents may not be as oriented to consider long-term consequences of their behaviors and, as such, their sense of future orientation may not have as strong of an impact on planning and problem solving (see Vera et al., 2004). In healthy adolescents, age-graded improvements in planning occur through age 17, with increased overall performance being linked to deliberating and devoting time to planning versus execution (Luciana et al., 2009).

Furthermore, at-risk youth often show difficulties in planning as well as goals that are antisocial in nature. For example, at-risk and delinquent youth reported goals consistent with risky and delinquent behaviors with these goals being viewed as a path to build, maintain, and reinforce nonconforming reputations (Carroll, Hattie, Durkin, & Houghton, 2001). In contrast, adolescents who were not at-risk reported greater prosocial goals and conforming reputations. Lower levels of future orientation are reported among male adolescents engaged in persistent delinquency compared to adolescents showing low, moderate, or declining delinquency (Monahan, Steinberg, Cauffman, & Mulvey, 2009).

**Gender Considerations**

The nature of adolescents’ goals can differ between boys and girls. In particular, girls’ goals tend to be more relational in nature such as goals oriented toward maintaining relationships (Urdan, 1997). Conversely, compared to girls, boys’ goals tend to be focused on avoiding harm and gaining respect (Winstock, 2009). Overall, outcomes appear similar for boys and girls when they share similar goals or deficits in planning skills (e.g. Winstock, 2009; Fikke, Melinder, & Landre, 2011). For instance, future orientation is protective against violent behavior among both male and female adolescents (Stoddard, Zimmerman, & Bauermeister, 2011).
## Relationship to Outcomes

The relationship between plans and adverse outcomes is informed by the presence of *domain specific* planning behaviors and/or goals. For instance, suicide plans are associated with increased risk for suicide, and goals reflecting a focus on gaining dominance and respect are associated with violence and non-violent offending. Having prosocial or healthy personal goals, problem-solving skills, and planning abilities have been recognized as protective factors.

<table>
<thead>
<tr>
<th><strong>Violence:</strong> Goals related to gaining dominance, revenge, and respect, combined with aggressive skills significantly predict aggressive behaviors (Lochman, Wayland, &amp; White, 1993; Winstok, 2009).</th>
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</thead>
<tbody>
<tr>
<td><strong>Non-Violent Offenses:</strong> At-risk and delinquent adolescents report goals related to delinquent and risk taking activities that may contribute to a variety of antisocial behaviors (Carroll et al., 2001). Negative perceptions of future certainty (such as a belief that one will not complete school or live long) also predict level of delinquent behaviors over a 12-month time period among African American adolescents (Caldowell, Wiebe, &amp; Cleveland, 2006) with lower levels of future orientation also being identified in high delinquent male youth (Monahan et al., 2009).</td>
</tr>
<tr>
<td><strong>Substance Abuse:</strong> Social goals oriented toward dominance and revenge and away from affiliation have been associated with substance use among adolescent boys (Lochman, Wayland, &amp; White, 1993). In contrast, reinforcement of prosocial goals and activities reinforce treatment engagement and abstinence behaviors among substance abusing youth (Godley et al., 2008).</td>
</tr>
<tr>
<td><strong>Unauthorized Absences:</strong> Research has found that adolescents who have at least one specific goal related to personal improvement have lower truancy rates than youth without such goals (Papaionnou et al., 2010). Problem-solving and goal setting have been found to predict lower rates of problem behaviors (e.g., drug problems, risky sexual behavior, delinquency history) in a large sample of youth who were homeless (Lightfoot, Stein, Tevendale, &amp; Preston, 2011).</td>
</tr>
<tr>
<td><strong>Suicide:</strong> Making a plan about how to attempt suicide is an important predictor of suicide attempts in adolescents (Perez, 2005). Additionally, viewing suicide as acceptable is associated with increased endorsement of active planning to take one’s life, particularly among adolescents who also report feelings of hopelessness (Joe, Romer, &amp; Jamieson, 2007). On the other hand, increasing goal directed activities reduces levels of adolescent suicidal ideation (Everall, Altrows, &amp; Paulson, 2006).</td>
</tr>
<tr>
<td><strong>Non-Suicidal Self-Injury:</strong> Problems with planning and problem-solving have been detected among adolescent boys and girls who engage in NSSI (Fikke, Melinder, &amp; Landrø, 2011). The intensity and duration of NSSI thoughts predict frequency of NSSI behaviors in adolescents (Nock, Prinstein, &amp; Sterba, 2010). However, no empirical link between planning and NSSI behaviors have been established. That said, adolescents do report engaging in NSSI to avoid aversive emotional and cognitive states indirectly suggesting a plausible link with planning (Nock et al., 2010).</td>
</tr>
<tr>
<td><strong>Victimization:</strong> One study found that girls who received an intervention focused on executive functioning and planning (e.g., detection of risky situations and people) were five times less likely to be sexually revictimized (DePrince et al., 2015), suggesting that planning skills help to reduce risk. Conversely, limited executive functioning abilities (i.e., planning) is associated with increased risk of peer victimization in adolescent males with autism spectrum disorders (Kloosterman, Kelley, Parker, &amp; Craig, 2014). Adolescents who have experienced violent victimization have lower levels of hopefulness and future orientation, with particularly strong effects for girls (Brown &amp; Gourdine, 2001). Hostile social goals (reflecting dominance and revenge) have been associated with level of community violence victimization among delinquent boys (Shahinfar, Kupersmidt, &amp; Matza, 2001).</td>
</tr>
<tr>
<td><strong>Health Neglect:</strong> Planning has been identified as an important predictor of exercise (Dombrowski &amp; Luszczyńska, 2008). Additionally, teaching adolescents guided goal setting strategies has been shown to increase positive dietary behaviors and physical activity (Shilts, Horowitz, &amp; Townsend, 2009).</td>
</tr>
</tbody>
</table>
Definition and Conceptual Issues

Medication adherence is defined as following physician directions regarding medication use (Gearing & Charach, 2009). Although non-medical use of prescription medications has been estimated to be around 10% in adolescents (Boyd, Young, Grey, & McCabe, 2009), this behavior should not be identified directly as non-adherent unless it is clear that the adolescent has been prescribed the medication and is not taking the medication according to doctor's instructions. Treatment with medications is divided into three phases: 1) acute phase (initiation and initial adjustment of dosage), 2) maintenance phase (medication response is consolidated to maximize gain, remission, or recovery), and 3) discontinuation phase (successful tapering of medication). Nonadherence may occur at any of these phases. Within each phase, it is important for service providers to clarify responsibilities for both parents and youth, communicate to parents and youth the benefits and side effects associated with medication use, and monitor medication adherence (AACAP, 2009).

Class of medication, severity of symptoms, and physical side effects are known to impact adherence (Moses, 2011). Adolescents treated with psychotropic medications experience adverse side effects at a frequency similar to adults including sedation, irregular movements, weight gain, gastrointestinal disturbances, and metabolic conditions with frequencies being higher among females and those treated with multiple antipsychotic medications (Jerrell & McIntyre, 2008). As such, concerns with, and actual experience of, side effects can contribute to non-adherence.

Developmental Course

Among adolescent clinical samples, medication use is quite common (Warner, Fontanella, & Pottick, 2007). Furthermore, the use of psychotropic medications in the treatment of adolescent externalizing and internalizing disorders has increased (Gilson, Ryan, Joranson et al., 2004; SAMHSA, 2006) and poly-pharmacy is common (Dean, Duke, Scott et al., 2008). Rates of non-adherence are high. In a sample of adolescents with psychosis, 25% were identified as medication non-adherent during a two-year time period post-discharge (Gearing & Charach, 2009). A study of adolescent psychiatric patients with affective or conduct disorders found that only 38% were compliant with medications at a 14-month follow-up (Lloyd et al., 1998).

Compared to adults, adolescents may have negative attitudes toward medication, and treatment in general, due to diminished perspective taking and feelings of invulnerability (Laurier, LaFortune, & Collin, 2010). In addition, desires for autonomous decision-making, including decisions about medication use may impact adolescent adherence. Stigma and skeptical attitudes toward medication are associated with increased non-adherence (Soller et al., 2006). Conversely, family relationships and support, positive past experiences with medication, and perceived support from adults and peers can facilitate medication adherence (Moses, 2011).

Gender Considerations

In general, there are no clear patterns of gender differences in medication adherence (Laurier, LaFortune, & Collin, 2010). However, approximately 20% of adolescents report loaning medications to other adolescents including abusable medications (Boyd, McCabe, Cranford, et al., 2007; Goldsworthy & Mayhorn, 2009), with rates generally being higher in girls than in boys. Medication adherence is relevant to protecting against poor health outcomes in both boys and girls (Murphy et al., 2001). No evidence has been found for differential associations by gender (e.g., Murphy et al., 2001; McQuaid, Kopel, Klein, & Fritz, 2003).
Relationship to Outcomes

Research on the relationship between medication adherence and risk outcomes is limited. There is no evidence of a direct link between medication adherence and violence, suicide, and NSSI in adolescents. Instead the association is more indirect as medications may target risk factors for these outcomes. Medication adherence is directly linked to health outcomes for adolescents with chronic illness. Misuse of prescription medications increases risk for other substance use problems.

Violence: Stimulant, antipsychotic, mood stabilizers, and antidepressant medications are used in the treatment of aggressive adolescents and may reduce reactive aggression (Connor et al., 2006). Medications may be recommended to target specific symptoms (e.g., impulsivity) or disorders (i.e., ADHD) making it unlikely that adolescents will recognize medication as specific to violence reduction, per se (Gilligan & Lee, 2004). No studies have examined medication adherence and violence among adolescents. However, in adults with severe mental illness, the combination of medication nonadherence and substance use is associated with increased risk of violence (Swartz et al., 1998).

Non-Violent Offenses: Compliance with prescribed mood stabilizers has been found to be associated with lower rates of offenses and probation violations in adolescents taking medication versus adolescents who discontinued prescribed medication following release from a residential treatment center (Dailey, Townsend, Dysken, & Kuskowski, 2005).

Substance Abuse: Adolescents identified as either medical users or non-medical users of prescription medications report higher rates of illicit drug use and binge drinking (Boyd et al., 2009). Between 13% to 20% of adolescents reported borrowing or sharing prescribed medications (Daniel, Honein, & Moore, 2003) with increased rates of stimulant medication abuse being reported (Setlick, Bond, & Ho, 2009).

Suicide: One study reported that treatment noncompliance (i.e., medication nonadherence or nonadherence to psychosocial interventions) was not significantly associated with future suicidal behavior in adolescents (Burns, Cortell, & Wagner, 2008). That said, medication use may indirectly reduce risk through reduction of factors such as depressed mood (see Asarnow et al., 2011). Furthermore, abrupt discontinuation of medication has been identified as a possible link for elevated suicide risk among youth taking SSRIs (Weiss & Gorman, 2005).

Unauthorized Absences: Homeless adolescents may show poor adherence to medication due to side effects, access to storage for medications, and lack of support from service providers (Muir-Cochrane, Fereday, Jureidini, Drummond, & Darbyshire, 2006). Single daily dosing has been associated with increased adherence and better school adjustment compared to repeated daily dosing for adolescents taking stimulant medication (Rothenberger, Becker, Breuer, & Dophner, 2011).

Non-Suicidal Self-Injury: Medication and cognitive-behavioral therapy is recommended for adolescents with treatment resistant depression and implicated in lowering risk for NSSI (Asarnow et al., 2011). A proposed medication regime has been proposed for treating adolescent NSSI behaviors (Plena, Libal, & Nixon, 2009). However, there is no available evidence directly linking medication adherence with reductions in NSSI behaviors in adolescents.

Victimization: Male and female adolescents who report being bullied report greater use of medications to treat physical and psychological symptoms. Adolescents with comorbid posttraumatic stress disorder (PTSD) are more likely to also be treated with multiple medications compared to adolescents without comorbid PTSD (Mueser & Taub, 2008). Stigma associated with medication use has been identified as a factor that can increase risk of peer victimization (Due et al., 2007).

Health Neglect: Medication non-adherence among adolescents with chronic medical problems (e.g., HIV, asthma, diabetes) is a significant challenge (Garvie, Wilkins, & Young, 2010). Encouraging adolescents’ self-responsibility for adherence via motivational interviewing is associated with increased medication compliance (Riekert, Borrelli, Bilderback, & Rand, 2011).
Item 24: Treatability

This item focuses on motivation to change, level of engagement in services (e.g., therapy, probation, tutoring, community support services), and responsiveness to services.

**Definition and Conceptual Issues**

Treatability is a broad concept that encompasses a number of related components including treatment amenability, motivation, responsiveness, and readiness to engage in treatment and recommended services (see Serin, Kennedy, & Mailoux, 2002). Evaluation of treatability focuses on the individual attitudes and beliefs that facilitate or hinder engaging in recommended treatment and services. Acknowledging the ongoing debate as to whether change is best represented through specific stages (see Prochaska & DiClemente, 1982) or a dimensional approach (see West, 2005), individuals process through various stages of motivation and change, including precontemplation, contemplation, preparation or determination, action, maintenance, and termination. Adolescents’ engagement or participation in therapy, which includes factors such as attendance and quality of participation (e.g., active engagement), is also a critical component of treatment amenability.

The degree to which an adolescent responds to treatment, reflects not only a youth’s motivation and engagement but also the match between his or her needs and the services that he or she is receiving. According to the Risk-Need-Responsivity (RNR) model (see Andrews & Bonta, 2006; Andrews & Dowden, 2007), services are most effective when 1) the level of intervention is commensurate with the level of risk; 2) interventions target the youth’s individual needs; and 3) the treatment is delivered in a way that is responsive the individual’s strengths, learning style, cognitive abilities, etc.

Treatment engagement is further enhanced when services are convenient and practical (Mensinger, Diamond, Kaminer, & Wintersteen, 2006), and when adolescents feel safe and perceive the treatment as helpful.

**Developmental Course**

Adolescents drop out of treatment at high rates and miss treatment appointments more frequently than do children (McKay, McCadam, & Gonzales 1996; Harpaz-Rotem et al., 2004; Mirabito, 2001; Pelkonen, Marttunen, Laippla, & Lonnqvist, 2000). For instance, compared to adults, adolescents with substance abuse show higher rates of treatment dropout and lower levels of change (Battjes, Gordon, O’Grady, Kinclock, & Carswell, 2003). In many cases, treatment is sought out by parents or service providers (e.g., court-mandated treatments) rather than by the adolescent him or herself. This pattern, combined with adolescents’ experimentation with their growing autonomy, may contribute to poor treatment engagement. Adolescents with externalizing and substance use disorders are more likely to drop out of treatment, as are youth from minority groups and socioeconomic disadvantaged environments (Pelkonen et al., 2000).

Research has neither found systematic differences in treatment readiness for adolescents of different ages (Stevens, McGeehan, & Kelleher, 2010; Tanielian, Jaycox, Paddock, Chandra, Meredith, & Burman, 2009), nor in rates of treatment dropout for adolescents versus adults (Fernandez, Salem, Swift, & Ramtahal, 2015). However, adolescents show greater readiness to change when their mental health problems are severe in nature (Stevens, McGeehan, & Kelleher, 2010) and when their parents acknowledge the adolescent’s difficulties (Tanielian et al., 2009). Indeed, family support and involvement is critical to facilitating adolescents’ participation in treatment (Tanielian, Jaycox, Paddock, Chandra, Meredith, & Burman, 2009; Gallagher, Kurtz, & Blackwell, 2010). For instance, parents play a critical role in seeking out services, coordinating attendance (e.g., driving youth to appointments), and modelling positive (or negative) attitudes towards treatment.

**Gender Considerations**

Gender does not appear to be a strong predictor of treatment readiness (Stevens et al., 2010; Tanielian et al., 2009), or treatment dropout (Harpaz-Rotem et al., 2004). In terms of response to interventions, some research has failed to find gender differences in treatment response (Weisz et al., 2006). However, a large meta-analysis of treatment outcomes
studies found that adolescent girls demonstrated better outcomes than adolescent boys (Weisz, Weiss, Han, Granger, & Morton, 1998). Thus, it may depend on the treatment.

Motivation, engagement, and responsiveness to treatment appears to be an important predictor in both girls and boys. Specifically, these facets of treatability have been found to be associated with decreased risk for adverse events, such as substance abuse, in both boys and girls (e.g., Cady, Winters, Jordan, Solberg, & Stinchfield, 1996; Colby et al., 1998; Melnick, DeLeon, Hauke, Jainchill, & Kressel, 1997). There is little evidence of gender differences in the strength of this association.

**Relationship to Outcomes**

| Motivation and readiness to change is association with reduced risk of violence, offending, substance abuse, unauthorized absences (e.g., truancy), and health neglect. Levels of attendance and engagement with service providers are also associated with positive outcomes in services targeting reductions in general offending. Treatment engagement is considered an essential element of treatment for NSSI behaviors. |

**Violence:** Adolescent offenders who are motivated to change show lower rates of violent offending (Salekin, Lee, Shrum, & Kubak, 2010). This effect has been found even among youth with psychopathic features (Salekin et al., 2010).

**Non-Violent Offenses:** Adolescent offenders who have high motivation to change are less likely to engage in general reoffending (Salekin et al., 2010). In addition, treatment attendance, positive interactions in treatment, and mutually agreed upon therapeutic goals improve treatment outcomes among adolescent offenders (Gallagher, Kurtz, & Blackwell, 2010; Little, Dakof, Henderson, & Rowe, 2011).

**Substance Abuse:** Among adolescents with serious substance use problems, those who show higher motivation for change experience greater decreases in substance use during treatment (Breda & Heflinger, 2007). In addition, interventions that enhance motivation have been found to reduce substance abuse (Jensen et al., 2011). Strong treatment alliance is associated with increased motivation to avoid future drug and alcohol use (Wei et al., 2011).

**Unauthorized Absences:** Strategies that increase motivation to change have been found to reduce school truancy (Enea & Dafinoiu, 2009). Disengagement is a barrier to mental health treatment services among homeless adolescents (Baer, Peterson, & Wells, 2004; Fisher, Florsheim, & Sheets, 2005).

**Suicide:** Treatment engagement is a key factor in decreasing premature dropout or lack of follow-up among adolescent suicide attempters (Donaldson, Spirito, & Boergers, 2010; Miller, Smith, Klein, & German, 2010).

**Non-Suicidal Self-Injury:** Treatment engagement is identified as essential but not sufficient to achieve treatment goals of reducing adolescent self-harming behaviors (Ougrin & Latif, 2011). Barriers to treatment of NSSI behaviors among adolescents include family discord, beliefs that the behavior is not problematic, fears of disclosing the behavior, lack of resources to obtain help, and lack of knowledge about where to get help (Kamen, 2009; Klonsky & Glenn, 2009).

**Victimization:** Limited research has examined links between treatability and (re)victimization. Individual and familial distress have been identified as barriers to treatment engagement of violence exposed youth (Koverola, Murtaugh, Connors, Reeves, & Papas, 2007; Vickerman & Margolin, 2007).

**Health Neglect:** Motivational interviewing, an approach designed to increase motivation to change, has been found to improve diet, exercise, and compliance with diabetes regimes (Martens & McNeil, 2009). Motivational interventions have also been found to increase condom use in adolescents (Chen et al., 2011). These studies suggest that increased motivation is associated with improved health behaviors.
Culture (Case-Specific)

This item is an optional item that can be rated in Item 25: Case-Specific Item. It focuses on the adolescent’s experiences and feelings related to his or her ethnic and racial group(s) and national origin(s). In particular, it examines cultural identity (e.g., feelings of belonging and pride in one’s cultural group, understanding of and involvement in cultural activities) and experiences of discrimination. It is designed for adolescents from various minority groups (e.g., indigenous populations, African American adolescents, youth who are immigrants).

**Definition and Conceptual Issues**

Culture is defined as the “the set of attitudes, values, beliefs, and behaviors shared by a group of people, but different for each individual, communicated from one generation to the next” (Matsumoto, 1996, p. 16). Culture includes race (which classifies groups based on biological characteristics), and ethnicity (which classifies groups based on social characteristics such as language, traditions, and shared history), but it is broader than these two constructs. Attention to culture is a central component of best practices (American Psychological Association, 2005), as it may shape exposure to risk and protective factors, as well as experiences of adverse outcomes. For instance, ethnic minority adolescents are twice as likely as other adolescents to live in poverty (DeNavas-Walt & Proctor, 2014). Moreover, rates of adverse outcomes are often elevated in minority groups. For example, rates of suicide in indigenous populations are 2 to 4 times higher than national averages (Harder, Holyk, Jovel, & Harder, 2012). Adolescents from some minority groups are less likely to seek mental health services (Cauce et al., 2002), and more likely to drop out of therapy (Mendenhall et al., 2014).

Rather than assuming that all adolescents from minority groups are the same, it is important to understand variations in ethnic identity. Ethnic identity is defined to include two components: identity affirmation and identity achievement (Phinney, 1992; Roberts et al., 1999). Identity affirmation consists of commitment to, and a sense of belonging to an ethnic group, combined with a sense of pride and positive feelings about the ethnic group. In other words, affirmation focuses on the affective element of ethnic identity. In contrast, achievement refers to the cognitive component of ethnic identity. It consists of active exploration and understanding of one’s ethnic group, such as through activities such as participating in cultural events. Beyond cultural identity, it is also important to identify how culture has impacted how the adolescent is treated by others. Discrimination is defined as unequal treatment of persons based on their culture, race, or ethnicity (Quillian, 2006). Adolescents from minority groups may also experience prejudice (negative attitudes towards their group), stereotypes (incorrect beliefs about their group), and racism (engrained ideologies about their group).

**Developmental Course**

Ethnic identity develops over the life course. Phinney (1989) proposed a three-stage model of development. The first stage, unexamined ethnic identity, is characterized by a lack of exploration of identity. In this stage, adolescents adopt the values of the dominant culture. In the second stage, ethnic identity search, youth become aware that the values of the dominant culture may be contrary to or harmful towards their cultural group. Thus, they may experience anger with the dominant culture and strive to immerse themselves in their culture of origin. The final stage is identity achievement. In this stage, adolescents experience a clear ethnic identity and pride in one’s ethnicity. In normative samples, ethnic identity tends to increase during early and middle adolescence (Rew, Arheart, Johnson, & Spoden, 2015). Associations between ethnic identity and positive adjustment have been found to be stronger in adolescents than among adults over age 40, suggesting it is an especially important predictor in adolescents (Smith & Silva, 2011). Experiences of discrimination shows increases from age 11 to age 17 (Romero & Roberts, 1998), and can differ across groups. For instance, African American adolescents report higher levels of discrimination than Mexican-American or European American youth.

**Gender Considerations**

During adolescence, girls show larger increases in ethnic identity than do boys (Rew et al., 2015). Also, compared to boys, girls from minority groups are less likely to experience discrimination (Chavous et al., 2008; Niwa, Way, & Hughes, 2014).
However, meta-analyses have found that the associations of ethnic identity to outcomes are similar across gender (Smith & Silva, 2011; Rivas-Drake et al., 2014). In other words, gender does not significantly moderate these associations. Also, for the most part, gender does not appear to moderate associations between discrimination and outcomes, though its impact on health behaviors may be slightly stronger for females (Pascoe & Smart-Richman, 2009).

**Relationship to Outcomes**

| **Violence:** Strong ethnic identity is associated with a reduced risk for violence in adolescents from minority groups (Paschall & Hubbard, 1998). Conversely, assimilation into the majority culture (Smokowski, David-Ferdom, & Stroupe, 2009) and discrimination is associated with a heightened risk for violence (Caldwell et al., 2004). Associations between discrimination and violent behavior may be buffered by a strong ethnic identity (Williams, Aiyer, Durkee, & Tolan, 2014). |
| **Non-Violent Offenses:** Based on a meta-analysis, there is a significant inverse association between ethnic identity and externalizing behaviors, such as offending (Rivas-Drake et al., 2014). As an example, a study of adolescent immigrants from Russia and Ethiopia in Israel, found that greater discrimination and low ethnic identity was associated with increased delinquency (Walsh, Fogel-Grinvald, & Shneider, 2015; see also Williams et al., 2014). |
| **Substance Abuse:** A number of studies have found that ethnic identity protects against substance abuse in adolescents (McIvor, Napoleon, & Dickie, 2009; Walsh et al., 2015). One possible explanation is that individuals who feel ashamed or disconnected from their culture may use substances to fill this void (Walsh et al., 2015). Racial discrimination is associated with increased use of substances during high school (Fuller-Rowell et al., 2012). |
| **Unauthorized Absences:** A meta-analysis reported significant positive associations between positive ethnic identity and academic adjustment (Rivas-Drake et al., 2014). In a study of African American youth, adolescents who held more positive feelings and ties to their racial identity were more likely to complete high school and attend college (Chavous et al., 2004). Conversely, racial and ethnic discrimination is a risk factor for school dropout (Luna & Revilla, 2013). |
| **Suicide:** Perceived discrimination increases risk of suicidal ideation (Yoder et al., 2006) and behaviors (Cervantes et al., 2014). However, links between ethnic identity and suicidal behavior are mixed (Smokowski et al., 2009; Yuen et al., 2000). For instance, high acculturation (i.e., involvement in the dominant culture) is associated with increased risk for Latinos/Latinas, decreased risk for Asian and Pacific Islanders, and mixed findings for indigenous youth. |
| **Non-Suicidal Self-Injury:** Although research with adolescents are limited, several studies indicate that ethnic identity and a sense of belonging to one’s cultural group is inversely associated with NSSI in emerging adults (Croyle, 2007; Wester & Trepal, 2015). Also, stress due to acculturation gaps, immigration, and discrimination is associated with increased risk of self-harm in Hispanic adolescents (Cervantes et al., 2014). One study found that youth who had immigrated to Germany had higher rates of NSSI than other adolescents, perhaps reflecting stressors related to immigrating (Plener et al., 2015). |
| **Victimization:** There is some evidence that adolescents who are less acculturated (e.g., do not speak English at home) are at increased risk of being bullied by peers (Yu et al., 2003). However, Latina girls who are less acculturated into the majority culture have lower rates of dating violence victimization (Sanderson et al., 2004; Smokowski et al., 2009). Conversely, ethnic discrimination is associated with increased risk of dating violence in Latinas (Sanderson et al., 2004). |
| **Health Neglect:** A meta-analysis found significant inverse associations between positive ethnic identity and health risk behaviors, such as sexual risk-taking (Rivas-Drake et al., 2014). One study found that ethnic identity was associated with lower rates of eating disordered behaviors in African American adolescent girls (Rhea & Thatch, 2013). |
Summary

Below, and in Tables 1 and 2, we synthesize and summarize the general conclusions of our research review. Also, we describe how we used these findings to inform the development of the START:AV.

1. **Items Predict Multiple Adverse Outcomes:** Each of the items we reviewed were found to be associated with multiple adverse outcomes. For instance, factors such as substance use and impulse control difficulties are linked to heightened risk for future violence, non-violent offenses, substance abuse, unauthorized absences (e.g., running away), suicide, NSSI, victimization, and health neglect (e.g., sexual risk-taking; see Table 1). Conversely, factors such as positive relationships and strong parenting are associated with a reduced risk of these adverse outcomes. The finding that predictors of these outcomes overlap is consistent with problem behavior theory, which asserts that adverse outcomes co-occur and are predicted by a similar set of factors (Donovan & Jessor, 1985; Donovan, Jessor, & Costa, 1991). Overall, these findings provide clear evidence that many strength and vulnerability factors are relevant across diverse domains. **Given their relevance across outcomes,** we retained these items in the START:AV (many of these items originated from the START, as described below). Also, we used this research review to develop definitions and anchors for the START:AV items; in particular, the item anchors focus on the particular domains that our review indicated have research support.

2. **Some Domain-Specific Relationships Exist:** Although there is considerable commonality across predictors of adverse outcomes, some domain-specific relationships exist. For instance, although suicide ideation and plans (included in Item 11: Attitudes and Item 22: Plans) have associations with adverse outcomes such as violence towards others (Zimmerman & Posnick, 2014), it is clearly especially important predictor of suicide. **Given these domain-specific associations,** we have designed START:AV items to be multi-faceted and individualized. For instance, Item 11: Attitudes orients assessors to conduct an individualized assessment, paying attention to attitudes that are relevant to the adverse outcomes for which a particular adolescent may be at risk. For instance, if an adolescent shows heightened risk for suicide, evaluators are guided to attend to attitudes towards suicide. Further, the structured professional judgment model, upon which the START:AV is based (Webster et al., 2006), encourages raters to more emphasis on items that are relevant to a particular adolescent, thus enabling domain-specific considerations.

3. **For Some Associations, Substantial Research Exists; For Others, Research is Limited:** Although in most cases, we identified multiple studies supporting a link between items and outcome, in some cases research was limited (see Table 1). For instance, we were unable to identify studies that directly tested the link between medication adherence (Item 23) and some outcomes in adolescents. Given that medication adherence may impact responsivity to treatment, we chose to retain this item for the time being. In our future updates of the START:AV, we will reevaluate this item. In addition to a lack of research on some item-outcome associations, another limitation of existing studies is that most research is, by nature, correlational rather than causal, although there are a growing number of intervention studies which can provide more information about possible causal mechanisms. In addition, definitions of outcomes vary across studies. For instance, most studies on offending focus on general delinquency rather than specifically honing in on non-violent offenses. **Thus, as research on predictors of adverse outcomes continues to grow,** we aim to periodically update the START:AV to reflect advances in the field.

4. **Strengths Can Manifest in Each Item:** Rather than suggesting that some items operate solely as strengths and others solely as vulnerabilities, this review of the adolescent and developmental research literature indicated that, consistent with the adult START (Webster et al., 2004, 2009), strengths and vulnerabilities can occur for each item. In other words, it can be somewhat arbitrary whether a factor is called a strength or a vulnerability. For instance, in studying factors such as school commitment, researchers vary in terms of whether they refer to school commitment as a strength or a vulnerability. Thus, rather than arbitrarily sorting factors into strengths or vulnerabilities, the START:AV uses neutral terms (e.g., Item 15 is referred to as Parenting rather than as “Poor Parenting” or “Strong Parenting”), and rates strengths and vulnerabilities on each item. This approach is similar to Stouthamer-Loeber’s and colleagues’ conceptualization (2002), which examines both risk effects and protective effects for each factor (see also Herrenkohl, Lee, & Hawkins, 2012). Notably, in addition to guiding predictions, assessing strengths may also help guide intervention-planning (Singh et al., 2014; see START:AV Annotated Bibliography).
5. **Relevance to Girls and Boys:** To help provide a gender-informed approach, we reviewed research on each of the items by gender. Each of the items we reviewed had research support in female and male samples (see Table 2). For instance, factors such as healthy relationships, social support, impulse control abilities, and school commitment and achievement have strong research support for girls and for boys. That said, certain factors might manifest differently in girls and boys. Emotional difficulties may be more likely to present as anger and irritability in boys but sadness and other internalized emotions in girls (Gjerde, 1995). Also, certain factors may have even stronger associations to adverse outcomes in girls than boys (e.g., social support, intrafamilial abuse; Chu et al., 2010), and vice versa.

In general, research on gender differences in item-outcome associations is limited, with only a single study in many cases. Also, results are often mixed. Thus, it appears premature to develop separate tools for girls and boys. At the same time, attention to gender is important and as such, the START:AV adopts a couple of strategies to be attentive to gender. First, the structured professional judgment model allows evaluators to place a stronger emphasis on factors that may be of particular relevance to girls, or to boys. This flexibility is important, especially as the variability within boys and within girls, can be as large or larger than the variability between sexes. Second, initial START:AV research has explored whether psychometric properties differ across gender (e.g., Desmarais et al., 2012; see START:AV Annotated Bibliography). Third, the START:AV User Guide encourages evaluators to develop gender-informed case formulation and intervention plans (see p. 100-101 of START:AV User Guide for an example). As research on gender issues grows, we aim to periodically update the START:AV to incorporate new gender-specific research findings.

6. **Need for a Developmentally-Informed Perspective:** Many of the items we reviewed are items on the adult version of the START. Based on this review, each of the items was found to also have a body of research support with adolescents. Thus, we retained these items. However, at the same time, these items manifest differently in adolescents than adults. For instance, given that adolescents are still developing, they have more limited impulse control and ability to understand long term consequences compared to adults (Steinberg et al., 2008; Steinberg & Cauffman, 1996). Also, certain items, such as Peers (Item 17), may be more important in predicting adverse outcomes in adolescents compared to adults (Gardner & Steinberg, 2005). As such, we used a developmentally-informed approach to design the the START:AV; this approach is described in Viljoen, Cruise, Nicholls, Desmarais, and Webster (2012). Rather than borrowing directly from the adult STAR, all of the START:AV anchors were considered independently for adolescents. In addition, we added new items to cover contextual factors that are particularly important for adolescents, including: Item 15: Parenting, Item 17: Peers, and Item 19: Community, and added in sub-items for Item 13: Relationships and Item 14: Social Support to capture both adult and peer relationships.

7. **Need for Attention to Culture:** Most risk assessment tools place very little, if any attention, on culture (Shepherd, Luebbers, & Dolan, 2013). However, this review illustrated that cultural factors are critical to assessment and intervention-planning. For instance, there is evidence that a strong ethnic identity protects against adverse outcomes such as violence, offending, and substance abuse, whereas experiences of discrimination can increase risk of adverse outcomes. The assessment of culture, however, must be individualized. For instance, ethnic identity varies considerably across individuals and across different ethnic, racial, and cultural groups. As such, we added culture as a case-specific item, Item 25: Culture. To develop this item, we consulted with professionals from diverse cultural groups, particularly individuals with expertise with indigenous youth and other minority groups (see Rogers & Viljoen, 2012). Also, it was piloted tested in a sample of Native American youth with co-occurring mental disorders (S. Viljoen, 2014; see START:AV Annotated Bibliography; Bhanwer et al., 2015).

In sum, for each START:AV item we examined definition and conceptual issues, developmental course, gender considerations, and relationships to outcomes. This review guided the development of the START:AV, allowing us to draw from existing research in selecting items and designing item anchors and rating criteria. Since the START:AV was developed, a number of studies have tested its psychometric properties.
For more information on these studies on the START:AV, please see:


Table 1: Prior Research on Predictors of Adverse Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Violence</th>
<th>Non-Violent Offenses</th>
<th>Substance Abuse</th>
<th>Unauthorized Absences</th>
<th>Suicide</th>
<th>NSSI</th>
<th>Victimization</th>
<th>Health Neglect</th>
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<td><strong>Individual Adolescent</strong></td>
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<td>3: Substance Use</td>
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<td>4: Rule Adherence</td>
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<td>7: Coping</td>
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<td>9: Mental/Cognitive State</td>
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<td><strong>Relationships and Environment</strong></td>
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<td>17: Peers</td>
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<td>22: Plans</td>
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<td>?</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>24: Treatability</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td><strong>Case-Specific Item (optional; this can be rated in Item 25)</strong></td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

**Note:** ✔️ – prior research supports the expected association between the factor and the adverse outcome (e.g., multiple studies indicate that increased vulnerabilities in this area are associated with increased adverse outcomes); ? – research does not consistently support the expected item-outcome association or research is limited; X – research does not support the expected item-outcome association (e.g., shows the opposite of what is predicted).
**Table 2: Prior Research on Predictors of Adverse Outcomes in Female and Male Youth**

<table>
<thead>
<tr>
<th>Individual Items</th>
<th>Predicts Outcomes in Boys</th>
<th>Predicts Outcomes in Girls</th>
<th>Does the Strength of Association Between Item and Outcomes Differ Across Gender?</th>
<th>Description of Gender Differences in the Strength of Association Between Item and Adverse Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: School &amp; Work</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Mixed findings on whether school commitment is a stronger predictor of offending in girls or boys.</td>
</tr>
<tr>
<td>2: Recreation</td>
<td>✔</td>
<td>✔</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>3: Substance Use</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>May be a stronger predictor of offending in boys, and victimization and dating violence in girls.</td>
</tr>
<tr>
<td>4: Rule Adherence</td>
<td>✔</td>
<td>✔</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>5: Conduct</td>
<td>✔</td>
<td>✔</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>6: Self-Care</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Weight problems may be a stronger predictor of suicide and substance abuse in girls, and violence in boys.</td>
</tr>
<tr>
<td>7: Coping</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Avoidant coping may be a stronger predictor of offending in girls than boys.</td>
</tr>
<tr>
<td>8: Impulse Control</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>May be a stronger predictor of substance abuse in boys than girls.</td>
</tr>
<tr>
<td>9: Mental/Cognitive State</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>May be a stronger predictor of violence in boys, and victimization in girls.</td>
</tr>
<tr>
<td>10: Emotional State</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Emotional regulation difficulties may be a stronger predictor of violence in boys than girls.</td>
</tr>
<tr>
<td>11: Attitudes</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Negative attitudes may be a stronger predictor of violence, offending, and substance use in boys; negative body image may be a stronger predictor of NSSI in girls than boys.</td>
</tr>
<tr>
<td>12: Social Skills</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Social skills may be a stronger predictor of violence and peer victimization in boys than girls.</td>
</tr>
<tr>
<td>Relationships and Environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13a: Relationships–Caregivers/Adults</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Family conflict may be a stronger predictor of substance abuse in girls than boys.</td>
</tr>
<tr>
<td>13b: Relationships – Peers</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Relationship discord may have a bigger impact on girls than boys.</td>
</tr>
<tr>
<td>14a: Social Support–Adults</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Social support may be a stronger predictor of adjustment (e.g., offending, aggression, health) in girls than boys.</td>
</tr>
<tr>
<td>14b: Social Support–Peers</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Peer rejection may have a stronger association to outcomes in girls than boys.</td>
</tr>
<tr>
<td>15: Parenting</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Sexual abuse may be a stronger predictor of substance abuse and running away in girls than boys; mixed results on whether parental monitoring is a stronger predictor for girls or boys.</td>
</tr>
<tr>
<td>16: Parental Functioning</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
<td>Exposure to domestic violence may be a stronger predictor of violence and running away in boys than girls; parental imprisonment may be a stronger predictor of offending in boys than girls.</td>
</tr>
</tbody>
</table>
### Predicts Outcomes in Boys
### Predicts Outcomes in Girls
### Does Strength of Association Between Item and Outcomes Differ Across Gender?

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>17: Peers</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
</tr>
<tr>
<td>18: Material Resources</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
</tr>
<tr>
<td>19: Community</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
</tr>
<tr>
<td>20: External Triggers</td>
<td>✔</td>
<td>✔</td>
<td>?</td>
</tr>
<tr>
<td>21: Insight</td>
<td>✔</td>
<td>✔</td>
<td>–</td>
</tr>
<tr>
<td>22: Plans</td>
<td>✔</td>
<td>✔</td>
<td>–</td>
</tr>
<tr>
<td>23: Medication Adherence</td>
<td>✔</td>
<td>✔</td>
<td>–</td>
</tr>
<tr>
<td>24: Treatability</td>
<td>✔</td>
<td>✔</td>
<td>–</td>
</tr>
</tbody>
</table>

#### Description of Gender Differences in the Strength of Association Between Item and Adverse Outcomes

- **Peer substance abuse, NSSI, and sexual risk-taking may be a stronger predictor of these behaviors in girls than boys; mixed results as to whether peer delinquency is a stronger predictor of offending in girls or boys.**
- **Homelessness may be a stronger predictor of victimization in girls than boys.**
- **Mixed findings on whether neighborhood disadvantage/school climate is a stronger predictor of offending in girls or boys.**
- **Stressful life events (e.g., exposure to violence) may be a stronger predictor of offending and substance use in girls than boys whereas involvement in delinquency may increase risk of victimization in boys more than in girls.**

#### Response to Inventions

- **Culture**
  - ✔
  - ✔
  - –
  - –

#### Case-Specific Item (optional; this can be rated in Item 25)

**Note:** For the columns “Predicts Outcomes in Boys” and “Predicts Outcomes in Girls,” we used the following rating criteria: ✔ – prior research supports the expected association between the factor and the adverse outcome (e.g., multiple studies indicate that increased vulnerabilities in this area are associated with increased adverse outcomes); ? – research does not consistently support the expected item-outcome association or research is limited; X – research does not support the expected item-outcome association (e.g., shows the opposite of what is predicted).

For the column, “Does the Strength of Association Differ Across Gender,” we used the following rating criteria: ✔ – prior research demonstrates gender differences in the strength of associations; ? – research is limited or mixed; - unable to find any studies that have directly tested gender differences in the strength of associations. **In most cases, the research was limited** (e.g., only one study showing gender differences in the strength of associations). As such, we used the ? rating frequently.
Introduction


Item 1: School and Work


References


**Item 2: Recreation**


Item 4: Rule Adherence


Item 5: Conduct


**Item 7: Coping**


75


**Item 8: Impulse Control**


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**Item 9: Mental/Cognitive State**


**Item 11: Attitudes**


Item 12: Social Skills


**Item 13: Relationships**


Item 14: Social Support


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**Item 15: Parenting**


**Item 16: Parental Functioning**


92


Multiple Simons et al., 1994, not sure which is correct


**Item 18: Material Resources**


**Item 19: Community**


### Item 20: External Triggers


Item 21: Insight


Item 23: Medication Adherence


Item 24: Treatability


104

**Culture (Case-Specific)**


Summary

