Adolescence is a time of great and rapid cognitive, psychological, social, emotional, and physical changes. These changes result in a more adult-like appearance, an increased ability to think abstractly, greater need for autonomy and independence, increased social and peer comparison, and greater peer affiliation. These changes typically translate into adolescents’ desire to participate in, and eventually lead, their decision making. Learning to make decisions, experiencing related positive and negative consequences, and learning from these outcomes is an important developmental task.

In general, with some cultural variation, adolescents are afforded opportunities to make decisions in a wide range of areas such as friendship, academics, extracurricular involvement, and consumer choices. Simultaneously, their ability to make competent decisions is sometimes called into question because adolescence is also often a time of engagement in risky behaviors, such as using alcohol, tobacco and other drugs, or engaging in risky sexual activity. Often these behaviors represent simple adolescent experimentation; while for a few adolescents these early behaviors represent the first in a line of more harmful behaviors.

This article will provide an overview of adolescent decision making, including definitions of competent decision making, descriptions of decision-making models, and the physical, cognitive, social and emotional influences on adolescent decision making. This article will also discuss implications of adolescent decision making that are relevant to health educators, healthcare providers, policy makers, and adolescent researchers.

DEFINITIONS OF COMPETENT DECISION MAKING

Definitions of what constitutes a competent decision vary widely. It is important to note that competent decision making refers to the process of how the decision was made. Competent decision making is not determined by the actual behavior or outcome. For example, while adults might disagree with an adolescent’s decision to have sex, an adolescent can still demonstrate decision-making competence by showing that he or she has considered and weighed all of the options (e.g., have sex, not have sex, just kiss), risks (e.g., getting pregnant, feeling guilty), benefits (e.g., pleasure), and other key components involved in the decision-making process, as described next.

Since adults are generally considered competent in the eyes of the law, many have used adults as the gold standard against which to compare adolescents. Other definitions of decision-making competence employ a model against which to compare individuals. For example, the legal standards of informed consent stipulate that decisions must be made knowingly; that one must understand all procedures, related risks, and alternative courses of action; and that a person’s choice must be made without substantial input or control from others (e.g., Gittler, Quigley-Rick, & Saks, 1990; Poythress, Lexcen, Grisso, & Steinberg, 2006).

Models of Decision Making

Normative models of decision making are commonly used in theory, empirical investigation, and policy to describe competent decision making. These models describe the most common steps that one should take in order to make the most rational decision for the individual. As noted above, competent decision making is defined as the process, not the ultimate decision. Normative models encompass elements similar to the legal definition, with the components articulated in terms of five general processes: 1) identifying all possible decision options; 2) identifying the possible consequences of each option, including all possible related risks and benefits; 3) evaluating the desirability of each consequence; 4) assessing the probability or likelihood that each particular consequence will actually occur, should that course of action be adopted; and 5) combining all information using a decision rule, resulting in the identification of the best option or action. It is important to note that in this decision-making process, it is expected that one not only consider engaging in a particular action, but that one also considers the consequences associated with not choosing an event or behavior. This is especially important for adolescents, for whom often the choice is between engaging or not engaging in a risky behavior, both of which have positive and negative outcomes for youth (Beyth-Marom, Austin, et al., 1993; Beyth-Marom & Fischhoff, 1997).
These models of decision making have been typically used to explain engagement in health-compromising or health-promoting behavior, such as tobacco use, alcohol use, sexual behavior, seatbelt use, and so on. Many theories of health behavior have incorporated elements of these normative decision-making models, including the Theory of Reasoned Action (Ajzen, 1985), Theory of Planned Behavior (e.g., Fishbein & Ajzen, 1975), and the Health Belief Model (e.g., Rosenstock, 1974). While specific model components vary across theories, in general these theories assume that adoption of health-promoting and health-compromising behaviors are the result of a deliberative, rational, and analytical process, with the outcome of this process leading to increased or decreased likelihood of performing the behavior. Specifically, as shown in Figure 1.1, intentions to engage and actual engagement in health-related behavior is determined by an individual’s:

1) assessment concerning both the potential positive and negative consequences of their actions or inactions, such as feeling more relaxed after smoking a cigarette or getting into an accident if driving drunk;

2) perceptions of their vulnerability to those consequences, such as the perceived percent chance that one would get pregnant after having unprotected sex;

3) desire to engage in the behavior despite potential consequences (e.g., I know that I can get an STD from having sex, but it is more important to me to keep my relationship); and

4) perceptions of the extent to which similar others are engaging in the behavior (e.g., most of my friends are using marijuana, so why can’t I?).

While these decision making models have been extremely useful in predicting a number of behaviors, the application of these models is limited when used to explain behaviors involving more irrational, impulsive, or socially undesirable behavior, such as tobacco use. Importantly, when placed within a developmental framework, decision making must be defined as much more than a series of complex cognitive, analytic, and rational processes. Instead, for an adolescent, the process of decision making must be immersed within the set of psychosocial, contextual, emotional, and experiential changes that define adolescence (e.g., Cauffman & Steinberg, 2000). These rational decision-making models are also less applicable to adolescents and some young adults for whom the ability to analytically process information is not yet fully formed (Gibbons et al., in press; Reyna & Farley, 2006), such as:

- the willingness to make a decision;
- the capacity to make autonomous decisions;
- searching for, recognizing, and incorporating new information relevant to the decision;
- the ability to judge the value of advice from other sources;
- the willingness to change one’s decisions;
- the ability to implement and carry out one’s decisions;
- the ability to evaluate and learn from one’s decisions;
- the ability to reach decisions one is satisfied with; and
- the ability to make decisions that are consistent with one’s goals.

The second path represents the less planned and more expe...
This path also includes variation in adolescents’ psychosocial maturity to make decisions (Cauffman & Steinberg, 2000), including the following:

• acknowledgement that adolescents’ decisions are often impulsive rather than planned;
• ability to recognize and acknowledge when advice is needed;
• social perspective taking, or the ability to recognize that other people may have a different point of view or set of knowledge from one’s own;
• future perspective taking, including the ability to project into the future, to consider possible outcomes associated with various choices, and to plan for the future.

These variables are expected to predict willingness to consider a behavior. Willingness to engage is differentiated from the planful notion of intentions. While one may not have an active plan in mind to smoke or have unprotected sex, it is often the case that adolescents find themselves in situations in which they would consider engaging in the behavior even though they were originally committed to avoiding it. Figure 1.2 depicts these processes.

Adolescents’ decisions are often impulsive rather than planned.

A particular focus within all of these models of decision making, especially as they pertain to adolescents, has been the notion of risk perceptions or risk judgments. Individuals’ beliefs about the degree to which they are vulnerable to specific negative outcomes are viewed as crucial factors in individuals’ decisions concerning health-damaging and health-promoting behaviors. More specifically, theory and research indicates that individuals take risks in part because they believe they are invulnerable to harm, or less likely to experience harm compared to others (e.g., Song et al., in press).

More recently, research suggests that in addition to health risks (e.g., lung cancer, pregnancy), adolescents view perceptions of and knowledge about social risks as critical in their decision making. This makes sense when one realizes that adolescence is a time when peers and other social factors play a large role in adolescent development, and therefore their decisions. It has also been recognized that an emphasis on perceived risk alone may be inadequate to predict or change behavior because risk is only part of the behavioral decision-making equation. Adolescents’ perceptions of benefits have also been shown to factor into their decision-making equations, and may explain why adolescents engage in particular behaviors despite known risks (e.g., Goldberg, Halpern-Felsher, & Millstein, 2002; Millstein & Halpern-Felsher, 2002; Song et al., in press).

FACTORS INFLUENCING ADOLESCENT DECISION MAKING

Gender Differences in Decision Making

Adolescent boys and girls do differ in their perceptions of and concerns over health-related risks and benefits. For example, girls are more likely to believe that they can get pregnant from having unprotected sex, get lung cancer from smoking, and have an accident while driving drunk. In contrast, boys perceive that they are more likely to experience positive outcomes, such as experiencing pleasure from sex. Despite these differences in perceptions, studies have not determined whether the actual decision-making process differs between adolescent boys and girls. The few studies that have examined gender differences in decision making have generally found that the process is remarkably similar (e.g., Michels et al., 2005).

Age Differences in Decision Making

Given the importance of understanding age differences in competent decision making, there are surprisingly few studies that have compared adolescents’ and adults’ decision making, or examined age differences in decision-making competence within the adolescent years. A review of the small literature base paints a mixed picture regarding adolescent decision-making competency, with some studies suggesting no or few age differences between adolescents and adults, and others showing significant age differences, with younger adolescents demonstrating less competence than older adolescents and/or adults. The age differences reported by these studies suggest that competence continues to increase throughout adolescence and into young adulthood. Furthermore, many of the attributes that are thought to be essential for competent decision making, such as resistance to peer pressure, self-reliance, perspective taking, future time perspective, and impulse control, also increase with age and over time (see, for example, Halpern-Felsher & Cauffman, 2001; Steinberg & Monahan, 2007).

Cultural Variation in Decision Making

Unfortunately, few studies have examined cultural variation in adolescent decision-making competence or decision-making
processing. However, there is racial, ethnic, and cultural variation in certain areas of psychosocial development known to influence decision-making capacities, such as autonomy, orientation to the future, and values for academic achievement. Research has also documented that approaches to decision making itself vary. For example, in some cultures (such as some Native American or Asian cultures), decision making is a group dynamic, with much input and directive from the family or other adults. In these decisions, not only is the individual considered, but the impact that the decision and potential outcomes have on family members and others is put into the decision-making equation. In contrast, in other cultures such as in Northern Europe, decision making is more of an individual process, and the impact of the decision on the family is less likely to enter into the decision process. Clearly, in order to successfully understand and encourage competent adolescent decision making, one must have sufficient understanding of the relevant cultural systems that underlie decision making.

The Role of Experience and Knowledge
Adolescents simply have less experience with and knowledge about making decisions than do adults. Thus, adolescents have fewer opportunities to receive feedback, whether positive or negative, for the choices they have made. Experience with and knowledge about choices and obtaining feedback from decisions is especially important when one considers that perceptions of risks and benefits play a critical role in decision making. To the extent that adolescents have less experience with and less knowledge about making decisions, as well as less experience with decision outcomes, they might believe that they are less likely to experience harm and therefore discount harm in the future. Adolescents are also less aware of the cumulative nature of their behaviors as they have received so little feedback (Jacobs, 2004).

The Role of Social/Peer Affiliation
In addition to the vast number of individual-level physical, social, and emotional transformations occurring, adolescence is also defined as a time in which the social environment is also greatly changing. Compared to children, adolescents are less likely to be in structured and supervised settings, and they are more likely to affiliate with similar-aged peers rather than adults. Such environmental and social changes certainly lead to increased opportunities to make decisions and receive feedback. These decisions are also influenced by the normative behavior of adolescents’ peers as well as by their perceived norms—that is, the extent to which they believe their peers are engaging in certain behaviors or making decisions. Simultaneous to adolescents’ greater peer affiliation, they are also struggling with learning to make more autonomous decisions, which requires the ability to resist undue influence from others (e.g., Gibbons et al., in press).

Brain Development
There are four lobes in the brain: parietal lobe, occipital lobe, temporal lobe, and the frontal lobe. The frontal lobe is the largest part of the brain, and contains the prefrontal cortex, which is located in front of the brain, behind the forehead. The prefrontal cortex is responsible for executive functions, including cognition, thought, imagination, abstract thinking, planning, and impulse control. In short, the prefrontal cortex oversees critical abilities for decision making. Research has shown that gray matter, or the tissue in the frontal lobe responsible for our ability to think, is reduced or “shed” during the adolescent and young adult years. Simultaneously, a process of myelination occurs, where the white matter in the brain matures to work more efficiently. These processes have been shown to continue through age 25. As such, the aspects of the brain responsible for decision making and impulse control are not fully developed until young adulthood, with males developing even slower than females (see for example, Giedd, 2008).

Adolescents’ perceptions of benefits have also been shown to factor into their decision-making equations, and may explain why adolescents engage in particular behaviors despite known risks.

IMPLICATIONS AND IMPORTANCE OF ADOLESCENT DECISION MAKING
The questions of how adolescents make decisions and the extent to which adolescents can and do make informed choices have been of great interest to researchers and practitioners in diverse areas including the behavioral sciences, medicine, social work, law, and social policy. A number of compelling forces have motivated this interest. The primary motivator has been the desire to understand and prevent adolescents’ engagement in risky behavior. Adolescents’ decisions to engage in risky behaviors have led many to conclude that adolescents take risks because they perceive low likelihood of experiencing negative consequences, perceive themselves to be invulnerable to harm, and have poorly developed decision-making skills. Others have interpreted adolescent risky behavior as evidence of their impulsive nature and that they are easily persuaded by others. As such, intervention and prevention programs focus on enhancing decision-making competence through various knowledge and skill-building efforts. For example, extensive efforts have been made to provide adolescents with information about risks, particularly health risks, to reduce their engagement in risky behavior. Program curricula have also focused on developing adolescents’ skills, such as skills to resist peer pressure.

More recently, it has been recognized that rather than solely focusing efforts on disseminating information about the health implications of risky behavior, we need to broaden our discussions to include aspects of decision making most relevant and immediate to youth. For example, we need to acknowledge potential benefits of various risky behaviors, and provide youth with safer ways of obtaining similar benefits or learning how to delay the need or acknowledge and defer the desire for such benefits. We also need to include in the discussion social consequences that adolescents highly value in their decision-making process. For example, studies have shown that adolescents care greatly about whether they are popular or look more grown up, and such desires to gain positive social feedback and avoid negative social consequences influences their decisions (e.g., Ott, Millstein, Ofner, & Halpern-Felsher, 2006). Finally, we need to encourage youth to make conscious decisions and help them set meaningful boundaries for themselves that encompass their goals, relationship desires, and other developmental needs.
Concern over adolescents' decision-making competence is also relevant to adolescents' rights to make certain decisions, such as whether to participate in research studies, obtain medical treatment, or refuse medical treatment. Given results demonstrating adolescents' relative lack of maturity, many of these rights have been greatly restricted by federal, state, and local laws. Such presumptions about the inherent immaturity of adolescents are pervasive within the law. For example, the age of majority is 18 years in all but three states (Alaska, Nebraska, and Wyoming, where the age is 19). Individuals below age 18 are neither expected nor permitted to be responsible for their own welfare. Similarly, research showing that adolescents' decision making is less competent compared to adults or compared to standards set forth in normative decision-making models has led to justifying raising the age at which adolescents accused of violent crimes may be tried as adults (Gittler et al., 1990; Griss o et al., 2003; Poytress et al., 2006).

SUMMARY
In summary, there is great interest and importance in understanding the extent to which adolescents are able to make competent decisions. Adolescence is a time of great changes that result in desire for autonomy in decision making, and by mid to late adolescence, most individuals have the cognitive abilities to understand and judge risks. Nevertheless, adolescents may lack the psychosocial traits required to consistently make and act upon mature decisions. It is thus imperative that we protect adolescents from serious harm while simultaneously providing them with appropriately risky opportunities to practice and grow their decision-making skills. –––

References


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