

# SCIENTIFIC DECISION-MAKING

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## SMARTER CHOICES



# ABOUT THE PROJECT

Baylor  
College of  
Medicine

CENTER FOR  
EDUCATIONAL  
OUTREACH

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Activities described in this book are intended for middle or high school students under direct supervision of adults. The authors, Baylor College of Medicine and AHRQ cannot be held responsible for any accidents or injuries that may result from conduct of the activities, from not specifically following directions, or from ignoring cautions contained in the text. The opinions, findings and conclusions expressed in this publication are solely those of the authors and do not necessarily reflect the views of BCM or the sponsoring agency.

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## BioEd<sup>SM</sup>

BioEd<sup>SM</sup> Teacher Resources from the Center for Educational Outreach at Baylor College of Medicine.

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All persons depicted in photographs throughout this guide are models and their images are used strictly for illustrative purposes only. The images are not intended to represent the model, nor any person living or deceased.

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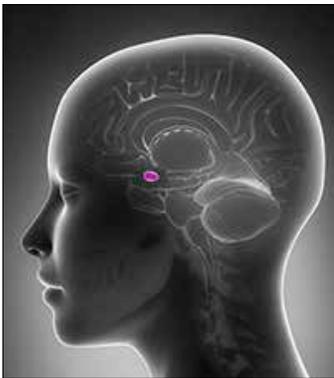
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# SMARTER CHOICES

## Overview

Students learn how to make informed decisions based on evidence. Working in groups, they answer a set of questions that enable them to identify and make a decision for a character in a complex, real-life situation. Students also construct decision T-charts.



The amygdala is located deep within the brain, near the hippocampus.

Amygdala image © Peter Lecko. Brain illustration (right) © Williams & Wilkins. All rights reserved.

We make thousands of choices throughout our lives—many with important consequences. Which college should I attend? Should I stay in school? Which health insurance plan should I pick? Some decisions are easy, but most important choices are complex and have long-term impacts. Many decisions even affect a person's risk for disease or accidents.

Of course, decision-making happens inside the brain, which typically gathers and distills information from multiple sources before arriving at a decision. According to the Society for Neuroscience<sup>3</sup> the decision-making process is organized like a court trial. Sights, sounds and other data are entered into circuits in the brain, where other brain cells act as a jury, weighing each piece of evidence. When enough evidence has been evaluated, the brain makes a decision.

These decision "trials" involve several parts of the brain, particularly the frontal lobes area, or frontal cortex (front part of the brain). This area handles planning and reasoning, and has roles in abstract and concrete decision-making. The amygdala, a part of the brain responsible for emotions and instinctual reactions like fear and aggression, also is involved (see image, left sidebar).

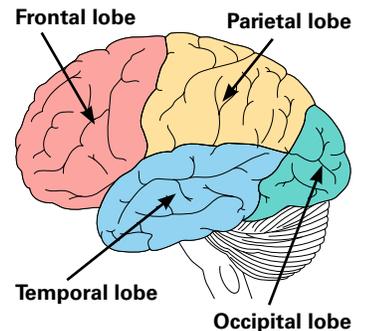
Adolescent brains, which still are developing, solve problems and make decisions differently than adult brains do. Because adolescent frontal lobes are not yet fully mature, teens' actions and choices are guided more by the amygdala and less by the frontal lobes.<sup>4</sup> Due to their incomplete brain development, teens are more likely than adults to act on impulse, misread social cues or emotions, and engage in dangerous behaviors. In general, adolescents are less likely than adults to think before they act or consider the potential consequences of their actions.

In addition, the decision-making process can break down, especially when the brain is fatigued from being focused on a task for an extended time, or from lack of sleep. A tired brain is less effective at making important decisions, and more likely to make impulsive or confused choices.

Fortunately, adolescents can and do make good decisions, and they are able to improve their decision-making skills. In fact, we all can make better choices when we recognize what really is important, identify personal goals, and follow a systematic process to examine alternative solutions to a problem. In this activity, students will collaborate to make decisions for fictitious characters facing difficult decisions. In each case, students will answer the "Decision-making Questions" found on page 8.

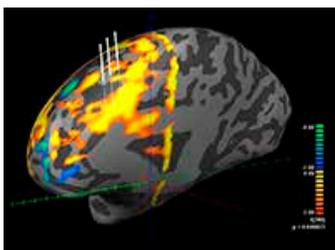
Once alternatives have been identified, a T-chart can be a simple, effective tool for evaluating options and making decisions. On one side of the chart, list the possible benefits or positive aspects ("pros") of a particular course of action. On the other side, list the negative aspects ("cons") of a decision. For example, Sandra was up late studying last night, and she is very tired this morning. Thus, the question to be decided is: "Should I sleep in this morning?"

As mentioned earlier, Sandra must identify the goal before making a decision. In this case, the goal might be to achieve a good grade on an algebra quiz during first period. A T-chart



### Sample T-chart for Sandra

PROS: SLEEPING LATE	CONS: SLEEPING LATE
Will be well rested	Might miss the bus and have to walk to school
Might perform better on test	If late for algebra class, might fail quiz
	No time to review material before quiz



In this functional MRI image, the brain is engaged in a decision-making task. The areas shaded yellow to red represent the highest brain activity and the areas shaded blue to green, the lowest brain activity. The three white lines slightly above the brain represent three electrode paths. Activity of individual neurons was recorded during the procedure from the posterior-most electrode.

Image courtesy of Sameer Sheth, MD, PhD. Used with permission (<http://www.columbianeurosurgery.org/doctors/sameer-a-sheth/>).

depicting the advantages (pros) and disadvantages (cons) of sleeping late might look like the one to the left.

### MATERIALS

#### Teacher

Download (for projection) the following PowerPoint® slides from BioEd Online at <http://www.bioedonline.org/lessons-and-more/resource-collections/scientific-decision-making/>

- Brain Areas Used in Decision-making
- Decision-making Example (or copies of this example for each student)

### Decision-making Questions

#### **What is the real problem or decision to be made?**

The framing of a decision makes all the difference. Say Josh is tired of riding the bus 45 minutes each day to work. At first, his choices seem simple: “Should I buy a car or continue to ride the bus to work?” But there could be other factors to consider. Perhaps Josh dislikes his job, or maybe it is not really in his best interest to travel such a long distance to work. If so, his decision could include questions like, “Should I look for a job closer to his home?” or “Should I search for a job that pays more, so I could buy a car without straining my finances?” The way we define a problem and the options available to solve it determines the quality of the decision-making process and the final outcome.

**What is the objective or goal?** Answering the question, “What do I really want?” provides a basis for evaluating all possible choices. To clarify objectives, it may be useful to compose a “wish list,” identify the worst and best possible outcomes, or think about how the decision will impact others. For example, Marissa may have several important objectives in mind as she tries to decide which college to attend: learn a subject area deeply, be intellectually challenged, have opportunities to participate in a variety of clubs, make lasting friendships, and be prepared for future pursuits. Her decision might become clearer if she lists her objectives in order of importance, and then thinks about the likelihood of achieving those objectives at the various colleges she is considering.

**What are the alternative choices?** The quality of a decision depends on the thoroughness with which options are evaluated during the decision-making process. Poor and/or limited alternatives inevitably lead to a poor final choice. To generate a useful list of

alternatives, consider all possibilities, and eliminate any that will not help to meet the objectives. It is important to challenge limitations that could influence the decision. For example, Carlos may think that the high tuition at one college, which is an ideal match for him otherwise, means he should decide not to apply there. However, he may be able to overcome the cost issue by learning more about financial aid packages available at that school. Every feasible alternative should be evaluated in terms of how well it supports the objective(s).

**Are there any tradeoffs?** Many complex decisions involve compromise and require us to choose from several less-than-perfect alternatives. Monica’s intent to finish college with high enough grades to apply to dental school might compete with her desire for an active social life. In that case, her decision will involve choosing from several less-than-perfect alternatives. If dentistry is a strong career goal, Monica may have to choose to limit her social activities to a couple evenings per week. Setting priorities ahead of time can help to objectively recognize and balance tradeoffs during the decision-making process.

**How much risk is acceptable?** Many choices involve risk or uncertainty. Because everyone has a different tolerance for risk, the “right” decision for one person may not be best for another. Each individual must reach a decision that balances his or her objectives with a level of risk that is acceptable to him or her. Josh would like to work closer to home. But the decision about quitting his current position to begin a job hunt in a different location depends on his ability to tolerate the risk of being unemployed for weeks or months.

- Decision-making Questions
- T-chart

#### Per Team of Students

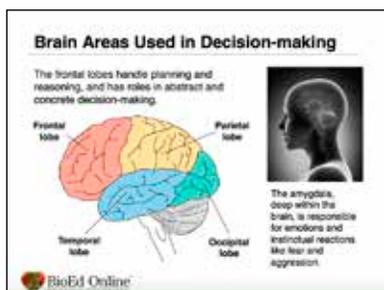
- Copies of Decision-making Scenario Example: Stephanie
- Copies of one of the six decision-making scenario pages (All members of each team should receive a copy of the same scenario; each team should receive a different scenario.)

### SETUP

Students should work in teams of two to four.

### PROCEDURE

1. Remind students that during the previous lesson, they examined a simple question: Should I consume a given soft drink? Ask, *Did you change your mind about consuming the soft drink after learning its sugar content? Did you think differently about your diet and exercise habits after learning about lifetime risks of heart disease?*
2. Ask, *What part of the body made these decisions for you?* [brain] Show students the slide, Brain Areas Used in Decision-making. If students are not familiar with regions of the brain, briefly describe the roles of the frontal lobes (the "thinking" part) and amygdala (the "emotional" part). Ask, by a show of hands, *Have you ever made a decision based on anger or short-term happiness, when you should have considered other information?* Follow by asking, *On the other hand, did you ever make a decision based on facts, when you should have factored in your feelings?*
3. Tell students that they can learn techniques for making better decisions. Remind them that most important decisions are complex, require rational and emotional considerations, and involve trade-offs between benefits and risks of less desirable outcomes. Ask students, by show of hands, *Have you ever made a decision that did not produce the outcome you expected or wanted?*
4. Project the Decision-making Example (Stephanie) slide on the board, or provide a copy to each student. Have the students take turns reading portions of the text. Without further instructions, have the students work in groups of two to four to decide on a course of action for Stephanie. Have each group report its decision and provide a rationale for that choice.
5. Ask students, *Was it hard to figure out the best decision for Stephanie? Did you follow a process for selecting the best course of action?* Allow groups time to describe the procedures they followed to reach a decision.
6. Ask the class, *Would it help to have more guidance when making difficult decisions?* Project the following decision-making questions (available as a PowerPoint® slide accompanying this lesson) on the board, and briefly discuss each one.
  - **What is the real problem or decision to be made?** The way we define a problem and the options available to solve it determines the final outcome.
  - **What is the objective or goal?** Answering the question, "What do I really want?" provides a basis for evaluating all possible choices.
  - **What are the alternative choices?** The quality of a decision depends on the thoroughness with which options are evaluated during the decision-making process.
  - **Are there any tradeoffs?** Many complex decisions involve compromise and require us to choose from several less-than-perfect alternatives.
  - **How much risk is acceptable?** Many choices involve uncertainty, and everyone has a



Slide © Baylor College of Medicine.

### Sample T-chart

**GOAL:**

**QUESTION:**

Pros and cons of at least one possible alternative.

PRO	CON

different tolerance for risk. It is important to find a solution with an acceptable amount of risk.

- Ask students for possible answers to each question above, using the Decision-making Scenario Example: Stephanie. Then have the class use their answers to make a decision for Stephanie. Ask, *Did everyone reach the same decision for Stephanie as your team did previously? Why or why not?*
- Give each team copies of a different decision-making scenario page. Instruct teams to read their scenarios, discuss possible answers to the questions above, and choose the best answer for each. Instruct each group to use its answers to make a decision for its character.
- Lead a class discussion in which groups explain the situations faced by their characters, their answers to each decision-making question, and their final decisions regarding the best course of action. Allow time for discussion after each presentation.
- Have teams exchange scenarios, so that each is working with a new character. Describe the T-chart approach to decision-making. Project a slide that shows the template for using a T-chart for decision-making (see Sample T-chart, left sidebar).
- Have each group create a T-chart and identify a goal and a question that defines the decision facing its character. Teams should show the pros and cons of one possible course of action. (If several alternatives are possible, students may want to create more than one T-chart to evaluate all of the advantages and disadvantages.) Finally, teams should decide on the best course of action for their characters.
- Discuss the T-charts as a class, and lead a class discussion in which groups explain the situations faced by their characters, their answers to each decision-making question, their experience with T-charts, and their final decisions regarding the best course of action. Allow time for discussion after each presentation.

### EXTENSIONS OR HOMEWORK

Some of our important decisions relate to health and medical treatments. Unfortunately, many people do not have enough information to make informed decisions about wellbeing and medications for themselves or family members. In class, show your students the video about how to ask questions of your doctor, (<http://www.ahrq.gov/patients-consumers/patient-involvement/ask-your-doctor/videos/waitroom/index.html>), and discuss ways in which the decision-making techniques in this lesson could be applied to a healthcare situation.

For more neuroscience information and lessons, visit the Learning Brain section on BioEd Online (<http://www.bioedonline.org>). ■

<sup>3</sup> Society for Neuroscience. Brain Facts: Decision-Making (<http://www.brainfacts.org/sensing-thinking-behaving/awareness-and-attention/articles/2009/decision-making/>).

<sup>4</sup> American Academy of Child & Adolescent Psychology. The Teen Brain: Behavior, Problem Solving, and Decision Making ([http://www.aacap.org/AACAP/Families\\_and\\_Youth/Facts\\_for\\_Families/Facts\\_for\\_Families\\_Pages/The\\_Teen\\_Brain\\_Behavior\\_Problem\\_Solving\\_and\\_Decision\\_Making\\_95.aspx](http://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/Facts_for_Families_Pages/The_Teen_Brain_Behavior_Problem_Solving_and_Decision_Making_95.aspx)).

# DECISION-MAKING SCENARIO

## EXAMPLE: STEPHANIE



© Getty Images

**S**tephanie and her best friend, Caroline, decided to attend a party after their school's football game on Friday night. They didn't know Jonathan, who was having the party, but they accepted an invitation and drove to Jonathan's house in Caroline's truck. When they arrived, they were surprised to find the house packed with students, and to learn that Jonathan's parents were not present. Many of the students were drinking, and Caroline decided to try the punch that was being served.

About an hour later, Stephanie noticed that it was close to midnight. She needed to be home before 12:00, or her Mom would "ground" her for at least a week. Stephanie had play rehearsal every evening after school, and if she were grounded, she wouldn't be able to participate. She might even be eliminated from the cast. Unfortunately, Caroline didn't want to leave the party. Worse, she had become too drunk to drive.

What is the most important decision for Stephanie to make, and how would you guide her? ■

# DECISION-MAKING SCENARIO: BRANDON



© Getty Images

**B**randon and Danielle have been dating ever since they were freshmen in high school. Now seniors, they spend a lot of time discussing their futures. They’ve even talked about living together after graduation. Both have applied to college. Danielle’s options are limited, because she has to help care for her younger brother and sister while her Mom works the night shift as an emergency room nurse. Danielle has been accepted to a small local college and plans to major in accounting.

Brandon has his heart set on becoming a medical doctor. He currently is taking AP biology and precalculus, and has been a member of the HOSA Future Health Professionals Club for the last three years. To get into medical school, Brandon will have to earn excellent grades during all four years of college and achieve a high score on the national MCAT exam. He has applied to several colleges and universities, and has been accepted to all of them. He was fortunate to receive financial aid offers, so he won’t have to factor cost into his decision.

Danielle was delighted when Brandon was accepted at the same college she plans to attend. The college is best known for its business programs, but it also offers courses in biology, chemistry and physics. A

second college that accepted Brandon is located almost 600 miles away. It’s very competitive and has one of the top biology programs in the country. Brandon also was accepted into the state university, just 250 miles away. It’s a fine institution with a strong biology department, but class sizes are very large, and Brandon won’t be able to live on campus.

What is the most important decision for Brandon to make, and how would you guide him? Answer the following questions from Brandon’s perspective and make the best choice for him. Be prepared to present and explain your answers. ■

<b>1. What is the real problem or decision to be made?</b>	<b>2. What is the objective or goal?</b>	<b>3. What are the alternative choices?</b>	<b>4. Are there tradeoffs?</b>	<b>5. How much risk is acceptable?</b>	<b>6. What should Brandon decide to do?</b>
There are many possible decisions, all of which might determine the future course of Brandon’s, and maybe Danielle’s, life. Which one is most important?	Brandon has many goals—become a doctor, continue his relationship with Danielle, get good grades in college. Which objectives are important in this situation?	There are many ways in which Brandon could respond to this situation. Which alternative is best for the decision you identified in question 1?	Will Brandon have to compromise on one of the objectives in question 2 to satisfy another one? Which tradeoffs will he have to make?	This scenario presents a number of potential risks to Brandon and others. Which risks should play a role in his decision?	

# DECISION-MAKING SCENARIO: JASON



© Getty Images

Jason is a junior in high school, but he doesn't like going to class very much. He has dyslexia, which makes it harder for him to read than it is for other students. He also doesn't feel like his courses are very useful or interesting. It's no surprise that his grades usually are C's and D's. After school, he spends a lot of time at the motorcycle shop by his house. He has gotten pretty good at repairing bikes and, for once in his life, he feels successful.

Chip, who owns the repair shop, has offered Jason a full-time position, starting in January. Jason is considering dropping out of school to take the job. He would make about \$12 an hour, which seems like a lot of money to him.

The school counselor told Jason about a two-year program in small engine mechanics at a local community college. He explained to Jason that it typically takes at least three years of additional experience, after college graduation, to become a fully qualified service technician.

Jason doesn't want to spend another year and a half in high school, and then two more years in community college. He's eager to be out on his own. Further, his mom says that she could really use some help with expenses at home.

On the other hand, the thought of becoming a fully certified specialist appeals to Jason. He never thought that he could have a real career. But to apply to the community college program, he would have to graduate from high school, and maybe improve his GPA.

What is the most important decision for Jason to make, and how would you guide him? Answer the following questions from Jason's perspective and make the best choice for him. Be prepared to present and explain your answers. ■

1. What is the real problem or decision to be made?	2. What is the objective or goal?	3. What are the alternative choices?	4. Are there tradeoffs?	5. How much risk is acceptable?	6. What should Jason decide to do?
There are many possible decisions, all of which might determine the future course of Jason's life. Which one is most important?	Jason has many goals—be independent, feel successful, earn money. Which objectives are important in this situation?	There are many ways in which Jason could respond to this situation. Which alternative is best for the decision you identified in question 1?	Will Jason have to compromise on one of the objectives in question 2 to satisfy another one? Which tradeoffs will he have to make?	This scenario presents a number of potential risks to Jason. Which risks should play a role in his decision?	

# DECISION-MAKING SCENARIO: LESLIE



© Getty Images

Leslie, a high school senior, is a cheerleader, volleyball player and top student. Everyone knows who she is, and some of the younger girls in school try to emulate her. No surprise, she has many friends and a large following on social media.

Recently, a freshman named Allison sent a “friend” request to Leslie. Leslie doesn’t really know Allison, but recognized her from school, so she accepted. Immediately, Allison began posting messages and photos on Leslie’s page, asking about upcoming social events and commenting on all of Leslie’s posts.

Within a couple hours, Leslie’s other online friends—including many from school—began writing their own posts, making fun of Allison’s comments, calling her “loser” and worse, telling her to stop pretending that she was part of their group. They posted nasty comments on Allison’s page, along with altered versions of Allison’s pictures, showing her as a pig.

When Leslie checks her account after volleyball practice, she’s stunned by all of this activity. Allison took advantage of Leslie’s willingness to “friend” her, and she ignored the unwritten rules of social media. Allison made a real mess of things by trying to push her way into Leslie’s circle.

Still, Leslie remembers her own freshman year, how difficult it was to fit in and make friends.

Speaking of friends, Leslie is shocked at the things her friends posted. She’d known some of these people since seventh grade, and never would have guessed they could be so cruel. She loves her friends and enjoys being part of the popular group. They share all their secrets, have a great time together and throw the best parties. Allison went way overboard, and Leslie knows that she and Allison will never be friends. She doesn’t want risk her standing in the group, but she also feels upset and confused about what her friends posted about Allison.

What is the most important decision for Leslie to make, and how would you guide her? Answer the following questions from Leslie’s perspective and make the best choice for her. Be prepared to present and explain your answers. ■

1. What is the real problem or decision to be made?	2. What is the objective or goal?	3. What are the alternative choices?	4. Are there tradeoffs?	5. How much risk is acceptable?	6. What should Leslie decide to do?
There are many possible decisions, all of which might determine the future course of Leslie’s life, and maybe other lives too. Which one is most important?	Leslie has many goals—maintain her standing in the popular group, stand up for Allison, be a leader. Which objectives are important in this situation?	There are many ways in which Leslie could respond to this situation. Which alternative is best for the decision you identified in question 1?	Will Leslie have to compromise on one of the objectives in question 2 to satisfy another one? Which tradeoffs will she have to make?	This scenario presents a number of potential risks to Leslie and others. Which risks should play a role in her decision?	

# DECISION-MAKING SCENARIO: MIKE



© Getty Images

Last summer, Mike’s best friend, Ben, moved because Ben’s mom got a new job in another state. Mike and Ben had grown up together, and Mike missed goofing around with his friend, tossing the football, talking about the girls they liked... or didn’t. And he was bummed that Ben hadn’t been in touch recently.

Then, about two weeks into the semester, Ben wrote Mike a long, upsetting email. Ben said he was having a very hard time. He told Mike he’d made no friends, and that things were terrible at school. His classmates never invited him anywhere. They teased him about his accent, called him names. Ben felt like a total outcast and avoided everyone. Didn’t know how to fit in, or if he even wanted to. His mom was working long hours, so Ben spent most of his time alone and depressed, angry at his mother, the school, everything.

Mike texted right back, trying to joke that Ben was just having “growing pains.” But Ben said he couldn’t see any way for things to get better. Over a few days, Ben wrote often about having no friends, no idea how things worked in this weird town, nothing to look forward to, and no hope.

Mike had never seen Ben like this. He asked if Ben’s mother knew about his problems. Ben said no, and she wouldn’t care anyway. Mike tried to persuade Ben to talk to his mom or a school counselor. But Ben refused. He said it wouldn’t help. Nothing would help. Ben said this was just between best friends. He swore Mike to secrecy.

Mike agreed, but he hasn’t heard from Ben since. Ben hasn’t replied to Mike’s texts or emails, and seems to have disappeared from the online social sites. Mike doesn’t want to overreact, or betray Ben’s trust. But he’s very worried about his friend. He thinks about getting in touch with Ben’s mom, but that would mean breaking his promise to Ben and losing Ben as his friend.

What is the most important decision for Mike to make, and how would you guide him? Answer the following questions from Mike’s perspective and make the best choice for him. Be prepared to present and explain your answers. ■

1. What is the real problem or decision to be made?	2. What is the objective or goal?	3. What are the alternative choices?	4. Are there tradeoffs?	5. How much risk is acceptable?	6. What should Mike decide to do?
There are several possible decisions, all of which might determine the future course of Ben’s and even Mike’s life. Which one is most important?	Mike has multiple goals—support his friend, respect his “pact” with Ben, convince Ben to seek help. Which objectives are important in this situation?	There are many ways in which Mike could respond to this situation. Which alternative is best for the decision you identified in question 1?	Will Mike have to compromise on one of the objectives in question 2 to satisfy another one? Which tradeoffs will he have to make?	This scenario presents a number of potential risks to Mike and others. Which risks should play a role in his decision?	

# DECISION-MAKING SCENARIO: TOMEKA



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After a miserable freshman year in high school, Tomeka finally feels popular. Everything changed for the better when she started dating Justin in the middle of her sophomore year. Justin plays football and basketball, and knows all the cool kids. Now, Tomeka goes to the best parties and her phone beeps constantly with incoming texts. Her grades have suffered a little, but she still is making a B in most classes. She figures that she has plenty of time to bring her grades up before she has to apply to college in her senior year.

Justin's behavior has changed in the past several weeks. When they first started dating, he was a perfect gentleman. Lately, though, he has sent some very mean texts when Tomeka didn't text him back quickly enough. On Saturday, the football team lost a big game. Afterward, Justin yelled at Tomeka and slammed his fist into the car when she had to go back into a party for her purse. She was shocked by his violent response, but Justin apologized later, so she decided to ignore his behavior.

One girl who knows Justin well told Tomeka that he had given his former girlfriend a black eye. Tomeka finds it hard to believe Justin

could act that way. Besides, she likes being one of the "in" couples at school. Maybe she should just leave things the way they are.

What is the most important decision for Tomeka to make, and how would you guide her? Answer the following questions from Tomeka's perspective and make the best choice for her. Be prepared to present and explain your answers. ■

1. What is the real problem or decision to be made?	2. What is the objective or goal?	3. What are the alternative choices?	4. Are there tradeoffs?	5. How much risk is acceptable?	6. What should Tomeka decide to do?
There are many possible decisions, all of which might determine the future course of Tomeka's life. Which one is most important?	Tomeka has many goals—be popular, go to college, feel safe. Which objectives are important in this situation?	There are many ways in which Tomeka could respond to this situation. Which alternative is best for the decision you identified in question 1?	Will Tomeka have to compromise on one of the objectives in question 2 to satisfy another one? Which tradeoffs will she have to make?	This scenario presents a number of potential risks to Tomeka. Which risks should play a role in her decision?	

# DECISION-MAKING SCENARIO: ANTONIO



© Getty Images

**F**ive years ago, Antonio immigrated to the US with his parents and little sister, Olga. It has been a challenge to adjust to the new culture, especially for Antonio's parents, who still struggle with English. Antonio and Olga have had an easier time. They have friends at school and make good grades. Antonio plays second base on his high school baseball team, and he plans to attend the state university after graduation next year.

Unfortunately, Antonio's father has been quite sick lately, with serious pain in his abdomen, an occasional temperature and digestive problems. Despite the family's efforts to convince him, he hasn't been willing to go to a doctor, insisting that he'll recover on his own. In fact, Antonio's father never has liked doctors. With his limited English, he's particularly uneasy when dealing with healthcare professionals in the US.

Antonio understands his father's point of view and wants to respect his wishes. They are very close, and it was his dad, after all, who made the biggest sacrifices to bring the family to the US. In many ways, his dad is his hero.

Antonio learned in class how important it is to seek medical attention as quickly as possible, and over the last few days, his father's symptoms

have grown noticeably worse. But if anyone even hints at going to the doctor, his father gets upset.

Antonio has never questioned his dad before. He's worried this may be the first time, though, and it's very stressful for him. Antonio's mom is unsure what to do, and Olga is too young to understand. Antonio doesn't want to confront his father. He's worried that his father might even kick him out of the house for being disrespectful. But Antonio thinks his dad is very sick and might die if he doesn't get to a doctor.

What is the most important decision for Antonio to make, and how would you guide him? Answer the following questions from Antonio's perspective and make the best choice for him. Be prepared to present and explain your answers. ■

1. What is the real problem or decision to be made?	2. What is the objective or goal?	3. What are the alternative choices?	4. Are there tradeoffs?	5. How much risk is acceptable?	6. What should Antonio decide to do?
There are many possible decisions, all of which might determine the future course of Antonio's father's life, and may affect the entire family. Which one is most important?	Antonio has many goals—respect his father, help his father to get better, do what's best for the family. Which objectives are important in this situation?	There are multiple ways in which Antonio could respond. Which alternative is best for the decision you identified in question 1?	Will Antonio have to compromise on one of the objectives in question 2 to satisfy another one? Which tradeoffs will he have to make?	This scenario presents a number of potential risks to Antonio and others. Which risks should play a role in his decision?	