



### MOTIVATION

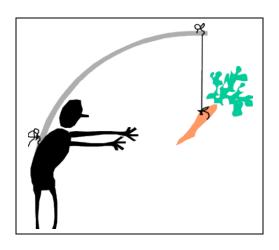












### **Essential Ouestions**

- How do instincts, drives and incentives motivate behavior?
- How does Maslow's hierarchy of needs affect motivation?
- What is drive reduction theory and how does it apply to primary drives?
- What role do cultural, social and biological influences have on hunger?
- What is the human sexual response cycle?
- What are learned and unlearned motives and how do they affect behavior?
- What are the key theories of emotion and how do they compare?
- What cues are important in detecting emotion?
- How do culture and facial expressions influence emotional experiences?
- What is stress?
- What are the causes and effects of stress and how does it affect our ability to fight disease?

### Key Terms, Concepts and Contributors

### MODULE 37:

Motivation Intrinsic motivation Extrinsic motivation Stimulus Motives

Instinct Drive

Primary drives
Secondary drives
Drive-reduction theory

Homeostasis Incentive

Optimal arousal theory Yerkes-Dodson law

Maslow's hierarchy of needs

Physiological needs Safety needs

Belongingness needs

Esteem needs

Self-actualization needs Self-transcendence needs

Peak experiences

### MODULE 38:

Glucose

Ghrelin Insulin

Leptin Orexin

PYY

Lateral hypothalamus Ventromedial hypothalamus

Set point

Basal metabolic rate

Obesity

### MODULE 39:

Sexual response cycle Refractory period Sexual dysfunction Estrogens Testosterone

### MODULE 40:

Social [learned] motives Belongingness Aggression Achievement Affiliation Power

### MODULE 41:

Emotion
James-Lange theory
Cannon-Bard theory
Two-factor theory
[Schacter-Singer theory]
Opponent-process theory
Spillover effect
Yerkes-Dodson Law
Polygraph

### MODULE 42:

Facial feedback theory

### MODULE 83:

Basic emotions
Catharsis
Feel good, do good
phenomenon
Subjective well-being
Adaption-level
phenomenon
Relative deprivation

### MODULE 43:

Health psychology
Stress
Distress
Eustress
Stressors
Catastrophes
Significant life changes
Daily hassles
Annoyances
Tend & befriend response
General adaptation
syndrome [GAS]

### MODULE 44:

Psychophysiological illness Psychoneuroimmunology Lymphocytes B lymphocytes T lymphocytes Coronary heart disease Type A Type B

### Key contributors:

Abraham Maslow William Masters Virginia Johnson William James Walter Cannon Philip Bard Stanley Schachter Richard Lazarus Paul Ekman Carol Izard Hans Selye

### Motivation: The "Whys" of Behavior

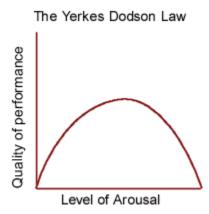
From instincts to self-actualization: What motivates us? Published on October 29, 2011 by Susan Krauss Whitbourne, Ph.D. in Fulfillment at Any Age



Judging from the panoply of motivational books, speeches, videos, and how-to guides, you'd think that psychology has the surefire answer that can explain the simple basis for our many complex behaviors. As it turns out, the complexity of our behavior requires a complex set of explanatory ideas. After teaching these concepts in my introductory psychology course for many years, using Robert Feldman's (2011) excellent text, I've found that these ideas can be boiled down to some straightforward and useful insights.

Why #1: Instinct Theory. According to the oldest motivational theory on the books, organisms behave as they do because they are following a set of biologically pre-programmed instinctual urges. Like the birds and the bees, humans are enacting a set of behaviors hardwired into our neural circuitry. This theory is undoubtedly too simple to apply to humans, much less birds and bees. However, inner needs must certainly be part of the equation in understanding our behavior.

Why #2: Drive Reduction Theory. This next approach to motivation proposes that organisms large and small, simple to complex, prefer the state of homeostasis in which all of their needs are fulfilled. Their "drives," in other words (the need states that propel behavior) must be "reduced." Everyone might have a different definition of homeostasis-perhaps yours is sleeping late on a weekend morning, or just enjoying a relaxing drink in a cozy chair. Drive reduction theory's critics agree that it's great to have your needs met at least some of the time. However, if the theory were true, no one would ever seek out excitement. No one would go bungee jumping or seek comparable mental challenges.



Why #3: Arousal Theory. At the opposite pole of drive reduction, arousal theory proposes that we seek to increase, not decrease, our level of stimulation. We want the high that accompanies a rush of endorphins when we push ourselves physically or mentally. Animals as well as humans get bored from too much homeostasis. However, too much arousal can also thwart our ability to achieve our goals. A variant of arousal theory, called the "Yerkes-Dodson Law," takes this fact into account. The Yerkes-Dodson law proposed in 1908 but still used today (Smith et al., 2007), proposes that we each function according to an optimum level of arousal. You might consider this the "Goldilocks" principle of motivation. If you're too sleepy or too nervous, you'll invariably perform poorly, whether giving a speech or shooting a basketball. Each individual, and each task, has its own peak between arousal that is too low and arousal that is too intense. Once you find your optimum level of arousal, your performance will be both flawless and enjoyable.

Why #4: Incentive Theory. Our behavior may also be determined by forces that propel us to do something we otherwise would not. Incentive theory is the basic principle behind marketing. A good marketing strategy will cause you to want

something you neither have nor think you need. You expect that by having this "thing," you will be better off than you are without it (Beckmann & Heckhausen, 2008). It's like those catalogs that fall out of your mailbox during the holiday season and the emails that clutter up your inbox offering unbelievable "deals." Retailers are hoping that you will go after the products that they put out in front of you. Similarly, grocery, convenience, and large-scale retail clothing stores place their little but often expensive temptations where they are bound to have the most impact-- namely, while you're waiting to check out. An item that you would have given no thought to now becomes a handy little impulse purchase that you toss into your bag or cart. Adding to the draw of the impulse purchase is the fact that you may feel you deserve a treat, having practiced extreme self-restraint throughout the rest of your shopping expedition (a phenomenon called "ego depletion").

Why #5: Cognitive Theory. Moving from simple conditioning to the realm of behavior controlled by thoughts, the cognitive theory of motivation proposes that our expectations guide our behavior. You'll behave in ways that you think will produce a desirable outcome. Cognitive theory, the creation of University of Rochester psychologists Ed Deci and Richard Ryan, proposed that we have two types of motivation: Intrinsic and extrinsic. Intrinsic motivation is what drives us to fulfill our inner potential and interests. Your intrinsic motivation is your desire to express your true self in your behavior, whether it's work or leisure. What's more, when you are driven by intrinsic motivation, you feel that you are determining the outcomes of your efforts. Extrinsic motivation, by contrast, is your desire to achieve tangible rewards such as money or the glory that come with status and recognition. Deci and Ryan developed the counter-intuitive proposal that people who receive extrinsic rewards for behaviors that they find intrinsically satisfying become less creative and productive. This has the picturesque name of "motivational crowding out." The extrinsic rewards of money, fame, and recognition crowd out the intrinsic satisfaction that you experience from doing something because you really like to do it. The motivational crowding out idea has some obvious flaws. Managers could use this theory to pay workers less or deny them promotions. "Why should we pay you more (or at all)?" You'll be less creative and productive! This problem led to a revision in the theory which is called ...

Why #6: Self-Determination Theory. With the obvious flaw in cognitive theory, it became clear that work motivation needs to incorporate both intrinsic and extrinsic sources of motivation. Deci and Ryan therefore revised their theory. Self-determination theory proposes that you can have a combination of intrinsic and extrinsic motivation driving your work-related and other behavior. The most satisfying activities you can engage in, the ones that will motivate you the most, are those that allow you to feel most in control of your behavior. You can be motivated by the mundane satisfaction provided by extrinsic rewards. However, the more autonomy you feel, the more self-directed you'll be, and the most satisfied you'll be in your work, as suggested by research on college alums who felt they were fulfilling their intrinsic needs (Niemiec et al, 2009). Being able to express your inner motives and get paid at the same time is a hard combination to beat. The problem for many people is that they feel that their work behavior is controlled by factors outside of their own inner self-determination. It's that feeling of external control that leads to job discontent and stagnation. The remedy to this problem is to find ways to express your autonomy, even if it's only in a few minor ways.



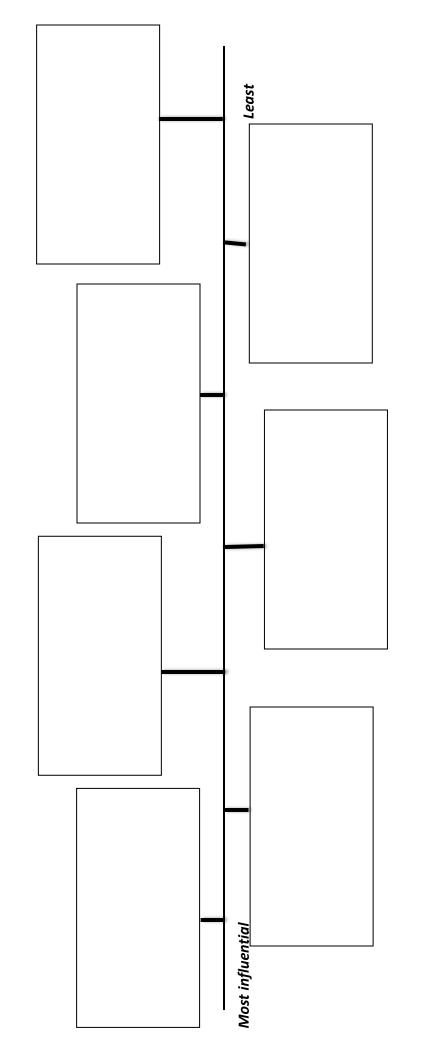
Why #7: Self-Actualization Theory. At the very pinnacle of motivation, self-actualization theory proposes that we are most motivated to realize our own inner potential. Maslow's self-actualization theory is one of the most recognizable topics in psychology, but also one of the least well-tested and least well-understood. According to Maslow, self-actualization is the true realization of your inner potential, whatever that is. Self-actualization is not a state of complete perfection. Maslow's very lofty definition proposed that self-actualization is a continual process of becoming. The hierarchy of motives for which Maslow became famous proposed that we have lower-order needs (those instincts and drives) and higher-order needs (total self-expression). After you satisfy your lower-order needs, says the theory, you can self-actualize. This idea might be

wrongly translated into the expression "A hungry poet cannot write." However, as we all know, hungry poets do write. In fact, many people will set aside physical needs, safety, and even positive regard from others in order to fulfill their highest-order needs. To many Steve Jobs was just such a man. Maslow actually proposed that, in fact, many of the people he considered self-actualized had given up their lower-order needs for safety, security, and even love, to realize their innermost passions. According to Maslow, very few people achieve this nirvana, and when they do, they're typically in their middle or later years.

Now that you've seen the range of motivation theories, you've probably been able to pick out parts of each that apply to you either now or at some point in your past. By recognizing that your behavior reflects these many complex pieces, you can move on to developing your own unique path to change. Whether it's arousal, incentive, self-determination, or self-actualization, understanding the motivation behind your behavior can give you the insights you need to develop your own unique pathway to fulfillment.

## Motivation: MY "Whys" of Behavior

influential factors in your life. Then, for each factor, give a personal example of when that type of motivation was the driving Directions: Use the following scale to rank which motivating factors from the reading are the most influential to the least force for something you did.





### Pain Really Is All In Your Head And Emotion Controls Intensity

FEBRUARY 18, 2015 4:03 PM ET Jon Hamilton

When you whack yourself with a hammer, it feels like the pain is in your thumb. But really it's in your brain.



That's because our perception of pain is shaped by brain circuits that are constantly filtering the information coming from our sensory nerves, says David Linden, a professor of neuroscience at Johns Hopkins University and author of the new book *Touch: The Science of Hand, Heart, and Mind*.

"There is a completely separate system for the emotional aspect of pain — the part that makes us go, 'Ow! This is terrible.' "

- David Linden, neuroscientist, Johns Hopkins University

"The brain can say, 'Hey that's interesting. Turn up the volume on this pain information that's coming in,' "Linden says. "Or it can say, 'Oh no — let's turn down the volume on that and pay less attention to it.' "

This ability to modulate pain explains the experiences of people like Dwayne Turner, an Army combat medic in Iraq who received the Silver Star for valor.

In 2003, Turner was unloading supplies when his unit came under attack. He was wounded by a grenade. "He took shrapnel in his leg, in his side — and he didn't even notice that he had been hit," Linden says.

Despite his injuries, Turner began giving first aid and pulled other soldiers to safety. As he worked, he was shot twice — one bullet breaking a bone in his arm. Yet Turner would say later that he felt almost no pain.

"Soldiers in the heat of the moment don't recognize the pain that's happening," Linden says. But once that moment is over, those same soldiers may feel a lot of pain from something minor, like a hypodermic needle, he says.

The brain also determines the emotion we attach to each painful experience, Linden says. That's possible, he explains, because the brain uses two different systems to process pain information coming from our nerve endings.

One system determines the pain's location, intensity and characteristics: stabbing, aching, burning, etc.

"And then," Linden says, "there is a completely separate system for the emotional aspect of pain — the part that makes us go, 'Ow! This is terrible.'

Linden says positive emotions — like feeling calm and safe and connected to others — can minimize pain. But negative emotions tend to have the opposite effect. Torturers have exploited that aspect for centuries.

"If they want to accentuate pain during torture they can do this with humiliation [or] with an unpredictable schedule of delivering pain," Linden says. "Those things will make the emotional component of the pain experience stronger."

CIA interrogators used both tactics after Sept. 11, according to a Senate report released late last year.

One thing scientists are still trying to understand is precisely how the brain regulates the perception of pain. A team from Brown University has found some clues.

The team studied low-frequency brain waves in a part of the brain that responds to sensations in the hand, says Stephanie Jones, an assistant professor of neuroscience at Brown. Earlier research had shown that these rhythms increase when the brain is blocking sensory information from the hand.

So the reseasrchers monitored the brain waves of a dozen people who were asked to pay attention *only* to their hand or *only* to their foot. During the experiment the scientists delivered a light tap to each person's finger or toe.

When participants focused on their feet, low-frequency rhythms increased in the brain area that responds to hand sensations — because participants were asking their brains to ignore sensory input from the hand, and it's these low-frequency rhythms that do the blocking of such information. That was expected.

But low-frequency rhythms *also* increased in a different brain area — the region that ignores distractions, the team discovered. They reported their findings in the current issue of *The Journal of Neuroscience*.

The two areas became synchronized, Jones says. "There's coordination between the front part of the brain, which is the executive control region of the brain, and the sensory part of the brain, which is filtering information from the environment," she says.

That suggests that at least some people can teach their brains how to filter out things like chronic pain, perhaps through meditation, Jones says.

A 2011 study supports this idea. It found that people who practiced mindfulness meditation for eight weeks greatly improved their control of the brain rhythms that block out pain.

### Case Study: Harry

It is April at Smart High School, a couple more months and school is over. Weather is getting nicer and it seems the students are getting summer fever. Mr. Anderson is noticing that one student has stopped trying, rarely pays attention and has not made any attempt to make up missed work or make up lower grades. Harry is in Mr. Anderson's Level III Math class that is a fast-paced, high-level course. Harry started to miss class in January and missed three and a half weeks of school, including midterms because of an illness. Harry has always been a good student, however when he returned he had trouble focusing.

Mr. Anderson worked with Harry, offering extra tutoring and told him that he could make up as soon as he felt he was ready. After three weeks, Harry stopped staying for extra help and he still had not made up any of his work. Mr. Anderson talked to Harry and again offered addition help. Mr. Anderson also let Harry know that he available anytime to talk and work things out. Harry did not improve, so Mr. Anderson approached Harry again:

Mr. Anderson:" Harry you are a smart kid! What's going on with math? You should be doing better in my class."

Harry: "I know, the stuff we're doing now isn't that difficult. I just haven't been bothering too much. I mean, what's the difference? I'm already going to fail for the year anyway."

Mr. Anderson: "Well, the year's not over yet. Plus you need to prepare for the state exam.

Harry: "What's the difference? I don't need this course. I've already got my two years of math. The past state exams were easy. I passed and I didn't even study."

Mr. Anderson: "Yes, but you still need to pass my class to get credit for the course, and I don't count the state test grade as part of the course grade,"

Harry: "So I'll take the course over again next year as an elective. I'll need an easy class to round out my senior year anyway."

Term	Definition	Application to case study (where do you see this term being applied)?
Motivation	Feeling or ideas that cause us to act toward a goal	
Instincts	Automatic behaviors to specific stimuli	
Incentives	External motivation- motivated to seek reward	
Achievement motivation: Intrinsic	From within	
Drive Reduction Theory	Drive to reduce a need	

### **Love and Mating: Psychology Edition**

Stage 1: The quest for love

Read the following article: <a href="http://tinyurl.com/bwewlr2">http://tinyurl.com/bwewlr2</a>

Explain Harlow's findings on the need for creature comforts and security:

### Stage 2: Your needs first

Log onto your class website and complete the power point titled Maslow practice. Use Maslow's Hierarchy to evaluate what needs are being ranked over others. Write your answers in the chart provided:

Need on the hierarchy	Need <u>on the hierarchy</u>	What would you do in a similar situation?
taking priority?	being sacrificed?	

### Stage 3: Sexual Orientation

Read the "Sexual Orientation" article on your class website and complete the chart:

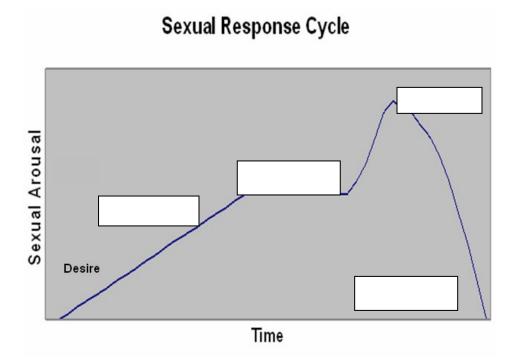
Term	Summary

### Stage 4: Mating

Read the following articles and answer the questions below.

### http://tinyurl.com/36fmdgn

1. Label the following four parts of the cycle on the diagram below.



2. Define refractory period:

### http://tinyurl.com/c6kc6oe

a.

b.

summarize.	Stage 5: Sexual Disorders ect one Paraphilia disorder and to	wo sexual disorders to read and
http://allpsych.com/disorders/shttp://allpsych.com/shttp://al	<u> </u>	
Paraphilia disorder:	Summary	Treatment
Sexual disorder:	Summary	Treatment

3. Describe two criticisms of Masters and Johnson's work according to the second article.

### "KILLING US SOFTLY" VIDEO GUIDE

As you watch "Killing Us Softly," you will see examples of how the media influences motives that drive human behavior. Please explain how the media affects our motivation in the categories below:
Eating Habits
Violence
Consumer Choice
Image of Women
Image of Men

### FEELING STRESSED?

TITLE	MAIN IDEA	IMPORTANT VOCABULARY	EXAMPLES
Types of Stress			
Stress & Cognitive Appraisal			
Individual Differences – Stress Response			
General Adaptation Syndrome			
Causes of Stress			
Motivational Conflicts			
Stress, Illness, & the Immune System			

On the back: In two paragraphs (or three!), explain how these different topics connect to one another. If you'd really like to impress your teacher, be sure to include some of the vocabulary!

### The James-Lange Theory

The James-Lange theory proposes that an event or stimulus causes a physiological arousal without any interpretation or conscious thought, and you experience the resulting emotion only after you interpret the physical response. For example, you're late leaving work, and as you head across the parking lot to your car, you hear footsteps behind you in the dark. Your heart pounds and your hands start to shake. You interpret these physical responses as fear.

### The Cannon-Bard Theory

The Cannon-Bard theory, on the other hand, suggests that the given stimulus evokes both a physiological and an emotional response simultaneously, and that neither one causes the other. For example, you're home alone and hear creaking in the hallway outside your room. You begin to tremble and sweat, and you feel afraid.

### The Schachter-Singer Theory

Many years later, two psychologists called Stanley Schachter and Jerome Singer proposed another theory. Their theory, known as the **Schachter-Singer theory**, suggests that experiencing an emotion requires both bodily response and an interpretation of the bodily response, called a cognitive label, by considering the particular situation the person is in at the moment (Schachter & Singer, 1962). If my heart is racing and an alligator is chasing me, I might interpret that as fear. If my heart is racing and I am looking at the person I am in love with, I might interpret that as excitement. Even though the bodily response is the same, I might experience very different emotions depending on the type of situation I am in.

### The Opponent- Process Theory

The fourth commonly discussed theory of emotion is known as the **Opponent-Process Theory** of emotion developed by two psychologists called Richard Solomon and John Corbit. This theory is a completely different type of theory and explains our experience of emotions in relation to its opposites. Richard Solomon and John Corbit suggest that the experience of an emotion disrupts the body's state of balance and that our basic emotions typically have their opposing counterparts (Solomon & Corbit, 1974). For example, the opposite of pleasure is pain, the opposite of fear is relief, the opposite of depression is elation, etc. When we experience one emotion, it suppresses the opposite emotion. Once the initial emotion subsides, we naturally experience the opposing emotion to balance out the two. For example, we might feel a high level of fear before bungee jumping off the ledge. After the jump, we feel a high level of relief, the opposite emotion of fear. This theory is also commonly used to explain drug addiction. The pleasure associated with taking an addictive drug makes us feel the painful withdrawal effect of the drug afterwards. To escape this painful withdrawal effect, the addict takes more of the drug right away. But because we are trying to experience pleasure from a state of experiencing pain (and not a normal state) we need more of the drug than before. This is considered to be what creates the addictive cycle of drugs.

### **Theories of Emotion**

After reading the summaries of the four	different theories	of emotion	complete the fo	llowing
for each theory:				

James-	Lange
Jaiii63-	Lange

<u>Essay-worthy definition</u>: According to the James-Lange theory, emotion is experienced...

Diagram the process of experiencing emotion according to this theory (include the terms- stimulus, physiological response, and emotional response and any others that are necessary):

<u>Create your own example</u> of this theory in action (for example, Katie went on a hike...)

Cannon-Bard

<u>Essay-worthy definition</u>: According to the Cannon-Bard theory, emotion is experienced...

Diagram the process of experiencing emotion according to this theory (include the terms- stimulus, physiological response, and emotional response and another others that are necessary):

Create your own example of this theory in action (for example, Katie went on a hike...)

Schachter-Singer

<u>Essay-worthy definition</u>: According to the Schacher-Singer theory, emotion is experienced...

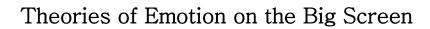
Diagram the process of experiencing emotion according to this theory (include the terms- stimulus, physiological response, and emotional response and any others that are necessary):

<u>Create your own example</u> of this theory in action (for example, Katie went on a hike...)

Opponent- Process	Essay-worthy definition: According to the Opponent- Process theory, emotion is experienced
Diagram the process	s of experiencing emotion according to this theory:
 Create your own e	example of this theory in action (for example, Katie went on a hike)

Finally, what do you think? Which theory makes the most sense to you in how we experience our emotions? Why?







For each of the movie clips you need to explain how the emotion is occurring according to the theory provided.

Theory	Clip 1:
James-Lange	
Schachter-	
Singer	
Theory	Clip 2:
Cannon-Bard	
Opponent-	
Process	
Theory	Clip 3:
Cannon-Bard	
James-Lange	

Theory	Clip 4:
Opponent- Process	
Process	
Schachter-	
Singer	

Your turn: Come up with a scene from a popular movie and explain the emotion being displayed and which theory best demonstrates that showing of emotion.

### FEELING STRESSED!?!?!?~ Stress and Motivation

Each team member should take one stress article to read and teach your team about that kind of stress response. Next, each team member should report out about that kind of stress and everyone should add the definitions to your chart. Finally, the team should read the scenario you have been given and apply the different types of stress to the scenario. You can add extra information to the scenario in order to make your examples work, if necessary.

Term:	Definition of term:	Example as related to the scenario you were given:
Type A Personality		
Type B Personality		
General Adaptation Syndrome (make sure you know & understand the stages!)		
Motivational Conflicts: Approach/Approach Approach/Avoidance Avoidance/ Avoidance		

## STRESS & MOTIVATION

Each team member will read and take notes on one of the articles. You will be responsible for teaching the material to your classmates!

RESPONSE GENERAL ADAPTATION SYNDROME	Psychologist to know:	Definition:	Stage Descriptions: 1. Alarm	2. Resistance	3. Exhaustion	STRESS, ILLNESS, & THE IMMUNE SYSTEM	How stress effects:	- Digestive system	- Cardiovascular system	- Immune system
INDIVIDUAL DIFFERENCES – STRESS RESPC	Type A Personality Traits:		Type B Personality Traits:	Type C Personality Traits:		MOTIVATIONAL CONFLICTS	Approach-Approach:		Avoidance-Avoidance:	Approach-Avoidance:

# HOW DO THESE THEORIES EXPLAIN STRESS?

Use the scenario given to your group. How do each of these theories connect with the stressful scenario you selected? You are the expert for your article – be sure to help your classmates come up with applications for each aspect listed below!

GENERAL ADAPTATION SYNDROME	How would the individual experience General Adaptation Syndrome? Explain what would happen to the person in each stage.	- Alarm	- Resistance	- Exhaustion	STRESS, ILLNESS, & THE IMMUNE SYSTEM	Choose one of the physiological systems affected by stress. Make connections about the stressor in the scenario and how it might affect the individual's health.
INDIVIDUAL DIFFERENCES – STRESS RESPONSE	Select one of the personality types. How would being Type A, B, or C affect the way the individual responded to the scenario?				MOTIVATIONAL CONFLICTS	In this scenario, are there <b>2 options</b> ? If so, choose to apply <b>approach</b> - <b>approach</b> or <b>avoidance-avoidance</b> to the stress in the situation.  If not – explain how <b>approach-avoidance</b> would contribute to the stress in this situation.

### Theory X and Y Profile Quiz

Take the test below regarding your Theory X or Y orientation. This assessment sheds insight into your orientation toward Douglas McGregor's Theory X (your X score) and Theory Y (your Y score) assumptions. You should review this theory in your book.

Read the following statements. Use the space to the left to write Y (for yes) if you agree with the statement, or N (for no) if you disagree with it. Force yourself to take a yes or no position for every statement.

\_\_ 1. Are good pay and a secure job enough to satisfy most workers?

2. Should a manager help and coach subordinates in their work?
3. Do most people like real responsibility in their jobs?
4. Are most people afraid to learn new things in their jobs?
5. Should managers let subordinates control the quality of their work?
6. Do most people dislike work?
7. Are most people creative?
8. Should a manager closely supervise and direct work of subordinates?
9. Do most people tend to resist change?
10. Do most people work only as hard as they have to?
11. Should workers be allowed to set their own job goals?
12. Are most people happiest off the job?
13. Do most workers really care about the organization they work for?
14. Should a manager help subordinates advance and grow in their jobs?
Scoring
Count the number of yes responses to items 1, 4, 6, 8, 9, 10, 12. Write that number next to X
orientation. Count the number of yes responses to items 2, 3, 5, 7,11, 13, 14; write that score next to
Y orientation.
X orientation Y orientation