

# Module Six

## Using Human Development in Prevention

### Time

The anticipated time for the module is 4 hours.

### Learning Objectives

Participants will be able to

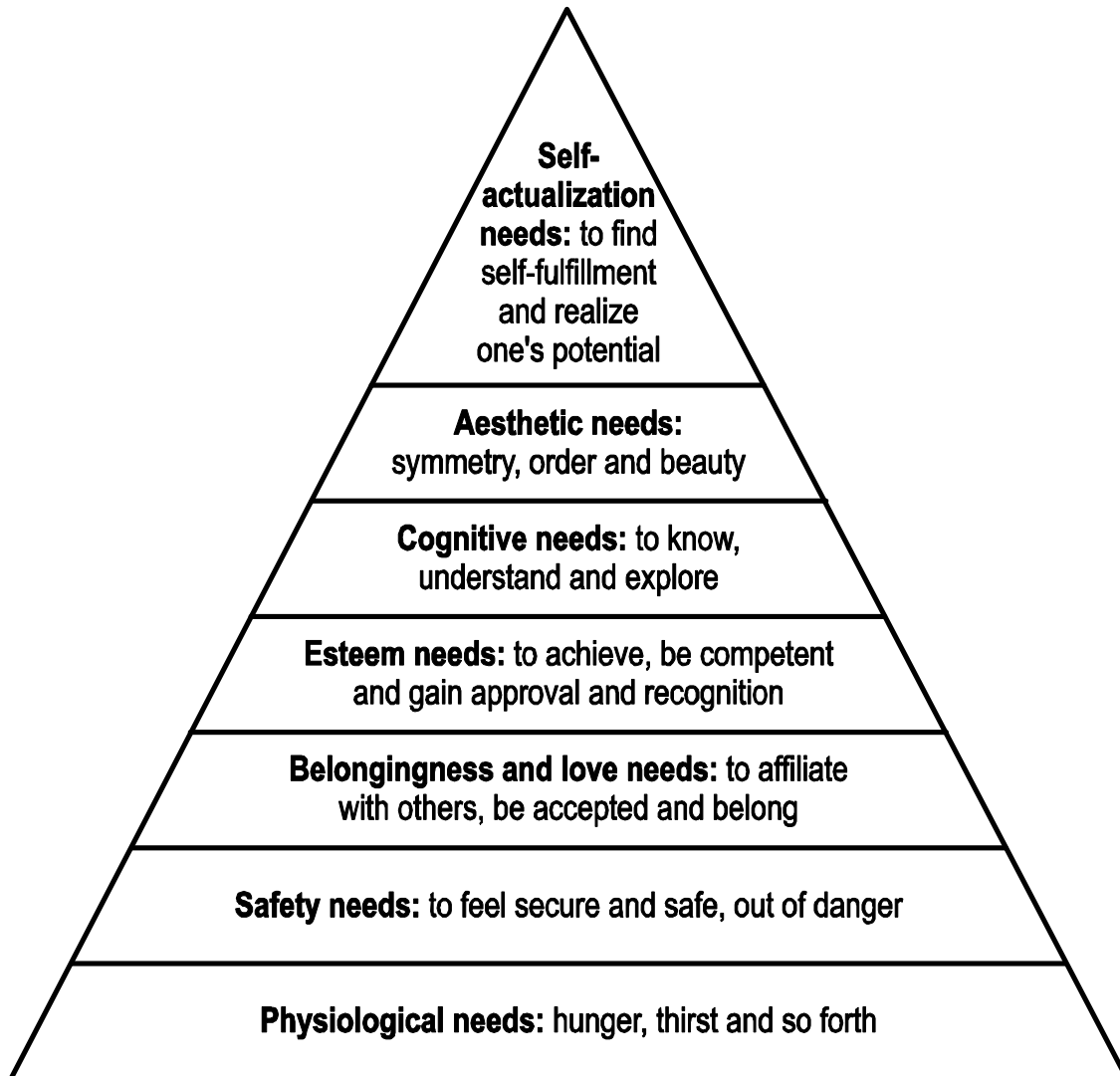
- Acknowledge that changes occurring throughout people's lives have implications for prevention strategies
- Become informed about the emotional development of humans based on emotional expressiveness and understanding
- Become informed about the social development of humans based on thinking about self, thinking about others, and thinking about relations between people
- Become informed about the moral development of humans based on moral internalization, construction, and self-control
- Identify prevention strategies that focus on human emotional, social, and/or moral development
- Apply knowledge of the transformation of the adolescent brain to plan prevention programs

## Changes

Identify one change you've gone through in each of the following categories and write down how old you were when the change occurred.

1. Physical change: \_\_\_\_\_  
How old were you? \_\_\_\_\_  
How did you feel when this happened? \_\_\_\_\_
  
2. Family change: \_\_\_\_\_  
How old were you? \_\_\_\_\_  
How did you feel when this happened? \_\_\_\_\_
  
3. Intellectual change: \_\_\_\_\_  
How old were you? \_\_\_\_\_  
How did you feel when this happened? \_\_\_\_\_
  
4. Emotional change: \_\_\_\_\_  
How old were you? \_\_\_\_\_  
How did you feel when this happened? \_\_\_\_\_
  
5. Social change: \_\_\_\_\_  
How old were you? \_\_\_\_\_  
How did you feel when this happened? \_\_\_\_\_
  
6. Moral change: \_\_\_\_\_  
How old were you? \_\_\_\_\_  
How did you feel when this happened? \_\_\_\_\_
  
7. Financial change: \_\_\_\_\_  
How old were you? \_\_\_\_\_  
How did you feel when this happened? \_\_\_\_\_
  
8. Career change: \_\_\_\_\_  
How old were you? \_\_\_\_\_  
How did you feel when this happened? \_\_\_\_\_
  
9. Philosophical change: \_\_\_\_\_  
How old were you? \_\_\_\_\_  
How did you feel when this happened? \_\_\_\_\_
  
10. Political change: \_\_\_\_\_  
How old were you? \_\_\_\_\_  
How did you feel when this happened? \_\_\_\_\_

## Maslow Hierarchy of Needs



## Emotional Development Table

<b>Newborn to Age 1</b>	<b>1 to 2 Years of Age</b>	<b>3 to 6 Years of Age</b>	<b>7 to 9 Years of Age</b>	<b>10 to 14 Years of Age</b>	<b>15 to 18 Years of Age</b>
<p>Infants need a warm, responsible caregiver.</p> <p>Develop self-worth, trust and security.</p> <p>Emotional regulation develops with increased mobility.</p> <p>Identify caregivers and emotions.</p> <p>Begin to learn about cause and effect as their behavior elicits responses from caregivers.</p> <p>Emotions are expressed in a variety of ways (tears, facial expressions, laughter.)</p>	<p>Emotions take on roller-coaster quality.</p> <p>Children become extremely demanding and persistent.</p> <p>Temper tantrums are common as children struggle to express their ideas.</p> <p>Become possessive of caregivers.</p> <p>Empathy begins to appear in play (e.g. punishing or praising a doll.)</p>	<p>Children move from physical emotional expressions to verbal expressions.</p> <p>Use loud voices, “bad” words.</p> <p>Wild stories and exaggeration are common.</p> <p>Develop a good sense of humor.</p> <p>Comply with rules and display positive emotion as they do so.</p> <p>Are more sensitive to others’ feelings.</p> <p>Emotional elements of play become true to real-life situations.</p>	<p>Children desire to perform well and do things correctly.</p> <p>View issues as right or wrong, with very little middle ground.</p> <p>Criticism and failure are difficult to handle.</p> <p>Emotional conformity to rules improves.</p> <p>Become better able to understand others’ emotions.</p> <p>Seek emotional security by participating in groups or clubs.</p>	<p>Frequent changes in mood result from hormonal changes.</p> <p>Children are emotionally sensitive and volatile and try to repress and/or regulate their emotional responses.</p> <p>May experience a drop in self-assurance after transition to middle school.</p> <p>Are preoccupied with appearance.</p> <p>Serious emotional problems such as depression may appear.</p> <p>Internalize or externalize stresses.</p>	<p>Young people feel less self-consciousness.</p> <p>Wrestle emotionally with identity issues. (Who am I?)</p> <p>May accept some parental ideologies and professional goals.</p> <p>Search, explore, and experiment to develop their own identity.</p> <p>Maturity may bring about appropriate emotional behaviors.</p> <p>Strong bonds with parents help teens develop emotionally.</p>

Oesterreich, L. (1995). Ages and stages. In L. Oesterreich, B. Holt, & S. Karas, *Iowa family child care handbook* [Pm 1541] (pp. 196–197). Ames, IA: Iowa State University Extension.

## Social Development Table

<b>Newborn to 2 Years of Age</b>	<b>3 to 6 Years of Age</b>	<b>7 to 9 Years of Age</b>	<b>10 to 14 Years of Age</b>	<b>15 to 18 Years of Age</b>
<p>Children watch, observe, and imitate adults.</p> <p>Develop self-recognition, give directions, to adults, and speak self-descriptively (“Me go.”)</p> <p>Categorize people according to characteristics such as name (“Mom”) or role (“teacher.”)</p> <p>Are self-centered and possessive.</p> <p>Develop a greater sense of independence and desire independence in ways that exceed their abilities.</p>	<p>Children begin to remember life history.</p> <p>Express beliefs through desires and act with intention.</p> <p>Self-efficacy is typically high.</p> <p>Attributions are related to achievement; they like to help adults.</p> <p>Can play by themselves for extended periods.</p> <p>Are critical of others and embarrassed by their own mistakes.</p> <p>Seek attention and approval of adults.</p> <p>Friendship is based on play and exchange of material goods.</p> <p>Acquire social problem-solving strategies, (e.g. taking turns, sharing.)</p>	<p>Self-concept is based on academic, physical, and social dimensions.</p> <p>Achievement is based on ability, effort, and on external factors such as praise.</p> <p>Develop perception of others based on personality traits and comparisons.</p> <p>Develop race and social class attitudes.</p> <p>Perspective expands.</p> <p>Friendship becomes increasingly important.</p>	<p>Children show interest in others’ mental states and feelings.</p> <p>Take others’ perspectives into consideration.</p> <p>Show some tendency to think of social rules and conventions as standards that should be followed.</p> <p>Want to please others.</p> <p>Store information about social events in working memory.</p> <p>Secret codes and shared word meanings strengthen the bonds of friendship.</p>	<p>Young people recognize that people have different thoughts and feelings from their own.</p> <p>Show an understanding that social rules and conventions help society run more smoothly.</p> <p>Self-concept is based on personality traits, friendships, romantic appeal, and job confidence.</p> <p>Character sketches formulate perceptions (e.g. “popular,” “timid,” “conceited,” and “aggressive.”)</p> <p>Define friendship as mutual understanding and intimacy rather than shared activities.</p>

Oesterreich, L. (1995). Ages and stages. In L. Oesterreich, B. Holt, & S. Karas, *Iowa family child care handbook* [Pm 1541] (pp. 196–197). Ames, IA: Iowa State University Extension.

## Moral Development Table

<b>Newborn to 2 Years of Age</b>	<b>3 to 6 Years of Age</b>	<b>7 to 9 Years of Age</b>	<b>10 to 14 Years of Age</b>	<b>15 to 18 Years of Age</b>
<p>Children think of morality in concrete terms and are motivated selfishly.</p> <p>Learn to comply with rules and to begin to accept delay of gratification.</p> <p>Conform to caregivers' wishes.</p>	<p>Children accept moral perspectives of caregivers as their own.</p> <p>Understand standards for right and wrong.</p> <p>Form opinions about caregivers' authority.</p> <p>Their notion of justice is based on equality.</p> <p>Ability to accept delay of gratification improves.</p> <p>Need adults to provide self-control strategies.</p> <p>Experience remorse for wrong behavior.</p>	<p>“Good” is whatever conforms to existing laws, customs, and authority.</p> <p>Rewards and punishment provide the focus for what is right and wrong.</p> <p>Sense of justice is based on fairness.</p> <p>“Good” is also what brings approval from friends.</p> <p>Expand their self-control strategies.</p>	<p>Develop better understanding of fairness and guilt.</p> <p>Recognize others' needs.</p> <p>Are concerned about maintaining interpersonal relationships.</p> <p>Consider other people's perspectives when making decisions.</p> <p>Satisfy others' needs if their own needs are also met (e.g. “I'll scratch your back, you scratch mine.”)</p> <p>Decisions are intended to please others.</p>	<p>Young people look to society as a whole for guidelines about right and wrong.</p> <p>“Good” is whatever conforms to existing procedures.</p> <p>“Good” is consistent with moral principles.</p> <p>Moral dilemmas involve relationships with others and societal norms.</p> <p>Moral reasoning focuses on understanding others' feelings.</p> <p>Self-regulation is based on what is considered right and wrong.</p>

Oesterreich, L. (1995). Ages and stages. In L. Oesterreich, B. Holt, & S. Karas, *Iowa family child care handbook* [Pm 1541] (pp. 196–197). Ames, IA: Iowa State University Extension.

## Prevention Strategies Focused on Human Development

EMOTIONAL	SOCIAL	MORAL
Teach families to have clear expectations for behavior, to monitor their children, and to implement appropriate consequences.	Teach life and social skills, such as communication, goal setting, problem- solving techniques, stress management, refusal skills, and decision-making skills.	Teach the principles of right and wrong by providing opportunities for children to engage in discussions that question and examine moral issues.
Provide training for families on managing stress and anxiety.	Build bonding through opportunities, skills, and recognition within the family, school, and community.	Provide self-management skills for self-control, such as deep breathing, mental rehearsal, muscle relaxation, goal setting, and planning for the future.
Teach parents how to reinforce appropriate behavior.	Provide parental training on involvement in activities with their children; provide knowledge about the school system and encourage parents to become involved in their children’s school; provide training in conducting family meetings and planning family activities.	Teach decision making based on intrinsic motivation rather than external punishments or consequences.
Teach assertive communication, which allows expression of one’s feelings, needs, and desires.	Foster a commitment to school in young people.	Teach parents, schools, and communities to provide clear and consistent no-use messages.
Teach emotional management strategies for dealing with stressful situations.	Work with schools to foster a climate of home-school collaboration, clarification of rules and enforcement, improved classroom management and organization, and positive reinforcement.	Teach parents and schools disciplinary techniques based on logical consequences.
Increase bonding to persons with healthy beliefs and clear standards by teaching families, schools, and communities how to provide opportunities, skills, and recognition to young people.	Teach that using alcohol, tobacco, and other drugs is not the norm, even if the belief is that “everyone is doing it.”	Provide opportunities for young people to participate in the governing process of the family and school. This allows young people to develop concepts of justice and self-discipline out of their own experiences instead of authoritatively.

U.S. Department of Justice (2000). *Promising strategies to reduce substance abuse*. Washington DC: Office of Justice Programs.

## Adolescent Brain Development

### Brain Development Is Structural and Functional

- Brains undergo “pruning.” This refers to the natural removal of brain cells. Pruning occurs during the last months before birth; the final pruning occurs in the late teens.
- When children are between 6 and 12 years of age, their neurons (the basic functional units of the nervous system) grow bushier, making connections to other neurons and creating pathways for nerve signals.
- The thickening of the brain’s gray matter, which includes neurons and dendrites (the branched parts of nerve cells that transmit impulses toward the cell body), peaks for girls at age 11 and for boys at age 12.5
- Pruning thins out gray matter and tapers off by age 20.
- As gray matter thins, brain white matter thickens. White matter is responsible for making nerve signal transmissions faster and more efficient.
- During adolescence, the number of brain connections decrease, but the remaining connections become faster.
- Brain development proceeds in stages, generally from back to front.
- Regions in the back of the brain that control sensory functions reach maturity the earliest.
- The prefrontal cortex, known as the “brain’s police officer,” is associated with impulse control, consequences, context, and judgment.
- Of the parts of the brain, the prefrontal cortex matures last.

### Brain Development Is Hormonal

- Adolescents come under hormonal assault during puberty.
- Estrogen and testosterone hormones in the bloodstream spur the development of the reproductive system.
- Adrenal sex hormones are extremely active in the brain and directly influence neurochemicals that regulate mood and excitability.
- Adolescents seek out situations in which they allow emotions to run wild.
- A hormone-brain relationship contributes to the appetite for thrills, strong sensations, and excitement.
- The brain regions that curb risky impulsive behavior are under construction during adolescence.

- The parts of the brain responsible for sensation seeking are turned on during adolescence.

## **Brain Development Is Biochemical**

- Dopamine is a chemical involved in the pleasure-and-reward circuit in the brain.
- All the addictive drugs increase dopamine in the reward centers in the inner brain by increasing dopamine release into synapses (the point of connection between two nerve cells) or prolonging its stay.
- High levels of brain dopamine may influence a young person to take a drug or drive a car too fast. And these actions can further increase levels of dopamine.
- Higher sensitivity to reward and excessive risk taking are clearly related to dopamine. Low-risk-takers can become high-risk-takers under the influence of alcohol, which increases dopamine levels.
  - Some people may be born with dopamine systems that are either overly sensitive or under sensitive, leaving them primed to seek or avoid risky activities.
  - One study found that the highest risk takers were 10 times more likely to take drugs, which has become one of the most common forms of risk taking in teenagers.
- Magnetic resonance imaging (MRI) scans have shown that increased dopamine levels cause emotions to be processed in the amygdala, an area involved in instinctual reactions such as fight or flight, anger, or “I hate you,” rather than in the frontal cortex, which is involved in logical thinking. This explains why teenagers sometimes seem emotionally overactive.
- Lower levels of serotonin, the neurotransmitter that has a calming effect, contribute to impulsivity and aggression. Serotonin affects mood, pain, and hunger.
- Lower levels of serotonin have been associated with adolescent depression.

## **Research Findings on the Effects of Alcohol and Other Drugs on the Adolescent Brain**

- Adolescent brains are developing dramatically and are quite sensitive to neurotoxins like alcohol.
- Alcohol causes damage to the hippocampus, which is related to memory.
- Damage to the adolescent brain caused by nicotine is similar to the damage caused by alcohol.
  - Teenagers who are heavy tobacco users have a much greater risk of developing panic attacks later in life. One study showed that teenagers who used tobacco heavily were 15 times more likely to develop panic attacks than their nonsmoking peers.
  - Adolescent nicotine users are prone to infections, depression, and anxiety, with girls being more sensitive than boys.

- Ecstasy causes severe damage to brain cells that produce dopamine and serotonin.

## Teens and Brain Development

- Mature thinking occurs between grades 8 and 11 for girls and between grade 8 and the ages of 18 and 24 for boys.
- Adolescent lying can be seen as a natural phenomenon of the development of the brain's frontal lobe, which is involved in problem solving and future-oriented thinking. Frontal lobe development allows teens to integrate social, emotional, and intellectual ramifications in order to see them in context. This is the beginning of moral development.
- Teens need people and institutions to keep them safe, help them interpret emotions, identify options, predict consequences, and make reasoned decisions, especially until they are about 16 or 17 years of age.
- Teens have an increased need for sleep and naturally stay up later and sleep later; increased sleep is necessary for their wildly developing brains.
- Parents (and other adults) contribute to the problem of teen alcohol use by not sending clear messages that drinking is not a rite of passage and by not effectively monitoring their teenagers.
- Physical education, music, the arts, and sports are important to adolescent development.

## Emotional and Cognitive Maturity

- Emotional and cognitive maturity can be defined by considering a person's thinking and behavior in the following three areas:
  - Responsibility—the degree to which people feel they can depend on themselves, be self-reliant, and resist peers.
  - Perspective—the ability to think about consequences of actions ahead of time, as well as the possible impact of actions on others.
  - Temperance—a measure of impulsivity and the ability to regulate emotions.

## Conclusions and Implications

- A stable home and community help adolescents with the stress of being a young person today. A structured environment creates a sense of security.
- It may be time to give teenagers a wider definition of what success at this age means, to give them more “wobble room” to make their own mistakes and come up with their own answers. They need some space to find their own path. They need time to take risks and roam intellectually, physically, and emotionally.
- The availability of a great variety of internships, work experience, and job training, as well as opportunities to travel, is important to young people.
- Finally, teens need a lot of **patience** and **love** as they move from adolescence into

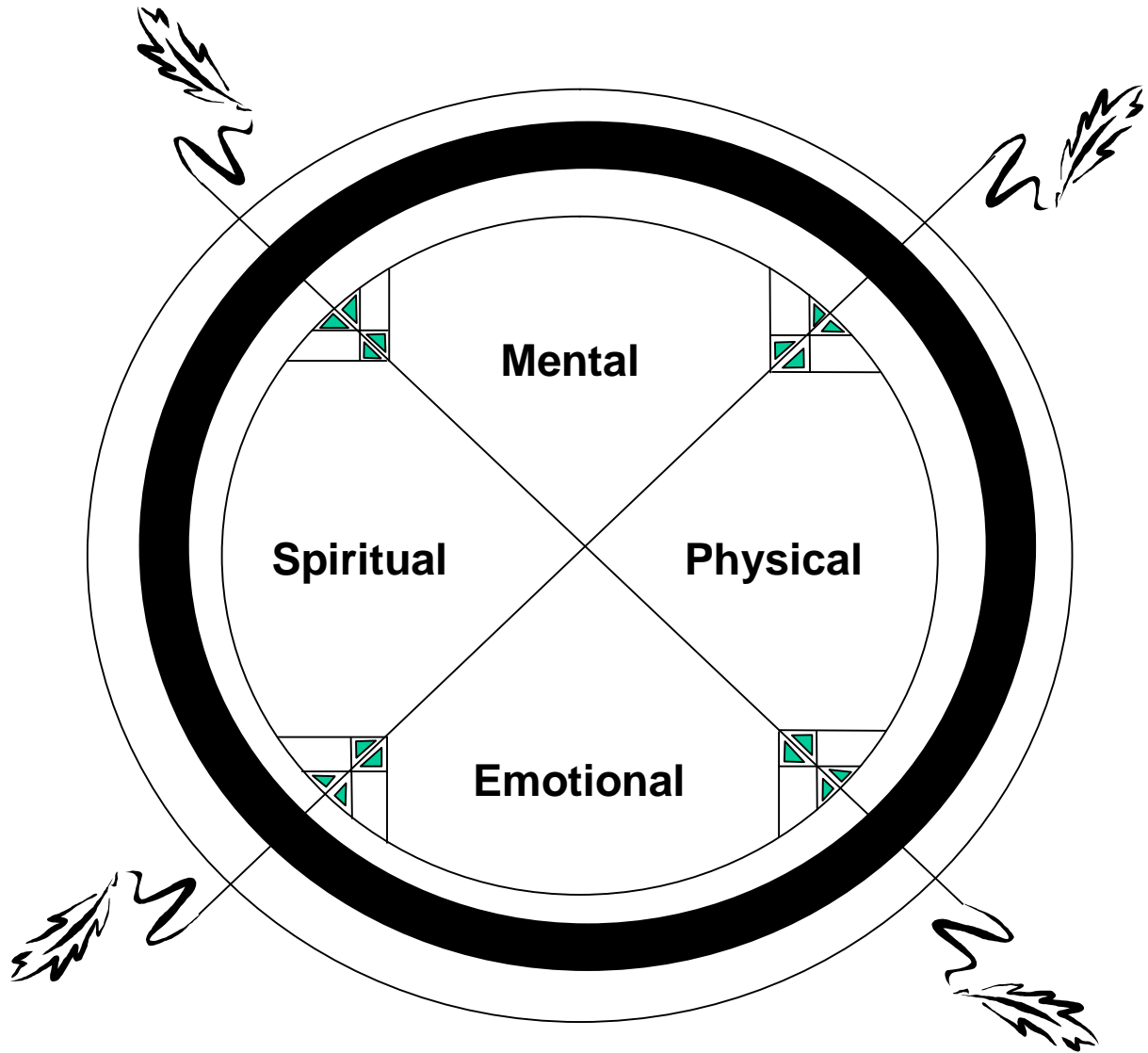
adulthood.

## **Bibliography:**

Strauch, B. (2003). *The primal teen*. New York: Doubleday.

Wallis, C. (2004, May 10) What Makes Teens Tick. Time Magazine:163, 56-65.

## The Medicine Wheel



## The Medicine Wheel - continued

The Native-American concept of the medicine wheel symbolically represents a nonlinear model of human development. Each compass direction on the wheel offers lessons and gifts that support the development of a balanced individual. The idea is to remain balanced at the center of the wheel while developing equally the physical, mental, emotional, and spiritual aspects of one's personality. The concept of the medicine wheel varies among Native peoples: different groups attribute different gifts to positions on the wheel. But the following offers a generalized overview of some lessons and gifts connected with the developmental process.

Lessons and gifts from the East, the place of first light, spring, and birth, include

- Warmth of spirit
- Purity, trust, and hope
- Unconditional love
- Courage
- Truthfulness
- Guidance and leadership
- Capacity to remain in the present moment

Lessons and gifts from the South, the place of summer and youth, include

- Generosity, sensitivity, and loyalty
- Romantic love
- Testing of the physical body/self-control
- Gifts of music and art
- Capacity to express feelings openly in ways respectful to others

Lessons and gifts from the West, the place of autumn and adulthood, include

- Dreams, prayer, and meditation
- Perseverance when challenged
- Balance between passionate loyalty and spiritual insight
- Use of personal, sacred objects
- Understanding of life's meaning
- Fasting, ceremony, self-knowledge, and vision

Lessons and gifts from the North, the place of winter and elders, include

- Intellectual wisdom
- Ability to complete tasks that began as a vision
- Detachment from hate, jealousy, desire, anger, and fear
- Ability to see the past, present, and future as interrelated

## **Source**

Bopp, J., Bopp, M., Brown, L., & Lane Jr., P. (1989). *The sacred tree: Reflections on Native American spirituality*. Twin Lakes, WI: Lotus Light Publications.