



## The Science of Learning and Development

The Science of Learning and Development (SoLD) is the body of scientific evidence that supports how 4-H youth programs work their magic in the lives of youth. Recognizing that positive development happens because of the interaction of a young person and their environments, SoLD researchers turned to multi-disciplinary strands of research to identify important characteristics of youth development. Drawing from developmental and brain science, as well as research in epigenetics, psychology, adversity, and resilience, SoLD researchers identified how a child develops from a more holistic perspective—arguing that it is neither nature nor nurture that determines development, but rather both. The interaction of our genes and our environment drive youth development.

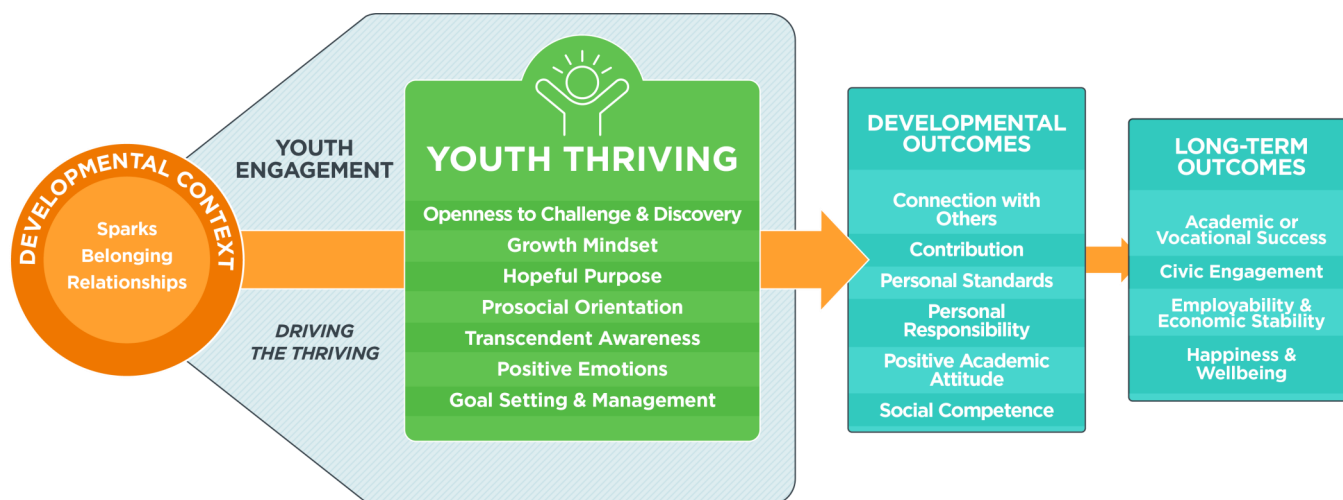
The SoLD research resulted in eight key findings that inform our approach to youth development. These findings are important to consider when working with young people in 4-H:

1. **Potential** - every child has great potential. In order to help a young person reach their potential we have to match their interests, needs and abilities with opportunities and support.
2. **Malleability** - young brains are highly malleable and resilient for learning new things and overcoming adversity.
3. **Individuality** - Every youth learns and develops on their own unique pathway and timeline. There is no “average” child. 4-H provides opportunities for youth to learn at their own pace, based on their own interests.
4. **Context** - Experiences, environments, and cultures are the greatest influences on youth development.
5. **Relationships** - Strong, positive and trusting relationships are critical for positive youth development. Positive youth –adult relationships are a hallmark of 4-H.
6. **Integration** - The brain reaches its full potential when learning is integrated—cognitive, affective, social and emotional development all happen together.
7. **Continuum** - Human development is jagged. While progressive and forward, it is not linear.
8. **Meaning Making** - Learning happens best when new information is connected to prior experiences and applied to other situations. This is why experiential learning is so important in 4-H.

*There is no separation between nature and nurture. The dynamic interaction of our genes and our environment drives all human development.*

# 4-H is Positive Youth Development

4-H is based on a positive youth development (PYD) approach that recognizes all youth have interests, abilities, and strengths that can be enhanced by participation in 4-H programs. Research shows that participation in high quality 4-H programs increases thriving in youth, and thriving youth achieve important developmental outcomes, such as academic motivation and achievement.



## References

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- The Science of Learning and Development (SoLD) Alliance: <https://www.soldalliance.org/what-weve-learned>

Learn more about the 4-H Thriving Model at: <https://helping-youth-thrive.extension.org/>