



Intrinsic Motivation: Research Review

The aim of education should be to cultivate every student's potential. This can only be achieved by constantly getting to know every student and adapting curriculum to concentrate on their developing self and strengths. This may sound like an insurmountable task, but what if it was your or your child's potential that was at stake? Surely, you would not sacrifice living up to your potential because of the size of the challenge, would you? For those who would, this is where you should stop reading. Otherwise, to cultivate potential, we must understand where it emerges. We must understand intrinsic motivation. We must understand passion.

—Paul Thiebaut III

Why create a research review about intrinsic motivation?

Fifty years of motivation research shows that passionate (intrinsically motivated) people seek more challenging work and perform better than extrinsically motivated people (e.g. motivated by money, good grades, praise of others, etc.). They also demonstrate more creativity and persistence, and experience higher levels of satisfaction, joy and meaning than extrinsically motivated people.

In school settings, passion is associated with improved academic performance and happier students at all grade levels. Yet, passion declines from when students enter kindergarten until high school graduation. A lot of what science shows gives people the ability to succeed in school and life is left out of how we educate our children.

The purpose of this research review is to highlight just a smidgen of the incredible amount of research on intrinsic motivation and its widespread positive influence on human learning, performance, achievement, and emotional well-being—the activation of human potential.



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Definitions of Intrinsic Motivation

Its effect on the individual

In The Oxford Handbook of Human Motivation, intrinsic motivation is defined as “the inherent propensity to engage in one’s interests and to exercise one’s capacities and, in doing so, to seek out and master optimal challenges.” (p. 374)

Its effect on the individual’s decision-making, performance and outcomes

“People who truly excel creatively in a pursuit, whether vocational or avocational, almost always genuinely love what they do. Certainly the most creative people are intrinsically motivated in their work (Amabile, 1996). Less creative people often pick a career for the money or prestige and are bored with or loathe their career. Most often, these people do not do work that makes a difference in their field.” (Sternberg, R. J. (2005). *The WICS Model of Giftedness*. Conceptions of Giftedness. 2nd Ed. 327-342.)



General Findings About Intrinsic Motivation

1. **Adults** whose jobs are based on childhood motivations are more successful than adults who have jobs not based on their childhood motivations.
2. **Students** who learn about what intrinsically motivates them are more academically successful and emotionally satisfied than students who feel forced to learn.
3. **Employees** who are intrinsically motivated by their jobs perform better, feel happier, and earn more money than their less motivated coworkers.
4. One of the top traits associated with **gifted children, breakthrough innovators, and geniuses** is their extremely high levels of intrinsic motivation to learn.
5. **Human development** research, **personality** research, **motivation** research, **intelligence** research, **giftedness** research, **creativity** research, **genius** research, **neuroscience** research, **genetics** research, **business** research, **athletic** research, and more, all report findings that show intrinsic motivation enhances human learning, performance, achievement, productivity, and emotional well-being—activate human potential.



Research Highlights on Intrinsic Motivation

1. Students who engaged in schoolwork for intrinsic reasons reported **more involvement, persistence, participation, and curiosity** along with less boredom in school activities than students who reported being extrinsically motivated. Intrinsically motivated students also reported **feeling less anxious and angry, more confident, and less likely to avoid schoolwork or to fake diligence.**" (Stipek, 2002)
2. "Intrinsically motivated people function in performance settings in much the same way as those high in achievement motivation do: They **pursue optimal challenges, display greater innovativeness, and tend to perform better under challenging conditions.**" (Koestner, 1987)
3. "The [eminent] creator must **focus on the intrinsic properties of the task, not on potential rewards or criticisms** that await the outcome." (Simonton, 1990)
4. "While engaging in a task that they find intrinsically interesting, individuals feel that their involvement is free of strong external control: **they get the sense that they are playing rather than working.**" (Hennessey, 2005)
5. "**Creativity generally flourishes under conditions that support intrinsic motivation** (signified by enjoyment, interest, involvement, and focus on personally challenging tasks)."
6. "Intrinsic, task-focused motivation is also essential to creativity. **People rarely do truly creative work in an area unless they really love what they are doing** and focus on the work rather than the potential rewards." (Beghetto, 2010)
7. "All the breakthrough innovators I studied **invested heavily in self-education.** They were avid consumers of knowledge, but they **followed their own rhythms** rather than an instructor's pace. They **went deeply into a topic or broadly across topics** they chose rather than following the path of the syllabus. They were **fueled by intrinsic motivation--a true love of learning**--even if they had no love for school." (Schilling, 2018)
8. "**Teachers must help students find what excites them** to unleash their students' best creative performances." (Note: This is different than "making learning fun".) (Sternberg, 2011)
9. **Some of the most exhilarating experiences** we undergo are generated inside the mind, triggered by information that challenges our ability to think. (Callahan, 2005)
10. When students are more **motivated by rewards and approval they use less sophisticated learning strategies and score lower** on standardized test scores. (Boggiano, 1991)



10 Major Findings About the Effects of Intrinsic Motivation in Education

1. Preschoolers practice writing longer (Lepper, M. R., & Greene, D., 1973)
2. Elementary and middle school students are more motivated to do homework (Stipek, D., 2002)
3. 5th graders earn higher GPAs and class grades (Skinner, E. A., Chi, U., 2012)
4. Grade school students seek out more challenging learning and take more initiative (Stipek, D., 2002)
5. Grade school students show more excitement for learning (Deci, E. L., Ryan, R. M., 2009)
6. High school graduates earn higher incomes (Rounds. J. & Su. R., 2014)
7. High school students drop out less (Ruiz-Gallardo, J.-R., Verde, A., & Valdes, A., 2013)
8. College students earn higher GPAs (Black, A. E., & Deci, E. L., 2000)
9. STEM college students master course work and are excited to take summer courses (Renninger, K. A., & M. W. Nam, 2012)
10. Military college graduates earn higher rankings, earlier promotions, and make longer commitments (A. Wrzesniewski, i, B. Schwartz, X. Cong, M. Kane, A. Omar, & T. Kolditz., 2014)



Student Behaviors Associated with Intrinsic Motivation

Students who are intrinsically motivated:

1. Initiate learning activities on their own
2. Prefer challenging tasks or pursue challenging aspects of tasks
3. Spontaneously make connections between school learning and activities or interests outside of school
4. Ask questions that go beyond the specific task at hand in order to expand their knowledge beyond the immediate lesson
5. Go beyond the requirements
6. Are reluctant to stop working on tasks they have not completed
7. Work on tasks whether or not extrinsic reasons (e.g., grades, close teacher supervision) are salient
8. Smile and appear to enjoy working on tasks
9. Express pride in their achievements

Source: Stipek, D. (2002). Motivation to Learn: Integrating theory and practice. 4th Ed. A Pearson Education Company.

Difference Between Public Education and Intrinsic Motivation Education

Intrinsic motivation education is based on three research-based findings about all students:

1. Students have intrinsic motivations.
2. When intentionally cultivated, intrinsic motivations reveal and develop students' strengths.
3. When students actively pursue what intrinsically motivates them they focus on their strengths, do their best work, experience emotional wellness, and improve their weaknesses.

Comparisons	Public Education	Intrinsic Motivation Education
How the education system is designed	<u>Extrinsic Motivation</u> - Students must learn what is required by Common Core State Standards	<u>Intrinsic Motivation</u> - Students must learn what self-motivates them to work hard and focus on continuous improvement
Generally accepted purpose of educating students	Prepare students for college and the 21st century	Develop students' highest capabilities and provide guidance to where in the real world those capabilities can lead so students can discover how to apply their strengths in personally and socially meaningful and productive ways
What students are taught	Narrow range of primarily academic skills that are the same for all students	How to use passions to continually discover, explore and develop new skills, knowledge, and abilities with an emphasis on how to apply what they learn to the real world
How students are grouped	Age and skill/ability level	Interests, curiosities, complimentary skills, collaborative/problem-solving opportunities
How student success and progress is measured	Grades and tests	Products students create, value students add to the real world, and emotional fulfillment expressed by students
How student learning is represented	Grades, achievement levels, honor roll	Student portfolios that show passions, strength of passions, and aspects of the real world passions relate to



Research Review on Intrinsic Motivation

Regardless of the life domain studied, when people are intrinsically motivated they show increased learning, performance, achievement, productivity, and emotional well-being—maximization of human potential. The list below presents excerpts from research on intrinsic motivation across many life domains, including education, business, science, academia, personal well-being, and more.

Intrinsic Motivation Research Review		
Domain(s)	Finding(s)	Research Source(s)
Grade School Work Academic Achievement Well-Being	Intrinsic motivation increases: <ul style="list-style-type: none"> • academic performance of grade school students and college students • emotional well-being of children, students, adults, and employees • Productivity, job satisfaction, and income of employees 	Deci, E. L., Ryan, R. M. (2009). <i>Self-Determination Theory: A Consideration of Human Motivational Universals</i> . The Cambridge Handbook of Personality Psychology, 441-456.
Performance in school, work, sport, etc.	“Intrinsically motivated people function in performance settings in much the same way as those high in achievement motivation do: They pursue optimal challenges, display greater innovativeness, and tend to perform better under challenging conditions.”	Koestner, R., Zuckerman M., & Koestner, J. (1987). <i>Praise, Involvement, and Intrinsic Motivation</i> . Journal of Personality and Social Psychology. 53: 383-90.
Grade School Test Performance	Intrinsic motivation improved performance on a math test of elementary students.	Cordova, D.I., & Lepper, M. R. (1996). <i>Intrinsic motivation and the process of learning: Beneficial effects of contextualization, personalization, and choice</i> . Journal of Educational Psychology., 88(4), 715-730.
Grade School Academic Achievement	Intrinsic motivation is correlated with better academic outcomes for students in 3rd-8th grade, yet intrinsic motivation consistently declines over that same time period.	Lepper, M. R., Corpus, J. H., & Iyengar, S. S. (2005). <i>Intrinsic and Extrinsic Motivational Orientations in the Classroom: Age Differences and Academic Correlates</i> . Journal of Educational Psychology, 97(2), 184-196.
Grade School	Intrinsic motivation increases a person’s focus and concentration required to pursue creative goals.	Csikszentmihalyi, M., Montijo, M. N., & Mouton, A. R. (2018). <i>Flow Theory</i> :



Creativity		<i>Optimizing Elite Performance in the Creative Realm</i> . APA Handbook of Giftedness and Talent, 215-227.
School Intelligence	“We describe research that finds that the affective states of pleasure, enjoyment, and interest (that accompany and constitute ‘intrinsic’ motivation for an activity) enhance intellectual performance, leading to higher grades and test scores.”	Carr, P. B., & Dweck, C. S. (2011). <i>Intelligence and Motivation</i> . The Cambridge Handbook of Intelligence, 748-770.
Intelligence Grade School Preschool	<p>“People are more likely to select challenging tasks when they are intrinsically motivated than when they are motivated to obtain an extrinsic reward.”</p> <p>“Miserandino (1996) found that students who engaged in schoolwork for intrinsic reasons reported more involvement, persistence, participation, and curiosity along with less boredom in school activities than students who reported being extrinsically motivated. Intrinsically motivated students also reported feeling less anxious and angry, more confident, and less likely to avoid schoolwork or to fake diligence (Valerand, 1997; See also Patrick et al., 1993).”</p> <p>“Conditions supporting intrinsic motivation also foster greater creativity” (see Hennessey, 2000).</p> <p>“Amabile and Hennessey (1992) report studies in which researchers were able to increase children’s creativity by focusing their attention on their intrinsic interest and away from extrinsic rewards related to tasks.”</p> <p>“Lepper, Greene, and Nisbett (1973) conducted a study with preschool-age children, in which children who had been offered a reward for playing with Magic Markers subsequently spent less free time on the activity than children who were never given a reward. As many as 100 studies have used as a paradigm similar to these two studies to examine the effects of reward on subsequent engagement in various activities (see reviews by Cameron & Pierce, 1994; Deci, Koestner, & Ryan, 2000; Tang & Hall, 1995). These studies suggest that external rewards can undermine intrinsic interest in a task, and the larger the reward, the more negative the effect on intrinsic interest.”</p>	<p>Stipek, D. (2002). <i>Motivation to Learn: Integrating theory and practice</i>. 4th Ed. A Pearson Education Company.</p> <p>Lepper, M. R., & Greene, D. (1973). <i>Undermining children’s intrinsic interest with extrinsic reward: A test of the “overjustification” hypothesis</i>. Journal of Personality and Social Psychology, Vol. 28, No. 1, 129-137.</p>



	<p>“Enhanced learning occurs, at least in part, because people are more attentive to text that interests them, and this attention helps them process and remember what they have read.”</p>	
College	<p>Increased curiosity (in the family of intrinsic motivation) increases memory retention of college students using fMRI studies.</p>	<p>Matthias J. G., Bernard D. G., & Charan, R. (2014). <i>States of Curiosity Modulate Hippocampus-Dependent Learning via the Dopaminergic Circuit</i>. <i>Neuron</i>.</p>
Grade School Giftedness	<p>Intrinsic motivation is one of the three main elements that comprise giftedness (Creativity and Intelligence are the other two elements.). Intrinsic motivation is cited as important a force as intelligence in giving people the determination, drive, and energy needed to develop their intelligence and creativity into useful ideas, products, and/or services.</p>	<p>Winner, E. (1996). <i>Gifted Children: Myths and Realities</i>. Basic Books. A Member of the Perseus Books Group.</p> <p>Renzulli, J. S. (2005). <i>The Three-Ring Conception of Giftedness</i>. <i>Conceptions of Giftedness</i>. 2nd Ed. 246-279.</p>
Personal Well-Being	<p>Increased levels of intrinsic motivation result in higher levels of emotional well-being.</p>	<p>Domenico, S. I., Ryan, R. M., (2017). <i>The Emerging Neuroscience of Intrinsic Motivation: A New Frontier in Self-Determination Research</i>. <i>Frontiers in Human Neuroscience</i>.</p>
Genius Work Science Creativity Academia	<p>Successful scientists, largely considered to be “geniuses” are found to possess extremely high levels of intrinsic motivation.</p> <p>“Successful scientists are exceptionally energetic and hardworking and their commitment to work is positively correlated with the number of publications they receive. In academic settings, the best prediction of the number of articles published in professional journals, as well as the productivity rate per unit of time, is the individual’s fascination with research, and this is true even after controls are introduced for the effects of age and discipline: ‘highest producers...express more of an interest in research, communicate more frequently with scholars at other institutions, and subscribe to more academic journals than do less productive faculty’. The influential researcher is unusually ambitious and enduring, and in general, ‘great drive, as reflected in extraordinary commitment to work, is one of the personal characteristics that has often been found to differentiate creative scientists from their less creative</p>	<p>Simonton, D. K. (1990). <i>Scientific Genius: A psychology of science</i>. Cambridge University Press.</p>



	<p>peers.”</p> <p>“We must recognize the inherent superiority of intrinsic over extrinsic motivation. Amabile (1983) amply documented, with experimental and anecdotal evidence, how extrinsic motives--whether evoked by evaluation, social approval, or exception of material rewards--tend to vitiate creativity; the creator must focus on the intrinsic properties of the task, not on potential rewards or criticisms that await the outcome. Indeed, extrinsic motivation should deflect any chance permutations toward the wrong goal. An individual might waste too much time generating change permutation about the wrong things, such as fantasies about all the benefits of becoming rich and famous or worries about the adverse repercussions of failing to get tenure or a pay raise.”</p>	
Personal Experiences	<p>“While engaging in a task that they find intrinsically interesting, individuals feel that their involvement is free of strong external control: they get the sense that they are playing rather than working.”</p>	<p>Hennessey, B.A., & Amabile, T.M. (2005). <i>Extrinsic and intrinsic motivation</i>. In N. Nicholson, P. Audia, & M. Pillutla (Eds.), <i>Blackwell Encyclopedia of Management, Second Edition, Organizational Behavior</i> (121-122). Malden, MA: Blackwell Publishing.</p>
Creativity Emotional Well-Being	<p>“Creativity generally flourishes under conditions that support intrinsic motivation (signified by enjoyment, interest, involvement, and focus on personally challenging tasks).”</p>	<p>Beghetto, R. A., (2010). <i>Creativity in the Classroom</i>. The Cambridge Handbook of Creativity. 447-463.</p>
Grade School Creativity Performance	<p>“Intrinsic motivation is conducive to creativity and extrinsic motivation is almost always detrimental.”</p> <p>Students who were expected to be graded produced less creative art work than those who did not expect to be evaluated.</p>	<p>Amabile, T. M. (1996). <i>Creativity in Context</i>. Perseus Books Group.</p> <p>Amabile, T. M. (1983). <i>The Social Psychology of Creativity</i>. Springer-Verlag.</p>
Creativity Work Genius	<p>“Intrinsic, task-focused motivation is also essential to creativity. People rarely do truly creative work in an area unless they really love what they are doing and focus on the work rather than the potential rewards (Amabile, 1996).”</p>	<p>Simonton. D. K. (2014). <i>The Wiley Handbook of Genius</i>. Wiley Blackwell.</p>
Work Business	<p>“All the breakthrough innovators I studied invested heavily in self-education. They were avid consumers of knowledge, but they followed their own rhythms rather than an instructor's pace. The went deeply into a topic</p>	<p>Schilling, M. A. (2018). <i>Quirky: The Remarkable Story of the Traits, Foibles, and Genius of Breakthrough Innovators Who Changed the World</i>.</p>



Entrepreneurism Science	or broadly across topics they chose rather than following the path of the syllabus. They were fueled by intrinsic motivation--a true love of learning--even if they had no love for school."	PublicAffairs. New York.
Work	[Eminent] creators have to be prepared to fail and fail again, and be invigorated by this process to boot."	Winner, E. (1996). <i>Gifted Children: Myths and Realities</i> . Basic Books.
Preschool	Preschoolers with an intrinsic motivation to draw saw their levels of motivation diminish in a study that systematically offered them extrinsic rewards for drawing. In other words, they lost interest drawing when the activity was based on receiving rewards for their effort.	Lepper, M. R., Greene, D., & Nisbett, R. E. (1973). <i>Undermining children's intrinsic interest with extrinsic reward: A test of the "overjustification" hypothesis</i> . <i>Journal of Personality and Social Psychology</i> , 28(1), 129-137.
Work Creativity Giftedness Grade School	<p>"Creative people are almost always intrinsically motivated for the work they do."</p> <p>"Gifted children remain gifted as adults if they love what they do."</p> <p>"Teachers must help students find what excites them to unleash their students' best creative performances."</p> <p>"People who truly excel creatively in a pursuit, whether vocational or avocational, almost always genuinely love what they do. Certainly the most creative people are intrinsically motivated in their work (Amabile, 1996). Less creative people often pick a career for the money or prestige and are bored with or loathe their career. Most often, these people do not do work that makes a difference in their field."</p>	<p>Sternberg, R. J., Jarvin, L., & Grigorenko, E. L. (2011). <i>Explorations in Giftedness</i>. Cambridge University Press. 38.</p> <p>Sternberg, R. J. (2005). <i>The WICS Model of Giftedness</i>. <i>Conceptions of Giftedness</i>. 2nd Ed. 327-342.</p>
Giftedness Grade School	<p>"Intrinsic motivation for learning is often noted as a characteristic of gifted children (Csikszentmihalyi, Rathunde, & Walen, 1993; Kanevsky, 1922). What seems to be less discussed is having an intrinsic motivation for learning for learning's sake. Gifted students are often stimulated and motivated by the working of their own minds (Winner, 1997). Csikszentmihalyi (1990) describes this experience as the 'flow of thought.' The concept of 'flow' was coined by Csikszentmihalyi to describe optimal experiences in which time passes quickly, and one is enjoyably immersed in a task that is challenging without being overwhelming. That task does not necessarily need to be focused toward production. In fact,</p>	Callahan, C. M., & Miller, E. M. (2005). <i>A Child-Responsive Model of Giftedness</i> . <i>Conceptions of Giftedness</i> . 2nd Ed. 38-51.



	<p>Csikszentmihalyi (p. 117) indicated ‘some of the most exhilarating experiences we undergo are generated inside the mind, triggered by information that challenges our ability to think, rather than from the use of sensory skills.’ Although flow of thought is an opportunity open to all, because flow of thought requires memory ability and knowledge of abstract systems (Csikszentmihalyi, 1992), those with intellectual gifts seem especially suited to finding flow in this way. For these students, learning is in itself a pleasurable activity that is self-motivating. They more one learns, the more one is motivated to pursue knowledge and skills.”</p>	
<p>Learning Performance Creativity</p>	<p>“When intrinsic motivation for learning is high, there is greater engagement in learning activities, greater creativity, learning, and greater persistence of learning over time.”</p>	<p>Saperstein, A. M., & Medalia, A. (2016). <i>The Role of Motivation in Cognitive Remediation for People with Schizophrenia</i>. Behavioral Neuroscience of Motivation. Springer. 535.</p>
<p>Learning Motivation in Animals</p>	<p>Landmark study on recognizing intrinsic motivation: “The behavior obtained in this investigation poses some interesting questions for motivation theory, since significant learning was attained and efficient performance maintained without resort to special or extrinsic incentives.”</p>	<p>Harlow, H. F., Harlow, M. K., & Meyer, D. R. (1950). <i>Learning Motivated by a Manipulation Drive</i>. Journal of Experimental Psychology 40: 231.</p>
<p>Grade School Test Performance</p>	<p>“Rewards have the effects that interfere with performance in ways that we are only beginning to understand.” In a word test, children who received candy or the promise of candy got fewer correct answers than those who only received feedback about how well they did.</p>	<p>Spence, J. T. (1970). <i>The Distracting Effects of Material Reinforcers in the Discrimination Learning of Lower- and Middle-Class Children</i>. Child Development 41: 95-102.</p>
<p>Grade School Test Performance</p>	<p>When students are more motivated by rewards and approval they use less sophisticated learning strategies and score lower on standardized test scores.</p>	<p>Boggiano, A. K., & Barrett, M. (1991). <i>Maladaptive Achievement Patterns: The Role of Motivational Orientation</i>. Unpublished paper.</p>
<p>Creativity Work Performance</p>	<p>Professional artists did less creative work when they were contracted for their work than they did when they created for pleasure: “Commissioned works were rated as significantly less creative than the non-commissioned works, yet they were not rated as different in technical quality.</p>	<p>Amabile, T. M., Phillips, E., & Collins, M. A. (1993). <i>Person and Environment in Talent Development: The Case of Creativity</i>. In Talent Development: Proceedings of the 1993 Henry B. and Jocelyn Wallace National Research Symposium on</p>



	Moreover, the artists reported feeling significantly more constrained when doing commissioned works than when doing non-commissioned works.”	Talent Development, edited by Colangelo, N., Assouline, S. G., & Ambrosion, D. L.
Work Performance Creativity	“Artists who pursued their painting and sculpture more for the pleasure of the activity itself than for extrinsic reward have produced art that has been socially recognized as superior. It is those who are least motivated to pursue extrinsic reward who eventually receive them.”	Carney, J. K. (1986). <i>Intrinsic Motivation and ARTistic Success</i> . Unpublished dissertation. University of Chicago. Getzels, J. W. & Csikszentmihalyi, M. (1976). <i>The Creative Vision: A Longitudinal Study of Problem-Finding in Art</i> . Wiley.
Military Work Performance	"Amy Wrzesniewski and her team followed 11,320 West Point military cadets and assessed their motives for attending the academy over a 14-year period. The researchers made a startling discovery: Cadets who entered West Point because of internal motivators were more likely to graduate, become commissioned officers, receive promotions, and stay in the military compared with those who entered due to external motives. Those cadets who entered with both strong internal (e.g., a desire to lead others) and external (e.g., to get a better job and make more money) motives, however, did not exhibit that same likelihood of success."	A. Wrzesniewski, B. Schwartz, X. Cong, M. Kane, A. Omar, & T. Kolditz. (2014). Multiple types of motives don't multiply the motivation of West Point cadets. Proceedings of the National Academy of Sciences.



10 Research-Driven Books About Intrinsic Motivation

1. [Intrinsic Motivation](#). Edward Deci. 1975.
2. [Fostering Students' Intrinsic Motivation](#). Alicia Krumholz. 2013.
3. [Punished by Rewards: The Trouble with Gold Stars, Incentive Plans, Praise, A's, and other Bribes](#). Alfie Kohn. 1999.
4. [Drive: The Surprising Truth about Motivation](#). Daniel Pink. 2009.
5. [Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness](#). Edward Deci and Richard Ryan. 2017.
6. [The Routledge International Handbook of Innovation Education](#). Edited by Larisa V. Shavina. 2013.
7. [A Guide To Developing a Creative Career](#). E. Paul Torrance. 2002.
8. [Motivation and Personality](#). Abraham Maslow. 1954.
9. [Personal Causation: The Internal Affective Determinants of Behavior](#). Richard De Charms. 1968.
10. [The Power of Interests for Motivation and Engagement](#). Ann Renninger and Suzanne Hidi. 2015.

Additional Intrinsic Motivation Research Studies

1. Amabile, T., M., DeJong, W., Lepper, M. R. (1976). Effects of externally imposed deadlines on subsequent intrinsic motivation. *Journal of Personality and Social Psychology*, Vol 34(1), Jul 1976, 92-98.
2. Anderson, R., Manoogian, S. T., & Reznick, J. S. (1976). The undermining and enhancing of intrinsic motivation in preschool children. *Journal of Personality and Social Psychology*, 34(5), 915-922.
3. Beswick, D. (2017). *Cognitive Motivation: From Curiosity to Identity, Purpose, and Meaning*. Cambridge University Press.
4. Bornstein, M. H., & Lamb, M. E. (2011). *Cognitive Development: An Advanced Textbook*. Psychology Press.
5. Csikszentmihalyi, M., Rathunde, K., & Whalen, S. (1993). *Talented Teenagers: The roots of success and failure*. Cambridge University Press.
6. Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, 18, 105-115.
7. Deci, E. L. (1975). *Intrinsic Motivation*. Plenum Press.
8. Dewey, J. (1902). *The Child and the Curriculum*. The University of Chicago Press.
9. Dewey, J. (1913). *Interest and Effort in Education*. Houghton Mifflin Company.
10. Dollinger, S. J., & Thelen, M. H. (1978). Overjustification and children's intrinsic motivation: Comparative effects of four rewards. *Journal of Personality and Social Psychology*, 36(11), 1259-1269.
11. Elliot, A. J., Dweck, C. S., & Yeager, D. S. (2017). *Handbook of Competence and Motivation: Theory and Application*. 2nd Ed. The Guildford Press. New York, NY. 10001.
12. Goswami, U. (2014). *The Wiley-Blackwell Handbook of Childhood Cognitive Development*. Wiley Blackwell.
13. Hart, L. A. (1983). *Human Brain and Human Learning*. Longman.
14. Hedrick, W.B., Tuschinski, L., Williams, L.M. (2008). Motivation: Going beyond Testing to a Lifetime of Reading. *Childhood Education*, 84. 135-141.
15. Johnson, W. (2014). *Developing Differences*. Palgrave Macmillan.
16. Kim, J.S., Guryan, J., White, T.G., Quinn, D.M., Capotosto, L., & Kingston, H.C. (2016). Delayed effects of a low-cost and large-scale summer reading intervention on elementary school children's reading comprehension. *Journal of Research on Educational Effectiveness*, 9 sup1, 1-22.
17. Krumholz, A. (2013). *Fostering Students Intrinsic Motivation*. Lambert Academic Publishing. Saarbrücken, Deutschland/Germany.
18. Lepper, M. R., & Greene, D. (1973). *Undermining children's intrinsic interest with extrinsic reward: A test of the "overjustification" hypothesis*. *Journal of Personality and Social Psychology*, Vol. 28, No. 1, 129-137.
19. Lepper, M. R., & Greene, D. (1978). *The Hidden Costs of Reward: New Perspectives on the Psychology of Human Motivation*. Psychology Press.
20. Maslow, A. H. (1943). *A Theory of Human Motivation*. Psychological Review.
21. Maslow, A. H. (1954). *Motivation and Personality*. Harper and Brothers.
22. McClelland, D. C. (1987). *Human Motivation*. Cambridge University Press.



23. Montessori, M. (1912). *The Montessori Method*. Roger A. McCaffrey Publishing.
24. Oudeyer, P-Y., Kaplan, F. (2007). What is Intrinsic Motivation? A Typology of Computational Approaches. *Front Neurobotics*. 1: 6.
25. Renninger, K. A., & M. W. Nam (2012). Interest and Achievement among Those Who Continue in STEM. Paper presented as part of the symposium, Interest Development and Its Relation to Academic Motivation, at the meeting of the American Educational Research Association, April, Vancouver, BC, Canada.
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Articles about Intrinsic Motivation by Paul Thiebaut III

Note: Articles are available on Paul Thiebaut III's Medium.com account.

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