AM Last Page: Education Is Not Filling a Bucket, but Lighting a Fire: Self-Determination Theory and Motivation in Medical Students

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Self-determination theory (SDT),[1] founded by Edward Deci and Richard Ryan from the University of Rochester (New York) in the 1980s, is a general motivation theory that encompasses all activities in life, be they in education, sports, or some other domain. SDT states that human beings have a natural tendency to develop towards autonomous regulation of behavior. In principle, human beings are intrinsically motivated to learn and to take on challenges. Motivation is important in education as it impacts learning outcomes and and the well-being of students.

The Self-Determination Continuum*

Behavior	Not Self-Determined	←			→	Fully Self-Determined
Type of motivation	Amotivation	Extrinsic motivation				Intrinsic motivation
Type of regulation	No regulation	External regulation	Introjected regulation	Identified regulation	Integrated regulation	Intrinsic regulation
Perceived locus of causality	Impersonal	External	Somewhat external	Somewhat internal	Internal	Internal
		Controlled self-regulation			Autonomous self-regulation	

* Adapted from Ryan and Deci's 2000 article.[1]

SDT describes motivation as a continuum spanning from amotivation through extrinsic motivation to intrinsic motivation.[1] This continuum does not represent a progression of stages, but states. An individual can move from one end of the continuum directly to the other end without having to pass through the in-between states.[1] Further, motivation is dynamic; extrinsic motivation can change to intrinsic motivation and vice versa depending on the learning climate.[2]

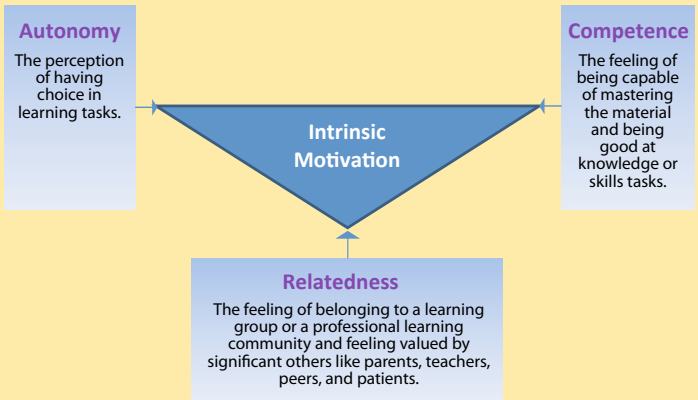
- **Amotivation:** Lack of determination, motivation, and intention to act
- **Extrinsic motivation:** Behavior that is regulated, to varying extents, by outside forces
- **Intrinsic motivation:** Behavior that is regulated fully autonomously, from genuine interest or enjoyment, and perceived as originating completely within oneself

Within the scope of **extrinsic motivation**, behavior is externally regulated to four different extents:

- **External regulation:** Behavior that is regulated by external forces, such as pressure from others, rules, regulations, rewards and punishments—none of which are felt as free choice
- **Introjected regulation:** Behavior that is regulated by accepted rules, often affected by guilt or shame
- **Identified regulation:** Behavior that is regulated by externally originated behavior patterns that have become personally valued, endorsed, and internalized
- **Integrated regulation:** Behavior that is regulated by values that have become deeply integrated within the self and hardly recognized as external

External regulation is perceived to originate from completely outside the self and is the least autonomous regulation of behavior. The other states of extrinsic motivation vary in the perceived locus of origin from internal to external according to their placement in the continuum.

SDT holds that three basic psychological needs must be fulfilled to stimulate and sustain intrinsic motivation:[1]



SDT, Motivation, and Medical Education

- SDT stresses the effectiveness of enhancing intrinsic motivation in students.
- Intrinsic motivation in education is associated with deep learning rather than surface learning, higher academic performance, greater creativity, higher engagement, higher persistence, lower dropout, and more positive well-being, when compared with extrinsic motivation.[1–2]
- Even though stimulating intrinsic motivation in students is like lighting a fire, it has rarely driven curriculum development in medical education at any level of training; thus, curricular reformers need to pay more attention to the motivational component of learning.[3]
- Teachers play an important role in determining student motivation, and autonomy-supportive teaching can be learned and is not difficult to practice.[4]

Examples of SDT Applied to Medical Education

- A selection procedure for medical school that creates a feeling of *"I've really proven to be competent enough to start medical school!"* or *"This school really wants me to be a part of its community!"* among the students is likely to boost intrinsic motivation to study, as it satisfies the needs of competence and relatedness.
- If, during their clerkships, medical students are trusted to perform small but meaningful tasks without direct supervision, their intrinsic motivation is likely to increase through satisfaction of all three SDT needs—autonomy, competence, and relatedness—as they are legitimately participating in the medical community.
- Opportunities for enrolling in elective modules that students identify, shape, and even organize themselves are likely to boost students' intrinstic motivation through valuing their autonomy.
- Mentoring during all phases of medical education, including residency training, can stimulate intrinsic motivation by supporting trainees' feelings of relatedness.

References:
[1] Ryan RM, Deci EL. Self-determination theory and the facilitation of intrinsic motivation, social development and well-being. American Psychologist. 2000;55:68–78.
[2] Ten Cate TJ, Kusurkar RA, Williams GC. How self-determination theory can assist our understanding of teaching and learning processes in medical education. AMEE Guide 59. Medical Teacher. 2011;33:961–973.
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[4] Kusurkar RA, Croiset G, Ten Cate TJ. Twelve tips to stimulate intrinsic motivation in students through autonomy-supportive classroom teaching derived from self-determination theory. Medical Teacher. 2011;33:978–982.
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