

Self-Determination Theory

Driving innovation in smoking cessation through self-directed behavior change

The Challenge with Existing Models

- Most approaches to human behavior change conceptualize motivation quantitatively – that it is something that people have or they don't.
 - From these perspectives, it is incumbent on behavior change programs to create or instill motivation in people to catalyze change. Unfortunately, that has resulted in many smoking cessation programs that rely on external factors to drive motivation.¹
 - Pivot's platform is driven by a behavioral science approach called self-determination theory (SDT), a well-studied approach to human motivation that focuses on motivational *quality* and has found that behavior is more likely to be changed and maintained when people are self-motivated.²
 - The application of self-determination theory (SDT) has demonstrated effectiveness in health-related behavior change and maintenance for a range of health behaviors including smoking cessation, weight management, diet, physical activity and dental care.^{2,3} However, the principles of SDT have not yet been applied to health at scale.¹
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It's All About You: A New Focus on Behavior Change in Smoking Cessation

- From the SDT perspective, the question is not *whether* people are motivated but *why*. SDT focuses on the way people select and internalize goals for their own lives to affect their behavior and psychological well-being.³
- Optimal motivation – the kind that leads to lasting change – arises from the satisfaction of three basic psychological needs:⁴
 - ✓ Autonomy – feeling like the originator of one's own behaviors
 - ✓ Competence – feeling effective and capable
 - ✓ Relatedness – feeling understood and cared for by others
- Through data measurements from a mobile breath sensor, Pivot enables people to see how their smoking behavior is reflected in a physiologic measurement, their carbon monoxide level. Participants also complete activities and receive coaching through the app, which facilitates self-exploration, and opportunities for people to discover their own internal motivation to quit, and maintain that change over time.
- Pivot supports people's basic psychological needs by:
 - ✓ Providing opportunities to explore their reasons for and against change and allowing people to choose from a menu of effective options for change when they're ready (autonomy)

¹ Ryan RM, Patrick H, Deci EL, et al. Facilitating health behavior change and its maintenance: Interventions based on Self-Determination theory. *The European Health Psychologist*. 2008;10.

² Patrick H, Williams GC. Self-determination theory: its application to health behavior and complementarity with motivational interviewing. *International Journal of Behavioral Nutrition and Physical Activity*. 2012; 9(18).

³ Choi J, Noh GY, Park DJ. Smoking Cessation Apps for Smartphones: Content Analysis With the Self-Determination Theory. *J Med Internet Res*. 2014;16(2):e44.

⁴ Ng JYY, Ntoumanis N, Thøgersen-Ntoumani C et al. Self-Determination Theory Applied to Health Contexts: A Meta-Analysis. *Perspectives on Psychological Science*. 2012;7(4):325-340.

- ✓ Supporting people in cultivating the necessary skills for quitting smoking and encouraging experimentation and iteration with selected strategies (competence)
 - ✓ Conveying empathy for the challenges inherent in tackling difficult behavior change and offering support during setbacks (relatedness)
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Integrating SDT: The Pivot Difference

- Pivot harnesses the benefits of SDT to facilitate a uniquely self-directed, sustainable form of motivation to create lasting behavior change.
 - ✓ **Mobile app:** Unlike many traditional smoking cessation programs that start with setting a quit date or creating a quit plan, Pivot starts with a self-guided exploration phase to assess and support one's own awareness and interest in moving forward – developing a personalized quit strategy rooted in support for and engagement with all participants, including those who don't want to quit. It also displays metrics to raise awareness of behaviors and track changes in real-time.
 - ✓ **Breath sensor:** The sensor facilitates individualized exploration, allowing participants to explore how their smoking behavior affects their carbon monoxide levels. Since the device is a personal mobile device, participants can carry it with them to see how their levels vary throughout the day.
 - ✓ **Personalized coaching:** Through a two-layered support system, Pivot not only provides quit strategies and guidance, but also fosters a personalized relationship with support and feedback from coaches trained in smoking cessation to help participants find motivation, confidence and skills they need for lasting change.
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For additional information, visit www.carrot.co or follow on Twitter at [@PivotJourney](https://twitter.com/PivotJourney).