Self-Determination Theory: Master Your Inner Drive

Authored by

mohammad looti

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Self-determination theory (SDT) is a macro theory of human motivation and personality that concerns people's inherent growth tendencies and innate psychological needs. It is concerned with the motivation behind choices people make without external influence and interference. SDT focuses on the degree to which an individual's behavior is self-motivated and self-determined.

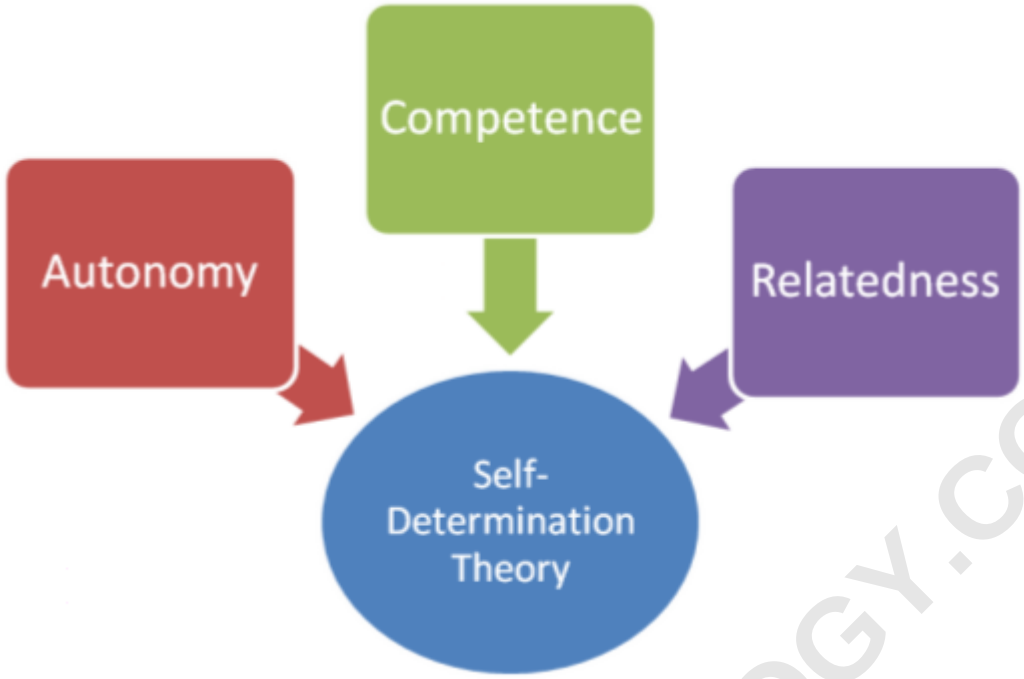
In the 1970s, research on SDT evolved from studies comparing the intrinsic and extrinsic motives, and from growing understanding of the dominant role intrinsic motivation played in an individual's behavior but it was not until the mid-1980s that SDT was formally introduced and accepted as a sound empirical theory. Research applying SDT to different areas in social psychology has increased considerably since the 2000s.

Key studies that led to emergence of SDT included research on intrinsic motivation. Intrinsic motivation refers to initiating an activity for its own sake because it is interesting and satisfying in itself, as opposed to doing an activity to obtain an external goal (extrinsic motivation). Different types of motivations have been described based on the degree they have been internalized. Internalization refers to the active attempt to transform an extrinsic motive into personally endorsed values and thus assimilate behavioural regulations that were originally external.

Edward L. Deci and Richard Ryan later expanded on the early work differentiating between intrinsic and extrinsic motivation and proposed three main intrinsic needs involved in self-determination. According to Deci and Ryan, the three psychological needs motivate the self to initiate behavior and specify nutriments that are essential for psychological health and well-being of an individual. These needs are said to be universal, innate and psychological and include the need for competence, autonomy, and psychological relatedness.

Basic theory

SDT is centered on the belief that human nature shows persistent positive features, that it repeatedly shows effort, agency and commitment in their lives that the theory calls "inherent growth tendencies". People also have innate psychological needs that are the basis for self-motivation and personality integration.



SDT identifies three innate needs that, if satisfied, allow optimal function and growth:

Competence
Relatedness
Autonomy

These needs are seen as universal necessities that are innate, not learned (instinctive), and seen in humanity across time, gender and culture.

Deci and Ryan claim that there are three essential elements of the theory:

Humans are inherently proactive with their potential and mastering their inner forces (such as drives and emotions)
Humans have an inherent tendency toward growth development and integrated functioning
Optimal development and actions are inherent in humans but they don't happen automatically

To actualise their inherent potential they need nurturing from the social environment.

If this happens there are positive consequences (e.g. well being and growth) but if not, there are negative consequences. So SDT emphasises humans' natural growth toward positive motivation; however, this is thwarted if their basic needs are not fulfilled.

Needs

SDT supports three basic psychological needs that must be satisfied to foster well-being and health. These needs can be universally applied. However, some may be more salient than others at certain times and are expressed differently based on time, culture, or experience.

Competence - Seek to control the outcome and experience mastery
Relatedness - Is the universal want to interact, be connected to, and experience caring for others
Autonomy - Is the universal urge to be causal agents of one's own life and act in harmony with one's integrated self; however, Deci and Vansteenkiste note this does not mean to be independent of others

Motivations

SDT claims to give a different approach to motivation, considering what motivates a person at any given time as opposed to seeing motivation as a unitary concept. SDT makes distinctions between different types of motivation and the consequences of them.

Intrinsic motivation

Intrinsic motivation is the natural, inherent drive to seek out challenges and new possibilities that SDT associates with cognitive and social development.

Cognitive Evaluation Theory (CET) is a sub-theory of SDT that specifies factors explaining intrinsic motivation and variability with it and looks at how social and environmental factors help or hinder intrinsic motivations. CET focuses on the needs of competence and autonomy.

Claiming social context events like feedback on work or rewards lead to feelings of competence and so enhance intrinsic motivations. Deci found positive feedback enhanced intrinsic motivations and negative feedback diminished it. Vallerand and Reid went further and found that these effects were being mediated by perceived control.

Autonomy, however, must accompany competence for people to see their behaviours as self determined by intrinsic motivation. For this to happen there must be immediate contextual support for both needs or inner resources based on prior development support for both needs.

CET and intrinsic motivation is also linked to relatedness through the hypothesis that intrinsic motivation flourishes if linked with a sense of security and relatedness. Grolnick and Ryan found lower intrinsic motivation in children who believed their teachers to be uncaring or cold and so not fulfilling their relatedness needs.

Extrinsic motivation

Extrinsic motivation comes from external sources. Deci and Ryan developed Organismic Integration Theory (OIT), as a sub-theory of SDT, to explain the different ways extrinsically motivated behaviour is regulated.

OIT details the different forms of extrinsic motivation and the contexts in which they come about. It is the context of such motivation that concerns the SDT theory as these contexts affect whether the motivations are internalised and so integrated into the sense of self.

OIT describes four different types of extrinsic motivations that often vary in terms of their relative autonomy:

Externally regulated behaviour: Is the least autonomous, it is performed because of external demand or possible reward. Such actions can be seen to have an externally perceived locus of causality.
Introjected regulation of behaviour: describes taking on regulations to behaviour but not fully accepting said regulations as your own. Deci and Ryan claim such behaviour normally represents regulation by contingent self-esteem, citing ego involvement as a classic form of introjections. This is the kind of behaviour where people feel motivated to demonstrate ability to maintain self-worth. While this is internally driven, introjected behavior has an external perceived locus of causality or not coming from one's self. Since the causality of the behavior is perceived as external, the behavior is considered non-self-determined.
Regulation through identification: Is a more autonomously driven form of extrinsic motivation. It involves consciously valuing a goal or regulation so that said action is accepted as personally important.
Integrated Regulation: Is the most autonomous kind of extrinsic motivation. Occurring when regulations are fully assimilated with self so they are included in a person's self evaluations and beliefs on personal needs. Because of this, integrated motivations share qualities with intrinsic motivation but are still classified as extrinsic because the goals that are trying to be achieved are for reasons extrinsic to the self, rather than the inherent enjoyment or interest in the task.

Extrinsically motivated behaviours can be integrated into self. OIT proposes internalization is more likely to occur when there is a sense of relatedness.

Ryan, Stiller and Lynch found that children internalize school's extrinsic regulations when they feel secure and cared for by parents and teachers.

Internalisation of extrinsic motivation is also linked to competence. OIT suggests that feelings of competence in activities should facilitate internalisation of said actions.

Autonomy is particularly important when trying to integrate its regulations into a person's sense of self. If an external context allows a person to integrate regulation--they must feel competent,

related and autonomous. They must also understand the regulation in terms of their other goals to facilitate a sense of autonomy. This was supported by Deci, Eghrari, Patrick and Leone who found in laboratory settings if a person was given a meaningful reason for uninteresting behaviour along with support for their sense of autonomy and relatedness they internalized and integrated their behaviour.

Basic needs and intrinsic motivation

White and deCharms proposed that the need for competence and autonomy is the basis of intrinsic motivation and behaviour. This is a link between people's basic needs and their motivations.

Autonomy

Deci found that offering people extrinsic rewards for behaviour that is intrinsically motivated undermined the intrinsic motivation as they grow less interested in it. Initially intrinsically motivated behaviour becomes controlled by external rewards, which undermines their autonomy.

Further research by Amabile, DeJong and Lepper found other external factors like deadlines, which restrict and control, also decrease intrinsic motivation.

Situations that give autonomy as opposed to taking it away also have a similar link to motivation. Studies looking at choice have found that increasing a participant's options and choices increases their intrinsic motivation.

Competence

Deci found that giving people unexpected positive feedback on a task increases people's intrinsic motivation to do it, meaning that this was because the positive feedback was fulfilling people's need for competence. In fact, giving positive feedback on a task served only to increase people's intrinsic motivation and decreased extrinsic motivation for the task.

Vallerand and Reid found negative feedback has the opposite effect (i.e., decreasing intrinsic motivation by taking away from people's need for competence).

Relatedness

During a study on the relationship between infants' attachment styles, their exhibition of mastery-oriented behaviour and their effect during play, Frodi, Bridges and Grolnick failed to find significant effects: "Perhaps somewhat surprising was the finding that the quality of attachment assessed at 12 months failed to significantly predict either mastery motivation, competence, or affect 8 months

later, when other investigators have demonstrated an association between similar constructs ..." Yet they note that larger sample sizes could be able to uncover such effects: "A comparison of the secure/stable and the insecure/stable groups, however, did suggest that the secure/stable group was superior to the insecure/stable groups on all mastery-related measures. Obviously, replications of all the attachment-motivation relations are needed with different and larger samples."

Individual differences

SDT argues that needs are innate but can be developed in a social context. Some people develop stronger needs than others, creating individual differences. However, individual differences within the theory focus on concepts resulting from the degree to which needs have been satisfied or not satisfied.

Within SDT there are two general individual difference concepts, Causality Orientations and Life Goals.

Causality orientations

Causality orientations are motivational orientations that refer to either the way people orient to an environment and regulate their behaviour because of this or the extent to which they are self determined in general across many settings. SDT created three orientations: autonomous, controlled and impersonal.

Autonomous Orientations: result from satisfaction of the basic needs
Strong controlled orientations: Result from satisfaction of competence and relatedness needs but not of autonomy and is linked to regulation through internal and external contingencies, which lead to rigid functioning and diminished well being.
Impersonal Orientations: Results from failing to fulfill all three needs. This is also related to poor functioning and ill being.

According to the theory people have some amount of each of the orientations, which can be used to make predictions on a persons psychological health and behavioural outcomes.

Life goals

Life goals are long-term goals people use to guide their activities, and they fall into two categories:

Intrinsic Aspirations: Contain life goals like affiliation, generativity and personal development.
Extrinsic Aspirations: Have life goals like wealth, fame and attractiveness.

There have been several studies on this subject that chart intrinsic goals being associated with greater health, well being and performance.

Key studies

Deci (1971): External rewards on intrinsic motivation

Deci investigated the effects of external rewards on intrinsic motivation in two laboratory and one field experiment. Based on the results from earlier animal and human studies regarding intrinsic motivation the author explored two possibilities. In the first two experiments he looked at the effect of extrinsic rewards in terms of a decrease in intrinsic motivation to perform a task. Earlier studies showed contradictory or inconclusive findings regarding decrease in performance on a task following an external reward. The third experiment was based on findings of developmental learning theorists and looked at whether a different type of reward enhances intrinsic motivation to participate in an activity.

Experiment I

This experiment tested the hypothesis that if an individual is intrinsically motivated to perform an activity, introduction of an extrinsic reward decreases the degree of intrinsic motivation to perform the task.

Twenty-four undergraduate psychology students participated in the first laboratory experiment and were assigned to experimental (n = 12) and control group (n = 12). Each group participated in three sessions conducted on three different days. During the sessions, participants were engaged in working on a Soma cube puzzle--which the experimenters assumed was an activity college students would be intrinsically motivated to do. The puzzle could be put together to form numerous different configurations. In each session, the participants were shown four different configurations drawn on a piece of paper and were asked to use the puzzle to reproduce the configurations while they were being timed.

The first and third session of the experimental condition were identical to control, but in the second session the participants in the experimental condition were given a dollar for completing each puzzle within time. During the middle of each session, the experimenter left the room for eight minutes and the participants were told that they were free to do whatever they wanted during that time, while the experimenter observed during that period. The amount of time spent working on the puzzle during the free choice period was used to measure motivation.

As Deci expected, when external reward was introduced during session two, the participants spent more time working on the puzzles during the free choice period in comparison to session 1 and

when the external reward was removed in the third session, the time spent working on the puzzle dropped lower than the first session. All subjects reported finding the task interesting and enjoyable at the end of each session, providing evidence for the experimenter's assumption that the task was intrinsically motivating for the college students. The study showed some support of the experimenter's hypothesis and a trend towards decrease in intrinsic motivation was seen after money was provided to the participants as external reward.

Experiment II

The second experiment was a field experiment, similar to laboratory Experiment I, but was conducted in a natural setting.

Eight student workers were observed at a college biweekly newspaper. Four of the students served as a control group and worked on Friday. The experimental group worked on Tuesdays.

The control and experimental group students were not aware that they were being observed. The 10-week observation was divided into three time periods. The task in this study required the students to write headlines for the newspaper.

During "Time 2", the students in the experimental group were given 50 cents for each headline they wrote. At the end of Time 2, they were told that in the future the newspaper cannot pay them 50 cent for each headline anymore as the newspaper ran out of the money allocated for that and they were not paid for the headlines during Time 3.

The speed of task completion (headlines) was used as a measure of motivation in this experiment. Absences were used as a measure of attitudes.

To assess the stability of the observed effect, the experimenter observed the students again (Time 4) for two weeks. There was a gap of five weeks between Time 3 and Time 4. Due to absences and change in assignment etc., motivation data was not available for all students. The results of this experiment were similar to Experiment I and monetary reward was found to decrease the intrinsic motivation of the students, supporting Deci's hypothesis.

Experiment III

Experiment III was also conducted in the laboratory and was identical to Experiment I in all respects except for the kind of external reward provided to the students in experimental condition during Session 2.

In this experiment, verbal praise was used as an extrinsic reward.

The experimenter hypothesized that a different type of reward--i.e., social approval in the form of verbal reinforcement and positive feedback for performing the task that a person is intrinsically motivated to perform--enhances the degree of external motivation, even after the extrinsic reward is removed.

The results of the experiment III confirmed the hypothesis and the students' performance increased significantly during the third session in comparison to session one, showing that verbal praise and positive feedback enhances performance in tasks that a person is initially intrinsically motivated to perform. This provides evidence that verbal praise as external reward increases intrinsic motivation.

The author explained differences between the two types of external rewards as having different effects on intrinsic motivation. When a person is intrinsically motivated to perform a task and money is introduced to work on the task, the individual cognitively re-evaluates the importance of the task and the intrinsic motivation to perform the task (because the individual finds it interesting) shifts to extrinsic motivation and the primary focus changes from enjoying the task to gaining financial reward. However, when verbal praise is provided in a similar situation increases intrinsic motivation as it is not evaluated to be controlled by external factors and the person sees the task as an enjoyable task that is performed autonomously. The increase in intrinsic motivation is explained by positive reinforcement and an increase in perceived locus of control to perform the task.

Pritchard, Campbell and Campbell (1977): Evaluation of Deci's Hypothesis

Pritchard, Campbell and Campbell conducted a similar study to evaluate Deci's hypothesis regarding the role of extrinsic rewards on decreasing intrinsic motivation.

Participants were randomly assigned to two groups. A chess-problem task was used in this study. Data was collected in two sessions.

Session I

Participants were asked to complete a background questionnaire that included questions on the amount of time the participant played chess during the week, the number of years that the participant has been playing chess for, amount of enjoyment the participant gets from playing the game, etc.

The participants in both groups were then told that the experimenter needed to enter the information in the computer and for the next 10 minutes the participant were free to do whatever they liked.

The experimenter left the room for 10 minutes. The room had similar chess-problem tasks on the table, some magazines as well as coffee was made available for the participants if they chose to have it.

The time spent on the chess-problem task was observed through a one way mirror by the experimenter during the 10 minutes break and was used as a measure of intrinsic motivation. After the experimenter returned, the experimental group was told that there was a monetary reward for the participant who could work on the most chess problems in the given time and that the reward is for this session only and would not be offered during the next session. The control group was not offered a monetary reward.

Session II

The second session was the same for the two groups:

After a filler task, the experimenter left the room for 10 minutes and the time participants spent on the chess-problem task was observed. The experimental group was reminded that there was no reward for the task this time.

After both sessions the participants were required to respond to questionnaires evaluating the task, i.e. to what degree did they find the task interesting. Both groups reported that they found the task interesting.

The results of the study showed that the experimental group showed a significant decrease in time spent on the chess-problem task during the 10-minute free time from session 1 to session 2 in comparison to the group that was not paid, thus confirming the hypothesis presented by Deci that contingent monetary reward for an activity decreases the intrinsic motivation to perform that activity. Other studies were conducted around this time focusing on other types of rewards as well as other external factors that play a role in decreasing intrinsic motivation.

Chua and Koestner (2008)

Solitude

Chua and Koestner explored the consequences of activities done in solitude.

They argued that relation of solitary activities to feelings of loneliness and life satisfaction depends on whether individuals feel autonomous rather than controlled about spending time alone.

Participants (N = 108) reported the percentage of waking time they spent in solitude per day and completed measures of attachment styles, motivation for solitary activities, loneliness, and well-

being. The results suggest that relative autonomy is important regardless of one's decision to act or not to act. The results also emphasize the importance of autonomous social behavior.
New developments

Principles of SDT have been applied in many domains of life, e.g., job demands; parenting; teaching; and health. Besides the domains mentioned above, self-determination theory research has been widely applied to the field of sports.

Exercise

Murcia, Roman, Galindo, Alonso and Gonzalez-Cutre looked at the influence of peers on enjoyment in exercise. Specifically, the researchers looked at the effect of motivational climate generated by peers on exercisers by analyzing data collected through questionnaires and rating scales. The assessment included evaluation of motivational climate, basic psychological needs satisfaction, levels of self-determination and self-regulation (amotivation, external, introjected, identified and intrinsic regulation) and also the assessment of the level of satisfaction and enjoyment in exercising.

Data analysis revealed that when peers are supportive and there is an emphasis on cooperation, effort, and personal improvement, the climate influences variables like basic psychological needs, motivation and enjoyment. The task climate positively predicted the three basic psychological needs (competence, autonomy and relatedness) and so positively predicted self-determined motivation. Task climate and the resulting self-determination were also found to positively influence level of enjoyment the exercisers experienced during the activity.

Awareness

Awareness has always been associated with autonomous functioning; however, it was only recently that the SDT researchers incorporated the idea of mindfulness and its relationship with autonomous functioning and emotional wellbeing in their research.

Brown and Ryan conducted a series of five experiments to study mindfulness: They defined mindfulness as open, undivided attention to what is happening within as well as around oneself.

From their experiments, the authors concluded that when individuals act mindfully, their actions are consistent with their values and interest. Also, there is a possibility that being autonomous and performing an action because it is enjoyable to oneself increases mindful attention to one's actions.

Vitality and self-regulation

Another area of interest for SDT researchers is the relationship between subjective vitality and self-regulation. Ryan and Deci define vitality as energy available to the self, either directly or indirectly, from basic psychological needs. This energy allows individuals to act autonomously.

Many theorists have posited that self-regulation depletes energy but SDT researchers have proposed and demonstrated that only controlled regulation depletes energy, autonomous regulation can actually be vitalizing.

Education

A recent study by Hyungshim Jang in which the capacity of two different theoretical models of motivation were used to explain why an externally provided rationale for doing a particular assignment often helps in a student's motivation, engagement, and learning during relatively uninteresting learning activities.

Undergraduate students (N = 136; 108 women, 28 men) worked on a relatively uninteresting short lesson after either receiving or not receiving a rationale. Students who received the rationale showed greater interest, work ethic, and determination.

Structural equation modeling was used to test three alternative explanatory models to understand why the rationale produced such benefits:

An identified regulation model based on self-determination theory
An interest regulation model based on interest-enhancing strategies research
An additive model that integrated both models.

The data fit all three models; but only the model based on self-determination theory helped students to engage and learn. Findings show the role that externally provided rationales can play in helping students generate the motivation they need to engage in and learn from uninteresting, but personally important, material.

The importance of these findings to those in the field of education is that when teachers try to find ways to promote student's motivation during relatively uninteresting learning activities, they can successfully do so by promoting the value of the task. One way teachers can help students value what they may deem "uninteresting" is by providing a rationale that identifies the lesson's otherwise hidden value, helps students understand why the lesson is genuinely worth their effort, and communicates why the lesson can be expected to be useful to them.

An example of SDT and education are Sudbury Model schools where people decide for themselves how to spend their days. In these schools, students of all ages determine what they do, as well as when, how, and where they do it. This freedom is at the heart of the school; it belongs to

the students as their right, not to be violated. The fundamental premises of the school are simple: that all people are curious by nature; that the most efficient, long-lasting, and profound learning takes place when started and pursued by the learner; that all people are creative if they are allowed to develop their unique talents; that age-mixing among students promotes growth in all members of the group; and that freedom is essential to the development of personal responsibility. In practice this means that students initiate all their own activities and create their own environments. The physical plant, the staff, and the equipment are there for the students to use as the need arises. The school provides a setting in which students are independent, are trusted, and are treated as responsible people; and a community in which students are exposed to the complexities of life in the framework of a participatory democracy. Sudbury schools do not perform and do not offer evaluations, assessments, or recommendations, asserting that they do not rate people, and that school is not a judge; comparing students to each other, or to some standard that has been set is for them a violation of the student's right to privacy and to self-determination. Students decide for themselves how to measure their progress as self-starting learners as a process of self-evaluation: real lifelong learning and the proper educational evaluation for the 21st century, they adduce.

Alcohol use

According to self-determination theory, individuals who attribute their actions to external circumstances rather than internal mechanisms are far more likely to succumb to peer pressure. In contrast, individuals who consider themselves autonomous tend to be initiators of actions rather than followers. Research examining the relationship between self-determination theory and alcohol use among college students has indicated that individuals with the former criteria for decision making are associated with greater alcohol consumption and drinking as a function of social pressure. For instance, in a study conducted by Knee and Neighbors, external factors in the individuals who claim to not be motivated by internal factors were found to be associated with drinking for extrinsic reasons, and with stronger perceptions of peer pressure, which in turn was related to heavier alcohol use. Given the evidence suggesting a positive association between an outward motivation and drinking, and the potential role of perceived social influence in this association, understanding the precise nature of this relationship seems important. Further, it may be hypothesized that the relationship between self-determination and drinking may be mediated to some extent by the perceived approval of others.

Motivational interviewing

Motivational interviewing (MI) is a popular approach to positive behavioral change. Used initially in the area of addiction (Miller & Rollnick, 2002), it is now used for a wider range of issues. It is a client-centered method that doesn't persuade or coerce patients to change and instead attempts to

explore and resolve their ambivalent feelings, which allows them to choose themselves whether to change or not.

Markland, Ryan, Tobin, and Rollnick believe that SDT provides a framework behind how and the reasons why MI works. They believe that MI provides an autonomy-supportive atmosphere, which allows clients to find their own source of motivation and achieve their own success (in terms of overcoming addiction). Patients randomly assigned to an MI treatment group found the setting to be more autonomy-supportive than those in a regular support group.

Environmental behaviors

Several studies explored the link between self-determination theory and environmental behaviors to determine the role of intrinsic motivation for environmental behavior performance and to account for the lack of success of current intervention strategies.

Motivation toward the Environment Scale

Environmental attitudes and knowledge are not good predictors of behavior. Self-determination theory suggests that motivation can predict behavior performance. Pelletier et al. (1998) constructed a scale of motivation for environmental behavior, which consists of 4×6 statements (4 statements for each type of motivation on the SDT motivation scale: intrinsic, integrated, identified, introjected, external, and amotivation) responding to a question 'Why are you doing things for the environment?'. Each item is scored on a 1-7 Likert scale. Utilizing MTES, Villacorta (2003) demonstrates a correlation between environmental concerns and intrinsic motivations together with peer and parental support; further, intrinsically motivated behaviors tend to persist longer.

Environmental Amotivation

Pelletier et al. (1999) shows that four personal beliefs, helplessness, strategy, capacity, and effort, lead to greater amotivation, while self-determination has an inverse relationship with amotivation. The Amotivation toward the Environment Scale measures the four reasons for amotivation by answering a question 'Why are you not doing things for the environment?'. The participants rank 16 total statements (four in each category of amotivation) on a 1-7 Likert scale.

Intervention strategies

Intervention strategies have to be effective in bridging the gap between attitudes and behaviors. Monetary incentives, persuasive communication, and convenience are often successful in the short term, but when the intervention is removed, behavior is discontinued. In the long run, such

intervention strategies are therefore expensive and difficult to maintain.

Self-determination theory explains that environmental behavior that is not motivated intrinsically is not persistent. On the other hand, when self-determination is high, behavior is more likely to occur repeatedly. The importance of intrinsic motivation is particularly apparent with more difficult behaviors. While they are less likely to be performed in general, people with high internal motivation are more likely to perform them more frequently than people with low intrinsic motivation. 5 Subjects scoring high on intrinsic motivation and supporting ecological well-being also reported a high level of happiness.

According to Osbaldiston and Sheldon (2003), autonomy perceived by an individual leads to an increased frequency of environmental behavior performance. In their study, 162 university students chose an environmental goal and performed it for a week. Perceived autonomy, success in performing chosen behavior, and their future intention to continue were measured. The results suggested that people with higher degree of self-perceived autonomy successfully perform behaviors and are more likely to do so in the long term.

Based on the connection between self-determination theory and environmental behaviors, Pelletier et al. suggest that successful intervention should emphasize self-determined motivation for performing environmental behaviors.