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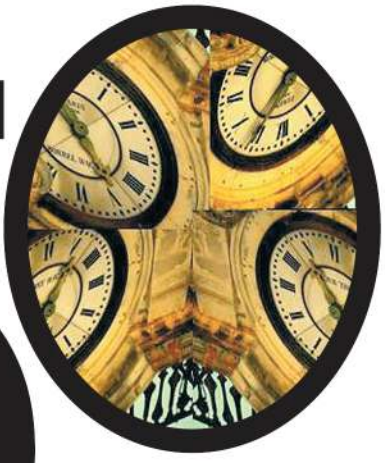

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Instrumental Motivation is Extrinsic Motivation: So What???

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The present anticipation of future goals creates instrumental motivation for immediate actions that are expected to be instrumental for achieving those future goals. Instrumental motivation is however by definition extrinsic motivation. Based on empirical research in educational settings, it is commonly argued that extrinsic motivation is of lower quality than intrinsic motivation. More recent developments in motivational psychology – in particular the development from the Cognitive Evaluation Theory into the Self-Determination Theory – replaced the distinction between intrinsic and extrinsic motivation by the more relevant distinction between autonomous and controlled motivation or behavioral regulation. Some types of extrinsic motivation belong to the category autonomous motivation, that is the case when the individual integrates or identifies with the external reason for doing the activity. We review empirical research from our research group that shows that instrumental motivation that is based on anticipated future goals can be autonomous and hence have a high quality. What matters is the content of the future goals and how they regulate behavior. Intrinsic future goals which are not perceived by the individual as externally controlling but as creating autonomous motivation/behavioral regulation are almost as adaptive as intrinsic motivation.

KEYWORDS: Motivation; Future time perspective; Instrumentality

Intrinsic and Extrinsic Motivation

Ask students why they make their home work, learn their lessons, prepare their tests or exams. Some students may say that they like doing those things as such (e.g., I love geography; I really want to understand the phenomenon of earthquakes; I want to be able to speak fluently a few foreign languages) but many of the reasons given – even by optimally motivated students – are unrelated to those activities as

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such, but refer to antecedents or consequences of such activities (e.g., When I do my best, I will receive a reward; My mother forces me to study, otherwise I will be punished; I want to succeed and go to college to become a teacher, a psychologist, etc.). A third alternative implies the combination of both types of reasons (e.g., I am really interested in how to do regression analysis but also because it will be helpful, when I'll be in graduate school, to analyse my research data and understand what they are telling me about my research question). Students can have many different reasons and motives to study and their teachers to teach (Covington, 1992: Schunk, Pintrich, & Meece, 2008; Stipek, 2002).

In motivation psychology these two distinct types of motivation are called intrinsic and extrinsic motivation (Atkinson, 1964, Deci, 1975; White, 1959). An action is intrinsically motivated when the goal of the action is the action itself. The activity is inherently satisfying. People can be intrinsically interested in gaining knowledge, in striving for (more) competence, in playing cards, doing sports etc... An activity is extrinsically motivated when it is instrumental for reaching a goal that is not inherently related to the activity as such (e.g., studying to receive a reward or to succeed in the exam; learning how to play very good tennis to become a professional and make a lot of money).

Very often, however, people are both intrinsically and extrinsically motivated at the same time (Abreu, 2002; Deci, 1975; Lens, 2001; Lepper & Greene, 1978). Students study hard because they are thrilled by insight in and understanding of a particular phenomenon (e.g., human motivation) but also because they want to succeed in the exams and please their parents. This means that the total motivation for many of our daily activities must be conceived of as the sum of an intrinsic and an extrinsic component. The strength of the total motivation to study, to work, etc. can hence be increased by intensifying the intrinsic or the extrinsic component, or both.

Motivational problems in education are most frequently related to students' lack of intrinsic motivation. This may sound strange given that all animals – also human beings – have an innate need to know, to explore, to manipulate things, to understand. Children are highly curious, they continuously ask "why". It seems however that at the end of primary education not much is left of this drive. Most students in high school and college are to a very large extent predominantly extrinsically motivated. For Bruner (1966) it seems that schools kill rather than nurse this need for knowledge and understanding.

The observation that a person's total amount of motivation at each moment in time is based on the sum of his intrinsic and extrinsic motivation does, however, not imply that these two types of motivation are additive over time. The title of

Lepper and Greene's 1978-book *"The hidden costs of reward"* refers to this issue. Since the beginning of the 1970s, the interplay between intrinsic and extrinsic motivation has been extensively studied. The prototypical example is Deci's (1975) and his collaborators examination of the effect of offering extrinsic rewards and other controlling measures such as threat of punishment, supervision, deadlines (which induce extrinsic motivation through external control) on already present intrinsic motivation. Dozens of studies showed that extrinsic rewards and other sources of extrinsic motivation may undermine intrinsic motivation and much experimental research was conducted to examine this phenomenon and under which conditions it was found (see Cameron, 2001; Deci, 1975; Deci, Koestner, & Ryan, 2001; Luyten & Lens, 1981). In general, these studies pointed out that extrinsic rewards and other external events (e.g., deadlines, surveillance, threat of punishment) which are perceived by individuals as controlling their behavior, are likely to undermine individuals' intrinsic motivation. This is because they became the reason for acting. When these external contingencies are removed the individual is no longer motivated to act and seems to have lost his initial interest in the activity. It became however evident that not all types of rewards that do create extrinsic motivation undermine the intrinsic motivation. Informative rewards, for example, satisfy the intrinsic need for competence and knowledge and will not undermine but, to the contrary, enhance the intrinsic motivation. Rewards can indeed be controlling or rewarding (Nuttin & Greenwald, 1968). Deci's (1975) Cognitive Evaluation Theory (CET) gives an experimentally validated theoretical explanation for this undesirable side effect of extrinsic rewards and other external controlling contingencies and explains under which conditions this effect may occur.

Empirical research – mostly in educational settings and correlational/cross-sectional in nature – has clearly shown that intrinsic motivation is of a better quality than extrinsic motivation (Hagger & Chatzisarantis, 2007; Matos, Lens, & Vansteenkiste, 2008; Schunk, Pintrich, & Meece, 2008; Stipek, 2002; Wigfield & Eccles, 2002). It is associated with deep level learning, persistence, and enjoyment. As said before, the problem is however that many high school students are not much intrinsically motivated for most of their courses. This is certainly so for low or underachieving students who failed and had to redo a grade or ended up in lower level vocational tracks. Their bad experiences in school killed all intrinsic interest in learning (Creten, Lens, & Simons, 2001). To motivate such students there is not much choice than to increase their extrinsic motivation. One way to do so is to promise more or less immediate rewards for effort or good results. A second and also widely used technique to increase students' motivation is referring to the future importance of present schooling: "Do your best at school, it is so important for your future". The motivation for present actions that results from already anticipated future

goals (e.g., to do one's best in school to become a teacher) is called instrumental motivation. The present actions are perceived as instrumental for achieving future goals. Such activities derive utility value (Wigfield & Eccles, 2002) from those goals in the near or distant future.

Instrumental Motivation is Extrinsic Motivation

Instrumental motivation is – by definition – extrinsic motivation. Learning is then not a goal on its own, but an instrumental activity. It is not done for its own sake but because it will have positive consequences in the future. Even students who dislike the content of a course, will study that course in order to succeed in the exams, because they know that this is important for their future career for example. For some students schooling is fun and useful for the future. They are both intrinsically and extrinsically motivated. Many other students are predominantly extrinsically motivated for school work because they realize that schooling is important in life. They are then extrinsically motivated. *But, so what?* Extrinsic motivation does not have to be maladaptive. In fact, certain types of extrinsic motivation function as the cognitive and affective support for the performance of a large number of instrumental and exploratory tasks and activities within the career realm: choice-making throughout the life-span, cognitive and behavioural performance in significant transitional moments within the educational system and between school and the world of work and the psychological integration of diverse personal and social phenomena affecting the decision-taking process (Markus & Nurius, 1986, Paixão & Silva, 2001, Savickas, 1990). Based on empirical evidence showing that not all types of extrinsic motivation are low or bad quality motivation, Deci and Ryan (1985, 2002; Ryan & Deci, 2000, 2002) formulated their Self-determination Theory (SDT), replacing the distinction between intrinsic versus extrinsic motivation by the distinction between autonomous versus controlled motivation and between intrinsic and extrinsic goals. We will now first discuss this most interesting theoretical development in motivational psychology. After that we will summarize some of our more recent empirical studies of the educational correlates or effects of different types of instrumental motivation.

Motivation: quantity versus quality

When people talk about inter-individual or intra-individual differences in motivation, they usually refer to differences in strength or intensity: Students are more or less motivated for their school work or a given student is highly motivated for history but not much for mathematics. There are however also important qualitative

differences in motivation. Research on motivation in education (see before) has clearly shown that it is more adaptive for students to be intrinsically motivated rather than extrinsically and that they better strive for task goals (learning goals) than for performance goals (ego-goals) and that performance-approach goals are more optimal than performance-avoidance goals (Matos, Lens, & Vansteenkiste, 2007). More recently research based on the Self-Determination Theory (SDT) showed that there are important qualitative differences between different types of extrinsic motivation and that these different types have differential consequences (Deci & Ryan, 2002; Ryan & Deci, 200; Lens & Vansteenkiste, 2006). This implies also that instrumental motivation – being extrinsic by nature – can be of a better or worse quality.

Motivation: why and what

SDT distinguishes two different motivational questions, commonly referred to as the '*what'* and '*why'* of behavior (Deci & Ryan, 2000): What do you want to reach, what is the goal of your activity and why do you want to achieve that goal, what are the underlying reasons for your goal striving? Both issues are addressed in greater detail below.

Why: autonomous versus controlled motivation/behavioral regulation

SDT's why-question refers to the perceived reasons that underlie and regulate one's behavior. Underlying reasons can be autonomously or controlling. An intrinsically motivated action is by definition autonomously motivated, volitional, or self-determined. The perceived locus of causality is internal as the activity directly emanates from a person's self. Intrinsic interests, enjoyment and inherent satisfaction are the very reason for engaging in the activity.

With respect to extrinsically motivated actions, SDT (Deci and Ryan, 2002; Ryan & Deci, 2002) distinguishes four different types of reasons or behavioral regulations in terms of the degree in which they regulate behavior autonomously or in a controlling way. The more controlled (the less autonomous) one's behavior is regulated, the lower the quality of the motivation. External regulation represents the most controlled type of regulation and as a result yields the worst correlates, including lower well-being, depressive feelings, less persistence and less behavioral effectiveness (Vansteenkiste, Lens, De Witte, & Feather, 2005). The locus of causality or the reason for the action is external or totally outside the individual (e.g., to

obtain a promised reward; to avoid a threatening punishment; to obey an order or because one's behavior is supervised).

Introjected regulation means that the external reason for the activity has been introjected but not accepted as a personally endorsed reason. Thus, introjection represents only partial internalization. For example, a student may do her best because her parents require her to do so and she does not want to disappoint them, because that would create guilt feelings. She studies because she does not want to feel guilty.

Identified regulation means that the activity is still extrinsically motivated but its reason isalready to some degree internal because the individual perceives the reason as personally important. A student may do her best at school because she wants to go to college and become an architect. She perceives herself as a future architect. This students' motivation is instrumental, hence extrinsic, but she identifies with the reason for studying (i.e., the future life goal). Her future goal has personal value, relevance, and importance. Finally, the qualitatively best type of extrinsically motivated behavior is characterized by integrated regulation. The external reason for the activity is perceived as totally congruent with one's core values and sense of self. It is the most self-determined type of extrinsically motivated behavior. The locus of causality is perceived as completely internal, as it is with intrinsic motivation. According to the work of Lens (Lens, Herrera & Lacante, 2004), integrated regulation implies several motivational processes enabling the translation of intentions into actions, from goal setting and conflict resolution, to motivational decision-making and volitional control mechanisms.

When we consider the different types of behavioral regulation (see the scheme below), the distinction between intrinsic and extrinsic motivation becomes less relevant. What matters more is what regulates the action. Do I control my behavior or is it externally controlled? When an activity is intrinsically motivated or when its regulation is identified or integrated, it is autonomously motivated/regulated. When the regulation is external or introjected, the behavioral motivation/regulation is controlled. Autonomous motivation means that an activity is intrinsically motivated or extrinsically motivated but characterized by an identified or integrated type of regulation. Controlled motivation refers to activities that are extrinsically motivated and characterized by external or introjected regulation. As shown in many empirical studies (Herrera, 2002; Herrera & Lens, 2009; Nuttin & Lens, 1986; most of the future goals for which present studies are instrumental (e.g., higher education, professional life, self-development) are perceived by the students as personally important. They strongly identify with them (e.g., I am a future psychologist). Although such future goals create instrumental, hence extrinsic motivation, they are not perceived as externally controlling. Personally important

future goals create high quality autonomous motivation. We should however be aware of the fact that youngsters are not always realistic in their possibilities or options. Their lack of realism could also imply that the goals they refer to are not self-set or personally endorsed life goals. It is important to make sure that in such cases their so-called future goals have motivational consequences, and if they do, if they create autonomous (e.g., I really want to become a lawyer and then a criminal judge) or controlled motivation (e.g., I plan to enter law school and become a lawyer because my parents request me to do so. They both come from families of lawyers).

Type of Motivation	Extrinsic				Intrinsic
Type of Regulation	External	Introjected	Identified	Integrated	Intrinsic
Perceived Locus of Causality	External	External	Internal	Internal	Internal
Type of Motivation	Controlled		Autonomous		

Dozens of studies have shown positive effects of autonomous versus controlled motivation for learning, such as lower drop-out, more deep level learning and creativity, less superficial information processing, higher academic achievements, and more well-being (see Lens & Vansteenkiste, 2008; Mouratidis, Vansteenkiste, Lens, & Sideridis, 2008; Reeve, Deci, & Ryan, 2004; Vansteenkiste, Lens, Soenens, & Luyckx, 2006; Vansteenkiste, Soenens, Verstuyf, & Lens, in press; Vansteenkiste, Zhou, Lens, & Soenens, 2005). Paixão (2008), based on the results of several career interventions designed by a group of educational researchers at the University of Coimbra and carried out with adolescents and young adults facing important normative educational and vocational choices, argues that, from a motivational and self-determination point of view, systematic and comprehensive career counseling treatments promote autonomous motivation. In fact, these somehow intensive career treatments seem to prevent amotivation, to promote the internalization of behavioral regulation, to contribute to minimize the weight of those factors that promote external or controlled regulation, while they sometimes help the subjects be involved in activities that allow intrinsic motivation regulation. Because they promote the use of the main career self-regulating adaptability strategies, namely concern, control, curiosity and confidence (Savickas, 2005), they help foster the satisfaction of the basic psychological needs of autonomy, competence and relatedness (Ryan & Deci, 2000). In fact, these interventions integrate many activities presenting an optimal degree of challenge (Csikszentmihalyi, 1990) within a structured framework (e.g., collection and processing of relevant information, establishment of specific and realistic goals). They also function as organized contexts for autonomy support, by allowing choice rehearsal and the exploration of alternatives and decision-making in coercion free environments. Finally, they facilitate involvement and the creation of relational nets and supports,

by encouraging the participation of significant figures in the counseling process and, also, via the establishment of multiple and critical partnerships (Deci & Vansteenkiste, 2004).

What or What for: Intrinsic versus Extrinsic Goals

Within SDT (Deci & Ryan, 200; 2002; Ryan & Deci, 2000; Vansteenkiste, Lens, & Deci, 2006) two qualitatively different content categories of motivational goals are distinguished: intrinsic goals (e.g., community contribution, health, personal growth, competence, affiliation) versus extrinsic goals (e.g., fame, financial success, physical appearance, power, and status). The former goals are labeled "intrinsic" because they are satisfying one of the three innate basic psychological needs that are distinguished in SDT: the needs for autonomy (self-determination, volition), for competence, and for relatedness. SDT assumes that these three psychological needs are innate and basic for all human being and – different from previous need theories of motivation (i.e., Murray, Maslow, McClelland, Atkinson, Nuttin) – SDT does not consider individual differences in the strength or intensity of these needs. All human beings are assumed to have those needs to the same degree. What matters for SDT is the degree of need satisfaction. The satisfaction of these needs is highly motivating and positively related to psychological well-being.

The pursuit of extrinsic goals tends to be associated with poorer well-being and less optimal functioning than does intrinsic goal pursuit (Kasser & Ryan, 1996). When people report strong aspirations for extrinsic, relative to intrinsic, life goals, they score lower for life-satisfaction, self-esteem, and self-actualization, and higher for depression and anxiety, poorer relationship quality, less cooperative behavior, and greater prejudice and social-dominant attitudes (e.g.,Kasser & Ryan, 1993, 1996; McHoskey, 1999; Vansteenkiste, Duriez, Simons, & Soenens, 2006). This basic pattern has been replicated in various cultures and in various age groups (Kasser & Ryan, 1996; Ryan, Chirkov, Little, Sheldon, Timoshina, & Deci, 1999; Vansteenkiste, Lens, Soenens, & Luyckx, 2006; Vansteenkiste, Zhou, Lens, & Soenens, 2005). Based on SDT we can predict that the quality of present instrumental motivation that is created by future goal striving largely depends on the content of those future goals. Referring students to future intrinsic goals (competence, skills, self-development, social life) will enhance the quality of students' present motivation to study in order to reach those future intrinsic goals, while referring to future extrinsic goals (e.g., money, wealth, status, power) will create a (maybe) strong but maladaptive type of student motivation, because such goals frustrate the basic, innate psychological needs.

"What for" versus "Why"

As said in the introduction of this paper, students often refer to future goals when asked "why" (or "what for") they do their best for school. Achieving a particular goal in the future is the reason for their present dedication. The why-question in SDT does not refer to future goals for which present actions have utility value or instrumental value. It is different from the "what for"-question in expectancy-value theory or instrumentality theories of motivation (De Volder & Lens, 1982; Raynor & Entin, 1982; Wigfield & Eccles, 2002). Future goals (e.g., to succeed in the exams; to become a teacher; to make a decent living; to become rich; to see the world) are very often the purpose or motivational reason (the what-for) of a present activity (e.g., studying a course; preparing exams) or immediate goal (e.g., success in the exams). Many of our motivational goals (aims, purposes) are indeed no end-goals or final-goals but means towards other sub-goals or final-goals. Sub-goals and final-goals create instrumental motivation for present activities (see also Husman & Lens, 1999; Lens, 2006; Tabachnick, Miller, Relyea, 2008). To understand to what extent present goal striving is autonomously motivated, one should also know the content of and the reasons for pursuing future goals. Future intrinsic goals (e.g. becoming a plumber, a medical doctor to help people in the developing world; to visit other cultures) always create autonomous motivation. Future extrinsic goals – less adaptive than intrinsic goals – may nevertheless be more or less controlling, depending on the degree in which the individual identifies with them or has them integrated. "Becoming a civil engineer in order to have a decent materialistic living" is probably less controlling than when your goal is to become very rich or to prove your parents that you are better than your brother.

In this context it is important to reflect on what represent the content of future goals for adolescents. In Peru, specifically, most of the answers reported through the Motivational Induction Method (MIM; Nuttin & Lens, 198) by students from different institutions (high schools, universities, technical institutions and academies), are about self-realization (between 23 to 30%). Due to the fact that most of the participants were adolescents or very young students, these results were expected. But, it has been also noticed that these youngsters have to face a developmental task that represents a transition from secondary school to different types of post secondary education, and further on to the world of work and starting a family. It has been found systematically that most of the other goals are related to the educational domain.

University students expressed many more goals related with finishing university studies successfully (19.56%) than the other groups do. Students in Academies (preparing students to take the university entrance examination) do not score high for this category (7.25%), they instead are still much more concerned about a successful entrance examination (18.59%). And this seems to limit their future

time perspective. For high school students – still further away from post-secondary education – this percentage is much lower (6.83%). As expected, only students who are already studying in technical institutions report answers in the category "successfully finish my technical education" (14.01%). Unexpectedly, secondary school students refer more often to successfully finish a university education (8.22%) than to their intention of taking the entrance examination. As expected, students in Technical Institutions mentioned more often the employment category (5.47%) than the students who belong to more academic educational settings. The family domain – with very low frequencies in all four groups – is more frequently considered in terms of the extensive family in which they presently live than to the nuclear family they will start themselves in the future. According to these results future goals very often direct youngsters' behaviour. However, previous studies have also shown that there can be a big gap between goals or planning behavior and actual actions (Herrera, 2002: Lens, Herrera, Lacante, 2004). Many adolescents do not enact their motivational goals or intentions to continue their post-secondary education. Many socio-economic or personal circumstances prevent them from doing so. This is probably more the case in developing countries. At this point it is important to reflect if these aspirations represent intrinsically or autonomously motivating goals. Developmental tasks are age graded demands from society and the immediate environment of a person. Perhaps students express future goals that will please their parents or teachers but which are not really endorsed as personally important life goals. Such goals will certainly be perceived as controlling or externally regulated and regulating. It is an important educational task to orient young people to develop realistic future goals they are really interested in, so that their daily actions to achieve their future goals are autonomously motivated.

Autonomous regulation is critical for career development. The research carried out at the University of Coimbra has highlighted the positive associations between critical goal setting (optimism towards the future), mastery goal orientation and self-efficacy content and process variables with the main dimensions of career adaptability in adolescents and young adults attending school contexts (Paixão & Borges, 2005; Paixão , Silva & Figueira, 2007; Paixão, Silva & Santos, 2009). These are all variables that express the quality of the processes of lifelong learning and social adjustment during adolescence and young adulthood. In fact, in a sample of 95 9th graders, Paixão and Borges (2005) found out that vocational exploration and commitment variables had a positive correlation with mastery goal orientation, but not with any of the components of performance goal orientation. The discriminant functional analysis performed with the decisional level of these students as the dependent variable suggests that career commitment, mastery goal orientation and vocational exploration are the best predictors to separate

decided from undecided students. In extensive samples of 3rd cycle students (7th to 9th grade) mastery goal orientation, along with academic self-efficacy, has also proved to be a significant positive predictor of global academic achievement (Paixão, Silva & Figueira, 2007; Paixão, Silva & Santos, 2009). They also hold a positive correlation with hope and proactive career attitudes. In another study with a sample of 233 9th grade students (Ramos, Paixão & Silva, 2007) mastery goal orientation showed positive significant correlations with all the self-efficacy measures of the Missouri Comprehensive Guidance Evaluation Survey, that is the career planning and exploration self-efficay scale, the knowledge of self and others scale and the educational and vocational development self-efficacy scale (Gysbers, Multon, Lapan & Lukin, 1992). Finally, in an empirical study we carried out with 474 higher education students (Kumar, Silva and Paixão, 2007) we confirmed the existence of positive relations among these students life projects' importance (mainly those concerning work and career, and also these subjects' relational life), their optimism regarding the future and career decision-making self-efficacy.

In more recent research we related different goal-contents to academically relevant outcomes. Vansteenkiste, Simons, Lens, Sheldon, & Deci (2004) introduced studying a text on ecological issues in terms of either saving money (an extrinsic goal) or in terms of contributing to the community (an intrinsic goal). The intrinsic-extrinsic goal framing was introduced in either an autonomy-supportive or controlling context. As expected based on SDT, it was indeed found that intrinsic goal framing promoted deep level processing and that test performance and subsequent free-choice persistence were greater in the intrinsic-goal condition than in the extrinsic-goal condition. Furthermore, students' goal framing in an autonomy-supportive way also enhanced deep processing, test performance, and persistence compared to goal framing in a controlling fashion. These results were replicated in other studies using different intrinsic and extrinsic goals, different learning materials, and different age-groups of learners (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004; Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005; Vansteenkiste, Simons, Soenens, and Lens, 2004; Vansteenkiste, Timmermans, Lens, *et al.* (2008).

Based on correlational and experimental research in educational settings that was guided by Self-determination theory, we must conclude that students' learning and academic achievement can be enhanced if their learning environment fosters immediate and future intrinsic goals in an autonomy supportive way, rather than what is common practice, extrinsic goals in a controlling way (Vansteenkiste, Lens, & Deci, 2006; Vansteenkiste, Matos, Lens, & Soenens, 2007; Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005).

Instrumental Motivation: The future motivates

Most of our somewhat older research on the motivational consequences of future time perspective had to do with the psychological distance – more specifically the perceived temporal distance – towards goals in the near and distant future and the perceived instrumental link between present behavior and those future goals (De Volder & Lens, 1982; Lens & Moreas, 1994; Lens & Decruyenaere, 1991; Van Calster, Lens & Nuttin, 1987; Lens, 2001; Creten, Lens, & Simons, 2001; Phalet & Lens, 1995).

Perceived temporal distance: Motivational effects of future time perspective

When Nuttin (1964, p. 63) wrote "*the future is our primary 'motivational space'*" he was referring to the individual future as the life period in which important motivational goals are set and in which important things are expected to be realized. But it is also true that the future motivates already in the present. Anticipated future goals can have a strong motivational effect in the present. Developing a long, dynamic future time perspective by formulating important, realistic goals for that future (e.g., stay healthy, become a decent father and spouse, making a living for myself and my family, making a meaningful contribution to my community or to society in general) may instigate already in the present instrumental activities (e.g., healthy behavior, studying, doing sport, become a member of a youth organization, etc.). Having a long, well-developed FTP will enhance present motivational striving via the perceived (shorter) *psychological distance* towards future goals and via the perceived (higher) *instrumentality* of the present for the future (Devolder & Lens, 1982). People with a long FTP experience a given chronological time interval into the future as shorter *(psychological distance)* than people with a short FTP do. They experience future moments as more near or proximal than individuals with a short FTP do. Because the psychological distance towards delayed goals is shorter for individuals with a long FTP, the anticipated rewarding value of chronologically distant but already anticipated goals will be higher, the longer the FTP is (Lens, Herrera, & Lacante, 2004; Lens & Tsuzuki, 2007). In fact, in a sample of 101 subjects (both male and female), who worked as managers in several private and public organizations in the Central Region of Portugal, the extension of FTP showed main effects in two evaluation indexes, namely personal projects' importance and value congruency: subjects with a longer FTP experienced their personal projects as more important and more congruent with their personal values (Paixão, 1996). In this group, FTP extension was also the most significant predictor of work satisfaction. In another study carried out with two samples (total n = 316) of students attending basic and

secondary schools (9th and 12th grades, 127 and 189 students, respectively) in the Central Region of Portugal, Paixão and Silva (2001) found an expected significant negative correlation between the extension of FTP and the need to collect further educational and occupational information among 12th grade students. These students also selected a significantly lower number of goal objects than their 9th grade colleagues, a fact that has certainly to do with the type of specific career development tasks which are characteristic of each group: vocational exploration tasks (predominant among the 9th graders) presuppose a higher number of cognitive and affective connections with significant interaction contexts than the vocational specification tasks that are characteristic of a group of subjects which is about to complete their secondary education. As to the motivational profiles, both time content and time extension, they were very similar in both group of students and they reveal a predominance of the percentage of goal objects located in the distant future, thus translating the students' constructive behavioural organization in critical moments of decision-taking. People with a long FTP can also more easily anticipate the implications of their present actions for the more distant future and elaborate longer behavioral plans or projects. As a consequence, the utility value or the instrumentality of present actions increases, which will increase the total strength of motivation (Eccles & Wigfield, 2002, p. 120). Problem with many youngsters is however that they live with a rather short future time perspective which makes it difficult for them to take the future into account in the present (Creten, Lens, & Simons, 2001).

To illustrate this last statement, data from 2210 Latin-American youngsters, specifically from Peru and Costa Rica (Herrera & Lens, 2009), showed that very few goals were situated in the distant future. Most of their goals and aspirations were formulated for their present or future educational period. So these youngsters do not really live with a very long future time perspective. Girls from public and private institutions have more answers in the medium long category (57.43% & 57.11% respectively). Boys from public institutions, on the other hand, report mostly a short perspective (55.85%). Perhaps the lack of economical resources make public school boys to orient their aspirations in terms of immediate activities limited to the present school period.

It is noteworthy that also in the group of assessed adolescents from Costa Rica (Central America), the results show that 75.92% and 73.84% of the motivational aspirations of last year secondary school students (public and private respectively) were situated in the short term category. Only 1.76 and 2.43% of the goals could be located in the more distant future. The findings from both countries show that most of the youngsters did not develop a long and well-organized future time perspective. Future research should try to detect the reasons for this rather short-term future planning. Such information may be informative for parents,

teachers and student counselors when they want to help their adolescents to develop a longer and autonomously motivating personal future time perspective.

In a similar vein, Paixão (1996), in a sample of 159 adolescents attending the 8th grade observed that students with higher academic achievement were more future oriented when compared to their underachiever peers. Also, they stated significantly more motivational aspirations related to their future educational and career path, while the underachiever group seemed to show more motivational aspirations concerning the realization of more immediate tasks.

Instrumentality

Instrumental motivation is however not only a function of the temporal delay of the future goals, their intrinsic or extrinsic content and to what extent they create autonomous or controlled motivation in the present. Also the relationship between the content of present and future goals or between the nature of the present activity and the content or nature of its futute goal matters. Simons, Dewitte and Lens (2000, 2003) made a distinction between three types of instrumentality: the present learning task and achieving the future goal for which present learning is instrumental require the same capacities and the activity is internally regulated (Endogenous-internal); the present learning task and achieving the future goal for which present learning is instrumental require very different capacities and the activity is internally or externally regulated (Exogenous-internal or exogenous-external). The results clearly showed that students in physical education who are acquiring or developing competencies that are important for them in their future (professional) life and when they do so in a volitional, autonomous way (internal regulation), develop the most adaptive motivational pattern (e.g., more task-oriented and less performance-oriented, more intrinsic motivation, enjoyment and effort, and better performance). The Endogenous-internal condition showed to be most adaptive for learners.

Lens, Simons and Dewitte (2002) distinguished four types of perceived instrumentality between present learning tasks and future goals. These types were defined by combining two dimensions. The first dimension refers to the regulation of students' behavior: external/controlled versus internal/autonomous regulation. The second dimension refers to the kind of capacities needed now (during their training or as a student) and in the future (working as a professional). Different capacities are used when studying compulsory courses that are not related to the future professional goals (for example: studying geography to become a nurse). The capacities or competencies used in the present task and the future task or goal achievement can also be the same (for example: studying anatomy in order

to become a nurse). When the present task requires the same competencies or capacities as the future task, it has a higher utility or instrumentality than when it is unrelated to the capacities or competencies needed in the future. The combination of these two dimensions (regulation and kind of capacities/utility value) results in four types of instrumentality: (1 & 2) the present task and the future task require the same capacities and the future task or goal regulates the present activities externally or internally; and (3 & 4) the present and the future task are different regarding the capacities they require but the future task or goal regulates the present activities internally or externally. Results consistently showed for all dependent measures (e.g., motivation, interest in course work, learning strategies, achievement goal orientation, and persistence) the most positive and adaptive scores when students both value internal (autonomous) reasons and the utility/instrumentality of the course for their future job (high utility of the course for the future job in combination with perceived internal regulation). Also Simons, Dewitte and Lens (2004) distinguished four types of instrumentality by combining two dimensions: proximal versus distal goals and controlled versus autonomous behavioral regulation. They found that the different types of instrumentality were differently related to motivational, cognitive and achievement measures. Striving for future goals that are experienced as internally regulating students' learning resulted in the most adaptive pattern of outcomes (e.g., I want to become a nurse and therefore I'm studying for diet and nutrition so that I will be able to do my job as well as possible).

Vansteenkiste, Simons, Soenens and Lens (2004) found in a real-life experiment (physical education classes for pupils in grade ten, eleven and twelve) that framing an exercise activity in terms of future intrinsic goal-attainment (focusing on health and physical fitness) positively affected effort-expenditure, autonomous exercise motivation, performance, long-term persistence, and even sport club membership. Framing an exercise activity in terms of future extrinsic goal-attainment (focusing on image and physical attractiveness) undermined those outcomes compared to a no-future goal control group.

Vansteenkiste, Simons, Lens, Soenens, Matos, and Lacante (2004) created three goal content conditions: an intrinsic goal condition (i.e., a clean and healthy environment), an extrinsic goal condition (i.e., saving money), and a condition in which both the intrinsic and the extrinsic goals were presented. The results showed that intrinsic goal framing led to better performance and persistence than did either the extrinsic goal framing or the double-goal framing condition. Moreover, it was found that the intrinsic versus double goal framing effects on performance and persistence were fully mediated by participants' task-orientation, that is, by their motivation to master and fully understand the learning material. Similarly, the negative effect of the extrinsic compared to the double-goal framing

was also mediated by task-orientation: participants in the extrinsic goal condition obtained lower achievement scores because they were less oriented towards mastering the learning material.

Conclusion

These findings underline that it is time to abandon the overly prudent attitude toward extrinsic motivations. As could be expected based on the Self-Determination theory, the present review of empirical studies shows that so-called extrinsic motivation that results from intrinsic future goals that are not perceived as controlling but which create autonomous motivation or behavioral regulation or from intrinsically motivated future activities may not only be harmless, but instead enhance optimal goal orientation and study motivation.

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