Level of self-determination in adults quitting smoking

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INTRODUCTION

Self-Determination Theory (SDT) assumes that psychological health and well-being are intimately related to individual's autonomy or self-determination (Deci & Ryan, 2000; Ryan & Deci, 2000). In particular, health behaviors such as smoking cessation may be understood by examining the degree to which the individual shows an autonomous versus controlled regulation of behavior in this domain. Within an autonomous orientation, the individual engages in an activity because the activity is personally important, interesting or satisfying, rather than for extrinsic reasons such as pressures to do so (controlled orientation). For example, autonomously deciding to enter a cessation smoking program will facilitate optimal outcomes (Deci & Ryan, 2000). Behaving autonomously means being aware one's sense of self, and feeling a sense of choice with respect to one's behavior. However, SDT differentiates types of regulation based on the degree to which the regulation of behavior has been internalized.

OBJECTIVES

The aim of the present study was to characterize the motivational orientation (in particular the degree of autonomy) of a group of smokers entering a clinical cessation program. We analyzed the alpha reliabilities of the sub-scales in the Portuguese version of the Treatment Self-Regulation Questionnaire (TSRQ), as well as in the Perceived Competence Scale (PCS). We also observed the associations between the degree of autonomy and individual characteristics of their smoking pattern.

METHODS

Subjects: N= 40

Table1: Description of the sample

Gender	N	Mean age	Level of Education		
			Elementary school	High school	College/University
male	23	38.48	13	5	5
female	17	37.75	4	5	8
Total	40		17	10	13

Procedures:

The questionnaires were applied to 40 subjects who volunteered to answer in the clinic for smoking cessation in a Portuguese hospital setting. The data were analyzed through SPSS version, 11,5.

Measures:

1. The level of motivation to quit smoking was measured using the Treatment Self-Regulation Questionnaire(**TSRQ** – smoking) (Ryan & Connell, 1989), which assesses individual's reasons for engaging in the smoking cessation program. The reasons used in the questionnaire fall along the relative autonomy continuum, and are grouped in three sub-scales: autonomous orientation (6 items), controlled orientation (6 items), and amotivation (3 items), which refers to being unmotivated.
The questionnaire yields a 7 point scale, indicating the degree of autonomy or self-determination of the individual for stopping smoking. Scores are calculated by averaging the individual item scores. A Relative Autonomy Index **(RAI)** was also calculated by subtracting the average of the Controlled reasons from the average for the Autonomous reasons. The validation of the questionnaire was previously demonstrated (Ryan, & Connell, 1989); in particular, reliabilities (alpha) across several studies ranged from .62 to .82.
Perceived competence was assessed using the Perceived Competence Scale – form for not smoking **(PCS)**. The PCS is a 4 item SDT related scale, assessing the degree to which individuals feel confident they will be able to stop smoking. Scores are calculated by averaging the individual item scores. Alpha reliabilities for this scale were always around .90.
2. Sociodemographic data were collected regarding age, gender, marital status, and level of education.
3. Data regarding the smoking pattern were also collected: years of smoking, cigarettes smoking per day, age of smoking initiation, Fagerström index and Pack unity year index.This last index is calculated by multiplying the number of cigarettes smoked per day with the number of years of smoking divided by 20.
4. Psychological evaluation was measured through Hospital Anxiety-Depression Scale **(HADS)**

RESULTS

Table 2. Alpha reliabilities of the TSRQ sub-scales and PCS

TSRQ Sub-scale	Alpha Reliabilities
Autonomous orientation	0.81
Controlled orientation	0.72
Amotivation	0.55

Perceived Competence Scale (PCS) alpha reliability = 0.83.

Table 3. Mean values for TSRQ and PCS

	N	Mean	SD
Autonomous orientation	38	36.21	6.027
Controlled orientation	38	17.92	7.726
Perceived Competence Scale	39	17.64	5.383

Table 4. Correlation between RAI , smoking pattern and psychological variables

	RAI	Pack unit / year	HADS Anxiety	HADS Depression	Fargestön Index
RAI		- .386 *			
Pack unit / year	- .386 *		.355 *		.433 **
HADS Anxiety		.355 *			
HADS Depression					
Fagerström Index		.433 **			

* significant at the level 0.05   ** significant at the level 0.01

The Perceived Competence Scale does not correlate with any psychological or smoking pattern variables.

DISCUSSION

The alpha reliabilities achieved in this sample were quite good with the exception of the sub-scale amotivation whose value is just acceptable. This fact encourages the use of these instruments to assess the initial motivation to enter a program to quit smoking. The autonomous motivation prevales over controlled motivation, across the total sample. This indicates that intrinsic reasons, more than extrinsic, are the main motivation to enter a cessation smoking program. A follow-up study is presently underway to find out if RAI is associated with long-term abstinence. The RAI correlates negatively with the Pack unity year index. This means that the longer the life of an heavy smoker, less autonomical motivation he has to quit smoking. The other positive correlations identified involves the Fagerström index and pack unity year index. This finding confirms the association between an high level of nicotine addiction and an heavy and prolonged smoking habit, which has been supported by the worldwide literature. The other association between anxiety and pack unity year index supports the recent published data, in which smoking increases the anxiety instead of decresasing it (Parrott, A, 1999). The degree of autonomous motivation for stopping smoking, will bear important implications for planning intervention, with high levels of autonomy facilitating optimal outcomes.