

## P80-Promoting physically active lifestyle toward sedentary adolescent at school: A short term intervention

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Adolescents should obtain the recommended 60 min. a day of moderate to vigorous physical activity (PA). Half of them do not practice any PA or exercise. Schools are an important environment to learn and practice health behaviors as PA. The purpose is (1) to test a short term educational and motivational intervention and (2) to evaluate the effects of emphasizing physical appearance, social recognition, or health and competence goals on sedentary adolescent's PA intentions and behaviors. In winter 2010-2011, 124 sedentary adolescents participated in this study. The preliminary results showed a general main effect of the intervention on all variables and interaction effects showing that the extrinsic message group improved more their perceived control behavior, self-efficacy and extrinsic goals compared to the intrinsic group.

**Keywords:** physically active lifestyle, adolescent, sedentary, school, intervention

### INTRODUCTION

Physical activity (PA) is an important component of a healthful lifestyle, with numerous physical and psychological benefits for youth. Adolescents should obtain the recommended 60 min a day of moderate to vigorous physical activity (MVPA). Near to 41.7 % of French adolescents did not exercise or practice PA. Previous PA interventions were little effective and long term effect was weak (Biddle et al., 2004). Partly because most school assessments generalize across a wide range of students, whatever their amount of their PA level (Marcus et al. 1992). Moreover, many programs failed in using evidence-based theory to identify key determinants of behavior change, as target for interventions. Most social-cognitive theories assume that an individual's intention to change is the best direct predictor of actual change. The theory of planned behavior is a socio-cognitive model that aims to describe the processes that underpin intentional action. Central to the theory is *intentions*, which are a motivational construct and the most proximal predictor of volitional behavior. Based on the theoretically grounded approach to understanding effective health communication and rational health decision making, the use of gain-framed messages to develop initiatives promoting preventive behaviors (e.g., PA) is recommended (Rothman et al., 2006). The Self-Determination Theory proposed that goal-content that individuals pursue when exercising, could be differently formulated: intrinsic-versus-extrinsic dichotomy (e.g., physical health versus appearance) to differentiate aspirational contents. Finally, the implementation intentions (II) specify the *where*, *when* and *how* of responses leading to goal attainment (Golwitzer, 1999). This study tested the effects of two interventions with different message contents (e.g., intrinsic versus extrinsic) combined with intention implementations on sedentary adolescents' motivation, intentions and PA behaviors.

### METHOD

#### *Participants, Materials and Procedures*

One hundred twenty four sedentary students ( $N_{\text{girls}} = 90$ ;  $M_{\text{age}} = 15.44$  yrs,  $M_{\text{height}} = 164$  cm,  $M_{\text{weight}} = 58$  kg) from six 10<sup>th</sup>, two 9<sup>th</sup> and one 8<sup>th</sup> grade classes participated in this study conducted during usual physical education lessons. The protocol was composed by three parts:

(1) One week before the experimental intervention, all the students answered to a questionnaire assessing their initial levels of self-determined motivation toward PA (BREQ2; Markland & Tobin, 2004), their goal content for exercise (Sebire, Standage, & Vansteenkiste, 2008), and the pre-intentional variables (i.e., attitude, social norms, Perceived Control Behavioral (PCB), self-efficacy (SE), and intention (Chatzisarantis et al., 2008). To identify the sedentary students, the International Physical Activity Questionnaire (IPAQ; Craig et al.,

2003) and the PA Stages of Change Questionnaire (Marcus et al., 1992) were used. (2) The intervention is delivered using a PowerPoint presentation. Each class was randomly assigned to the intrinsic (N = 68) or extrinsic (N = 56) intervention content. The message was composed by three parts : (a) First, a general information presenting the health recommendations related to PA (i.e., 5 hrs/week of MVPA), (b) second, the arguments promoting PA for intrinsic reasons (e.g, psychological and physical well-being); or extrinsic reasons (e.g., physical appearance, social recognition), and finally (c), several advices was provided to the students to help them to initiate regular PA behaviors (i.e., choose a pleasant PA, set realistic goals, any opportunity is useful to be physically active). The questionnaire assessing student’s goal content for exercise levels, and pre-intentional variables was provided again at post intervention. Then, the students have to implement their intentions indicating *when* and *where* they will add new PA sessions for the next week. Finally, adolescents have to wear the GT3X accelerometer during one complete week to measure objectively their PA level. The Freedson et al. (2005) age specific cut-points were used to extract the time spent at MVPA. (3) One week later while the accelerometer were picked-up, students reported their PA, their intentions to be regularly active and their level of self-determined motivation toward PA. All scales have satisfactory Cronbach indices ( $\alpha > .70$ )

## RESULTS

Repeated measures of ANOVA were conducted on the psychological variables and ANCOVA with baseline self-reported PA as covariate was computed on objective MVPA.

Table 1. Main and interaction effects on psychological and PA variables

<b>Main effect</b>	<b>Intentions</b> <i>t</i> 2: $F = 112.72^{***}$ <i>t</i> 3: $F = 41.93^{**}$ Post > pre- int.	<b>Attitudes</b> $F = 21.50^{***}$ Post > pre- int.	<b>Subjective norms</b> $F = 6.98^{**}$ Post > pre- int.	<b>PCB</b> $F = 10.98^{***}$ Post > pre- int.	<b>Self-efficacy</b> $F = 7.10^{**}$ Post > pre- int.
	<b>Interaction effect</b>	ns	ns	$F = 4.59^*$ Ext. > Int.	$F = 10.21^{***}$ Ext. > Int.
<b>Main effect</b>	<b>Health goals</b> $F = 5.25^*$ Post > pre- int.	<b>Competence</b> $F = 20.80^{***}$ Post > pre- int.	<b>Physical appearance</b> $F = 10.79^{**}$ Post > pre- int.	<b>Social Recognition</b> $F = 34.32^{***}$ Post > pre- int.	
	<b>Interaction effect</b>	ns	$F = 5.75^*$ Ext. > Int.	$F = 13.81^{***}$ Ext. > Int.	
<b>Main effect</b>	<b>External Motivation</b> $F = 7.18^{**}$ Post > pre- int.	<b>Integrated Motivation</b> ns	<b>A-, Intrinsic, introj., ident. Motivation</b> ns	<b>Physical Activity self-reported</b> $F = 10.25^{**}$ Post < pre- int.	<b>Physical Activity objective</b> ns
	<b>Interaction effect</b>	$F = 5.19^*$ Ext. > Int.	$F = 7.13^{**}$ Ext. > Int.	ns	ns

## CONCLUSION

Based on a two intervention weeks, both intervention contents positively affect sedentary student’s intentions and exercise goals, negatively self-reported PA. The extrinsic message seems to be more effective to increase the PCB, SE, external and integrated motivation.

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