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The effect of School Engagement on Health Risk Behaviours among High School Students: Testing the Mediating Role of Self-Efficacy

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Abstract

The aim of this study is to investigate the effect school engagement on health risk behaviors, as well as to test the mediating role of self-efficacy in the relationship between school engagement and health risk behaviors. Participants were 250 students attending a secondary school level. Using the method of correlational and regression analysis, the results showed that school engagement has a positive impact on reducing the health risk behaviors. Moreover, regression analysis revealed that self-efficacy plays partial mediator role in the relationship between School engagement and health risk behaviors. These findings highlight the importance of school Engagement and the students' personal effectiveness perception in limiting health risk behaviors.

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1. Introduction

Engagement is defined as the cognitive level of investment in learning by the student; it includes being thoughtful and proactive approach to school activities and being willing to exert the effort needed to understand complex ideas or difficult skills (Fredericks, Blumenfeld, & Paris, 2004). School engagement has both a behavioural and an emotional component, and these might be considered respectively as participation and identification (Finn, 1993). However, school engagement has been primarily measured by observable behaviours directly related to academic

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effort and achievement (Sinclair, Christenson, Evelo, & Hurley, 1998). Indicators of engagement that emerge relatively consistently across the literature include participation in school-related activities, achievement of high grades, amount of time spent on homework, and rate of homework completion. Beyond these traditionally investigated measures of school engagement, definitions of engagement also include affective and cognitive elements. A positive school environment plays a significant part in determining students' sense of belonging and satisfaction (Osterman, 2000). Students who experience acceptance and connection are more highly motivated and engaged in learning, they also become more committed to school (Walker & Greene, 2009).

According to social cognitive theory, goal orientation works in conjunction with self-efficacy to increase motivation. In fact, the identification of psychological variables (self-variables) of individuals that facilitate or hinder adolescents' levels of school engagement would contribute greatly to the understanding of how to increase adolescents' psychological well-being and their achievement motivation and associated school engagement. Individuals who perceive themselves to be efficacious set more challenging goals for themselves and maintain higher levels of commitment to the set goals. Moreover, the strength of the evidence linking dropout and engagement has led to engagement being used as a primary theoretical model for understanding and preventing school dropout (Appleton, Christenson, & Furlong, 2008). Given the significant negative individual and social implications, problematic behaviours, and negative developmental trajectories associated with low school engagement, resources continue to be invested to examine and better understand school engagement and to develop interventions for its improvement.

It is said adolescence is a time of experimentation, risk, and opportunity (Schwartz et al., 2010). Many risky behaviors, such as delinquency, alcohol and drug use, and unprotected sex, are initiated during this developmental period. In particular some authors (e.g., Yibing Li et al. 2011) have tested the effects of school engagement on risky behaviors in adolescence. The impact of lack of school engagement on individuals, as well as on society as a more comprehensive community, is significant and may disclose itself in various ways. School dropout is one consequence of lack of school engagement (Connell, Halpern-Felsher, Clifford, Crichlow, & Usinger, 1995). In response to this increased awareness, significant attention has been devoted in this study to examining factors that may directly or indirectly affect students' levels of school engagement.

2. Literature, Importance and hypotheses

Interest in school engagement has grown over the past two decades, although there is a substantial change in the way it has been defined and measured. Early studies defined the commitment of the students primarily from observable behaviors, such as participation and the time spent in a task (Brophy, 1983; Natriello, 1984). The researchers also incorporated the emotional and affective aspects in their conceptual idea of engagement (Connell, 1990; Finn, 1989). These definitions include feelings of belonging, fun, and attachment. More recently, researchers have studied the cognitive characteristics of the commitment, the investment of the students in learning, perseverance, challenges strategies (Fredericks, Blumenfeld & Paris, 2004). One of the first theories about the commitment has been the model of participation-identification (Finn, 1989). This theory defines the commitment to school as a set of a behavioral component and an emotional component, called identification (Finn & Voelkl, 1993).

Another influential model was developed by Connell and colleagues (Connell, 1990; Connell & Wellborn, 1991; Skinner & Belmont, 1993), in which engagement is two ends of a continuum: the constant engagement and the passive behavior. In fact, Engaged students show a behavioral involvement in learning and an emotional tone generally positive; persevering in the face of challenges (Connell, 1990; Connell & Wellborn, 1991). Conversely, disengaged or disaffected students are passive, they do not try hard to achieve their goals, they are bored, give up easily, and perceive negative emotions, such guilt and anger (Skinner & Belmont, 1993). On the basis of this theory we are expecting the following hypotheses:

H1. *School engagement will be negatively connected with health risk behaviors.*

H2. *School engagement will be positively connected with self-esteem.*

As it mentioned earlier, it is also assumed that engaged students are more likely to earn better grades and perform well on standardized tests (Fredricks, Blumenfeld, & Paris, 2004; Marks, 2000). Overcoming on the challenges into

the adult world requires a complex set of skills, resources, values and self-confidence essential to avoid anti-social behavior such as substance abuse and crime. Principles of risk, protection, and resilience have become milestones in the understanding and prevention of harmful behaviors such as substance use, delinquency, aggression, and early school leaving (Catalano 2007; Woolf, 2008).

It is expected that students who feel involved with the school are more motivated to realize academically and less oriented towards anti-social behavior than students uninterested in school activities. Further support comes from a recent review study by Liem and Martin (2012) suggesting that adaptive motivation dimensions are positively associated with performance whereas impeding and maladaptive motivation dimensions are negatively associated with performance. Other researchers have shown similar links with a host of other motivational constructs. These include links between self-efficacy and career/educational aspirations (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001) or enrolment intentions (e.g., Meece, Wigfield, & Eccles, 1990) and positive links between self-regulation and positive attitudes toward school (Pekrun, Goetz, Titz, & Perry, 2002). As self-efficacy is considered as an individual perception of ability to perform adequately in a particular situation (Bandura, 1997) we are going to examine the mediating role of self-efficacy in the relationship between school engagement and health risk behaviours by having the following hypothesis:

H3. *Self-efficacy will mediate the relationship between school engagement and health risk behaviors.*

In the following figure we are presenting a better view of the relationships between our research variables. As you can see in the figure 1, school engagement is considered as antecedent and self-efficacy and risk behaviors as mediator and consequence respectively:

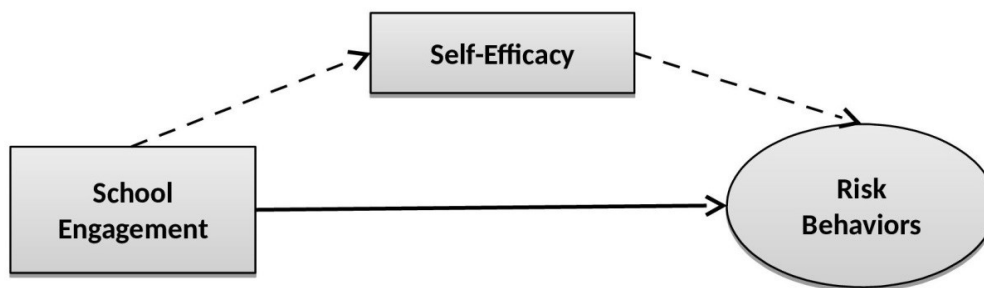


Figure 1. Proposed model of the relationship between research variables

3. Method

3.1. Participants

Participants include 250 high school students from Nord-Italy who were selected by simple random sampling method. For this sample 74.4% were female, 35.6 % were engaged with a partner, 77.4% were not the only child of their parents, 8.4 % had a part/full time job, 38.8 % reported that they would like to enter to university after high school. The range of ages was also from 13 to 21 (M= 15.88).

3.2. Measures

School engagement. SE was measured by a 15-item scale (1= strongly disagree to 5= strongly agree) developed by Frederick, Blumenfeld, Friedel, & Paris, A. (2005). The scale is divided into three types of commitment to school: behavioral, emotional and cognitive. The alpha coefficient in this study was 0.76.

Health risk behaviours. This tool consists of 43 items (*never, rarely, sometimes, often, and always*) This instrument consists of 43 items and developed by Renee Skaar (2009), divided into six domains on different types of behavior: 1) the use of tobacco, 2) unhealthy nutritionally behaviors, 3) inadequate physical activity, 4) use of

alcohol and other drugs, 5) sexual behaviors, 6) behaviors that can cause violence or unintentional injuries. In particular in this research it was used the first part of the scale, related to participation in risky behaviors, rather than the perceived risk. The alpha coefficient of this scale in the present study was 0.89.

Self-efficacy. SE was assessed by 7 items (Jerusalem & Satow, 1999). Participants had to choose one of these options: completely agree, agree, no idea, disagree and completely disagree. The alpha coefficient was 0.71.

4. Research Results

4.1. Descriptive statistics

Means, standard deviations, and correlations among the variables are presented in table 1. The results for correlations showed that all variables were significantly related to each other.

Table 1. Means, standard deviations and simple correlations among study variables

	Variables	M	SD	2	3
1	School engagement	41.45	7.34	- 0.29*	0.37**
2	Health risk behaviours	86.43	17.62	-	0.04
3	Self-efficacy	17.21	3.66	-	-

* $P < .05$, ** $P < .001$

In the table 1, the biggest significant correlation is observed between school engagement and self-efficacy ($r = 0.37$). In addition, there was a negative significant relationship between school engagement and health risk behaviors ($r = - 0.29$). As a result, the H1 and H2 are confirmed. Moreover, the association between school engagement and health risk behaviors is less strong than the relationship between school engagement and self-efficacy. Consequently, we decided to also test the potential mediating role of self-efficacy between school engagement and health risk behaviors.

5. Regression model

The initial analysis of the regression model (Model 1) showed that school engagement is a significant antecedent of health risk behaviours. We also entered self-efficacy as a second antecedent to evaluate its impact on health risk behaviours (Model 2). The second model obviously revealed that self-efficacy is also a significant antecedent of health risk behaviours. These results again approved the H1 and H2. Moreover, the comparison between the first and second regression models showed that after entering self-efficacy as a second antecedent the amount of school engagement in the second model decreases (from $\beta = - 0.16$ to $\beta = - 0.28$). This discloses the mediating role of self-efficacy in the relationship between school engagement and health risk behaviours. However, considering the coefficients of school engagement and self-efficacy we cannot consider self-efficacy as a full mediator of this association but we can mention that self-efficacy is able to partially mediate the relationship between school engagement and health risk behaviours. Thus, the H3 is confirmed.

Table 2. The result of regression analysis of impact of school engagement on health risk behaviours

Model	Independent	MR	RS	F, P	β	T	Sig	N
1	School engagement	0.16	0.02	7.00 0.009	- 0.16	- 2.64	0.009	250
2	School engagement Self-efficacy	0.33	0.11	15.89 0.001	- 0.28 0.31	- 4.37 4.91	0.001 0.001	250

Moreover, Bootstrapping procedure was used to re-examine the indirect effect of school engagement on health

risk behaviours through self-efficacy. Table 3 indicates the results for bootstrapping analysis. The results showed that self-efficacy is a significant mediator in the relationship between school engagement and health risk behaviours.

Table 3. The results of bootstrapping analysis for indirect effect of school engagement on health risk behaviour

	Data	Boot	Bias	Se	Lower limit	Upper limit
Self-efficacy	0.2772	0.2784	0.0012	0.0768	0.1465	0.4486

6. Conclusions

In this research we examined the direct and indirect effects of school engagement on health risk behaviours. As the results indicated, there was a strong direct relation but negative between school engagement and health risk behaviours. It means that an increase in school engagement leads to a decrease in emerging health risk behaviours among students. In the other words, engaged students in school activities tend to be less-engaged in those behaviours that are risky and might threaten their health situation. For a better understanding of the relation between school engagement and health risk behaviours we apply the influential model of school engagement developed by Connell and colleagues (Connell, 1990; Connell & Wellborn, 1991; Skinner & Belmont, 1993). According to the model, engagement includes two ends of a continuum: the constant engagement and the passive behavior. In fact, Engaged students show a behavioral involvement in learning and an emotional tone generally positive; persevering in the face of challenges. Conversely, disengaged or disaffected students are passive, they do not try hard to achieve their goals, they are bored, give up easily, and perceive negative emotions, such as anger, guilt, and denial. Therefore, it is more likely to observe such the risky behaviors among those students who are less engaged with school activities.

In the second part of this research we examined the indirect effect of school engagement on health risk behaviours through self-efficacy. In fact, we were curious to know whether it is only a direct impact of school engagement that decreases the health risk behaviours or there is another variable that can mediate this dynamic relation. Choosing self-efficacy as mediator was based on a literature review where we could find that self-efficacy as an internal and individual variable which plays a vital role in academic achievement of students. Moreover, observing the strong positive relation between school engagement and self-efficacy motivated us to pay more attention to potential role of self-efficacy as a mediator. As our finding indicated self-efficacy is recognized as a strong internal factor that can prevent students to show risky behaviours, while engaging students in school activities.

For a better understanding of the indirect relation between school engagement and health risk behaviours considering to the mediating role of self-efficacy we can apply social cognitive theory (Bandura, 1977; 1986). According to social cognitive theory, goal orientation works in conjunction with self-efficacy to increase motivation. In fact, the identification of psychological variables (self-variables) of individuals that facilitate or hinder adolescents' levels of school engagement would contribute greatly to the understanding of how to increase adolescents' psychological well-being and their achievement motivation and associated school engagement. Individuals who perceive themselves to be efficacious set more challenging goals for themselves and maintain higher levels of commitment to the set goals. Therefore, self-efficacy as a strong self-variable is able to mediate the association between school engagement and health risk behaviors. In the other words, it is less likely to observe such the risky behaviors among students with a high self-efficacy.

This study has some limitations. First, we drew our samples from high school students. This limits the generalization of our results to other samples. Second, given the cross-sectional design of this study, causal relationships among the variables cannot be established. Longitudinal studies should be employed to test the hypotheses. Finally, all the questionnaires which we used in this study were self-reports. It is better to use a mix of self-report questionnaires and objective assessments.

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