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SCHOOL MOTIVATION, GOAL ORIENTATIONS AND
EMOTIONAL INTELLIGENCE IN STUDENTS OF SECONDARY
EDUCATION

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Abstract

The objective of this study was to analyze the relationship linking student motivation, goal orientations and emotional intelligence in a sample of 3512 adolescent students from 18 Compulsory Secondary Education centers. The used instruments were the Spanish versions of the Educational Motivation Scale (EME-S), the Success Perception Questionnaire (POSQ) and the Traid Meta-Mood Scale-24 (TMMS-24). The results showed stronger relationships between intrinsic school motivations and emotional intelligence than with extrinsic motivations and amotivation. Likewise, emotional intelligence, task-orientation, intrinsic motivation and external motivation predicted students' demotivation. The influence of the constructs studied in students' personal and academic development as well as the importance of promoting adaptive behaviors in education centers were revealed.

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Keywords: Emotional intelligence, goal orientations, school motivation, students, teenagers.



1. Introduction

While some students are at school, they may not have available, or may not use, the strategies and skills they need to successfully overcome the demands and expectations of academic life. Accordingly, they could take a negative attitude towards academic life, lose interest in their studies, or even experience physical and psychic exhaustion (Palacio, Caballero, González, Gravini, & Contreras, 2012).

School motivation is understood as a series of beliefs that students hold about their objectives and purposes by revealing why a goal is important for them, and by deducing an explanation about them persisting in their conduct (McCollum & Kajs, 2009). The SDT acts as a continuum that covers several degrees of self-determination in conduct, which range from non-self-determined to the most self-determined (Moreno & Martínez, 2006). Intrinsic motivation refers to the undertaking of an activity for the inherent satisfaction that derives from it, without having to resort to any external reinforcements. In extrinsic motivation, conduct becomes significant because it is led to a purpose and not by itself.

As regards students' learning goals, one of the most important cognitive-social theories is the Achievement Goal Theory (Nicholls, 1989), a widespread reference framework used in education psychology (Ames, 1992). This refers to the purposes or reasons that students follow to guide their behavior in academic situations. In this way, the students who are motivationally task-oriented tend to believe that success at school results from effort, motivation and cooperation while undertaking any activity. Ego-oriented students are related with possessing a higher skill or competence than other classmates (Guivernau & Duda, 1994). Many studies have positively related motivational task-oriented orientations with several variables, such as greater persistence, willingness and commitment with school activity (Lukwu & Luján, 2011), intrinsic motivation when performing tasks (Casas, Bălțătescu, Bertran, González, & Hatos, 2013) and better using and developing coping strategies (Salavera & Usán, 2017).

Finally, emotional intelligence (EI) is known as a person's capacity to process the information provided by emotions felt from our surroundings (Mayer, Salovey, & Caruso, 2000). Emotionally intelligent people are able to deal with the emotions that they perceive in their nearest surroundings, understand their possible causes and consequences, and how to develop the strategies needed to control or manage different emotional moods (Mayer, Salovey, & Caruso, 2000; Goleman, 2012). This EI would be made up of specific skills that play a key role in a person's subjective well-being, such as clarity, repair and emotional regulation. The first, emotional attention, is defined as the capacity to suitably perceive and express feelings; emotional clarity would be related with understanding emotional moods; finally, emotional repair is defined as the capacity to correctly control emotional moods.

2. Problem Statement

Motivation and EI concepts are doubtlessly two very important variables for the adolescent population's personal and contextual adjustment and are also essential predictors of achievements and academic performance (Holgado, Navas, & Marco, 2013; Jiménez & López, 2013). In line with this, and following Cera, Almagro, Conde, and Sáenz-López (2015), very few research works are available that specifically deal with the links between motivation and EI in the education context: more studies are needed

to extend our understanding and knowledge of the interrelation between the different described constructs to favor students’ personal and academic development in education

3. Research Questions

According to our objective, three hypotheses are put forward:

- (a) The students who have a high prevalence of intrinsic motivations in their academic lives will be related positively with task-oriented goal orientations and EI, following a line of more adaptive conducts than;
- (b) the students who obtain higher levels of extrinsic motivation will be positively related with ego-oriented goal orientation and school amotivation, and will be negatively related with EI dimensions in a line of less adaptive conducts;
- (c) intrinsic motivations, task orientation and EI will negatively predict amotivation, while extrinsic motivations and ego orientation will do so positively.

4. Purpose of the Study

Thus, the objective of the present study is to center on analyzing the relation between linking school motivation, goal orientations and EI in a sample of adolescents at school.

5. Research Methods

5.1. Design

In line with Ato, López, and Benavente (2013), the present work consisted in a prospective ex post facto-type study with a simple descriptive design that responded to simple random sampling.

5.2. Sampling

The study comprised 3512 students (male N=1816, 51.07% and female N=1696, 48.29%) from 18 public centers for CSE in the province of Zaragoza (Spain), aged between 12 and 18 years (M=14.55; SD=1.68).

Table 01. Students’ age and academic year.

		N	%
Age	12 years	307	17.89
	13 years	293	16.54
	14 years	403	24.02
	15 years	417	23.93
	16 years	269	14.03
	17 years	56	2.71
	18 years	11	0.88
Academic year	1 of CSE	338	20.09
	2 of CSE	436	25.63
	3 of CSE	567	32.11
	4 of CSE	415	22.17

5.3. Evaluation instruments

In order to perceive students' school motivation, the Educational Motivation Scale (EME-S) was used, which has been adapted to the Secondary Education context (Núñez, Martín-Albó, Navarro, & Suárez, 2010). This scale comprises 28 items distributed into three large dimensions with seven subscales of four items that respond to the reasons or motives why students go to school: intrinsic motivation to stimulating experiences ($\alpha=.79$); to knowledge ($\alpha=.86$) and to achievement ($\alpha=.84$); extrinsic motivation that is external ($\alpha=.83$), identified ($\alpha=.84$) and introjected ($\alpha=.82$) and, finally, amotivation ($\alpha=.85$). The answers are evaluated on a Likert-type scale which ranges from "Completely disagree" (1) to "Completely agree" (5). The original instrument's reliability gives a Cronbach's alpha of .80, which was .82 in our research.

To approach students' goal orientations, the Perception of Success Questionnaire (POSQ) by Roberts, Treasure, and Balagué (1998) was used. It was translated into Spanish and validated by Martínez, Alonso, and Moreno (2006). The questionnaire contains 12 items that measure achievement orientations on two dimensions; task orientation (6) and ego orientation (6). The questionnaire's reliability has been demonstrated in several studies in the school context and has obtained a Cronbach's alpha of .85 for the task subscale and one of .82 for the ego subscale (Treasure & Roberts, 1994), which were respectively .86 and .83 in our study.

Finally, in order to perceive students' EI, the Traid Meta-Mood Scale-24 (TMMS-24) (Mayer, Salovey, & Caruso, 2000) was used, specifically a reduced version that was adapted to the Spanish population by Fernández-Berrocal, Extremera, and Ramos (2004). This scale contains three dimensions with eight items each: emotional attention (5) ($\alpha=.79$); clarity of feelings (5) ($\alpha=.83$) and emotional repair (5) ($\alpha=.82$). The original instrument's reliability gives a Cronbach's alpha of .83, while .84 in our research.

5.4. Procedure

While the study was underway, it was approved by several Secondary Education centers and students' parents/guardians using informed consent to participate in the research. After previously reaching an agreement with the Head of Studies, questionnaires were completed in each class in the same center on one week day. All the subjects and their parents/guardians were previously informed about the nature of the study by voluntarily participating, and respecting in this way the ethical guidelines of the Declaration of Helsinki (AMM, 2000).

5.5. Data analysis

Descriptive statistics were done to know the sample's socio-demographic data and the different studied variables. Later correlations were done among the variables of school motivation, goal orientations and EI, which were processed and analyzed with the IBM SPSS v22.0 statistical package. Structural equations model was described by AMOS v24 program. For all operations, a level of significance of $p \leq 0.05$ was considered with 95% confidence level.

6. Findings

6.1. Correlation analysis among school motivation, goal orientations and EI

By analyzing the variables school motivation, goal orientations and EI, significant correlations among them were found (see Table 2). When we analyzed the variable school motivation, we observed significant correlations among the first six (intrinsic motivation to stimulating experiences, knowledge and achievement, external extrinsic motivation, identified and introjected extrinsic motivations) variables, with higher prevalences among the three first intrinsic motivations, where the highest correlation was found between motivation to knowledge and motivation to achievement ($r=.717^{**}$). Amotivation presented an inverse relation with the last three variables, and a positive one with external extrinsic motivation ($r=.257^{**}$). The two goal orientations correlated with one another ($r=.246^{**}$).

Table 02. Relation that links school motivation, goal orientation and EI

	1	2	3	4	5	6	7	8	9	10	11	12
School motivation												
1. Intrinsic to stimulating exp.	1											
2. Intrinsic to knowledge	.600**	1										
3. Intrinsic to achievement	.628**	.717**	1									
4. External extrinsic	.289**	.374**	.328**	1								
5. Identified extrinsic	.422**	.459**	.451**	.425**	1							
6. Introjected extrinsic	.445**	.337**	.396**	.398**	.486**	1						
7. Amotivation	-.170**	-.097*	-.117**	.257**	.026	.019	1					
Goal orientations												
8. Task	.410**	.390**	.444**	.003	.017	.012	-.298**	1				
9. Ego	.172**	.036	.145**	.328**	.127**	.190**	.205**	.246**	1			
EI												
10. Emotional attention	.478**	.437**	.378**	.222**	.322**	.298**	-.320**	.383**	100**	1		
11. Emotional clarity	.328**	.311**	.258**	.015	.189**	.118**	-.271**	.378**	-.029**	.155**	1	
12. Emotional regulation	.446**	.398**	.387**	.279**	.312**	.308**	-.094*	.355**	.093*	.055	.451**	1
Mean	4.02	3.80	3.91	2.50	3.53	3.74	1.74	4.28	3.24	3.44	3.41	3.56
SD	.69	.79	.74	.89	.84	.68	.76	.58	.96	.75	.72	.75
Cronbach's alpha	.79	.86	.84	.83	.84	.82	.85	.85	.82	.79	.83	.82

Note: ** The correlation is significant at the 0.01 level (bilateral)

* The correlation is significant at the 0.05 level (bilateral)

6.2. Predicting intrinsic and extrinsic motivation, goal orientations and EI about amotivation

In order to specify the predictive value of intrinsic and extrinsic motivation, goal orientations and EI on motivation, multiple stepwise regression was done by selecting the dimensions that made up intrinsic and extrinsic school motivation, goal orientations and EI as predictor variables, and amotivation as a

criterion variable. Table 3 shows the final step after including the variables that were significant when predicting their influence on amotivation. As seen, the model showed the three EI dimensions (attention, clarity and regulation), external extrinsic motivation, intrinsic motivation to stimulating experiences and task-oriented goal orientations as the predictor variables that formed part of the equation. Nagelkerke R² statistics were used to calculate a fit value of 0.500 of these factors for amotivation.

For amotivation, the odds ratios obtained for each variable indicated that: a) the probability of showing amotivation was $r=-.348$ fold less among the students who display more emotional attention. This would indicate that amotivation lowers as emotional attention increases; b) the emotional clarity variables ($r=-.092$), emotional regulation ($r=-.040$) and intrinsic motivation to learning ($r=-.080$) slightly influenced the appearance of amotivation; c) the likelihood of showing amotivation was $r=.279$ -fold higher among people with external extrinsic motivations; and d) the likelihood of showing amotivation was $r=-.222$ -fold lower in the students who scored higher in task-oriented goal orientations.

Table 03. Intrinsic and extrinsic school motivation, goal orientations and EI as predictors of amotivation.

	B	SE	R ²	t	Sig.
(Constant)	3.513	.262		13.392	.000
EI- Emotional attention	-.348	.049	.320	-5.913	.000
EI- Emotional clarity	-.092	.046	.335	2.006	.045
EI- Emotional regulation	-.040	.048	.349	-1.358	.048
Extrinsic Motivation - External	.279	.036	.468	7.730	.000
Intrinsic Motivation –Stimulating experiences	-.080	.047	.478	-1.515	.049
Task-oriented goal orientation	-.222	.049	.500	-3.753	.000

6.3. Model of the structural equations among the variables school motivation, goal orientations and EI

Finally, Figure 1 shows the result of the analysis with the structural equations done by the Maximum Likelihood Method. It confirms the suitability of the model composed of the constructs considered herein, and indicates a high correlation between school motivation and EI ($r=.62$), which would suggest that high levels of the former entail high prevalences of the latter, and vice versa. Along the same lines, a correlation was found between school motivation and goal orientations ($r=.55$), as was a correlation between EI and goal orientations ($r=.53$). Regarding the model's fit, the different fit indices proved adequate. So it can be stated that the proposed model about the factorial structure among school motivation, goal orientations and EI was sustainable: $\chi^2(51) = 92.128$, $p < 0.001$; $\chi^2/df = 1.80$; CFI = 0.97; NFI = 0.98; TLI = 0.95; RMSEA = 0.58, 95%CI (0.044 – 0.072).

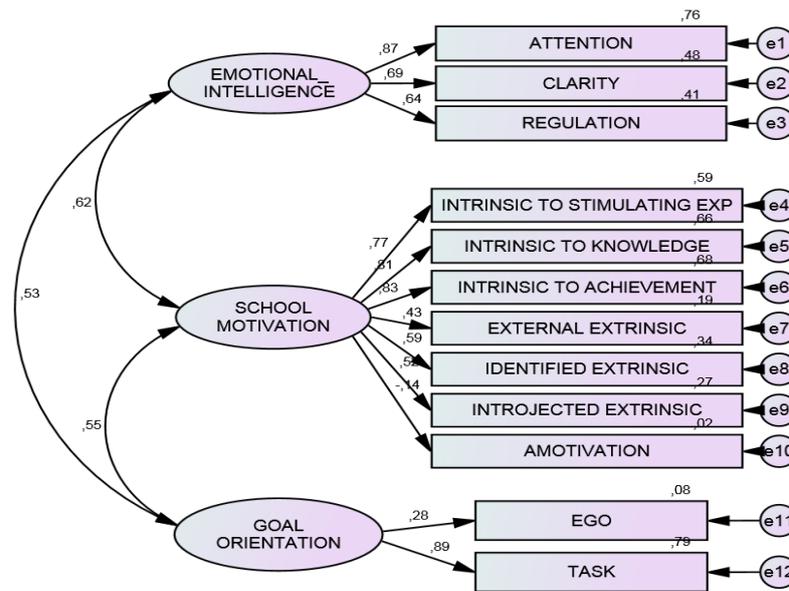


Figure 01. Model of the structural equations among the variables of motivation, goal orientations and EI

7. Conclusion

The study objective was to analyze the relation linking school motivation, goal orientations and EI in a sample of adolescent students at CSE schools.

The first hypothesis put forward was that precisely those students with high prevalences in intrinsic motivations would be positively related with task-oriented goal orientations and EI and would follow a line of more adaptive conducts. This hypothesis was completely confirmed. Several studies have shown the relation between intrinsic school motivations and task-oriented goal orientations. Barca, Peralbo, Porto, Marcos, and Brenlla (2011) found positive relations between intrinsic motives when performing school activities and task-oriented academic goals in a clearly self-determined pattern. Salavera and Usán (2017) stated that intrinsically motivated students possessed better school coping strategies than extrinsically motivated ones, which would lead to more adaptive goal orientations.

The second research hypothesis referred to a possible relation of higher levels of extrinsic motivation being positively related with ego-oriented goal orientations and school amotivation, and negatively with the EI dimensions in a line of less adaptive conducts. This hypothesis was partly confirmed; our research results described a relation between extrinsic motivations and ego-oriented goal orientations in the same way as the latter with amotivation in a clear line of non-adaptive conducts, but found no relations between extrinsic motivations and demotivation (save a poor correlation with extrinsic motivation), nor negatively with the EI dimensions, but positive ones, especially with attention and emotional regulation. The scientific literature seems to agree with assuming the relation between extrinsic motivations and ego-oriented goal orientations that are associated with other more non adaptive conducts. DeFreese & Smith (2013) maintained a close relation between goal orientations and extrinsic school motives which led to less school commitment and dedication to academic tasks.

Lastly, our third hypothesis referred to the possible negative prediction of intrinsic motivations, task-oriented orientation and EI on amotivation, and to the possible positive prediction of extrinsic motivations

and ego-oriented orientation. This hypothesis was partly confirmed. The scientific literature does not include many studies that directly indicate the results found in our research. However, many studies have approached them in various ways. In a study that examined the incidence of EI in motivation, Pérez (2012) stated that clarity and emotional regulation negatively predicted amotivation, which corroborates our results, including emotional attention.

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