Empirical analysis of the effects of school practices on the Tunisian pupils' motivation and self-concept

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Abstract

Do the evaluation practices that are adopted by the teacher have an effect on the orientations of the pupils' objectives and self-concept? To find an answer to this question, 540 Tunisian pupils at the seventh and eighth grade of six colleges in the Sfax region were asked to fill in a French version of the motivational orientation on Nicholls grading scales (1989), as well as a questionnaire about their self-concept. Similarly, their six teachers completed a questionnaire on evaluation practices. The results support the overall reliability and validity of the French adaptation of the motivational orientation scales. Regarding the relationship between the desired orientation of the goals and self-concept, the task orientation shows a positive association between the dimensions of self-concept, except for mathematics where the relationship is more pronounced with the orientation of the ego. In general, the results show that the teachers reported an impact of the evaluation practices on the pupils' motivational orientations and self-concepti. Moreover, the educational implications of these results are subject of several discussions.

Keywords: Evaluation practices; self-concept; achievement motivation.

JEL Classification: I20, I23, Z00.

1. Introduction

The type of pupils' motivation and self-concept are among the most well studied determinants of learning in educational psychology (Nicholls, 1989; Marsh, 1988). However, the relationship between these two variables has not yet been investigated in-depth. For this reason, the present study suggests examining in detail the relationship between motivation and-concept. In fact, given the importance of these two variables for pupil learning, our study focuses more particularly on the impact of how teachers structure the school environment on the basis of these two variables (Ames, 1992). More specifically, we are interested in the effect of the type of the evaluation practices put in place by teachers on the pupils' motivation and self-concept. Moreover, since almost all the instruments used to measure the type of motivation have been developed in English, the verification of the psychometric qualities of the French adaptation of one of these instruments is among the objectives of the current study.

The theory of objectives (Anderman and Maerh, 1994; Dweck and Leggett, 1988), which is also called intentional approach (Nicholls, 1989), focuses on the role played by the perception object of a measure on the initialization, the interruption or the continuation of the same action. The reasons why a person engages in an activity are intended to have a crucial impact on the level and quality of his or her engagement. Such an approach does not presuppose that the individuals are always conscious of their goals but it implies what people do, including the way in which they interpret the situations, whether it is rational or comprehensible and considered from the point of view of their goals (Nicholls, Cheung, Lauer, and Patashnick, 1989). According to this theoretical concept, the goals that individuals work for create a framework in which they interpret the events and react to them (Dweck and Leggett, 1988).

The research studies conducted on the basis of this concept emphasized two types of goals or distinct motivational directions (for a review, see Ames, 1992; Anderman and Maehr, 1994). On the one hand, it is a matter of learning or control goals, also called orientation towards the task and, on the other hand, it is a matter of performance or competence goals, also called orientation towards the ego. Regarding the learning goals, a person's aim is to develop one's knowledge, increase his comprehension, improve his former performance, or achieve something that has not been achieved before. In this type of goals, including the deployed efforts, the learning process is an end in itself and is evaluated for itself. However, regarding the performance goals, an individual's objective here is to prove or establish the superiority of one's competence compared to the others, and thus to obtain favorable judgements of competence or avoid negative ones.

In this case, comprehension or skill gain is not an end in itself but a means among others that helps a person determine his value towards others. In the next part of our article, the orientation towards learning will indicate the propensity of an individual to adopt learning goals, whereas the orientation towards performance will indicate his propensity to adopt performance goals. Based on the results of the already conducted various research studies (Duda and Nicholls, 1992; Miller, Behrens, Greene and Newman, 1993; Schraw, Horn, Thorndike-Christ and Bruning, 1995), these two individual tendencies must be regarded as orthogonal rather than opposite ends of a continuum. In fact, in all the mentioned research studies, these two tendencies form distinct and quasi-independent factors (when it is not null, the correlation obtained between these factors is below 0.30). In other words, a person can be strongly oriented towards learning and performance at the same time. Consequently, one can consider the existence of an interaction between orientations, however, studies on this subject revealed contradictory results (Bouffard, Boisvert, Vezeau and Larouche, 1995; Schraw et al., 1995). Actually, some authors, such as Meece, Blumenfeld and Hoyle (1988) et Nicholls, Coob, Wood, Yackel and Patashnick (1990), distinguished a third motivational orientation, such as work avoidance, which indicates the propensity to do the minimum at school, avoid any effort, and dissolve any obligation.

In fact, many research studies examined the relationship between these motivational directions and other cognitive, emotional and behavioral variables. The orientation towards learning is positively associated with the belief that school success depends on the interest, the effort, the desire to understand and co-operate (Nicholls et al., 1989), as well as on attributions in terms of effort (Shraw et al., 1995), and on the use of strategies of automatic regulation and of a thorough information treatment (Meece et al., 1988), on the school results (Bouffard et al. 1995) and also on perseverance (Miller et al., 1993), as well as on the positive emotions with respect to the school (Roeser, Midgley and Urdan, 1996). Therefore, orientation towards performance is positively associated with the belief that success depends on the intellectual abilities and competition (Duda etNicholls, 1992), a well as on attributions in terms of capacities (Dweck and Leggett, 1988), on cheating (Anderman, Griesinger and Westerfield, 1998), on the refusal to ask for help (Butler et Neuman, 1995), and on anxiety vis-a-vis the examinations (Schraw et al., 1995). Moreover, work avoidance is at the same time in a negative correlation with the active commitment (Meece et al., 1988) and satisfaction with the studies (Thorldldsen and Nicholls, 1998), and also on the positive relationship with the belief that success depends on external factors (Nicholls et al., 1990).

These results clearly revealed that motivational orientations are very important elements for the learning process and for education in general. However, to our knowledge, no French instrument helps measure these motivational orientations. Therefore, several English questionnaires were built

and validated, but none of them has been so far translated into French. Therefore, the main objective of this study is to adapt an existing English tool while preserving satisfactory psychometric properties for it. For this purpose, the questionnaire developped by Nicholls and his colleagues was chosen (Nicholls, 1989). In fact, this choice was guided by the number of publications using this questionnaire.

2.1. Self-concept

Another element, which was deeply studied in the context of learning, is self-concept, which is defined as the perception (knowledge) and the evaluation (judgement) that an individual has about his personal characteristics (Paradise and Vitaro, 1992). In this context, a great number of researchers, such as Harter (1982), Marsh, Smith and Barnes (1985) and Pierrehumbert (1992), underlined the multidimensional character of self-concept. In other words, a person's self-concept in a field (mathematics for example) is not equivalent to that in another field (French for example). Moreover, according to Chapman and Tunmer (1995), self-concept in the academic fields would be formed of three components: the attitude (i.e. interest) towards the field in question, the impression to have difficulties (versus facilities) in the field, and the feeling of competence in the field of self-concept of this built complex. Furthermore, there is some confusion on this subject in the literature with the concepts of perceived competence and the feeling of self-efficacy and self-esteem. Although they often maintain very close relationships, these concepts can be distinguished both at the theoretical and the empirical level (Pajares and Miller, 1994).

In fact, many research studies indicated that self-concept in an academic field is related to the school results in this field (Marsh, 1988; Marsh et al., 1985; Marsh and Yeung, 1997a). Besides, the level of self-concept in various fields guides the choice of the courses taken by pupils, (Marsh and Yeung, 1997b). Moreover, self-concept is negatively associated with the behaviour of social withdrawal at school (Paradis and Vitaro, 1992); however, its motivational orientations have not so far been studied in a systematic way. On the other hand, there are several studies on the relationships between, on the one hand, the motivational orientations and, on the other hand, the interest and perceived competence, which are two components of self-concept. In fact, these authors showed in a coherent way that the orientation towards learning is positively correlated with the interest for the course content, whereas the orientation towards performance is not related to it while work avoidance negatively depends on it (Heyman and Dweck, 1992; Meece et al., 1988; Miller et al., 1993). Moreover, the handling of the type of goals in an experimental situation shows that it is about a causal relationship and the adoption of learning goals resulting in an interest for the task higher than the adoption of performance goals (Butler, 1987; Nicholls, 1984). Regarding perceived competence, most of the results indicated that work avoidance is negatively correlated with the

perceived qualification level, and that the bond between the orientation towards performance and perceived competence is zero or very low (Nicholls et al., 1989; Thorkildsen and Nicholls, 1998) while for the orientation towards learning, the results were less coherent. On the other hand, some researchers mentioned a nonsignificant correlation between the perceived competence and the orientation towards learning (Nicholls, 1989) whereas others, such as Kaplan and Midgley (1997) et Roeser et al. (1996, noticed substantial positive correlations. This inconsistency could be explained by a difference in the formulation of the items used to measure perceived competence, in particular, by the more or less main tendency of these items to refer to the social comparison. Indeed, several research studies showed that the type of the objectives being pursued by an individual affects the framework of reference on which he is based to judge his competence (Butler, 1998; Jagacinski and Nicholls, 1987).

Besides not being concerned with all the components of self-concept, the existing research studies seldom take into account the multi-dimensional character of this concept. Generally, the relationship between self-concept and the type of motivation was dealt with only for one school subject, and sometimes two, or in relation to school in general, but not for these various elements at the same time. The second objective of this study is to identify the relationshop between the motivational orientations and self-concept, as defined above. More precisely, this question consists in examining the relationship between, on the one hand, the three orientations highlighted by Nicholls and his collaborators and, on the other hand, between self-concept in various academic fields, self-concept with respect to school in general, and non-academic self-concept. More precisely, this consists in examining, on the one hand, the relationship between the three orientations stressed by Nicholls and his collaborators and, on the other hand, self-concept in various academic fields in relation to school in general and academic self-concept.

Theoretically, the learning goals with a real interest for the school subjects are much better than the performance ones which are centered much more around evaluation rather than around the content to be learned. Moreover, when an individual pursues learning objectives, his perception capacity to achieve his goals, i.e. the perception of his skills, is built in a self-referenced way: “Do I know more things than before, have I progressed?”. With such a reference framework, a positive perceived competence is easier to develop and is certainly less vulnerable to the external evaluations than when the reference framework is normative (based on the social comparison), as it is the case with the performance goals. As for the goals of work avoidance, they indicate an investment withdrawal from the school fields, and thus do not support the interest for these fields, but could offer some protection of the feeling of skills vis-a-vis the negative feedbacks.

Since the interest and perceived competence form an integral part of self-concept, and given the empirical results mentioned above, we can formulate the hypothesis that orientation towards learning is positively correlated with self-concept in the academic fields, and that the amplitude of this association is higher than the one between orientation towards performance and academic self-concepts. Terefore, we can also expect a slightly negative association between work avoidance and academic self-concept. The question of knowing if the effect of motivational orientations, such as defined above, which extends beyond the academic fields, is a question that has never been dealt with, either theoretically, or empirically. As a consequence, we have no valid element to help formulate a hypothesis about the relationship between orientations and non academic self-concept.

2.2. School motivation determinants and self-concept

If the motivational orientations and self-concept are important variables for the development of learning, it is crucial to better include/understand their determinants at the school level, in other words, to better identify the characteristics of the school environment which can affect these variables.

The available literature has already offered some answers. Among other things, one should know that the perception that pupils have about their class or their school by according the priority mainly to the selection of the best pupils or the personal development of each of them, affects their motivation (Ames and Archer, 1988; Roeser et al., 1996). On the other hand, the introduction of a pedagogy based on the dialogue and co-operation (Nicholls et al., 1990; Nichols and Miller, 1994) increases the orientation towards pupils' learning, unlike the "traditional" pedagogy. Moreover, experimental research studies brought invaluable information regarding the elements of the school context which can support the adoption of either type of goals. Schematically, it seems that a person will spontaneously try to improve his level of control or comprehension when he is faced with tasks that raise a moderate challenge to him, or he is under a physical or a psychological stress, and he is not subject to any important pressure from his external environment. In other words, these conditions would lead people to adopt learning goals (Nicholls, 1984) while they are adoting performance goals instead of being assigned, in a neutral way, a task that includes developed skills which are presented as:

- As a test of these skills;
- In a context of competition or interpersonal comparison;
- In situations that raise the concern about the image you convey (situations with a high social visibility).

Unfortunately, these experimental studies cover only one or two variables at a time and therefore do not reflect the complexity of the variables present in the context of the classroom (Marshall and Weinstein, 1984). For this reeason, a causal relationship found in the laboratory might be completely canelled by the effect of other variables present in the "natural" environment (see Cialdini, 1995).

Moreover, other studies showed that the way teachers organize and plan their school activities affects the dispersion of pupils' self-concept levels (Rozenholtz and Wilson, 1980, Rozenholtz and Simpson, 1984, Mac Iver, 1988). In fact, these studies focus on four facets of the class organizational structure, namely:

- The diversity of tasks that lead to formally evaluated performance;
- The degree of pupils' autonomy in choosing the tasks and moments of achievement;
- The way pupils are grouped together;
- The salience of formal evaluations.

However, the questions put to teachers remain very general besides, the effect of these variables on motivational orientations has not been measured.

Based on the results mentoned above, motivational orientations and the level of self-concept seem to be sensitive to variations in the school environment. Therefore, it should be possible to sustainably affect the level of self-concept and the type of goals pursued by pupils through the structuring of educational practices. In fact, long-term exposure to an environment supporting the pursuit of learning goals may therefore favor the long-term adoption of such goals and the maintenance of a positive self-concept (Ames, 1992). In this regard, much research emphasized the important role of the evaluation practices that pupils will provide their school environment with (Butler, 1987; Crooks, 1988; Natriello, 1987). According to Crooks (1988), who conducted a review of the literature on the impact of evaluation practices, "school assessment affects pupils in many ways. For example, it guides their judgments on what is important to learn, influences their motivation and perceived competence, structures their study approach and planning (...), consolidates learning and affects the development of strategies and sustainable learning skills. Moreover, it is considered as one of the most powerful forces that affect education "(p.467). For example, evaluation practices are particularly critical because they tell pupils what is important to their success (Stiggins, Conldin and Bridgeford, 1986). In other words, from the pupils' point of view, evaluation reveals the goals of their teachers. For example, while a teacher may insist on understanding and critical thinking during his lessons, if his/her evaluations focus mainly on

providing factual information, his or her pupils are unlikely to be motivated by learning goals and that they are interested in the content of the course beyond a study by heart.

In this context, and contrary to previous research that focused either on pupil perception, or on complete pedagogical changes, or on very general practices, the third objective of our study is to examine the effect of a series of specific assessment practices on motivational orientations and pupils' self-concept. Beside its theoretical interest, this study has the potential to provide teachers with specific, concrete, and relatively easy-to-implement guidelines in order to improve their pupils' motivation and learning. Therefore, we postulate that:

- The more a teacher's evaluation practices favor the adoption of learning goals, the more his / her pupils are oriented towards learning and a high self-concept;
- Evaluation practices that support the adoption of performance goals encourage pupils to develop a performance orientation.

In summary, this study has three complementary objectives:

- Firstly, it examines the psychometric qualities of the adaptation of Nicholls's questionnaire;
- Secondly, it examines the relationship between this measure of motivation types and a measure of self-concept;

and more specifically:

- Thirdly, it examines the impact of the school assessment practices on both of these variables.

3. Methodology

3.1. Sample

In fact, five hundred and forty pupils (310 boys and 230 girls) participated in this research, which represents all pupils supervised by 6 teachers (6 x 3 x 30 = 540). The average age of these participants was 13 and a half (wirg a 7-month standard deviation). These pupils came from 18 classes belonging to 6 different colleges of which the 6 teachers responsible had agreed to participate in the research with the approval of their direction. Among these 18 classes, distributed equitably (3 per colleges), 9 were eighth grade classes and the remaining 9 were seventh grade classes. These six colleges were attended by a population of lower social rank. The majority of pupils speak two languages (Arabic and French); but a small percentage of them speak French at home. The teachers (4 womens, 2 mens) had a seniority between 10 and 25 years and classes of 30 to 35 pupils.

3.2. Measurement of the variables

The motivational orientation questionnaire involves three scales; Orientation to learning, orientation to performance and work avoidance. All the items are of likert type scale which offers 5 possible answers, 1- totally agree, 2- agree, 3- neither disagree nor agree, 4- disagree, 5- not at all agree, These items are adapted to those of Nicholls (1989) and Duda and Nicholls (1992). In our questionnaire, each scale is initially composed of 7 items. The analysis of the coefficients of internal consistency (measured by Cronbach's alpha) indicates that within each scale, an item greatly decreases the reliability of its respective scale and three items were removed from subsequent analyses. The results of the final version of the questionnaire, which are introduced in Table 1, show that Cronbach's Alpha is 0.81, for the orientation towards performance, 0.72, for orientation towards learning and 0.79, for work avoidance. All the coefficients are significantly lower than the ones reported by Nicholls (1989) and Duda and Nicholls (1992), suggesting that these scales are likely to be improved.

The self-concept questionnaire consists of eight scales, three related to academic fields, such as mathematics, reading and school in general, and five covering non-academic fields, such as peer relationships, relationships with parents, Physical appearance, physical ability and self-esteem. In fact, this questionnaire is a shortened version of the Self-Description Questionnaire-I (S.D.Q.-I, Marsh, 1988). The items were selected on the basis of the analyses conducted by Gagnon, Taro, Craig and Pelletier (1996) on a Quebec version of this instrument. The selected items are those that were most strongly backed by the various factors predicted by the Marsh model. In fact, they were slightly made clear to be closer to the French spoken in Tunisia. Our research focuses on the academic dimensions of self- concept (reading, mathematics, school in general), while the other dimensions were grouped into a single scale of the non-academic self-concept, as it is also allowed by S.D.Q.-I. The response format and coding are identical to the original questionnaire. To avoid that the subjects do not always respond in the same direction, the SDQ-I contains some negative items (eg. "I hate reading.") among which we included four in our questionnaire. However, Marsh (1988) recommends excluding the negative items from the analyses because children would not respond in a reliable way. Since this type of item reduces the reliability of the scales in our sample, we finally excluded it. In fact, each of the scales of self-concept in mathematics, in Reading and at School in general each consists of 6 items and has an alpha of 0.95, 0.92 and 0.86, respectively. Actually, these three coefficients are quite satisfactory and comparable to the ones obtained by Gagnon et al. (1996) and Marsh (1988). In fact, ten items form the non-academic self-concept scale of which alpha is 0.69, which is not surprising given the diversity of the grouped fields. The items in this self-concept questionnaire are presented in Table 2.

The questionnaire about the specific evaluation practices was developed on the basis of a series of studies dealing with school evaluation (Brookhart, 1994; Butler, 1987; Crooks, 1988; Nicholls, 1989; Rosenholtz and Simpson, 1984; Stiggins et al., 1986). As part of a larger survey, teachers were asked to rate on a five-point scale (from "very often" to "very rarely") the frequency of some of their evaluation practices. Given its exploratory nature, this questionnaire initially included 28 items. After an analysis of the inter-item correlations, 18 items were retained to form two 9-item scales, one of which, which is called "Learning", brings together the practices that theoretically promote the adoption of learning goals by pupils, while the other, which is called "Performance", brings together the assessment practices that promote the adoption of performance goals by pupils. Hence, Cronbach's alpha rises to 0.85 and 0.80, respectively, which is a remarkable result given the small number of teachers (n = 6).

3.3. Procedure

A researcher visited classes during normal teaching hours. After introducing himself and briefly explaining the general context of the research, he distributed to the pupils the motivational guidance questionnaire followed by the self concept questionnaire. Both questionnaires were preceded by a sheet containing instructions that the researcher read aloud and answered the pupils' questions. He then insisted on the anonymous and personal nature of the answers and invited the pupils to fill in the questionnaires, specifying that he would answer any question about understanding the items. While the pupils were busy, the teacher was completing the questionnaire on his assessment practices. The questionnaires were completed and assembled, a feedback was collected from the pupils, and the research objectives were presented to them. Finally, the pupils and the teachers were warmly thanked for their participation. The entire operation lasted between 45 and 60 minutes while the data were collected the week before the winter holidays after the first semester exams.

4. Empirical analysis

The presentation of the results is divided into three parts corresponding to the three objectives of this study. We have presented first the results related to the factor structure of the adoption of the Nichons questionnaire (1989), as well as the abbreviated version of the N.D.Q.-I, second, the results about the relationship between the motivational orientations and the dimensions of self-concept and finally, the results related to the effect of the evaluation practices on motivation and self concept.

4.1. Motivations and self-concept: factorial analyzes and internal correlations

The pupils' responses to the motivational and self-concept orientation questionnaire were subjected to factor analyses. For the directions of motivation, and based on the results available in the literature (Duda and Nicholls, 1992; Nicholls et al., 1989), we opted for a three-factor forced

solution with Varimax rotation. The results of this analysis are presented in Table 1. As expected, the items on each scale are saturated mainly at an appreciable level by a specific factor. All three factors accounted for 54% of the total variance. First, there is the factor that most determines the variance corresponding to the performance orientation then, the factor corresponding to the work avoidance comes second followed by that of the orientation towards learning. The latter result differs somewhat from the one obtained in the study of Duda and Nicholls (1992) where the factor corresponding to the orientation towards learning identifies the maximal variance while the work avoidance factor determines the minimal. The difference regarding work avoidance can be explained by the fact that, unlike our study, Duda et Nicholls's work avoidance scale consists of 4 items while the two others innvolve 8 items. Nevertheless, the variance explained by our learning orientation factor relative to the other factors indicates that the adjustment of this scale could be improved. These results may also certainly reflect the cultural difference between the Tunisian and the American school systems.

On the other hand, the correlation between the different motivational orientations is shown in the lower part of Table 3. In line with the previous research studies (Nicholls, 1989), there is a weak link between orientation towards learning and the one towards performance, but there is no link between orientation towards learning and work avoidance, while the latter and orientation towards performance are associated in a more imprtant way.

Table 1: Motivational orientations: Items and results of the factor analysis (Varimax rotation)

Items: I feel that I succeed very well when...	Factor I: Orientation towards performance	Factor II: Work avoidance	Factor III: Task orientation
I know more about things than other pupils.	0.81		
I have better points than the others.	0.79		
Others have difficulties while I do not.	0.76		
I can do better than the others.	0.69		
I am the only one who can answer the teacher's questions.	0.62		
I finish my question before the others.	0.60	0.45	
The teacher does not make a difficult question.		0.72	
The whole work is easy.		0.63	
I can be a clown.		0.65	
I can avoid some work.		0.66	
I hardly work.		0.71	
I am learning new knowledge about how things work.			0.68
What I am learning really makes sense to me.			0.69
I am learning interesting things.			0.72
What I learn makes me want to discover more.			0.69
I work a lot all day.			0.53
I find the solution to a problem by looking a lot.			0.62
Cronbach's alpha			
Eigenvalues	3.5	2.5	2.3
% variance	25	18	11

Note: Only loadings equal to or greater than 0.30 are presented; n = 465.

Source : Authors calculations.

Regarding self-concept, and given that less than half of the items in the original version are included in our questionnaire, it is interesting to see if there is a comparable factorial structure. Since the principal component analysis does not allow an interpretable result to be achieved, an analysis with Varimax rotation has also been carried out. In fact, seven factors explaining nearly 83% of the total variance emerged from this analysis. With the exception of two items of the "school in general" scale, the items that are saturated by these different factors correspond consistently to the scales that make up the questionnaire (see Table 2).

Table 2: Self-concept: Items and results of factorial analysis (Varimax rotation)

Items	F1	F2	F3	F4	F5	F6	F7
Mathematics:							
I am very good at mathematics.	0.95						
I like to work hard in mathematics	0.91						
I appreciate mathematics.	0.89						
I am very much interested in mathematics.	0.86						
I am a fast learner in mathematics.	0.91						
I have good grades in mathematics.	0.84						
Reading:							
I am interested in reading.		0.82					
I like reading.		0.90					
I learn quickly in reading		0.88					
I am gifted in reading		0.82					
Usually, I am looking forward to reading		0.92					
I have good reading points		0.75					
General school:							
I like all school subjects.			0.85				
I find all the school subjects interesting.			0.81				
I like to work in all school subjects.			0.77				
I usually look forward to all courses.			0.71				
I am m good at all topics.			0.56				
In all topics, work is easy for me.			0.62				
Physical appearance:							
I have a nice face to look at.				0.91			
I am a person who has a beautiful appearance.				0.92			
Relationships with peers:							
I have more friends than most children.					0.75	0.42	
The other kids want me to be their friend.					0.71		
Relationship with parents:							
I get along well with my parents.						0.81	
My parents and I often have lot of fun together.						0.79	
Physical ability:							
I am good at sports.							0.82
I can run for a long time without stopping.							0.75
Self-esteem:							
I have many reasons to be proud of myself.	0.51			0.41	0.52		0.42
There are a lot of good things in me.				0.35	0.36		
Cronbach's alpha	0.96	0.92	0.86	0.71	0.67	0.63	0.66
Eigenvalues	8.5	5.4	3.5	2.0	1.4	1.3	1.1
% of variance	30.2	19.4	12.6	7.2	5.1	4.6	3.9

Note: Only loadings equal to or greater than 0.30 are presented, n = 450.

Source: Authors calculations.

Only the self-esteem scale does not form a distinct factor while the saturation and the items that compose it are strongly scattered on other factors, which is consistent with the results reported in

the literature (Gagnon et al., 1996; Marsh, 1988). Overall, the multi-dimensional structure of the original questionnaire is well-rediscovered.

The correlation between the different components of self-concept is presented on the right side of Table 3. For instance, self-concept for the school in general is positively associated with the other two academic dimensions (mathematics and reading). The "mathematics" and "school in general" dimensions are also related to the non-academic component. This pattern is consistent with the results reported in the literature (Marsh et al., 1985; Marsh, 1988).

4.2. The relationship between motivational orientations and self-concept dimensions

The correlation between the motivational orientations and self-concept dimensions is presented in bold in Table 3. In fact, it is observed that the orientation towards learning is positively associated with all self-concept dimensions, while orientation towards performance is associated with self-concept in mathematics and for the school in general. Moreover, a significant positive correlation is observed between work avoidance and the non-academic component of self-concept.

Table 3: Pearson correlations between motivational orientations and self-concept components

	O.Lear.	Perf.O.	W.AV.	School G.	Math	Read	N-Acad
O.Appr.	1						
Perf.O.	0.16^{**}	1					
W.AV.	-	0.35^{***}	1				
School G.	0.27^{***}	0.14^{*}	-	1			
Math	0.19^{**}	0.22^{**}	-	0.61^{***}	1		
Read	0.31^{***}	-	-	0.32^{***}	-	1	
N-Acad	0.10	-	0.26^{***}	0.35^{***}	0.22^{**}	-	1

Note: O.Lear.=Orientation towards learning, Perf.O.=Performance orientation, W.AV.=Work avoidance; Self-concept: School G.=School in general, Math=Mathematics, Read=Reading, N-Acad=non-academic. The correlations between the orientations and self- concept are presented in bold. Motivation Orientations: n = 450; Self-concept: n = 450. *: $p < 0.05$ - **: $p < 0.01$; ***: $p < 0.001$.

Source: Authors calculations.

In order to examine the relationship between motivation and self-concept in more detail and in the light of the experimental results mentioned above, the pupils' orientation levels towards learning and performance were divided into two categories (high vs. low) according to their respective median. After that, their effects on self-concept were tested using a multivariate analysis of variance (MANOVA). This analysis mode helps simultaneously test the effects of the learning orientation level (high vs. low) as well as those of the performance orientation (high vs. low) on self-concept.

The effects of the pupils' gender were also examined (see Table 4). Moreover, this analysis method can test the cross effects (interactions) between gender, motivation twards learning and performance motivation. For example, girls with a high emphasis on learning rather than on performance may have, on average, a higher self-concept than girls who have a strong emphasis on learning and performance, whereas this difference is not found among boys. This analysis also revealed a major

effect of the gender on self-concept in mathematics [F(1;530) = 9.17 ; p< 0.01] and in reading [F(1;530) = 18.79 ; p < 0.001].

The preliminary analyses presented in Table 4 show a difference in the motivational orientations according to sex. Given the lack of experimental results regarding work avoidance, this orientation was not taken into account in the analysis.

Table 4: Comparative analysis of self concept by gender and orientations

Items	Degree of Freedom		F-Statistic	Significant
Sex				
Self-concept in Mathematics	1	530	9.17	0.003
Self-concept in Reading	1	530	18.79	0.000
Self-concept in Physical Appearance	1	530	8.72	0.003
Self-concept in Relationships with peers	1	530	1.27	0.260
Self-concept in Physical ability	1	530	10.22	0.002
Self-esteem	1	530	6.78	0.009
Performance Orientation				
Self-concept in Mathematics	1	530	7.23	0.007
Self-concept in Reading	1	530	8.56	0.004
Self-concept in Physical Appearance	1	530	7.36	0.007
Self-concept in Relationships with peers	1	530	8.58	0.004
Self-concept in Physical ability	1	530	10.69	0.001
Self-esteem	1	530	15.36	0.000
Learning orientation				
Self-concept in School in General	1	530	10.33	0.001
Self-concept in Reading	1	530	7.68	0.005
Self-concept in Physical Appearance	1	530	8.25	0.004
Self-concept in Relationships with peers	1	530	6.59	0.011
Self-concept in Physical ability	1	530	11.63	0.001
Self-esteem	1	530	7.99	0.005

According to the results of many previous studies (Marsh et al., 1985; Marsh, 1988), boys have a higher self-concept than girls in mathematics but lower in reading. There was also a major effect of performance orientation on self-concept in mathematics [F(1;530) = 7.23; p < 0.01]. Subjects with a high performance orientation have a higher self-concept in mathematics. Finally, there is a major effect of the learning orientation on self-concept for the school in general [F(1;530) = 10.33; p < 0.01], reading [F(1;530) = 7.68 ; p < 0.01] and non-academic self-concept [F(1;530) = 6.59; p < 0.05]. In these three domains, the topics highly oriented towards learning have a higher self-concept but no interaction approaches the threshold of significance, either with the gender or between the orientations.

4.3. Effects of school evaluation practices

In order to test the effect of the type of the assessment practice, the classes were divided into two groups with each comprising 9 classes according to the median of the learning scale. The same thing was made with the performance scale of the questionnaire on the evaluation practices. The effects on motivational orientations at the level of the focus (high vs. low) of the evaluation

practices on learning and performance, as well as the cross-effects of these two variables, were aso examined.

In agreement with the hypotheses, the results of this analysis, in Table 5, indicate a marginal effect of the evaluation practices of the learning scale on the orientation towards learning [F(1;536) = 9.25; p < 0.01]. Pupils attending classes in which teachers have high scores in « learning » and low scores in « performance » tend to be more learning-oriented than the ones whose teachers have low scores at both levels. Moreover, there is an unanticipated interaction with the performance orientation [F (1;536) = 6.35; p < 0.05]. Pupils who attend classes that have teachers with high learning scores and low performance scores are more performance-oriented than those whose teachers have low performance scores on both scales. However, none of these conditions significantly differs from the high performance conditions, which contradicts our gypotheses.

Table 5: Impact of Learning and Performance Scales on Evaluation Practices

Items	Degree of Freedom		F-Statistic	Significant
Learning				
Orientation towards learning	1	536	9.25	0.002
Orientation towards performance	1	536	6.35	0.012
Self-concept				
Orientation towards learning	1	536	6.59	0.011
Orientation towards performance	1	536	10.23	0.002

The same analysis was carried out on self-concept dimensions through the control of the motivational orientations effect. The results showed two main independent effects, one at the "learning" level [(F(1;536) = 6.59; p < 0.05], and the other at the « performance » level [F(1;5363) = 10.23; p < 0.01], on self-concept in reading, which is in line with our hypotheses. In fact, when the "learning" level of the assessment practices is high, pupils have a higher self-concept in reading. On the other hand, when the teacher reports practices of a high "performance" level, pupils' self-concept in reading will be weaker.

5. Conclusion and Discussion

In fact, one of the objectives of this study was to examine the psychometric qualities of the French version of the Nicholls questionnaire on Tunisian pupils. In this respect, the obtained results are promising since these three factors correspond to the expected motivational orientations besides, the correlations between these orientations are consistent with the results available in the literature (Nicholls, 1989; Duda and Nicholls, 1992). However, the low internal consistency of the learning orientation items, as well as the average variance explained by the corresponding factor, indicate that our adaptation of the Nicholls questionnaire needs to be improved. Regarding the abbreviated version of the N.D. Q.-I, the results are quite satisfactory compared to the ones obtained with the

original questionnaire (Marsh, 1988). The fact that the obtained results differ from one dimension to another underlines the importance of taking into account its multi-dimensional nature.

In general, the correlations obtained between the motivational orientations and the dimensions of self-concept are not very high, which confirms that these two theoretical sets do not cover the same thing. According to the hypotheses (except for non-academic self-concept), the learning orientation is the only positive orientation associated with all the components of self-concept. However, what is unexpected is the relative magnitude of the relationshop between performance orientation and self-concept in mathematics and between work avoidance and non-academic self-concept. The latter result could mean that pupils who disinvest from school work invest more in out of-school domains.

However, the privileged relationship between performance orientation and self-concept in mathematics is confirmed in multivariate analyses. In fact, the results of some studies have provided some explanatory elements concerning the special status of mathematics in relation to other school subjects. These studies indicate that mathematics is a subject highly valued both socially and academically (Monteil, 1988) besides, it is perceived to be strongly related to intellectual abilities (Nicholls, 1989), where errors are prohibited (Lafortune et St-Pierre, 1994), and the related assessments are often more formal than in other subjects (Stiggins et al., 1986). Mathematics is therefore a school field highly marked by performance goals, and a motivational orientation compatible with this type of goals might be necessary to have a high self-concept in this field.

In fact, both the level of orientation towards learning, which has an effect on all the other dimensions of self-concept, and the lack of interaction between the orientations are in line with the results obtained by Shraw et al. (1995) which revealed a positive effect of the orientation towards learning, irrespective of the level of orientation towards performance. On the other hand, these results contradict those of Bouffard et al. (1995) that showed that the most positive outcomes for pupils are strongly oriented towards both learning and performance. Beyond their differences, these research studies, including the one in our hands, stress the ultimate importance of a high level of the orientation towards learning.

In line with the assumptions found in the literature, the level of orientation towards pupil learning tends to be based on the level of "learning" of the evaluation practices reported by the teacher with whom they spend most of their school time. However, the interaction between the "learning" and "performance" scales at the level of the orientation towards performance contrasicts the initial ones. However, pupils in classes with a high "learning" scale score and a low "performance" scale score have a level of orientation towards learning at least equal to that of the pupils of the other classes. Nonetheless, the debate about the best combination between the learning orientation and the one

towards performance is still open. As explained above, the most important thing is to have a sufficiently high level of orientation towards learning. Moreover, a certain level of performance orientation appears to be preferable to a low level of learning orientation combined with a low level of performance orientation (Bouffard et al., 1995). Therefore, it is possible that pupils attending the classes in question (evaluation practices: (high "learning" and "low performance") are proved to be absolutely the most motivated since they have both a learning-oriented level equivalent to that of the others and a more performance-oriented level.

In fact, a higher reading self-concept for pupils in classrooms where teachers report learning-centered evaluation practices, is in the direction of the advanced hypothese. On the other hand, the deleterious effect on this same self-concept in a performance-centered school environment was not taken into account in the hypotheses. Therefore, the unexpected results of the performance scale may be explained by the very content of this scale. Indeed, some items directly refer to practices that can cause evaluation anxiety (anxiety testing), anxiety that can cause negative effects on the commitment and self-image of some pupils. Moreover, the results related to the performance scale could be due to a lack of variance in the evaluation practices of the interviewed teachers since the teachers' sample may be too homogeneous. Therefore, if our sample of teachers is certainly not satistically representative, the scattring of the scores on the evaluation practices is however very important. On the other hand, the small size of this sample gives the values used to group the classes (i.e. medians) a relative or even an arbitrary character, which stresses the lack of representative data about the practices actually implemented by teachers in their classrooms (Brookhart, 1994).

In general, the results of this study on the impact of the evaluation practices stress the role that structuring the school environment can play on the pupils' motivation and the image they make about themselves (Ames, 1992). It seems that the practices put in place by teachers have an effect on the pupils' motivational style and self-concept, that is to say, on the relatively stable characteristics which seem crucial for the continuation of their schooling. It would therefore be important to inform and train teachers on the most appropriate evaluation practices to support the learning orientation and self-concept of the pupils. In fact, the instrument developed in this study may have an interesting track in this regard. However, other data not presented in this text indicate that, the higher score a teacher gets at the "performance" scale, the more he perceives a discrepancy between the actual function of the assessment and the function he should ideally have (Galand, 1997). This result is to be related to Wilson's research (1990) which found that some forms of evaluation are perceived by teachers as constraints that are necessary to them. A number of teachers would therefore be aware that their evaluation practices are not optimal, but would feel compelled

to apply them. In fact, making evaluation practices more suitable to support pupil learning may also require better management of the constraints on teachers, whether these constraints are situational, for example, they improve the planning of their actions (Crahay, 1989), or social, they develop team work (Lafortune et St-Pierre, 1994).

Finally, it should be noted that the hypotheses formulated in this study concerning the effects directionality are based on many theoretical and empirical arguments. However, the research plan used does not exclude the possibility of a reverse directionality, or even more likely, a bidirectionality (Skinner and Belmont, 1993). In fact, if the motivational orientations affect the development of self-concept, a certain level of self- concept is probably necessary to retain a minimum motivation for learning. Similarly, if it is true that pupils comply with the teachers' practices, the teachers will probably adopt their practices to the composition of the classes where they teach, or in any case, to the perception that they have about the composition of these classes. Therefore, it would be very beneficial to conduct longitudinal studies in order to examine these issues more deeply.

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