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Preliminary evaluation of a self-report tool for Learned Helplessness and Mastery Orientation in Italian students.

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Abstract: Learned helplessness (LH) is defined as a passive behavior characterized by an inability to learn that may affect the academic success of students. Conversely, students who show good motivation skills, optimism and perseverance are more focused on tasks and 'mastery oriented' (derived from Mastery Orientation, MO). The purpose of this study was to develop a self-report measurement of LH and MO - the *Learned Helplessness Questionnaire* (LHQ) - for the Italian scholastic context. We translated and adapted a student self-evaluation register, the *Student behaviour checklist*, and administered the questionnaire to Italian students in order to provide a preliminary factor structure. Exploratory factor analyses conducted support a two-factor model and acceptable internal reliability of the Italian LHQ.The results encourage the conduction of further analysis to assess the psychometric characteristics of the LHQ in depth.

Keywords: learned helplessness; mastery orientation; academic achievement; exploratory factor analyses.

Introduction

Learned helplessness (LH) is defined as a passive behavior characterized by an inability to learn, shown by those frequently subjected to stressful, uncontrollable, and inevitable negative events (Seligman & Maier, 1967).The theory of LH was conceptualized and developed by Seligman and Maier (1967). While conducting experiments on dogs repeatedly hurt by an adverse stimulus, the authors discovered that the animals stopped trying to avoid pain and behaved as if it is utterly helpless to change the situation. The theory, as it applies to humans, refers to the psychological state that characterizes people encountering uncontrollable events (Abramson, Metalsky, & Alloy, 1989; Abramson, Seligman, & Teasdale, 1978). The effects of these events, observed through experiments, were considered by Abramson et al. (1978; 1989) as similar to those found in animal studies. Since these early studies, LH has been analyzed in different fields and contexts, and research has shown its negative effects on both physical and psychological individual well-being (Fincham & Cain, 1986; Maier & Watkins, 2005; Peterson, 2010; Peterson, Maier, & Seligman,1993; Rius-Ottenheim, van der Mast, Zitman, & Giltay, 2013).

Helpless *vs.* Mastery-oriented students

Focusing in particular on the school environment, it is already common knowledge that a state of LH may affect the academic successes of students, because it involves a number of psychological variables that play an important role in learning (self-efficacy, self-representation, explanatory styles, information processing, motivation, performance anxiety, etc.) (Macher, Paechter, Papousek, & Ruggeri, 2012; Peixoto & Almeida, 2010). In fact, students who are at risk of developing LH began to attribute their failures to personal inadequacy, spontaneously citing deficient intelligence, memory, or problem-solving ability as the reasons for their failure. This was accompanied by a striking absence of any positive prognosis and occurred despite the presence of some experiences of success. Students with LH, therefore, will drop their problem-solving skills and will not be able to exercise control over events, as if they were guided by causes extraneous to self. They will develop worse strategies after failures, have negative attitude towards tasks, displaying, for example, anxiety, boredom, and rejection, and will be overwhelmed by a sense of helplessness and frustration that can lead

to the LH (Dickhäuser, Reinhard, & Englert, 2011; Dweck & Leggett, 1988; Filippello & Sorrenti, 2008; Ruthig, Perry, Hladkyj, Hall, Pekrun, & Chipperfield, 2008).

A form of behavior in contrast to helplessness can be observed in "mastery-oriented" students (Dweck & Leggett, 1988). In fact, these students believe that their efforts produce success and will be more motivated, open towards learning, and able to use effective study strategies, preferring challenging tasks (Yates, 2009). The mastery-oriented pattern involves the seeking of challenging tasks and the maintenance of effective striving under failure. In the face of failure, "mastery–oriented" students tend to make self-monitoring statements that focus on mastering tasks, make more positive-affective statements, and maintain high expectations for future success (Dickhäuser et al., 2011; Dweck & Legget, 1988; Ruthig et al., 2008).

Previous studies (Dweck & Leggett, 1988) have shown that helpless and mastery-oriented children processed and responded to the situation in entirely different ways. The helpless and the mastery-oriented patterns, in fact, are two distinct, coherent patterns, with striking differences in the cognitions, effect, and behavior that characterize each (Dweck & Leggett, 1988).

Towards a measurement of LH and MO

LH is undoubtedly an issue of social importance that can be extended to various types of social problems since it involves biological, emotional, and behavioral mechanisms as well as interpersonal factors. Despite the importance of this issue, it is difficult to find standardized instruments that measure both LH and MO, especially in specific areas (e.g. education). Generally, these measures focused predominantly on trauma-induced LH. For example, there are numerous published instruments, internationally used, which measure child and adolescent depression, one of the most serious aspects of the LH construct. As regards LH, in scientific psychological research, it is often measured by a specific, existing scale: the *Learned Helplessness Scale* developed by Quinless and Nelson (1988), which evaluates helpless behavior in general, without providing information about the MO of the subject tested.However, since this construct includes result from negative perceived feedback on performance, it would be appropriate to investigate LH according to Fincham et al. (1989, p.139) definition of LH, LH in children is identified "*by their tendency to attribute*

failure to external factors rather than effort". Furthermore, LH is a relevant problems in school and education context, a specific measure of LH in these contexts is necessary.

Fincham et al. (1989) have developed a teacher report, the *Student Behaviour Checklist*, to assess LH and MO. The instrument consists of 24 items rated on a 5-point scale, with two subscales each containing 12 items measuring LH and MO. Specifically, the items describe student behavior in the classroom over the previous 2-3 months, as rated by their teacher. Development of the SBC is consistent with Gronlund's criteria (Gronlund, 1971) for improving scale construction as the attributes being rated are directly observable as behaviors, categories, and points in the scale are defined clearly, between three and seven rating positions are provided, andthe characteristics being rated are recognized as being of educational significance. However, Fincham et al. (1989) reported that although the LH and MO subscales are highly correlated, the psychometric robustness of the checklist had not been established. Further, a shorter version of the scale might "provide a cost-effective measure of helplessness" (Fincham et al., 1989, p. 143). Yates (2009) has developed a short form of the checklist consisting of 10 items to assess helpless behavior observed in mathematics students. However, this short form is purely a teacher report and does not provide the opportunity for students to self-evaluate.

The present study

For this reason, on the basis of the above considerations, the aim of this study is to structure a self-report filled out by students to assess LH and MO in a school environment. Obtaining a measure of LH and MO directly from students helps in avoiding possible distortions from teacher's perceptions of student behavior. In particular, the aim of the study is to verify preliminary factorial structure and reliability in an Italian version of the instrument.

Method

Participants

The sample consisted of 104 valid cases, 50 males (48.1%) and 54 females (51.9%). Participants were selected at both a middle school. All participants had the Italian nationality and were Italian-speaking. Furthermore, 8.7% of

the students belonged to high level of sociocultural status, 55.8% belonged to medium sociocultural status, and 35.6% belonged to the low sociocultural status.

Procedure

This study received ethical approval from the Ethics Committee of the Faculty of Psychology at the University of Messina, and was performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki. The participating students were drawn from three public middle school in Messina that accepted to participate in the research. The research was approved by a school council composed of parent and teacher representatives at the junior school level. A letter with the aim of the study and the informed consent was provided to the parents of the students. Only participants whose parents provided informed consent took part in the present study. In addition to parents' consent, children were free to decline from taking part. Each child was individually informed about the procedure of the experiment. The measure was collected in the classrooms during school hours in a single session. The study procedures were explained, questions were answered, and participants were given the questionnaire. Instructions stated that the questionnaire were voluntary and responses confidential. All the students responded to the same questionnaire. Participation required between 15 and 30 min.

Instrument

The questionnaire from the original study (*Student Behaviour Checklist*) was adapted for the research. Specifically, a translation from the original version and subsequent check for similarity of items through the back-translation procedure was conducted. According to the recommendations of the International Test commission (Hambleton, 2001), the questionnaire were adapted from English to Italian by three independent translators. Furthermore anadaptation of items originally directed to teachers in the self-completed form for students was conducted.

The questionnaire, which we named the *Learned Helplessness Questionnaire* (LHQ), consisted of 24 items with two subscales each containing 12 items measuring LH (items: 1, 4, 6, 8, 9, 12, 14, 17, 18, 20, 21, 23) and MO (items: 2, 3, 5, 7, 10,11, 13, 15, 16, 19, 22, 24). The subject

had to indicate on a 5-point Likert scale (from 1 = not true to 5 = absolutely true) how much she or he agreed with the presented statements.

Results

Descriptive analyses

Table 1 shows means and standard deviations of the LHQ items. The descriptive analysisshowed that all items have good scores of symmetry and kurtosis (Table 1).

Table 1 Mean, Standard Deviation, Skewness, Kurtosis of the items.

		M	SD	Skew	Kurt
Item 1 -	Prefer to do easy problems rather than hard ones.	3.07	1.32	-.02	-1.09
Item 2 -	Express enthusiasm about your work.	2.03	1.14	1.00	.29
Item 3 -	When you encounter an obstacle in your work, you work to overcome it.	3.82	1.05	-.86	.34
Item 4 -	Take little independent initiative; someone must help you to get started and keep going on an assignment	2.68	1.28	.39	-.82
Item 5 -	In general, you expect to do well on schoolwork (rather than expecting to do poorly and expressing surprise at each success)	3.18	1.16	-.10	-.78
Item 6 -	When you fail one part of a task, you look discouraged - you are certain to fail at the entire task	2.62	1.20	.44	-.69
Item 7 -	Try to finish homeworks/assignments, even when they are difficult	3.75	1.04	-.53	-.43
Item 8 -	Make negative or degrading comments about your ability when you performs poorly	2.02	1.07	1.08	.67
Item 9 -	Gives up when someone correct you or find a mistake in your work	3.47	1.03	-.35	-.31
Item 10 -	In general, attempts to do your work thoroughly and well, rather than just trying to get by	3.76	1.14	-.65	-.42
Item 11 -	If asked why you received a poor grade, you are likely to say something about trying harder (e.g., “I didn't concentrate enough that time”)	2.35	1.24	.64	-.55

Item 12 -	After failing a few problems on a school/academic task, you continue to do poorly on remaining problems even though they are within your ability range	2.10	1.20	.84	-.31
Item 13 -	Prefer new and challenging problems over easy problems	2.92	1.20	.22	-.80
Item 14 -	Ask for help from aides, other students, or teachers on school/academic tasks more than is necessary	2.10	1.27	.91	-.31
Item 15 -	When someone point out a mistake you "take it in stride", try to correct the error, and continues to work	3.68	1.18	-.74	-.09
Item 16 -	You are proud when you receive a good grade or when your work is praised	4.26	.90	-1.11	.78
Item 17 -	When you begin a difficult problem, your attempts are half-hearted	2.30	1.10	.55	-.33
Item 18 -	Do not respond with enthusiasm and pride when ask how you are doing on a school/academic task	2.12	1.28	.80	-.59
Item 19 -	When do badly on one part of a task, you still expects to perform well on the rest of the task	3.08	1.08	.03	-.56
Item 20 -	Say things like "I can't do it" when you have trouble with his/her work	2.29	1.21	.79	-.21
Item 21 -	When given a good grade, you do not believe you really can do that subject - say, for example, that you were being nice, the problems were just easy, or you were lucky	2.64	1.23	.36	-.87
Item 22 -	When experiencing difficulty you persist for a while before asking for help	3.69	1.20	-.45	-.88
Item 23 -	When you encounter an obstacle in schoolwork you get discouraged and stop trying. You are easily frustrated.	2.03	1.13	.77	-.51
Item 24 -	When you receive a poor grade, say you will try harder in that subject next time.	3.88	1.20	-.93	-.04

Exploratory factor analysis

To verify the factorial structure of the Italian version of the Student Behavior Checklist, principal component analysis was carried out with to rotation promax with Kaiser Normalization. Exploratory factor analysis were conducted on the 24 items, results from these analyses were promax-

rotated to account for non-independence between the subscales (Costello & Osborne, 2005) and used a principal axis factor analysis. The number of factors was determined through Velicer's minimum average partial (MAP) test (Velicer, 1976), and interpretability of the factor structure by examination of the oblique rotated factor pattern matrix. MAP test were implemented using an existing SPSS program (O'Connor, 2000). An iterative process was used in which items with relatively low primary loadings (< .40), or cross-loadings of .30 or higher, were removed.

The Original MAP test (Velicer, 1976) suggested 2 factors. Hence, a two-factor analysis was performed. These factors explained 31% of variance. The goal of item selection informed by the exploratory factor analysis was to identify items that would consistently load onto their respective subscales in future research. For this reason, we used the factor loading criteria indicated above to identify suitable items. Eleven items failed this test by loading lower than .40 on one of the two identified factors. Thirteen items (see Table 2) met our criteria, and these comprised two subscales, with six items on the first scale (representing LH) and seven items on the second (representing MO).

Table 2 Principal Axis Factoring

	Factor 1 (Learned Helplessness)	**Factor 2 (Mastery Orientation)**
Item 23	**.72**	.13
Item 6	**.67**	.16
Item 20	**.63**	-.03
Item 18	**.63**	.08
Item 8	**.57**	.03
Item 17	**.40**	-.26
Item 12	.39	-.12

Item 2	.37	.33
Item 4	.35	-.10
Item 14	.35	-.20
Item 1	.32	-.20
Item 21	.31	-.03
Item 3	.05	**.70**
Item 7	-.16	**.62**
Item 13	.14	**.57**
Item 24	-.05	**.55**
Item 22	-.04	**.50**
Item 15	.00	**.46**
Item 10	-.02	**.43**
Item 5	-.03	.37
Item 16	-.12	.34
Item 19	.05	.32
Item 9	.10	.30
Item 11	.20	-.27

Descriptive statistics, internal reliability, and correlation

Internal consistency analyses were carried out for the final 13 items of the LHQ. Two subscales were found to have good internal reliabilities - specifically for LH .77 and MO .75. Means, standard deviation, skewness, kurtosis, and Cronbach's alpha of the two subscales of the questionnaire (LH and MO) are indicated in Table 3. Furthermore, Pearson correlation showed that the two subscales are negatively correlated (r = -.32, p = <.001).

Table 3 Mean, Standard Deviation, Skewness, Kurtosis, Cronbach's alpha and correlation of the variables.

	Total Sample					1
	M	SD	Skew	Kurt	α	
1. Learned Helplessness	13.38	4.77	.45	-.29	.77	-
2. Mastery Orientation	25.50	5.08	-.12	- .02	.75	-.32**

** p < .01

Discussion

This exploratory study was aimed at validating the LHQ to develop an instrument useful in identifying "helpless" and "mastery–oriented" behaviors. To verify the factorial structure, an exploratory factor analysis was conducted. Consistent with the results,the new version of the LHQ scale is made up of 13 items divided into two subscales. The items 6, 8, 17, 18, 20 and 23 constituted the LH subscale,while the items 3, 7, 10, 13, 15,22 and 24 constituted the MO subscale.

Results reveal that the 13-item LHQ shows a good two-factor structure that represents the two subscales of the theoretical framework model (MO and LH). The two factors show very good internal reliability and the correlation demonstrates that the two factors are negatively related. Obtaining a measure of LH and MO directly from students helps in avoidingthe possible distortions from teacher's perceptions of student behavior. Furthermore, of these subscales, MO and LH are useful in understanding the greater problems experienced by subjects and particularly the greatest difficulties in intervening effectively, in a focused manner. The helpless pattern, as will be seen, is characterized by an avoidance of challenge and a deterioration of performance in the face of obstacles. The mastery-oriented pattern, in contrast, involves the seeking of challenging tasks and the maintenance of effective striving under failure. The helpless response as a characteristic style can be considered maladaptive because challenge and obstacles are

inherent in most important pursuits. The mastery-oriented pattern involves the seeking of challenging tasks and the generation of effective strategies in the face of obstacles.
Similarly, finding low scores in areas that contribute to MO may assist intervention procedures, to reduce risk factors and/or to increase protective factors. As is well known, increase in the ability of resilience could result in a parallel reduction of dysfunctional behaviors. For example, if a student learns to "try harder" and to "correct mistakes and continue working" (persistence), she or he could change perceptions of failure and lack of contingency.

Limitations and Directions for Future Research

Although this study has shown some interesting results, it also has several limitations. First, to limit the effects of social desirability inherent in students' self-reports, we propose, in future research, to correlate this version with a teacher's report that was developed in previous studies (Fincham, Hokoda, & Sanders, 1989; Yates, 2009), for the comparison of scores. Moreover, future studies could exceed the limit of the current sample, in areas such as geographical origin, hoping to further administer the scale in various other areas of the country, to obtain normative data. It is also hoped, through subsequent modifications, that the instrument can become a part of the orientation process and research, so as to be related to other psychological and personological variables, to demonstrate concurrent validity. Finally, a longitudinal observation would be useful, not only to verify instrument reliability over time, but also to monitor the evolution of LH during adolescence. We think that it would be appropriate to detect problems as soon as possible, through early warning signs (e.g. negative attitude toward tasks, pessimism, anxiety behaviors, low motivation, etc.). These signals have to be considered "risk factors" for the development of more serious mental health issues, such as depression. Teachers and psychologists should act together with a perspective towards prevention, rather than intervene when subjects already have fullydeveloped problems such as depression.
In conclusion, this study shows that the LHQ has good preliminary psychometric characteristics, which could makes it a useful measure in school.However, although preliminary analyses have shown that the LHQ could have a valid factor structure and good reliability, this is only the first step of the validation process. Future research should attempt to replicate

these results, verify discriminant validity and proceed with further analysis. Further studies should use more heterogeneous samples thereby widening the target of use of the instrument. Because scale development is an ongoing process, future studies should also examine the psychometric properties of the LHQ in diverse populations (e.g., school type,ages, ethnicities) using various research designs (e.g., experimental, prospective). Continued cross-country research into LH and MO using psychometrically valid measures will increase our understanding of these psychological issues. It suggests that this instrument may be useful for both tying together the existing lines of research and generating new lines of research in the future.

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