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Validating the Learned Helplessness Questionnaire: Examining Factor Structure, Social Desirability Bias, and Demographic Differences in an American Sample

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Abstract: This study aimed to validate the Learned Helplessness Questionnaire (LHQ), originally developed in Italy, for use in an American context. It examined the LHQ's factor structure, social desirability bias, the relationship between learned helplessness and mastery orientation, and demographic differences in these constructs. Data from 100 adults were collected via an online survey. Confirmatory factor analysis supported the two-factor structure of the LHQ (learned helplessness and mastery orientation), with acceptable fit indices after minor modification. Internal consistency was deemed to be acceptable for both factors. Social desirability bias analysis indicated significant correlations with both constructs, suggesting that participants may have overreported mastery orientation and underreported learned helplessness. A significant negative correlation was found between the two constructs, with participants generally reporting higher levels of mastery orientation. No significant differences were observed across gender or age groups. These findings contribute to the cross-cultural validation of the LHQ, highlighting the importance of social desirability bias in self-reported measures and suggesting potential areas for refinement.

Keywords: *Learned helplessness, mastery orientation, motivation, scale validation, social desirability bias.*

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Introduction

Academic resilience plays a vital role in student success, yet individuals vary widely in their ability to persist through challenges. This study addresses a critical gap in educational psychology by validating the *Learned Helplessness Questionnaire* (LHQ) for use in the United States, providing a reliable tool for educators and researchers to assess students' motivational orientations and resilience.

Students' responses to academic challenges are shaped by their psychological frameworks. When students feel powerless to influence their academic outcomes, they may fall into a state of learned helplessness, becoming passive and unmotivated (Diener & Dweck, 1978). On the other hand, those with a mastery orientation view obstacles as opportunities for growth, focusing on learning and self-improvement through sustained effort (Dweck, 1986).

Originally developed and validated in Italy (Sorrenti et al., 2014), the LHQ has demonstrated potential for assessing learned helplessness and mastery orientation. However, the LHQ'S applicability to diverse cultural contexts remains unexplored. By validating the LHQ in the American context and incorporating a social desirability scale, this research aims to enhance understanding of students' cognitive and motivational challenges, offering practical tools to support resilience in education.

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Literature Review

Learned Helplessness

The concept of learned helplessness was introduced by Seligman (1972) through his groundbreaking, though controversial, research on dogs involving electric shocks. He found that dogs exposed to inescapable electric shocks eventually stopped trying to escape, even when they had the opportunity to do so. This phenomenon, known as learned helplessness, was later extended to humans and found to have implications for various domains, including academic achievement, mental health, and overall well-being (Hiroto & Seligman, 1975; Maier & Seligman, 1976; Overmier & Seligman, 1967).

Learned helplessness is characterized by a perceived lack of control over one's environment, leading to passivity, decreased motivation, and a tendency to attribute negative outcomes to internal, stable, and global causes (Abramson et al., 1978). Individuals with high levels of learned helplessness may exhibit symptoms such as low self-esteem, anxiety, depression, reduced motivation, and difficulty in understanding the relationship between actions and outcomes (Hiroto & Seligman, 1975; Trindade et al., 2020).

The effect of gender differences on learned helplessness has shown conflicting findings in the literature. For example, Valås (2010) found that boys were more likely to exhibit learned helplessness than girls. On the other hand, Raufelder and Kulakow (2022) found that boys were less likely to report learned helplessness than girls. However, some studies have found little to no significant difference in learned helplessness across gender (Parsons et al., 1982), while others found differences only when tasks were gender-stereotyped counter to the student's gender identity (Baucom & Danker-Brown, 1984). These inconsistent findings suggest that the relationship between gender and learned helplessness may be complex and potentially influenced by various contextual factors.

In the context of education, learned helplessness can be particularly detrimental. Students who feel helpless may struggle with the learning process, feeling that no matter how much effort they put in, they will not achieve success. This belief can lead to decreased motivation and persistent frustration, ultimately hindering their academic progress (Diener & Dweck, 1978; Dweck & Leggett, 1988).

Mastery Orientation

In contrast, mastery orientation refers to a focus on developing one's abilities through effort and learning (Dweck, 1986; Elliot et al., 2017). Dweck and associates (e.g., Diener & Dweck, 1978; Dweck et al., 1978; Dweck & Reppucci, 1973) applied learned helplessness theory in research on children's behavior in educational settings. Diener and Dweck (1978) noted that in an experimental setting, children who blamed task failure on their lack of ability rather than effort exhibited learned helplessness, putting forth less effort or giving up in subsequent tasks even though the tasks were easier. Children who attributed failure to a lack of effort were said to possess a mastery orientation and increased their effort in subsequent tasks (Diener & Dweck, 1978).

Research on gender differences in mastery orientation reveals a mixed picture. Dekker et al. (2013) found that adolescent girls were more likely than boys to endorse mastery goals, with boys more often adopting performance-approach orientations. This aligns with D'Lima et al.'s (2014) findings of higher mastery orientation in female college students. However, Patrick et al. (1999) observed that mastery orientation positively impacted middle school girls' self-efficacy and learning strategies, but not boys'. Notably, Dekker et al. (2013) reported a decrease in mastery goals with age for both genders. Boggiano and Barrett (1991) highlighted the influence of gender stereotypes on perceptions of mastery-oriented behavior. These studies suggest that gender differences in mastery orientation are influenced by age, educational context, and societal expectations, potentially contributing to gender gaps in academic achievement.

Within the context of education, fostering a mastery orientation is important. Students with a mastery orientation generally exhibit greater adaptability, persistence, and optimistic attitudes toward challenges. They view setbacks as opportunities for growth rather than insurmountable obstacles, which positively impact their learning outcomes and overall academic achievements (Dweck & Leggett, 1988; Elliot et al., 2017).

Mastery orientation has been linked to various positive outcomes, including increased effort, persistence, and resilience in the face of challenges (Elliot & Church, 1997; Grant & Dweck, 2003). Students with a strong mastery orientation are more likely to engage in adaptive learning strategies, seek feedback, and view setbacks as opportunities for growth (Dweck & Leggett, 1988).

Relationship Between Learned Helplessness and Mastery Orientation

While learned helplessness and mastery orientation are distinct constructs, they have been found to be inversely related (Dweck & Leggett, 1988; Elliot & Church, 1997). Individuals with high levels of learned helplessness tend to exhibit lower levels of mastery orientation, as their perceived lack of control and negative attributional styles may undermine their motivation to develop competence and persist in the face of challenges. Conversely, individuals with a

strong mastery orientation are less likely to develop learned helplessness, as their focus on learning and self-improvement may foster a sense of control and adaptive attributional styles (Dweck & Reppucci, 1973).

Social Desirability Bias

Social desirability bias (SDB) is a well-documented phenomenon in self-report measures, where individuals tend to respond in a way that portrays themselves in a favorable light, conforming to social norms and expectations (Crowne & Marlowe, 1960; Paulhus & Reid, 1991). SDB can distort the validity of self-report data and lead to inaccurate conclusions about the constructs being measured. Furthermore, SDB has been found to vary across cultural contexts (Ryan et al., 2021).

In the context of learned helplessness and mastery orientation, SDB may influence participants' responses, as these constructs are associated with socially desirable or undesirable characteristics. For example, individuals may underreport their levels of learned helplessness or overreport their mastery orientation to present themselves in a more positive light.

Previous research has recommended assessing and controlling for SDB when validating self-report measures, as it may have a significant impact on the interpretation of findings (Holtgraves, 2004; Sorrenti et al., 2014).

Learned Helplessness Questionnaire (LHQ)

To better measure learned helplessness and mastery orientation, Sorrenti et al. (2014) developed the LHQ based on the Student Behavior Checklist (Fincham et al., 1989). Their research aimed to evaluate learned helplessness and mastery orientation in Italian schools using this self-report questionnaire.

Sorrenti et al. (2014) conducted two studies with the LHQ: The first, involving 488 students aged 11-18, established the factor structure of the LHQ through exploratory analysis, distinguishing learned helplessness and mastery orientation and assessing the instrument's reliability and validity. The second study, with 378 similar-aged students, confirmed the LHQ's structure and further evaluated its reliability and validity by comparing it with other measures. The 13-item LHQ demonstrated a strong two-factor structure representing learned helplessness and mastery orientation, showing high validity. The Cronbach's alpha values of .77 and .75 for the learned helplessness and mastery orientation subscales respectively indicated good reliability.

Cross-Cultural Validation

While the LHQ has been validated in its original Italian context (Sorrenti et al., 2014), it is important to establish its psychometric properties and factor structure in other cultural contexts, such as the United States. Cross-cultural validation is essential to ensure that the instrument is measuring the intended constructs accurately and that the findings can be generalized across different populations (Barrera & Castro, 2006; Milfont & Fischer, 2010). Furthermore, examining potential cultural differences in the levels of learned helplessness and mastery orientation can contribute to a more nuanced understanding of these constructs and their implications for academic and psychological outcomes**.**

Methodology

The present study aimed to validate and establish the psychometric properties of the LHQ (Sorrenti et al., 2014), which was first conducted in Italy, in English within the American context. Further, the study aimed to assess the potential influence of social desirability bias on participants' responses and investigate potential differences across gender and age groups. By doing so, this study can contribute to the cross-cultural understanding of learned helplessness and mastery orientation, as well as provide practical implications for interventions and educational practices.

Research Questions

In addition to the confirmatory factor analysis, the present study addressed the following research questions:

1) What is the relationship between learned helplessness and mastery orientation?
2) What are the levels of learned helplessness and mastery orientation in the American context?
3) Is social desirability bias a factor in participants' responses?
4) Are there significant differences in learned helplessness and mastery orientation across:
    a. gender?
    b. age groups?

Research Design

This study employed a cross-sectional research design to investigate the relationships between learned helplessness tendencies and mastery orientation. The study also included a psychometric evaluation component to assess the validity and reliability of the LHQ within the American context.

Participants

The survey was open to adult respondents (i.e., 18 and over) of any age and gender in the United States of America. One hundred participants were recruited online. Table 1 shows the descriptive statistics for the participants.

Table 1. Descriptive Statistics for Participants (N = 100)

Characteristic	N
Gender	
Female	56
Male	44
Age Range	
18 - 24	17
25 - 34	29
35 - 44	33
45 - 54	11
> 54	10

Data Collection

Ethics approval for this study was obtained from the institutional ethics committee at a private university in Japan. Data were collected using an online survey administered through the Pollfish platform (https://www.pollfish.com). Pollfish is a survey distribution service that partners with a network of mobile applications across various categories such as games, news, sports, productivity, and blogs. Participants are recruited from within these partner applications and can choose to participate in surveys in exchange for virtual incentives or application-specific rewards (e.g., unlocking features or extended gameplay). No monetary compensation is provided.

The use of Pollfish allowed for the recruitment of a diverse sample in terms of age, gender, race, and geographic location, as the platform's partner applications cater to a wide range of user demographics. All data collection procedures adhered to the principles of the General Data Protection Regulation (GDPR) of the European Union, ensuring appropriate measures were taken to protect participant privacy and data confidentiality. Participation in the survey was voluntary, and respondents had the option to opt out at any time. According to Pollfish's terms of use, the researcher retains ownership of the data collected during the survey.

Instruments

The questionnaire (See appendix) comprised 15 items, as described below.

LHQ: A 12-item version of the LHQ, originally developed by Sorrenti et al. (2014), was employed to measure learned helplessness and mastery orientation tendencies. The items were derived from the English version of the LHQ provided in Sorrenti et al.'s (2014) paper. Learned helplessness was measured with six items (e.g., "When I fail one part of a task, I feel discouraged because I am certain to fail at the entire task."). Mastery orientation was also measured with six items (e.g., "When I encounter an obstacle in a task, I work to overcome it."). Sorrenti et al.'s (2014) mastery orientation item #22 "When experiencing difficulty, you persist for a while before asking for help" was omitted to create a balanced questionnaire with 6 items for each subscale. This item was chosen for removal as persistence could be influenced by factors other than mastery orientation in this case, such as pride, shyness, or lack of available support. All items were re-worded in the first person to align with the response format. Participants responded to each item using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Social Desirability Scale: A social desirability scale adapted from Haghighat (2007) with three items (e.g., "I always practice what I preach.") was included to check for potential social desirability bias in participants' responses.

Demographic information regarding participants' age and gender was also collected.

Psychometric Evaluation

Reliability analyses, including Cronbach's alpha and McDonald's omega, were conducted to assess the internal consistency of the LHQ. Confirmatory factor analysis (CFA) was employed to investigate the factor structure of the LHQ in the American context. Results were also compared with Sorrenti et al. (2014).

Data Analysis

Prior to the main analyses, the data were visually inspected for general outliers and missing values. No outliers or missing data were detected. Next, the normality of the data distribution was checked using skewness and kurtosis values. Using a rule of thumb guide, the skewness and kurtosis values were divided by their standard error values to produce standard values, with standard values greater than ±1.96 indicating non-normality (Rose et al., 2014). The results of these checks are reported below.

In terms of skewness, the scale for learned helplessness .164 (*SE* = .241), had normal distribution and skewed right. The scale for mastery orientation -1.051 (*SE* = .241) had non-normal distribution and skewed left. In terms of kurtosis, the scales for learned helplessness -.659 (*SE* = .478) and mastery orientation .369 (*SE* = .478) had normal distribution. Positive kurtosis, in the case of the learned helplessness scale, indicated greater distribution in the tails and less around the mean; negative kurtosis, in the mastery orientation scale, indicated fewer values in the tails (McLeod, 2023).

In addition to standard data screening procedures, potential SDB was assessed in the present study. Three items were included in the questionnaire to measure participants' tendencies to respond in a socially desirable manner: "I would never lie to people," "I always practice what I preach," and "If I tell people I will do something, I always keep my promise no matter how inconvenient it may be." Participants responded to these items using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Participants who responded with a score of 5 (strongly agree) to all three SDB items were identified as potential SDB outliers, as the absolute terms used in these items (e.g., "never," "always", "no matter") make it unlikely for a typical person to fully endorse them. In the present sample, 17 out of 100 participants were identified as potential SDB outliers. Subsequently, data was analyzed both including and excluding the SDB outliers.

Results

Confirmatory Factor Analysis

Following the initial data screening, confirmatory factor analyses were conducted using JASP statistical analysis software (https://jasp-stats.org/) to test the factor structure of the instrument, which included two scales: *learned helplessness* and *mastery orientation*. Table 2 presents the initial CFA results by scale, and Table 3 presents the factor loadings.

Prior to evaluating the confirmatory factor analysis results, multicollinearity was assessed by computing the *R*-squared values for each variable. Since all *R*-squared values were below the threshold of 0.90, no multicollinearity issues were detected, adhering to the guidelines proposed by Kline (2011).

CFA confirmed the factor structure of the learning orientation scale, identifying two factors: learned helplessness and mastery orientation (see Table 2). Although the chi-square test was significant for the learning orientation model (χ^2 = 74.41, df = 52, *N* = 100, *p* = .005), suggesting a potential lack of fit, other fit indices indicated a good overall model fit after minor adjustments. Specifically, the RMSEA (.066) and SRMR (.070) values indicated a good fit, while the CFI (.925) and TLI (.904) values were indicative of an acceptable fit.

Standardized factor loadings for all items were above the 0.3 threshold, except for Item 8 (.27). Despite this relatively low loading, the item was retained due to its conceptual relevance to the factor. Other factor loadings ranged from moderate strength (.31) to very strong (.87). All factor loadings were statistically significant with *p*-values less than .05. Additionally, modification indices suggested that allowing certain residual covariances (specifically between Items 8 and 9) to covary freely improved the model fit. Therefore, despite the significant chi-square test, the combination of fit indices and significant factor loadings suggests that the learning orientation scale had an acceptable fit according to established guidelines (Hooper et al., 2008; Hu & Bentler, 1999).

Table 2. Results of Revised Confirmatory Factor Analyses for the LHQ (N = 100)

Instrument	χ^2	*Df*	*p*	CFI	TLI	RMSEA	90 % CI		SRMR
							LL	UL	
LHQ: 2 factors, 12 items	74.41	52	.022	.925	.904	.066	.026	.097	.070

Note. CFI comparative fit index, *TLI* Tucker-Lewis index, *RMSEA* root mean square error of approximation, *CI* confidence interval, *LL* lower limit, *UL* upper limit, *SRMR* standardized root mean square residual.

Table 3. Standardized Factor Loadings for the Revised CFA Model (N=100)

Factor	Indicator	Std. Estimate
Mastery Orientation	Item 1	0.57
	Item 3	0.74
	Item 5	0.68
	Item 6	0.56
	Item 7	0.31
	Item 12	0.72
Learned Helplessness	Item 2	0.66
	Item 4	0.40
	Item 8	0.27
	Item 9	0.33
	Item 10	0.58
	Item 11	0.87

Note. $p < .005$ for all items. *Std.* Standardized.

Reliability of the Instruments

McDonald's omega coefficients and Cronbach's alpha coefficients were calculated for each of the study's factors (i.e., *learned helplessness, mastery orientation*) using JASP in order to assess their internal consistency. As can be seen in Table 4, the McDonald's omega coefficient (ω = .64) for learned helplessness (α = .71) fell in the "questionable" range while the Cronbach's alpha coefficient was "acceptable" (George & Mallery, 2003; Hair et al., 2006). Both coefficients for mastery orientation (ω = .79, α = .77) were in the "acceptable" range. Based on these results, it was deemed acceptable to proceed with the analysis. Furthermore, the Cronbach's alpha coefficients found in the present study were similar to those found by Sorrenti et al. (2014), .77 for learned helplessness and .75 for mastery orientation.

Table 4. Scale Reliability Statistics

Scale	McDonald's ω	Cronbach's α
Learned Helplessness (U.S.)	.64	.71
Mastery Orientation (U.S.)	.79	.77

Note. Alpha (α) and omega (ω) coefficients greater than .9 = excellent, .89 – .8 = good, .79 – .7 = acceptable, .69 – .6 = questionable, .59 – .5 = poor, and less than .5 = unacceptable (George & Mallery, 2003; Hair et al., 2006).

RQ1 Results: What is the relationship between learned helplessness and mastery orientation?

To examine the relationship between learned helplessness and mastery orientation, a Pearson correlation analysis was conducted. The results revealed a significant negative correlation between the two variables, $r = -.429$, $p < .001$. This negative correlation coefficient indicates an inverse relationship, such that higher levels of learned helplessness were associated with lower levels of mastery orientation and vice versa. The correlation was statistically significant at the $p < .001$ level. Table 5 presents the correlations between learned helplessness and mastery orientation.

Table 5. Pearson's Correlations for Learned Helplessness, Mastery Orientation, and Social Desirability Bias

Variables			Pearson's *r*	*p*-value
Social Desirability Bias	**-**	**Learned Helplessness**	-0.416	< .001
Social Desirability Bias	**-**	**Mastery Orientation**	0.571	< .001
Learned Helplessness	**-**	**Mastery Orientation**	-0.429	< .001

The scatter plot in Figure 1 visualizes the negative correlation between learned helplessness and mastery orientation scores. The data points are distributed along a negative sloped line, with higher values of learned helplessness corresponding to lower values of mastery orientation.

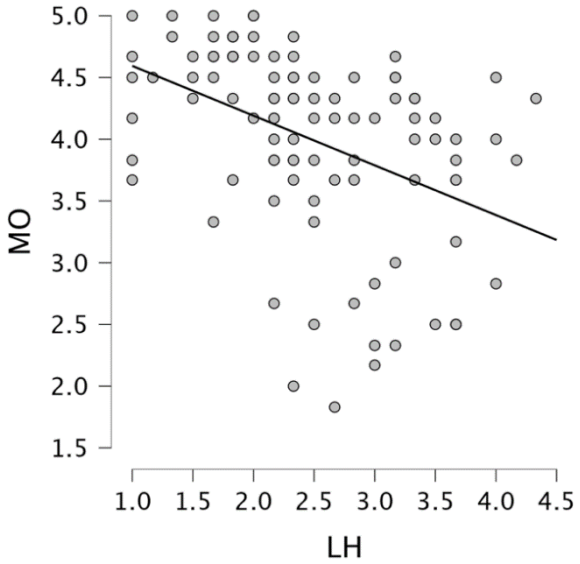

Figure 1. Correlation Between Learned Helplessness (LH) and Mastery Orientation (MO)

This significant negative correlation aligns with theoretical expectations, as learned helplessness and mastery orientation represent contrasting mindsets toward challenges and setbacks (Dweck & Leggett, 1988; Elliot & Church, 1997). By comparison, Sorrenti et al. (2014) also found a significant moderate negative correlation (r = -.32) in the Italian context. The results provide evidence of discriminant validity between the two constructs measured by the LHQ.

RQ2 Results: What are the levels of learned helplessness and mastery orientation in the American context?

Descriptive statistics were calculated for the learned helplessness and mastery orientation scales. The means are presented in Table 6 below.

For the learned helplessness scale, the mean score was 2.49 (*SD* = 0.819), with scores ranging from 1.00 to 4.33. The distribution of LH scores is displayed in Figure 2.

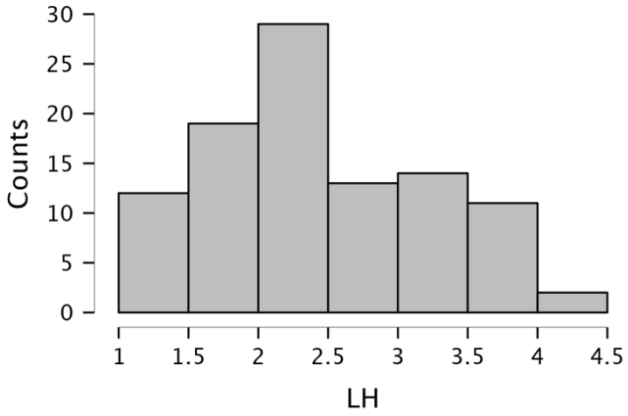

Figure 2. Distribution Plot for Learned Helplessness (LH)

The mastery orientation scale had a mean score of 4.00 (*SD* = 0.769), ranging from 1.83 to 5.00. Figure 3 shows the distribution of MO scores.

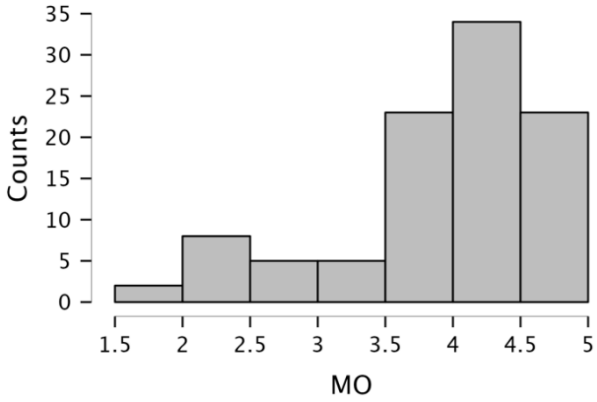

Figure 3. Distribution Plot for Mastery Orientation

The distributions indicate that, on average, participants reported higher levels of mastery orientation compared to learned helplessness.

RQ3 Results: Is SDB a factor in participants' responses?

In addition to the potential SDB outlier analysis conducted during data screening, the potential influence of social desirability bias was further assessed by examining the correlations between participants' scores on the SDB items and their scores on the main study scales (mastery orientation and learned helplessness).

As shown in Table 5 above, the correlation between SDB and mastery orientation (MO) was positive and statistically significant (r = .571, p < .001). This suggests that participants with higher levels of socially desirable responding tended to report higher levels of mastery orientation. On the other hand, the correlation between SDB and learned helplessness was negative and statistically significant (r = -.416, p < .001). This indicates that participants with higher levels of socially desirable responses tended to report lower levels of learned helplessness.

The significant correlations involving SDB suggest that social desirability bias may have influenced participants' responses on the mastery orientation and learned helplessness scales. Specifically, participants may have overreported their levels of mastery orientation and underreported their levels of learned helplessness to present themselves in a more favorable light.

Further, to examine the impact of these potential outliers, descriptive statistics were generated for the main study scales with and without the inclusion of the potential SDB outliers. As can be seen in Table 6, removing the SDB outliers, slightly lowered the level of mastery orientation and slightly increased the level of learned helplessness. On average, SDB outliers reported lower levels of learned helplessness and higher levels of mastery orientation than the rest of the population.

Table 6. Mean Scores for Learned Helplessness, Mastery Orientation, and Social Desirability Bias

	Male (*N* = 44)		**Female (*N* = 56)**				
Variable	***M***	***SD***	***M***	***SD***	***t*(98)**	***p***	***d***
Learned Helplessness	2.557	0.793	2.432	0.841	0.758	.450	0.153
Mastery Orientation	3.932	0.836	4.045	0.715	-.727	.469	-.146

Note. M mean, *SD* standard deviation, *d* Cohen's *d*.

RQ4a Results: Are there significant differences in learned helplessness and mastery orientation across gender?

Independent samples *t*-tests were performed in order to determine whether the differences between male and female students were significant. As shown in Table 7, no significant differences were found for either of the variables based on gender.

Table 7. Independent Samples T-Tests for Study Variables by Gender, (N = 100)

Group	***N***	**Learned Helplessness**	**Mastery Orientation**	**Social Desirability Bias**
Full sample with SDB outliers	100	2.49	4.00	3.84
Excluding SDB outliers	83	2.60	3.91	3.60
SDB outliers only	17	1.94	4.43	5.00

RQ4b Results: Are there significant differences in their mindsets and effort regulation across age groups?

Two one-way analysis of variance (ANOVA) tests were conducted to determine if the population means were equal for all of the groups (i.e., each age group) for the following two scales: learned helplessness and mastery orientation. The

ANOVA revealed a non-significant effect of the year of study on learned helplessness, $F(3, 128) = 0.740$, $p = .530$, $\eta^2 = 0.010$. The small effect size suggests that approximately 1% of the variance in learned helplessness scores can be attributed to the year of study.

Similarly, the ANOVA revealed a non-significant effect of the year of study on mastery orientation, $F(4, 95) = 1.713$, $p = .153$, $\eta^2 = 0.067$. The small to medium effect size suggests that approximately 6.7% of the variance in mastery orientation scores can be attributed to the year of study. Table 8 presents the descriptive statistics for learned helplessness and mastery orientation by age group.

Table 8. Descriptive Statistics for Study Variables by Age Group, (N = 100)

		Learned Helplessness			Mastery Orientation		
Age Group	***N***	***Mean***	***SD***	***SE***	***Mean***	***SD***	***SE***
18 – 24	17	2.608	0.862	0.209	3.637	0.903	0.219
25 – 34	29	2.541	0.770	0.143	3.994	0.787	0.146
35 – 44	33	2.414	0.819	0.143	4.035	0.764	0.133
45 – 54	11	2.485	0.821	0.247	4.062	0.639	0.193
55 – 67	10	2.368	1.001	0.317	4.402	0.394	0.125

Note. SD standard deviation, *SE* standard error

Discussion

This study aimed to validate the LHQ (Sorrenti et al., 2014) in the American context, examining whether its two-factor structure (learned helplessness and mastery orientation) would replicate in a U.S. sample. The confirmatory factor analysis confirmed the hypothesized two-factor structure, consistent with the original model in Italy. Although the chi-square value was significant, which is sensitive to sample size, other fit indices indicated an acceptable to good model fit after minor adjustments. These results support the LHQ as a valid tool for assessing learned helplessness and mastery orientation in U.S. academic and educational settings.

Despite this validation, some factor loadings, such as for Item 8, were lower than expected, suggesting room for improvement. Future studies should consider refining these items or addressing cross-loadings to improve the precision of the measurement model.

As expected theoretically (Dweck & Leggett, 1988; Elliot & Church, 1997), learned helplessness and mastery orientation were significantly negatively correlated, affirming the discriminant validity of the LHQ. This relationship suggests that interventions targeting one construct could influence the other, underscoring the need for simultaneous efforts to reduce learned helplessness and foster mastery orientation. However, the moderate strength of this correlation indicates that other factors, such as resilience, self-efficacy, or attributional style, may also play a role in shaping these constructs. Future research should explore these factors through mediation and longitudinal designs.

SDB analyses revealed potential response bias, with participants exhibiting higher levels of mastery orientation and lower levels of learned helplessness. Although this bias did not significantly distort the findings, it highlights the importance of interpreting self-report measures with caution. SDB is particularly relevant in cross-cultural studies, where cultural norms may shape self-presentation (Ryan et al., 2021). For example, American participants may be more likely to prioritize demonstrating competence, potentially inflating mastery orientation scores (Minkov & Kaasa, 2022).

Cultural differences between Italy and the U.S. likely influenced participants' responses to the LHQ. While both countries are internally diverse, broad patterns provide useful context. For example, Hofstede's cultural dimensions theory suggests that Italy tends to favor hierarchical relationships (Hofstede, 2011; Minkov & Kaasa, 2022), which may contribute to a greater susceptibility to learned helplessness in academic settings where authority figures heavily influence success. In contrast, the American cultural context, which is more individualistic, places higher value on traits such as egalitarianism, personal achievement, and resilience—qualities that may foster a mastery orientation (Minkov & Kaasa, 2022). Additionally, Italy's preference for structure and clear rules could influence responses to academic challenges in ways that differ from those in the U.S. (Minkov & Kaasa, 2022).

Within the U.S. sample, mastery orientation levels were higher than learned helplessness, aligning with expectations that mastery orientation is a more adaptive mindset. While mean learned helplessness scores were low, variability suggests some individuals exhibit high levels of this construct, highlighting the need for tailored interventions. Further research is needed to explore factors such as parenting styles, academic achievement, and socioeconomic status to develop more effective interventions.

No significant differences in learned helplessness or mastery orientation emerged across gender or age groups, suggesting that these cognitive and motivational processes function similarly regardless of demographic factors in this sample. This consistency supports the applicability of the LHQ across diverse groups and indicates that interventions can be broadly implemented without needing extensive demographic customization.

The study's findings emphasize the importance of addressing psychological constructs like learned helplessness and mastery orientation in education and counseling. Schools, universities, and counseling centers can incorporate these constructs into training programs, helping teachers and counselors identify students at risk of learned helplessness and supporting the development of mastery-oriented mindsets. Interventions focusing on mastery orientation can extend beyond academics, equipping individuals with the skills to navigate challenges across various life domains.

Conclusion

In summary, this study provides cross-cultural validation for the LHQ as a reliable instrument for assessing learned helplessness and mastery orientation in the American context. The confirmatory factor analysis replicated the original two-factor structure after minor model revisions, while the inverse relationship between the constructs aligned with theoretical expectations. However, potential social desirability bias in self-reports suggests that these results should be interpreted with caution. Within the American sample, mastery orientation levels were higher on average than learned helplessness, but individual variability highlights the importance of tailoring interventions to meet specific needs. Notably, the absence of gender and age differences suggests that the LHQ can be consistently applied across diverse demographics. These findings significantly contribute to the understanding of learned helplessness and mastery orientation in academic settings.

Recommendations

The findings of this study lead to several recommendations for advancing the development and application of the LHQ and addressing learned helplessness and mastery orientation in educational contexts. To improve the LHQ's measurement validity and reliability, it is essential to refine items with weaker factor loadings and pilot the revised instrument in diverse educational settings, such as K-12 schools, higher education institutions, and vocational training programs. Expanding the LHQ's validation to include broader demographic groups and cultural contexts would further enhance its utility. Cross-national studies, in particular, could provide insights into how learned helplessness and mastery orientation manifest across different educational systems and cultural norms, revealing potential areas for culturally responsive interventions.

Future research should also adopt longitudinal designs to explore the stability of learned helplessness and mastery orientation over time and their causal relationships with variables such as academic performance, resilience, and well-being. Multi-method approaches, such as incorporating behavioral observations, teacher reports, or implicit measures, would help mitigate SDB and provide a more nuanced understanding of these constructs.

Building on the LHQ findings, targeted interventions should be designed to reduce learned helplessness and promote mastery orientation among students. For example, educators can implement growth-oriented feedback strategies, emphasize effort and process over outcomes, and scaffold challenging tasks to help students develop a sense of control and persistence.

Finally, comparative studies across different educational settings and domains would provide further insights into how these constructs are influenced by academic context. For instance, understanding how learned helplessness and mastery orientation differ between STEM and humanities disciplines or students' major and non-major subjects could help educators tailor interventions to specific challenges faced by students in each field.

By implementing these recommendations, researchers and educators can refine the LHQ, strengthen its cross-cultural applicability, and develop effective, evidence-based practices to support students in overcoming learned helplessness and developing a mastery orientation.

Limitations

Despite its contributions, this study has several limitations. First, the sample size (N=100) was relatively small for a validation study, which may have limited the robustness of the confirmatory factor analysis and the generalizability of the findings. Future studies should include larger, more diverse samples to strengthen the instrument's validity and applicability across populations. Second, the sample was drawn from an online panel, which may not fully represent the U.S. population, further affecting generalizability. Third, the cross-sectional design limits the ability to infer causal relationships between learned helplessness, mastery orientation, and other variables. Third, one questionnaire item had a relatively weak factor loading, which could suggest that it was less effective in capturing the construct. While this item was retained for its conceptual relevance, future studies could further explore its performance.

Fourth, the SDB measure relied on only three items, which may not have been sufficient to capture the full spectrum of SDB tendencies. Future research could benefit from employing a more comprehensive SDB scale to gain a deeper understanding of its influence. While strategies were used to assess and account for SDB, more subtle forms of bias may have been overlooked. It remains unclear whether SDB predominantly affects certain individuals or reflects a broader, generalized phenomenon. Furthermore, although the correlational analyses provided insights into the relationships between SDB tendencies and scale scores, they did not directly control for or mitigate SDB's impact.

Despite these limitations, the findings provide valuable insights into measuring learned helplessness and mastery orientation. By refining the LHQ, exploring longitudinal designs, and broadening sample diversity, future studies can build upon this work to develop more robust interventions and deepen our understanding of the dynamics between learned helplessness and mastery orientation in educational settings.

Ethics Statements

This study was conducted with the permission of the Seirei Christopher University Ethics Committee. Approval was granted on February 20, 2024, with the approval number 23045. Informed consent was obtained from all participants involved in the study.

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Conflict of Interest

The author has no conflicts of interest to declare that are relevant to the content of this article.

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Appendix

Questionnaire

Please select a number from 1 to 5 to indicate how true each statement is of you.

1	2	3	4	5
Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree

1. When I encounter an obstacle in a task, I work to overcome it.
2. When I fail one part of a task, I feel discouraged because I am certain to fail at the entire task.
3. I try to finish homework/assignments, even when they are difficult.
4. I make negative or degrading comments about my ability when I perform poorly.
5. In general, I attempt to do my tasks thoroughly and well, rather than just trying to get by.
6. I prefer new and challenging problems over easy problems.
7. When someone points out a mistake, I "take it in stride", try to correct the error, and continue to work.
8. When I begin a difficult problem, my attempts are half-hearted.
9. I do not respond with enthusiasm and pride when asked how I am doing on a task.
10. I say things like "I can't do it" when I have trouble with my tasks.
11. When I encounter an obstacle with my tasks, I get discouraged and stop trying.
12. When I receive a poor grade or score, I say I will try harder next time.
13. I always practice what I preach.
14. If I tell people I will do something, I always keep my promise no matter how inconvenient it may be.
15. I would never lie to people.

Note:

Learned helplessness items: 2, 4, 8, 9, 10, 11

Mastery orientation items: 1, 3, 5, 6, 7, 12

Social desirability bias items: 13, 14, 15