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Longitudinal effects of task performance and self-concept on preadolescent EFL learners' causal attributions of grammar success and failure

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Abstract

Learners' academic self-concepts and attributions have been widely evidenced to substantially regulate their educational development. Developmentally, they will not only operate in a mutually reinforcing manner. Rather, self-concepts will directly affect learners' outcome attributions in a particular academic setting. Current research in the English as a foreign language (EFL) context has increasingly analyzed learners' attributions and self-concepts on a task-specific construct level. Nevertheless, there still exist certain research gaps in the field, particularly concerning learners' grammar self-concept and attributions. Therefore, the present study aimed at analyzing longitudinal relations of prior performance and self-concept with subsequent attributions of grammar success and failure in a sample of preadolescent EFL learners. Findings demonstrated that attributional patterns mostly but not entirely depended on learners' grammar self-concept. Poor performing learners holding a low self-concept displayed a maladaptive attribution pattern for explaining both grammar success and failure. Though not with respect to all causal factors, these findings largely confirm the crucial role of task-specific self-concept in longitudinally explaining related control beliefs in the EFL context.

Keywords: causal attributions; self-concept; grammar performance; gender; grade level

1. Introduction

From the perspective of social-cognitive theories, the development of scholastic achievement is considered to be essentially regulated by learners' individually emerging competence and control beliefs (Schunk & Zimmerman, 2006). Competence beliefs refer to learners' perceived capabilities to succeed or to fail in a given academic activity or task. They will be closely associated with corresponding control beliefs which represent learners' perceived likelihood of accomplishing desired academic outcomes by means of own behavioral attempts. In the long term, competence and control beliefs will not only operate in a mutually reinforcing manner. Rather, competence beliefs will directly determine learners' control beliefs in a certain academic setting which must be seen as an important personal resource to cope with academic requirements in a given educational environment (You, Hong, & Ho, 2011).

Academic control beliefs broadly manifest as causal attributions and concern learners' perceived causes of individually experienced success and failure. They can refer to causes within or outside the individual which can also be seen as more or less consistent over time. Hence, each outcome attribution will reflect a certain cause being internal (or external) and stable (or variable) which furthermore appears more or less controllable (Weiner, 2005). Empirical research substantiated typically occurring patterns in learners' attributions. Poor performing learners tend to explain failure with a lack of academic ability but own success with external factors whereas moderately or highly performing learners tend to explain success with their ability and failure with a lack of effort or environmental constraints (Faber, 2012a). Thus, poor performers who perpetually attribute failure to internal and stable causes are at risk to develop increasing feelings of uncontrollability and helplessness (Abramson, Garber, & Seligman, 1980). Likewise, they are prone to display reduced engagement in critical or demanding tasks (Stipek & Mason, 1987). Thus, learners' preferred attributions should contribute to generating an adaptive or maladaptive learning approach (Schunk, 2008). Furthermore, learners' attributions should be domain- or subject-specific in nature. Accordingly, internal explanations turned out to correlate highest with matched achievement or self-belief scores. With regard to learners' external explanations, research provided only partial support to their domain- or subject-specificity (Boekaerts, Otten, & Voeten, 2003; Bong, 2004; Marsh, 1984; Vispoel & Austin, 1995).

The formation of causal attributions turns out to be dependent upon learners' processing of individually relevant information, in particular with regard to the perceived consistency, consensus, and distinctiveness of an academic outcome (Kelley & Michela, 1980). For the most part, reference information of this nature should be already represented in learners' domain- or subject-specific self-concepts (Marsh & O'Mara, 2008). In line with this assumption, the studies having

concurrently analyzed the relations of self-concept and achievement measures with causal attributions revealed clear evidence for attributions being most profoundly explained by corresponding self-concept rather than by achievement (Bandalos, Yates, & Thorndike-Christ, 1995; Marsh, 1984; Watkins & Gutierrez, 1989).

Against this conceptual and empirical background, learners' causal attributions should claim a crucial role in analyzing and understanding academic development in the EFL context. Consequently, learners' explanations of own success and failure in learning a foreign language should be best explained by their corresponding self-concept. Empirical research on the relation between learners' control and competence beliefs should warrant most important insights into the cognitive-motivational processing of foreign language learning and reveal important references to implement adequate instructional settings.

2. Attribution research in the EFL context

2.1. Relevant research findings

The issue of learners' competence and control beliefs has gained increasing attention in the EFL context (Gabillon, 2005). Conceptual perspectives on the motivational processing of learning English as a foreign language had directly or indirectly all focused upon learners' competence and control beliefs (Dörnyei, 2005; Williams & Burden, 1997). However, though being assumed to constitute an important component of foreign language learners' motivational orientations (Dörnyei & Ushioda, 2011; Mercer, 2011; Lamb, 2017), their causal attributions had been analyzed less intensely than other constructs. Only in the last decade, empirical EFL research had increasingly considered learners' causal attributions (Hsieh, 2012).

Mostly, EFL attribution research took place at the university level. Relevant studies found differing attribution patterns. In most, but not in all cases, learners assigned success to internal and controllable causes whereas they explained failure in some cases by internal and controllable, in other cases by external and uncontrollable causes (Demir, 2017; Gobel & Mori, 2007; Mori, 2008; Peacock, 2010; Yaghoubi & Rasouli, 2015; Yilmaz, 2012). However, when considering learners' competence level, analyses produced a more conclusive response pattern. Learners with low proficiency scores reported heightened levels of internal failure attributions whereas learners with high proficiency scores attributed success more strongly to internal causes and failure to external factors (Mori, Ming, Nor, Suppiah, & Imm, 2011). Qualitative studies with participants from higher education tracks produced similar results (Gonzalez, 2016; Graham, 2006; Taşkıran & Aydin, 2017).

Seemingly fewer studies analyzed EFL learners' attributions at the school level. Here again, findings revealed differing attribution patterns. High language

achievers reported more internal and stable causes than their low achieving classmates (Sorić & Ančić, 2008), and both high and low achieving learners attributed language outcome most strongly to internal, primarily uncontrollable causes (Erten, 2015a; Erten & Burden, 2014). Likewise, learners' language achievement was negatively related to external attributions. Therefore, they felt not responsible for a failure outcome (Hsieh & Kang, 2010). Moreover, qualitative research showed learners' attributions for both success and failure mostly referring to internal causes (Sahinkarakas, 2011; Williams, Burden, Poulet, & Maun, 2004).

Some studies also examined the role of L2 self-concepts. In particular, Phothongsunan (2015) showed university EFL learners with high competence beliefs reporting stronger effort attributions than their counterparts with low competence beliefs. Moreover, Mori and colleagues (2011) demonstrated learners with high competence beliefs to trace back language success to internal and failure to external factors. Analyses with school samples demonstrated the foreign language self-concept to significantly explain learners' attribution tendencies (Erten, 2015a; Erten & Burden, 2014). Most notably, in the study of Hsieh and Kang (2010) learners with lowered competence beliefs tended to attribute test outcomes more strongly to external factors. To some extent, the study of Luo, Hogan, Yeung, Sheng and Aye (2014) lent support to this finding.

Furthermore, at all educational tracks EFL research revealed certain gender effects. In particular, some studies reported females to attribute language success more strongly to internal causes than males (Erten, 2015a; Lian, 2012; Peacock, 2010; Tulu, 2013; Yilmaz, 2012). There was also evidence for male learners to explain success more strongly with reference to effort (Mori, 2012). Compared with this, male learners attributed failure primarily to external factors whereas female learners mostly referred to internal factors (Genç, 2016; Mori, 2012; Tulu, 2013; Yilmaz, 2012; Zhorri, 2011). Even so, other studies did not find any significant differences between female and male learners (Luo et al., 2014; Yördem, 2016). As the strength and direction of differences appeared to considerably vary across studies, research findings do not allow for accurately clarifying gender differences in causal attributions.

In sum, empirical research on EFL learners' attributions yielded mixed results. There is evidence for both self-serving and self-blaming attribution patterns (Marsh, 1986), each of them producing rather specific consequences in learners' emotional responses and learning approach (Graham, 1991). Unarguably, this inconsistency of findings essentially reflects the diversity of learner samples and educational or cultural contexts relevant studies considered as well as the attribution measures they used. Notwithstanding, in one way or another, all relevant studies substantiated learners' domain- or subject-specific self-concepts to significantly determine their attribution responses.

2.2. Current research gaps

Admittedly, research on EFL learners' attributions still suffers from certain conceptual, methodological, and empirical limitations. First of all, with regard to the developmental importance of early language learning, there is a lack of attribution research in school settings. Furthermore, from the perspective of self-belief research, there is a considerable need for further clarifying the role of learners' self-concepts. Not least, most studies in the EFL context analyzed learners' attributions on a subject-specific level but did not test for concurrent performance and self-concept effects. Only few studies had already investigated foreign language attributions with respect to specific language outcomes – for example, in reading, speaking, and listening comprehension (Demir, 2017; Gobel & Mori, 2007; Graham, 2006; Lian, 2012; Yilmaz, 2012). However, following empirical findings on learners' self-concepts (Arens & Jansen, 2016; Faber, 2012b; Holder, 2005; Lau, Yeung, Jin, & Low, 1999), further research in the field should more intensely explore task-specific attributions, and also scrutinize relevant instruments' validity, in order to gain more differentiated access to learners' beliefs to control their outcomes in foreign language vocabulary, listening, reading, writing, or grammar.

Most remarkably, there are no appropriate research activities to be found for the issue of EFL grammar learning. This gap must be all the more surprising as the learning of forms is commonly considered to play an important and needful role in the foreign language learning classroom (Nassaj & Fotos, 2004). Correspondingly, relevant survey results pointed out the majority of EFL learners perceived the mastering of grammar as an important and useful, albeit rather demanding and not always enjoyable part of their language learning (Jean & Simard, 2011; Kang, 2017; Loewen et al., 2009; Schulz, 1996; Simon & Taverniers, 2011). Moreover, grammar was perceived even as a demotivating factor in EFL instruction (Sakai & Kiuchi, 2009). Therefore, in the course of EFL instruction learners will incrementally develop specific competence and control beliefs concerning their grammar learning in the target language. Accordingly, there is a remarkable backlog to analyze their causal attributions to explain grammar outcomes.

3. Conceptual framework and research questions

With regard to these research gaps, the present study aimed at analyzing preadolescent EFL learners' causal explanation of grammar success and failure. In particular, it should challenge findings from previously run analyses of cross-sectional data (Faber, 2017b) and examine the longitudinal effects of learners' performance and self-concept on subsequent attributions.

The present study was based on a cognitive-motivational modeling of construct relations which considered learners' causal attributions as dependent variables. As recent research findings considerably varied across attribution measures each including different numbers, types, and levels of causal categories, their findings could always reflect a certain method bias. In order to evade this problem, the present study narrowed down the causal categories to explain learners' grammar success and failure and only referred to the basically proposed causal factors of ability, effort, task difficulty, and luck (Weiner, 2005). They had been thoroughly substantiated in all relevant studies and evidently represent the causal dimensions of locus of control, variability, and controllability (Hau & Salili, 1993). Though this limitation restricted the potentially existing causal space of outcome explanations, it was meant to be temporary for the purpose of the present study. Of course, it did not principally rule out an extension of causal factors. Rather, it should warrant an empirical starting point to further refine the framework of relations among grammar performance, self-concept, and attribution variables.

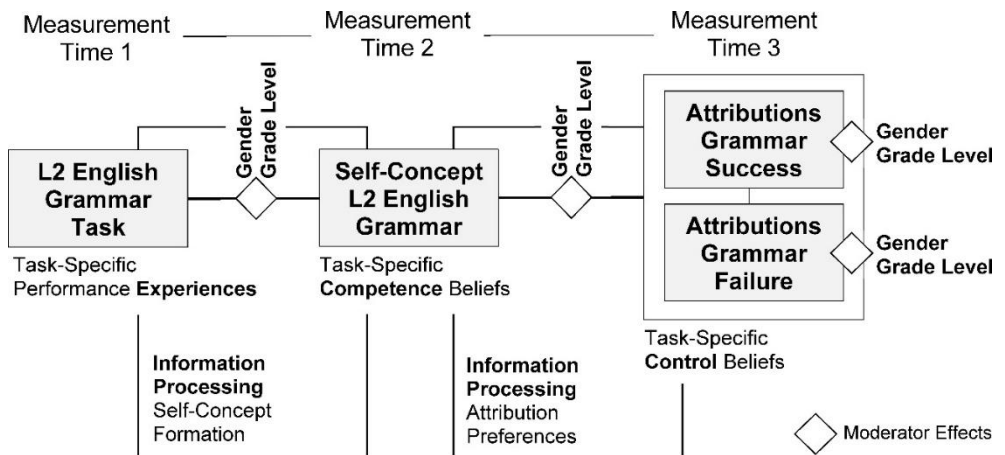


Figure 1 Modeling longitudinal relations of prior performance and self-concept with subsequent attribution variables

Concerning longitudinal relations among constructs across three measurement times, learners' grammar self-concept at Measurement time 2 was expected to operate as most powerful predictor to explain their attributions at Measurement time 3 (Figure 1) and, thus, it should strongly mediate the relationship between their task-specific performance experiences and their causal beliefs. Following previous findings (Faber, 2017b), high self-concept scores to predict internal success and external failure attributions, and low self-concept scores were expected to predict external success and internal failure attributions.

Hence, learners' grammar task performance at Measurement time 1 should not directly affect their causal attributions at Measurement time 3.

Even though previously run analyses of cross-sectional data demonstrated the grammar self-concept not being different between female and male learners (Faber, 2017a), the present study precautionally controlled longitudinal relations among constructs for potentially operating gender effects (Figure 1).

The same applied to learners' grade level. As the present study took place in EFL fifth and sixth grade classrooms, learners' performance and self-beliefs were just emerging at grade 5 and developing at grade 6. Therefore, it was worthwhile to compare their performance and self-belief variables across both grade levels in order to test for possible moderator effects.

Accordingly, the present study aimed at clarifying the following research questions (RQ):

- RQ 1: Will attributions of grammar success and failure be substantially affected by learners' gender?
- RQ 2: Will attributions of grammar success and failure be substantially affected by learners' grade level?
- RQ 3: Will learners' prior self-concept but not their task performance substantially explain their attributions of grammar success and failure?

4. Method

4.1. Participants

The study was conducted with a sample of $N = 119$ preadolescent learners at secondary grade level 5 (31 female, 34 male) and 6 (42 female, 12 male) from a German grammar school. In the German tripartite system of strongly selective educational tracks this school type ("Gymnasium") is the highest track. The female-male ratio significantly differed between both grade levels ($\chi^2 = 11.359$, $df = 1$, $p < .001$), as there were more female learners at grade level 6. However, this gender ratio appeared to be representative for the educational track (Blossfeldt et al., 2009). At Measurement time 1, learners' average age was 11.1 years ($SD = 0.4$) at grade 5 and 12.1 years ($SD = 0.5$) at grade 6. At Measurement time 1, fifth-graders had experienced formal EFL instruction for about 6 months, and sixth-graders for about 17 months. Their participation was on a voluntary basis and only with explicit parental consent.

4.2. Procedure

Following the longitudinal modeling approach of construct relations (Figure 1), learners' grammar task performance was assessed in Calendar week 6 (at Measurement

time 1). In Calendar week 11 (at Measurement time 2), their grammar self-concept and in Calendar week 19 (at Measurement time 3), their causal attributions of grammar success and failure were assessed. All data were gathered in the course of two class periods by two (advanced collegiate) test supervisors who had been instructed in detail. This took place class for class and in the absence of the teaching staff.

4.3. Instruments

For assessing learners' grammar performance, at Measurement time 1 a cloze test was administered (Jensen, 2013). It consisted of ten tasks dealing with the correct use of possessive pronouns (at grade level 5) and the correct use of comparative adjectives (at grade level 6). For both tests, a sum score of correctly solved tasks was used. As the results did not significantly differ between grade levels (independent samples test: $t = 0.018$, $df = 210$, $p = .985$), they could be considered to truly provide comparable performance measures for further analyses.

Learners' grammar self-concept was measured by means of a newly developed scale that consisted of nine 4-point Likert items (ranging from *never* to *always*). Scale items referred to learners' perceived competencies to understand and apply L2 grammar forms or rules, respectively, their perceived mastery of grammar tasks in the classroom and their motivational tendency to avoid grammar tasks (Faber, 2017a). The following is a sample item: "During English lesson I manage to catch the grammar rules." For data from Measurement time 2, a principal component analysis showed all scale items to substantially load on one common factor (with factor loadings ranging from $a_{min} = .564$ to $a_{max} = .802$). The scale's internal consistency (Cronbach's coefficient alpha) turned out to be sufficient ($\alpha = .85$). High scale scores indicate learners' strong beliefs in own grammar competencies. As the scale's sum scores strongly correlated with the English but not with the mathematics self-concept variable, instrument should partially claim subject-specific validity (Faber, 2017a).

At Measurement times 1 and 3, causal attributions were tapped by means of 4-point Likert scale items – four of them concerning a success and four of them concerning a failure outcome in grammar. They all referred to the classical Weiner categories of ability, effort, difficulty, and luck (Weiner, 2005). Learners were asked to rate the importance of each cause to explain the favorable and unfavorable outcome. The following is a sample item: "If I am successful in English grammar, it is because I have practiced hard" (Jensen, 2013). High item scores indicate a certain cause being perceived to strongly affect the grammar outcome. These attribution ratings should absolutely represent most distinguishable information. Accordingly, they should correlate only in a moderate manner, at most. Therefore, separate principal component analyses were run for the success and failure outcome

with Measurement time 3 data. Their results demonstrated all items revealing sufficiently independent information (see Table 1).

Finally, learners' grade level and gender (as dummy variable) were included in the analyses.

Table 1 Principal component analyses (PCA) of attribution items at Measurement time 3

	F1	F2	F3	F4
Success attributions				
Ability	.990	.031	-.064	-.118
Effort	.031	.992	.080	-.096
Difficulty	-.064	.080	.994	.041
Luck	-.119	-.096	.042	.987
Failure attributions				
Ability	.979	.126	.152	.055
Effort	.123	.987	.098	-.018
Difficulty	.157	.104	.968	.168
Luck	.054	-.018	.159	.986

Note. F = factor

4.4. Data analyses

In order to clarify possible grade level and gender effects, a series of univariate analyses of variance (ANOVA) with repeated measures for dependent attribution variables was initially conducted – including grade level and gender as independent factor variables. This particular step was most important for verifying the longitudinal approach of data analyses as well as determining subsequent analyses to run with the total sample or with grade level and gender subsamples, respectively. Furthermore, for all performance and self-belief variables overall descriptive statistics were calculated. For detecting significant deviations from normal distribution, z-standardized skewness and kurtosis scores were used.

To clarify learners' attribution patterns for grammar success and failure, mean differences of attribution responses were analyzed – namely, whether and how strongly they could be explained by significant effects of learners' prior grammar self-concept and task performance. Accordingly, for each causal factor a 2×2 ANOVA with the grammar self-concept and task performance as factor variables was conducted. In view of sample size, both the self-concept and the performance variable were factorized by median split, thus leading to the identification of low and high level subgroups in each case. For all main or interaction effects, partial eta squared (η_p^2) as an effect size was calculated. Due to sample size and lack of variance homogeneity, the robust Brown-Forsythe test was used for post hoc comparison (Tomarken & Serlin, 1986).

Among all variables, there were missing data to a certain extent. For the grammar self-concept items and the grammar task performance, the amount of incomplete data ranged from 0 to 2.4%; in the attribution variables, they ranged from 0.9 to 2.8%. As these missing values did not produce any systematic pattern (Little, 1988), they could still be treated as “missing completely at random” (MCAR test: $\chi^2 = 228.695$, $df = 224$, $p = .401$). All missing data were estimated by means of the two-step iterative EM algorithm (Enders, 2010).

5. Results

5.1. Measurement time, grade level, and gender effects

Initially driven analyses of variance did not substantiate any grade level and gender effects. Neither was there a significant difference between attribution responses at Measurement times 1 and 3 (see Table 2). Furthermore, no significant grade level and gender effects could be found for learners' grammar task performance (grade level: $F = 1.261$, $df = 1,118$, $p > .05$; gender: $F = 3.215$, $df = 1,118$, $p > .05$) and their grammar self-concept (grade level: $F = 2.064$, $df = 1,118$, $p > .05$; gender: $F = 1.660$, $df = 1,118$, $p > .05$). Consequently, subsequent analyses included learner data from the total sample.

Table 2 Measurement time, grade level, and gender effects on causal attributions of grammar success and failure

Causal factor	Wilks λ	F	df	p	η_p^2
Success ability					
MT	.999	0.137	1,115	.712	.001
MT \times gender	.999	0.081	1,115	.777	.001
MT \times grade level	.993	0.765	1,115	.384	.007
Success effort					
MT	.998	0.249	1,115	.619	.002
MT \times gender	.995	0.615	1,115	.435	.005
MT \times gender level	.999	0.121	1,115	.728	.001
Success difficulty					
MT	.999	0.066	1,115	.797	.001
MT \times gender	.999	0.146	1,115	.703	.001
MT \times grade level	.996	0.511	1,115	.476	.004
Success luck					
MT	1.000	0.019	1,115	.892	.000
MT \times gender	.999	0.074	1,115	.786	.001
MT \times grade level	.992	0.911	1,115	.342	.008
Failure ability					
MT	.997	0.313	1,115	.577	.003
MT \times gender	1.000	0.005	1,115	.947	.000
MT \times grade level	1.000	0.017	1,115	.895	.000

Failure effort					
MT	0.999	.136	1,115	.713	.001
MT×gender	0.986	1.616	1,115	.206	.014
MT×grade level	0.984	1.815	1,115	.181	.016
Failure difficulty					
MT	0.988	1.428	1,115	.235	.012
MT×gender	0.985	1.802	1,115	.182	.015
MT×grade level	0.986	1.656	1,115	.201	.014
Failure luck					
MT	0.999	.082	1,115	.775	.001
MT×gender	0.998	.268	1,115	.606	.002
MT×grade level	0.997	.354	1,115	.553	.003

Note. MT = Measurement time 1 vs. 3, η_p^2 = partial eta squared

5.2. Descriptive results

Descriptive analyses showed learners' grammar task performance and self-concept to be negatively skewed (see Table 3) indicating that most learners achieved higher task scores and held positive competence beliefs. Developmentally, this particular result should be most plausible as younger learners still tend to have an optimistic view on own competencies (Helmke, 1999).

Luck attributions of success as well as ability and luck attributions of failure showed a significant positive skew. Hence, most learners manifested distinct rejection of item content. They tendentially perceived grammar success not being dependent on luck and grammar failure not being dependent on a lack of own ability or bad luck. Correspondingly, success attributions on luck showed a strong positive kurtosis indicating their distribution to be heavy-tailed on the (left) side of lower response categories.

Table 3 Descriptive statistics of grammar performance, self-concept, and attribution variables

	MT	AM	SD	z skewness	z kurtosis
Grammar task performance	1	6.57	2.36	-2.55**	-0.95
Grammar self-concept	2	26.68	4.99	-2.57**	0.92
Causal attributions					
Success ability	3	2.87	1.01	-1.11	-1.13
Success effort	3	2.22	1.01	-1.75	-2.31*
Success difficulty	3	2.72	0.92	-0.57	-2.04*
Success luck	3	2.22	1.13	9.19***	22.02***
Failure ability	3	2.03	0.99	2.68***	-1.61
Failure effort	3	2.34	1.03	0.53	-2.58**
Failure difficulty	3	2.22	0.88	1.02	-1.59
Failure luck	3	2.11	0.97	2.04*	-1.83

Note. MT = Measurement time, significance: * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

5.3. Longitudinal relations

As ANOVA results showed, only learners' ability and luck attributions of grammar success appeared to be significantly explained by their grammar self-concept (see Table 4).

Table 4 Mean causal attribution of grammar success and failure depending on prior task performance and self-concept

Causal factor	MT	<i>F</i>	<i>df</i>	<i>p</i>	η_p^2
Success ability					
Grammar task performance	3	2.511	1,118	.116	.021
Grammar self-concept	1	14.580	1,118	.000	.113
Performance \times self-concept	2	1.411	1,118	.237	.012
Success effort					
Grammar task performance	3	0.000	1,118	.999	.000
Grammar self-concept	1	0.467	1,118	.496	.004
Performance \times self-concept	2	0.314	1,118	.576	.003
Success difficulty					
Grammar task performance	3	0.042	1,118	.839	.000
Grammar self-concept	1	0.029	1,118	.864	.000
Performance \times self-concept	2	0.012	1,118	.913	.000
Success luck					
Grammar task performance	3	7.157	1,118	.009	.059
Grammar self-concept	1	8.393	1,118	.005	.068
Performance \times self-concept	2	1.959	1,118	.164	.017
Failure ability					
Grammar task performance	3	10.005	1,118	.002	.080
Grammar self-concept	1	23.903	1,118	.000	.172
Performance \times self-concept	2	0.693	1,118	.407	.006
Failure effort					
Grammar task performance	3	2.733	1,118	.101	.023
Grammar self-concept	1	9.941	1,118	.002	.080
Performance \times self-concept	2	2.157	1,118	.145	.018
Failure difficulty					
Grammar task performance	3	0.496	1,118	.483	.004
Grammar self-concept	1	2.101	1,118	.150	.018
Performance \times self-concept	2	4.067	1,118	.046	.034
Failure luck					
Grammar task performance	3	1.036	1,118	.311	.009
Grammar self-concept	1	0.053	1,118	.818	.000
Performance \times self-concept	2	0.442	1,118	.507	.004

Note. MT = measurement time, η_p^2 = partial eta squared

Mean ability attributions were strongly dependent on a significant self-concept effect. The effect of the performance factor remained nonsignificant. Across all performance levels, the high self-concept group explained subsequent grammar success more strongly with own ability than the low self-concept group (see Figure 2). In comparison, mean effort and difficulty attributions depended

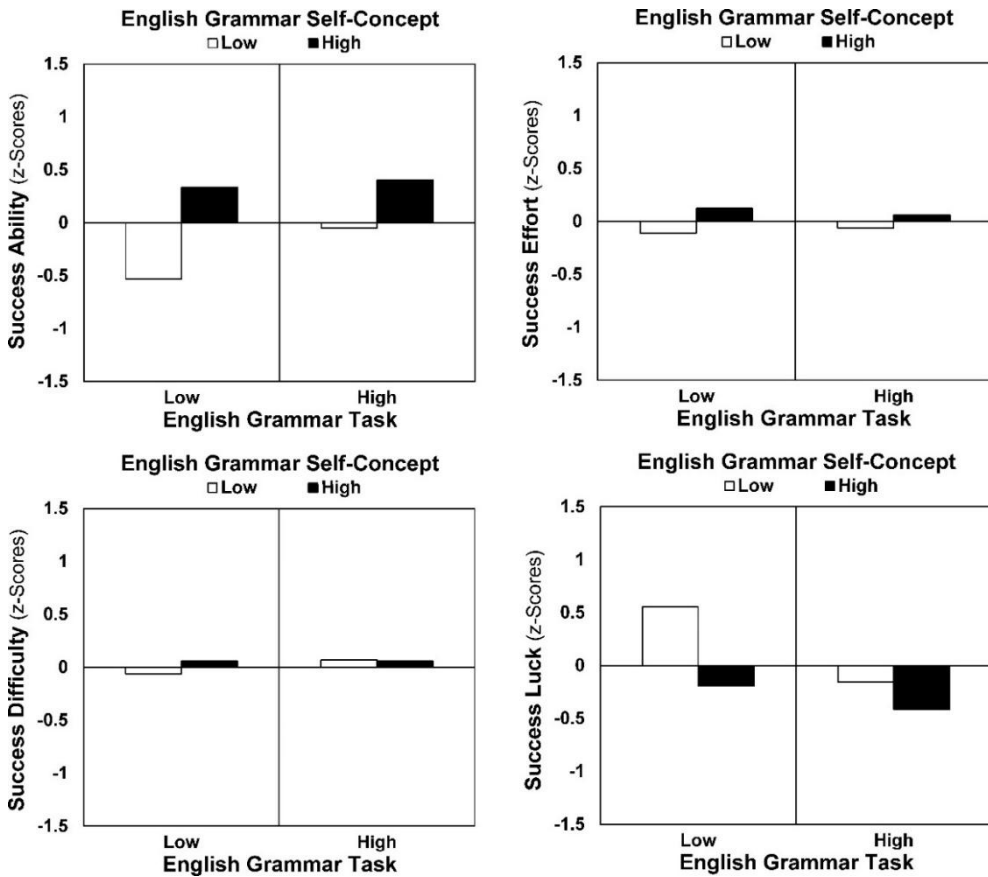


Figure 2 Mean success attributions depending on prior grammar performance and self-concept

neither on prior performance nor on prior self-concept differences. In turn, mean luck attributions appeared to be affected by a significant self-concept and performance effect. In the poor performing subgroup, learners holding a low self-concept explained grammar success more strongly with good luck than their classmates with a high self-concept. This difference was statistically significant ($F = 8.952, df 1 = 1, df 2 = 61, p < .01$). In contrast, in the well-performing subgroup, both learners with a low and a high self-concept rejected good luck as a cause of grammar success (see Figure 3). The apparently existing difference between self-concept groups was non-significant ($F = 1.780, df 1 = 1, df 2 = 40, p > .05$). Taken altogether, learners with a high self-concept more strongly explained success with internal and thus controllable causes whereas they emphasized an external cause to a lesser extent or rejected it. Learners with a low self-concept less strongly explained a task-specific success outcome with internal causes whereas they emphasized an external cause only in the case of experiencing poor grammar performance. Hence, learners in the high self-

concept group apparently felt more responsible for grammar success than their counterparts in the low self-concept group. The low self-concept group appeared to be at risk of discounting potential grammar success by tracing it back to good luck.

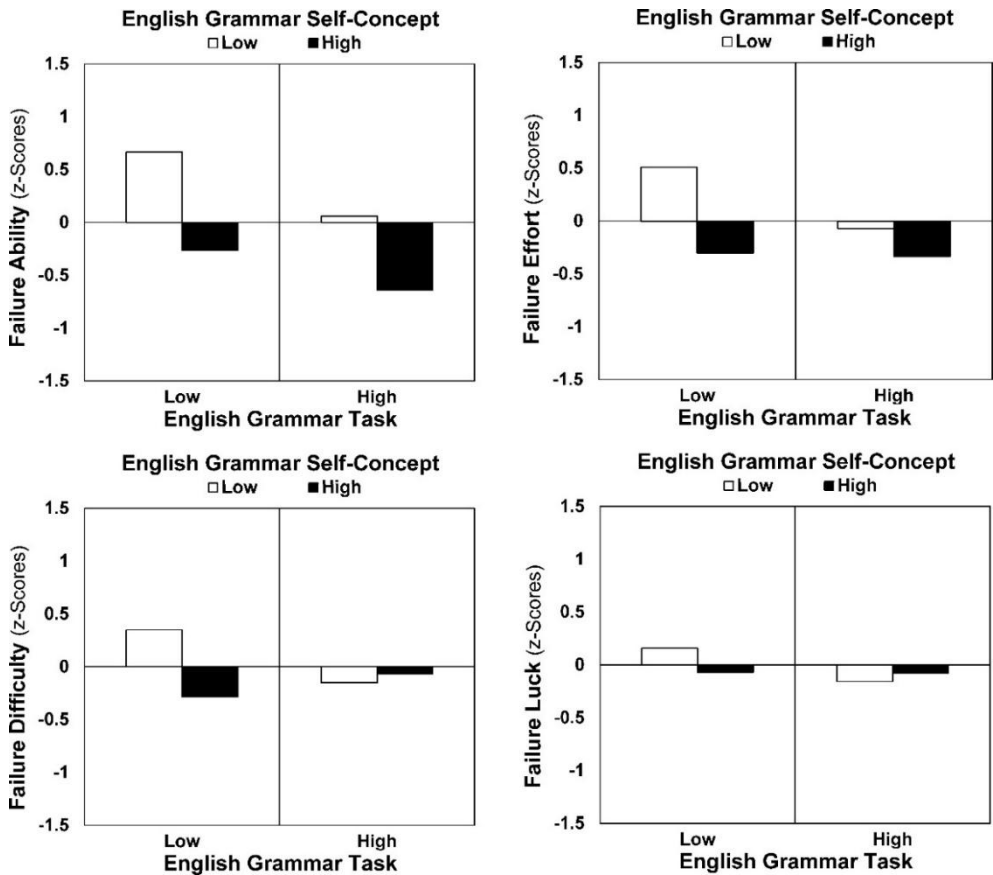


Figure 3 Mean failure attributions depending on prior grammar performance and self-concept

Similarly, learners' failure attributions were mostly affected by their grammar self-concept (see Table 4). In particular, the mean level of ability attributions appeared to be dependent on both a significant effect of the self-concept and the performance factor. Accordingly, across all performance levels it was the low self-concept group explaining an unfavorable outcome most strongly with a lack of own ability (see Figure 3). In comparison, the high self-concept group considerably rejected this cause whereby poor performing learners with a high self-concept rejected lack of ability as possible failure cause to a lesser extent. With respect to learners' effort attributions, again a significant effect of the self-concept

variable occurred. Across both performance levels, learners of the high self-concept group denied the role of lack of own effort. Remarkably, poor performing learners holding a low self-concept explained a failure outcome with a lack of own ability as well as with a lack of own effort. Those learners who more strongly attributed failure to a lack of effort preferred a lack of ability as another internal cause to a significantly stronger extent ($F = 5.155$, $df 1 = 1$, $df 2 = 70$, $p < .05$). Furthermore, learners' difficulty attributions appeared to be significantly dependent on an interaction effect. Within the poor performance group, learners with a low self-concept substantially explained failure with task difficulty whereas learners with a high self-concept did not. This difference appeared to be statistically significant ($F = 6.307$, $df 1 = 1$, $df 2 = 61$, $p < .05$). However, in the well-performing group this difference was statistically nonsignificant ($F = 0.160$, $df 1 = 1$, $df = 45$, $p > .05$). Concerning learners' luck attributions for failure, neither the prior performance nor the self-concept variable explained interindividually existing differences. Across all performance and self-concept levels, bad luck as a possible cause of grammar failure did not play a significant role (see Figure 3).

Taken altogether, learners with a low self-concept of grammar competencies and poor grammar performance more strongly explained task-specific failure with lack of own ability and effort, to some extent also with the task's difficulty. Thus, they attributed failure to both internal and external causes which they may principally control in the case of effort, at least. In contrast, learners with a high self-concept of grammar competencies apparently could not identify any particular cause to reasonably explain a task-specific failure outcome. Instead, across all performance levels they perceived internal as well as external causes as less important. Obviously, due to their belief of having appropriate competencies or skills available, they could not really imagine expecting or even experiencing an unfavorable grammar outcome.

6. Discussion and conclusions

The main objective of the present study concerned the potentially mediating role of preadolescent EFL learners' task-specific self-concept to predict their causal attributions of grammar success and failure. Using longitudinal data from two grade levels, learners' prior grammar self-concept was expected to significantly predict subsequent attribution differences. Additionally, the impact of gender and grade level on learners' attributions were analyzed in order to detect possible moderator effects.

6.1. Gender and grade level effects

The present study did not substantiate learners' gender to significantly moderate their attribution responses. Contrary to relevant research findings neither did females attribute grammar success more strongly to internal causes (Erten, 2015a; Sorić & Ančić, 2008; Yeung, Lau, & Nie, 2011) nor did males explain grammar failure more strongly to external causes (Genç, 2016; Mori, 2012; Yilmaz, 2012; Zhorj, 2011). Conceivably, gender differences in EFL attributions will yet emerge over time – after learners will have experienced a longer history of success or failure and, accordingly, will have possibly developed gender-dependent self-beliefs on own strengths and difficulties (Pomerantz, Altermatt, & Saxon, 2002). Moreover, subtle gender effects do not necessarily have to operate at all proficiency levels in the same way (Faber, 2013, 2017b). Further analyses should, therefore, examine differential gender effects in the long term.

Likewise, the present study found learners' attribution responses not to be dependent on grade level. Here again, it should be assumed relevant grade level effects may manifest yet in the longitudinal course of advancing EFL experiences (Erten, 2015a; Sorić & Ančić, 2008; Yeung et al., 2011).

6.2. The predictive role of grammar self-concept

Concerning the study's main objective, learners' attributions were best predicted by prior self-concept differences, in some cases also by additional or interactive effects of prior performance. In particular, learners with high competence beliefs felt responsible for success whereas they could not really explain an unfavorable grammar outcome. Compared with this, learners with low competence beliefs traced back grammar success to external luck and grammar failure to both internal and external causes. Especially the poor performing subgroup with a low self-concept referred to success and failure causes which must be seen as not or not easily controlled. Thus, their attribution responses should potentially induce a sense of personal helplessness (Butkowsky & Willows, 1980; Diener & Dweck, 1978). Altogether, these attribution patterns indicate a self-congruent rather than a self-serving or counterdefensive response type (Marsh, 1986).

With all that, neither learners' prior performance nor self-concept explained their effort and difficulty attributions of grammar success. Likewise, their ability, effort, and difficulty but not their luck attributions of grammar failure were predicted by prior self-concept and, partially, by performance differences. Learners might have processed individually available consistency information to explain both favorable and unfavorable grammar outcomes and primarily focused on the locus of control dimension (Kelley & Michela, 1980).

Though these findings largely lend support to the explanatory power of task-specific competence beliefs and corresponding competence experiences, not all assumptions of the conceptual modeling perspective (Figure 1) were verified. Contrary to theoretical perspectives (Weiner, 2005), preadolescent EFL learners did not consider causal factors in the most exhaustive way. In particular, they appeared to perceive grammar success rather as a result of own ability than of own effort. Obviously, they did not distinguish between both internal causes. Instead, they might have perceived personal causation as a matter of own ability (Nicholls & Miller, 1983). Similarly, in the case of grammar failure poor performing learners with low competence beliefs considered ability and effort in the same way. Therefore, they did not yet realize the causal dimension of variability. Here again, they might have focused on the locus of control dimension. Developmentally, a more differentiated understanding of effort will still emerge in the course of ongoing EFL instruction. Further analyses should clarify this issue. In particular, they should explore the attributional role of feedback practice in the EFL classroom (Schunk, 2008). Possibly, poor performing language learners' effort attributions merely reflect their teachers' commentaries without them being aware of the controllability perspective. In respect thereof, further research should also analyze the role of learners' mindsets and, thus, clarify their perceived malleability of foreign language competencies or abilities (Ryan & Mercer, 2012).

6.3. Strengths and limitations

Methodologically, a strength of the present study was the analysis of longitudinal performance and self-belief data. Therefore, relations among constructs should be interpreted in terms of their causal ordering across three measurement times. However, a methodological limitation should have been the analysis of learners' data from one particular school. Further analyses should necessarily try to replicate the findings in other educational settings. Another methodological limitation was the restricted use of causal factors. Against the background of present findings, further analyses should extend the range of causal factors learners would use to explain grammar success and failure – in essence, as they might tap other internal reasons such as study method or learning strategies as well as external reasons such as teacher grading and instructional support (Gobel & Mori, 2007; Hsieh, 2004). Most of all, the effort cause appears to be highly inferent and, thus, is principally at risk of confounding different information (Stables, Murakami, McIntosh, & Martin, 2014). Accordingly, it should be absolutely unfolded by more proximal operationalizations and differentiated into distinct facets. These effort facets should represent effort experience in a more task-specific manner and address concrete task requirements, learning, and classroom situations learners typically might encounter in the EFL context.

Notwithstanding, the present study revealed empirical findings which emphasize the explanative role of task-specific self-concepts in EFL attribution research. In line with relevant research findings (Erten, 2015a; Erten & Burden, 2014; Genç, 2016; Mori et al., 2011), it was not grammar performance per se but learners' cognitive-motivational processing of grammar success or failure which substantially predicted their attribution responses. Consequently, to more strongly implement an adequate research line, relevant studies should concurrently analyze the relations between self-concept and attribution measures in different areas – that is, not just in grammar but also in reading, spelling, pronunciation, vocabulary, and listening.

6.4. Practical implications

Though the present findings must be seen as preliminary in nature, they immediately suggest certain educational implications. In particular, as poor performing learners with low competence beliefs attributed both grammar success and failure mostly to uncontrollable causes, in the case of failure to some extent also to lack of own effort, they are prone to develop expectations of uncontrollability – and, thus, potentially to lessen their engagement, to stagnate with an inadequate learning approach, and to achieve unfavorable performance outcomes (Hsieh, 2012). Therefore, it would be appropriate to implement teaching strategies and learning opportunities in the EFL classroom which should strive for reducing maladaptive and strengthening adaptive attributions of grammar success and failure (Erten, 2015b). Accordingly, relevant intervention should be expected to yield most effective results inasmuch as it will apply a combination of direct attribution feedback procedures and task-specific strategy training (Robertson, 2000) whilst teacher effort feedback should heavily refer to acquisition and practice procedures priorly introduced and systematically applied in the EFL classroom (Chan & Moore, 2006). In particular, this approach should warrant learners to experience both realistic learning success and control-oriented dealing with failure – especially by supporting and modeling effort attributions. That way, learners should gradually develop adequate competence or efficacy beliefs which, in turn, should facilitate their use of adaptive outcome attributions (Raofi, Tan, & Chan, 2012).

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