

*Successful language learning in a corporate setting:
The role of attribution theory and its relation
to intrinsic and extrinsic motivation*

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Abstract

Attribution theory (Weiner, 1985) and self-determination theory (Deci & Ryan, 1985) have been explored as contributors to L2 motivation (cf. Dörnyei, 2001) but have never been studied quantitatively in concert. In addition, students' attributions for success in learning a foreign language have never been measured through the use of a questionnaire. The aim of this paper is therefore (a) to develop a questionnaire with reliable constructs that allows to measure adult learners' attributions for their success in learning English in a corporate setting, (b) to investigate these learners' attributions, and (c) to investigate the relationship between students' attributions and the constructs of Intrinsic and Extrinsic motivation central to self-determination theory. Our main results show that among the attributions measured, *interest*, *effort* and *corporate culture* seemed to be the main causes that students recognised as directly involved in their success in learning English. Of all the attributional scales, *interest* and *ability* appeared to importantly contribute to *intrinsic motivation*, while *corporate culture*, *encounters with foreign professionals* and *ability* contributed to a lower extent to *extrinsic motivation*. It must be noted, however, that attributions for success to *teacher* and *task* were so consistently high that they could not be reliably measured with the questionnaire.

Keywords: attribution theory; self-determination theory; intrinsic motivation; extrinsic motivation; adult learners

1. Introduction

Motivation has attracted a large amount of interest from researchers in the last few decades, arguably due to its potential to help understand the mysterious and intricate human behaviour. Still, within the field of educational motivation, and most precisely in the context of foreign language (L2) learning, attribution theory (AT) has not received sufficient attention. A few studies have explored the attributions to success and failure of foreign language students from a qualitative approach (e.g., Gabillon, 2013; Gonzalez, 2011; Williams & Burden, 1997, 1999; Williams, Burden, & Al-Baharna, 2001; Williams, Burden, & Lanvers, 2002; Williams, Burden, Poulet, & Maun, 2004; Yan & Li, 2008), while a few others have attempted to measure these attributions quantitatively by using questionnaires that were not always properly designed, piloted and statistically validated to be fit for the study (Gobel & Mori, 2007; Ishikawa, Negi, & Tajima, 2011; Pishghadam & Modarresi, 2008; Pishghadam & Zabihi, 2011; Wu, 2011).

Another topic that has not received much attention in L2 motivation has been self-determination theory and its debated dichotomy of intrinsic/extrinsic motivation. Although a number of studies have investigated the relationship between these two constructs and other salient concepts in L2 motivation such as autonomous learning and self-regulation (Noels, 2001a, 2001b, 2003, 2009; Noels, Clement, & Pelletier, 1999, 2001; Noels, Pelletier, Clement, & Vallerand, 2000), there are no studies that explore the relationships between self-determination and attribution in the context of L2 learning.

Similarly, a thorough examination of previous studies has confirmed the need to create a questionnaire with reliable and methodically built, validated and analysed constructs to measure adult learners' attributions for their success in learning English. The aim of this paper is therefore double: on the one hand, to bridge this gap in the field of foreign language motivation research by providing such a questionnaire, and, on the other hand, to explore attributions for success in learning English as a foreign language in a corporate environment, and to study the relationships between attributions and the constructs of extrinsic and intrinsic motivation. The results from this study will aim to enhance our understanding of motivation in foreign language learning, particularly the interrelationship between attribution and self-determination factors, and to offer a number of informed suggestions for further research and potential approaches to AT in foreign language learning and teaching.

2. Literature review

2.1. Motivation: Setting the conceptual framework

Motivation has been recognised as one of the most complex and difficult constructs to define in psychology (Dörnyei & Ushioda, 2011; Walker & Symons, 1997). Motivation deals with the factors that influence human behaviour, which a priori may sound like a straightforward concept. However, the intricateness of the relationships between these factors and the actual behaviours is such that it has proved almost impossible to come up with a consistent, all-encompassing definition of motivation, let alone to capture all these factors in a single model or framework. Throughout the years, there have been many attempts to identify, analyse and encompass these factors within different models of motivation in an effort to establish more clearly what motivation is and, most importantly, how it manifests itself through human behaviour (e.g., Atkinson & Raynor, 1974; Bandura, 1979, 2001; Covington, 1992; Peterson, Maier, & Seligman, 1993; Wigfield & Eccles, 2000). Although the concept of motivation was born in the field of psychology, experts in education have also found it useful to investigate learning phenomena from this new perspective and publications exploring motivation to learn a foreign language abound (e.g., Clément, 1980, 1986; Clément & Noels, 1992; Clément, Gardner, & Smythe, 1977a; Clément, Noels, & Denault, 2001; Dörnyei, 1994, 2000, 2001, 2005; Dörnyei & Csizér, 2002; Dörnyei & Ottó, 1998; Dörnyei, Csizér & Németh, 2006; Gardner, 1985; Gardner & Lambert, 1972; Schumann, 1978, 1986; Tremblay & Gardner, 1995; Ushioda, 1998; Williams & Burden, 1997).

In second language acquisition (SLA), the focus of studies on motivation has been to explore and understand the reasons that lead a student to start learning a foreign language and later on to sustain the effort throughout the long and sometimes painful learning process (Dörnyei, 1998). According to Gardner and Lambert (1972), motivation is such an important factor in language learning that it may override the effect of other traditionally essential individual characteristics such as aptitude. It has been defined in a multitude of ways depending on the psychological paradigm that reined at the time. For the purpose of this study, the following definition of motivation by Dörnyei and Ottó (1998, p. 65) will be used:

In a general sense, motivation can be defined as the dynamically changing cumulative arousal in a person that, once initiated, directs, co-ordinates, amplifies, terminates and evaluates the cognitive and motor processes whereby initial wishes and desires are selected, prioritised, operationalised and (successfully or unsuccessfully) acted out.

According to this definition, motivation is adaptive in the sense that it is adjusted to the circumstances through the feedback received on the success of previous actions to achieve the established goal. The retroactivity of motivation and the fact that previous actions and the results produced by these actions necessarily influence future attitudes and behaviours will be explained in more detail below when discussing Weiner's (1985) AT.

2.2. Self-determination theory: Intrinsic and extrinsic motivation

The intrinsic/extrinsic dichotomy is one of the best-known issues in educational psychology. Intrinsic motivation is meant to come from deep inside the individual when the behaviour is performed for its own sake. In contrast, extrinsic motivation occurs when the behaviour is performed as a means to an identifiable end (Deci & Ryan, 2000). There have been a number of attempts to overcome this dichotomy (Vallerand, 1997; Vallerand & Ratelle, 2002), with Deci and Ryan's (1985) self-determination theory being the most relevant example. Self-determination in this context is defined as undertaking a task "with a full sense of wanting, choosing, and personal endorsement" (Deci, 1992, p. 44). In their theory, Deci and Ryan (1985) suggest that extrinsic forms of motivation should rather be seen along a continuum where amotivation (complete lack of motivation) would be at one extreme and intrinsic motivation would be at the other extreme. According to Deci and Ryan (1985), the more supportive the social environment is, the more intrinsically motivated, and therefore the more self-determined the learner will be. Both Vallerand's (1997) and Deci and Ryan's (1985) work marked a significant milestone in the field of L2 motivation by arguing that the constructs of intrinsic and extrinsic motivation may not necessarily be unidimensional, as it was traditionally believed, but may actually be much more complex constructs in which a wider range of possibilities and dimensions are embedded.

Self-determination theory has inspired a fair amount of research in the field of SLA, much of which has been conducted by Noels and her colleagues (Noels, 2001a, 2001b, 2003, 2009; Noels et al., 1999, 2000, 2001). Their research was based on Deci and Ryan's (1985) continuum, and their findings have suggested that the personal value and importance of learning a foreign language may be more determining for sustained learning than merely intrinsic factors such as enjoyment and interest. They argue that enjoying the learning of a foreign language may actually be considered a simple "puzzle or a language game," and that learning may only be sustained over time if the learner understands and interiorises language learning as something important and useful for themselves and for their everyday life (Noels et al., 2000, p. 20).

2.3. Attribution theory: Exploring the reasons for success and failure

Attribution theory (AT) has been recognised as the only motivational model that encompasses both the cognitive and affective aspects influencing human behaviour (Dörnyei & Ushioda, 2011). AT was first presented by Weiner (1985) and focuses on the analysis of the causes of success and failure; the way these causes are identified and interpreted determines individuals' future attitudes and actions. As Weiner (1985, p. 549) explains, "because of the apparent pan-cultural, timeless aspect of causal search and exploration, and because of the evident adaptive significance of this activity, causal ascriptions are proposed to provide the building blocks for the construction of a theory of motivation and emotion."

The main idea behind AT is that human beings always seek to understand the reasons for their success or failure and, when faced with a similar situation again, their actions will be led by their understanding of the reasons that caused this success or failure. This does not mean that their perception about the reasons will be correct, but their personal belief of what these reasons were will guide their actions (Heider, 1944, 1958). For example, if a student passes an exam he could attribute his success to a number of reasons, such as his higher ability in that subject, the easiness of the exam or simple luck with the reviewer. He may as well be convinced that the only reason for his success was his outstanding preparation for the exam, although in reality the exam was just very easy. According to AT, based on his belief of what the reason for success was, the student will prepare for the next exam in exactly the same way in the hope to achieve the same results. Considering that the previous exam was just easy, and that the student's preparation did not play a remarkable role in the result, it is most probable that the student will fail the exam or at least that the results will not be as high. This may in turn lead the student to rethink the cause of his failure and maybe even to realise what the real reason for success was. Attributions affect future learning processes insofar as they determine the expectancies for success in the future, the individuals' affective state and, in consequence, their attitude and behaviour towards learning (McLoughlin, 2007).

Weiner (1985) identified four main causes of success and failure: ability, effort, task difficulty and luck. He described these causes from three different perspectives that he called "dimensions of causality": locus (internal or external), stability (stable or unstable) and controllability (controllable or uncontrollable). Each of the main four causes can be described along three dimensions: For example, ability is internal (inside the individual rather than outside, i.e., in the environment), stable (theoretically an individual's ability is constant and does not vary through time), and uncontrollable (the individual has no control over his innate ability) (Weiner, 1986). As many authors have noted (e.g., Graham,

1991; Pishghadam & Motakef, 2011; Tse, 2000; Williams, Burden, & Al-Baharna, 2001; Williams & Burden, 1999; Williams et al., 2002; Williams et al., 2004), attributions of causality depend considerably on several factors such as the person, the culture, the social group, the family background, the learning context, the age, the gender or the task.

AT has importantly informed the way in which we understand L2 motivation. The reasons that students identify as responsible for their past success or failure in learning foreign languages have proved to have a significant impact on their attitude and motivation to keep learning (the) language(s) in the future (Bandura, 1979; Jarvis, 2005; Schunk, 1991; Smith, 2012; Williams & Burden, 1997). In her longitudinal research study, Ushioda (1996, 1998, 2001) concluded that success in learning a foreign language was attributed mainly to internal factors such as ability, while failure to learn the language was rather attributed to external, unstable factors such as task difficulty. This could be explained by a student's mechanism to keep their motivation to learn: Admitting that failure to learn the language is due to, for example, lack of ability would hinder any existing motivation to try to keep learning the language.

Many studies have explored the causal attributions of foreign language students in different contexts (Gabillon, 2013; Gray, 2005; Pishghadam & Modarresi, 2008; Pishghadam & Motakef, 2011; Tsi, 2000; Williams & Burden, 1997, 1999; Williams, Burden, & Al-Baharna, 2001; Williams et al., 2002; Williams et al., 2004; Yan & Li, 2008) and have looked into the relationship between attributions and other factors such as gender (Wu, 2011), proficiency level (Williams & Burden, 1999), cultural background (Gonzalez, 2011; Williams, Burden, & Al-Baharna, 2001) and achievement (Pishghadam & Zabihi, 2011). These studies have shown that the attribution to effort is the best predictor of achievement in foreign language learning (Pishghadam & Zabihi, 2011), and that there do not seem to exist significant gender differences in the success and failure attributions of language learners (Wu, 2011). Furthermore, some authors (Gonzalez, 2011; Williams, Burden, & Al-Baharna, 2001) have determined that attributions for success and failure in foreign language learning seem to be also dependent to an important extent on the cultural backgrounds and educational traditions in which learners are embedded, as shown by their case studies with students from Africa, Europe and Asia.

Although most of the studies to date have taken a qualitative approach to the study of attributions for language learning success and failure, there have been some attempts to create a questionnaire with reliable constructs that allows us to systematically assess learners' attributions. However, most of these studies do not provide enough information on the validation of the questionnaire and seem to follow procedures for the creation of the instrument and the

analysis of the results that do not abide by standard rules in questionnaire methodology (Ishikawa, Negi & Tajima, 2011; Gobel & Mori, 2007; Pishghadam & Modarresi, 2008; Pishghadam & Zabihi, 2011; Wu, 2011).

Given the lack of a questionnaire with reliable constructs to assess students' attributions for success in language learning, this study aimed to both create such a questionnaire and to measure these attributions. Furthermore, this study also aimed to relate these attributions to the constructs of intrinsic and extrinsic motivation, which allows for a more comprehensive approach to understanding the interrelationship between attributional phenomena and motivation in the context of language learning. Therefore, this paper would like to reach the three following goals:

- To build a questionnaire with reliable constructs that allows measuring adult learners' attributions for their success in learning English;
- To investigate adult learners' attributions for their success in learning English; and
- To investigate the relationship between learners' attributions for their success in learning English and the constructs of intrinsic and extrinsic motivation.

Following from the previous research aims, the research questions that this study aims to answer are as follows:

1. Can constructs be designed to reliably measure adult learners' attributions for their success in learning English?
2. What are adult learners' attributions for their success in learning English?
3. What are the correlational and regressional relationships between learners' attributions for their success in learning English and the constructs of intrinsic and extrinsic motivation?

3. Method

3.1. Context

The organisation where the research was carried out is a strategic holding and a key player in the power market in Hungary, Central and Eastern Europe, which in this study will be referred to as *the Group*. While in the first half of the 2000s the employees' goal was generally to pass the B2 level English language exam; since the middle of the last decade, their focus has shifted towards the C1 level and specialised language courses. Today, having a B2 English language certificate is a prerequisite for new company entrants; therefore, the emphasis is placed

on maintaining or enhancing this already existing knowledge, learning business English, specialising in the language of the electricity industry or attending skills courses that train attendees in English presentation or negotiation techniques.

The activities of the Group, as well as their back office administration, make it indispensable for the majority of the workforce to speak certain levels of English. This necessity ranges from online routine interface orders to fluent and effective negotiation, and the Group encourages and enables the employees to participate in an English course as long as their knowledge of the language is not high or specialised enough for their job title. Participation in the courses is optional, and attendees get 360 lessons to master one level or 240 lessons, if they only want to pass one part of the exam, that is, either the written or the oral part. This is a generous offer from the employer although it must be noted that the majority of the learners are hard-working adults with families and children; therefore, they cannot proceed at the rate of a teenager because of their occupational and family obligations.

3.2. Participants

Our research investigated adult learners of English in a corporate environment in Budapest, in May 2014. All of the participants are employees of the same state-owned Hungarian strategic company group, whose core activities include electricity generation, electricity and natural gas distribution and trading, as well as providing telecommunications services. Given the nature of the organisation, all of the employees questioned have university degrees, and their work entails creativity, which, in turn, necessitates applying advanced skills. In selecting the employees we paid attention to representing the various fields of activity within the organisation; therefore, we set out to build a purposive sample using the principle of maximum variation. We sought out people that represented the greatest differences in every possible sense within the organisation in the Holding Centre and two further subsidiaries of the group, all of which are based in the headquarters of the company in Budapest, Hungary. In total 127 employees, 57 males and 70 females filled in the paper-and-pen questionnaire. The average age of the participants was 39, ranging from 23 to 66 with an *SD* of 9.55 (for two learners the age data were missing). Generally, they started learning languages at the age of 10 and for the majority of them, with the exception of 16 employees, English was the only language they were learning at the time the research was conducted. The most common second languages within the group of 16 were German and French. According to the participants' self-report and information from the Human Resources Department of the Group, the level of students' proficiency in the investigated sample ranged from B1 to C1 in the Common European Framework of Reference (CEFR; Council of Europe, 2001).

3.3. Instrument

Drawing on our literature review, we selected the attributional scales for the pilot questionnaire partly based on Weiner's (1985) AT (*effort, task difficulty, ability and luck*), and partly on Graham's (1991), Williams, Burden, and Al-Baharna's (2001), Williams and Burden's (1999), Williams et al.'s (2002) and Williams et al.'s (2004) studies, which suggested that attributions of causality depend considerably on other factors as well such as culture, social group, family background, learning context, learning strategy or task. As a result, besides Weiner's (1985) scales in AT, additional scales were created to measure attributions to the *context* (the corporate culture), the *teacher* (as a significant contributor to the learning environment), *milieu* (family and friends), *strategy, time management* (as presumably key skills in a corporate context), *interest* and *anxiety*. *Interest* was included because it is central to Deci and Ryan's (1985) self-determination theory, whereas *anxiety* was hypothesised to play an important role in failure attributions as it correlates negatively with both actual and perceived proficiency in the L2 (Clément, Gardner, & Smythe, 1977 b; Clément & Kruidenier, 1985). In order to investigate the relationship between the above attributional factors and intrinsic and extrinsic motivation respectively, two further motivational scales were developed to explore the extrinsic and intrinsic motivation of the participants. Due to the limitations in the length of the questionnaire, this study measured intrinsic and extrinsic motivation as unidimensional constructs. The items to measure these constructs were taken from Teravainen's (2014) study, which in turn were adapted from the scales used by Noels et al. (2003), whereas for the attributional scales the items were developed by the authors based on Dörnyei's (2007) guidelines on multi-item questionnaire scales: "There is a general consensus among survey specialists that more than one item (usually 4-10) is needed to address each identified content area, all aimed at the same target but drawing upon slightly different aspects of it" (p. 91). Our questionnaire originally contained 56 items (3 constructs with 6 items, 7 constructs with 5 items, 1 construct with 3 items) to measure attributional factors and 10 items to measure motivational factors. The reason why we used a relatively low number of items per scale is explained by Dörnyei (2007) as follows: "L2 researchers typically want to measure many different areas in one questionnaire, and therefore cannot use very long scales, or the completion of the questionnaire would take several hours" (p. 183).

After the pilot questionnaire, which was conducted with 20 participants, we found that in this particular context two variables (*Success attributed to the teacher* and *Success attributed to tasks*) had to be dropped as the data we obtained on these two variables were extremely homogenous and therefore impossible to

analyse statistically; there was a bunching of scores at the highest value of the instrument (ceiling effect). On the other constructs, principal component analysis was carried out to gain information on how individual items load onto a particular dimension. As a result, the final number of dimensions was defined.

The final questionnaire consisted of 44 items on attributional and 10 items on motivational factors. For items 1-44, participants had to indicate on a 5-point scale to what extent they attributed their successes to the ideas expressed in the statements. We considered including both negatively and positively worded items; however, following Dörnyei's (2007) advice to avoid negatively worded questions as "they can be problematic" (p. 95), in the end we decided against them. Dörnyei (2007) warns against the use of double-barrelled questions, but we came to the conclusion that we would use them deliberately in our instrument because we wanted to measure causal attributions. This is the reason why all the items started with "I succeed in learning English because . . ." and intended to cover the following nine variables, in which *SAT* stands for *Success Attributed To*:

1. SAT Effort (6 items): To what extent learners attribute their successes to the efforts exerted during language learning. Example: "I succeed in learning English because I put a lot of effort into learning the language."
2. SAT Time Management (5 items): What role their time management skills play in being a successful language learner. Example: "I succeed in learning English because I try to make myself spend as much time as possible learning the language."
3. SAT Strategy (5 items): How important their own L2 learning strategies are in achieving success. Example: "I succeed in learning English because I have my own learning tricks."
4. SAT Milieu (5 items): What impact their immediate environment (family and friends) has on their perception of themselves as successful language learners. Example: "I succeed in learning English because my friends have always encouraged me to learn the language."
5. SAT Anxiety (5 positively coded items): What is the significance of the level of anxiety felt when using English in everyday life is. Example: "I succeed in English learning because it does not embarrass me to speak English."
6. SAT Context (5 items): To what extent they see their corporate environment and culture as a source of inspiration for their studies. Example: "I succeed in learning English because my corporate culture supports continuous training."
7. SAT Luck (3 items): How important they find luck in their successes. Example: "I succeed in learning English because I am lucky as my workplace supports life-long learning."

8. SAT Interest (5 items): What role their general interest towards the English language plays in their successes. Example: "I succeed in learning English because I enjoy expressing my thoughts in another language."
9. SAT Ability (5 items): How they rate themselves from the point of view of L2 learning aptitude. Example: "I succeed in learning English because I am a talented language learner."

Items 45-54 comprised Noels, Clement, & Pelletier's (2003) motivational scales consisting of questions to be answered on a 5-point Likert scale where learners had to mark to what extent they agreed or disagreed with the statements. These items measured the following constructs:

10. Intrinsic motivation (5 items): To what extent they enjoy learning English for its own sake. Example: "I study English for the 'high' feeling I experience while speaking English."
11. Extrinsic motivation (5 items): How motivated they are from the point of view of integrativeness and instrumentality. Example: "I study English in order to get a better job in the future."

In the last part of the questionnaire, background questions were asked concerning the participants' age, gender, the time they had started learning languages, other languages they were learning at the time of the study and the section of the corporate organogram they were working in.

3.4. Procedure

The questionnaire was originally developed in English and then translated into Hungarian. Two adult learners of English were then asked to think aloud while completing it to make sure that the questions were interpreted the way they were meant to be. Potentially problematic items were reworded before the instrument was piloted with 20 learners. Following the reliability analysis of this pilot run, the unreliable items were reworded or omitted. The final version of the questionnaire was personally delivered to the employees of the organisation, and they were collected a week later. All of the completed questionnaires were computer coded and SPSS (Statistical Package for Social Sciences) 17.0 was used to analyse the data.

4. Results and discussion

This section of the paper presents the results and discussion of our findings. The section is organized in accordance with the three research questions.

4.1. Reliability of the scales

In order to answer the first research question (can constructs be designed to reliably measure adult learners' attributions for their success in learning English?), we checked the internal reliability of the 11 multi-item scales, and Cronbach's alpha internal consistency reliability coefficients were computed, which are shown in Table 1. Due to our circumspect preparatory phase and prudent piloting, all but two of the scales yielded favourable Cronbach's alphas. According to Dörnyei (2007), because of the lower number of items per scale typically used in questionnaires related to L2 acquisition, "somewhat lower Cronbach Alpha coefficients are to be expected, but even with short scales of 3-4 items we should aim at reliability coefficients in excess of 0.70; if the Cronbach Alpha of a scale does not reach 0.60, this should sound warning bells" (p. 183). The data suggested that Cronbach's alphas for the latent dimensions of Context and Luck were low if we considered the above warning. With the help of factor analysis (maximum likelihood with varimax rotation), the dimensionality of the scales was determined and the results revealed that the Context scale was in fact 2-dimensional. The 2-dimensionality of this variable can be explained by the fact that even though all of the items within this construct were related to the working environment of the participants, the statements described two aspects of their corporate setting: Some items were found to have orientations towards how the ethos of the corporate culture affected their attributions (e.g., "I succeed in learning English because my corporate culture supports continuous learning"), whereas the others focused on the opportunities the participants have to meet foreign business partners or travel abroad (e.g., "I succeed in learning English because I have the opportunity to travel abroad on business"), which not many of the employees have a chance to do with the exception of the members of the management. Consequently and accordingly, the SAT context construct was divided into SAT encounters (to denote real-life encounters with L2) and SAT corporate culture (to describe the culture of the company).

As far as the SAT luck factor was concerned, even though it was one of Weiner's (1985) original variables, we had to exclude it from further analyses. The reasons for this might have been the low number of items originally intended to measure this construct and its partial overlap with two other variables: SAT corporate culture ("I succeed in learning English because I'm lucky as my workplace supports life-long learning") and Milieu ("I succeed in learning English because I'm lucky with the feedback I'm given"). Another reason for the lack of luck contributing reliably to this measure might be that luck is often associated with tests and exams in language learning and these might not be relevant in a corporate context.

Table 1 Reliability coefficients for the scales

Scale	Cronbach's α
SAT Effort	.86
SAT Time Management	.72
SAT Strategy	.72
SAT Milieu	.76
SAT Anxiety	.84
SAT Encounters	.71
SAT Corporate Culture	.68
SAT Interest	.71
SAT Ability	.68
Extrinsic Motivation	.76
Intrinsic Motivation	.78

4.2. Comparative analysis of the scales

In order to answer the second research question (what are adult learners' attributions for their success in learning English?), descriptive statistics for the scales are presented in Table 2. We can see from the data that within the attributional scales, SAT Corporate Culture, SAT Interest and SAT Effort showed the highest mean values, close to or over 3.5, which highlight several inferences. First of all, it can be observed that learners of English in this context regard their working environment as a determining factor in contributing to their successes in learning English. Secondly, they seem to attribute their success in English to their genuine interest in learning the language. Thirdly, they also put their success down to their hard work.

Table 2 Descriptive statistics for the scales

Scale	<i>M</i>	<i>SD</i>
SAT Effort	3.46	.72
SAT Time Management	2.96	.63
SAT Strategy	3.17	.66
SAT Milieu	2.91	.81
SAT Anxiety	2.92	.86
SAT Encounters	2.66	.91
SAT Corporate Culture	3.61	1.11
SAT Interest	3.60	.70
SAT Ability	3.19	.64
Extrinsic Motivation	3.74	.78
Intrinsic Motivation	3.78	.73

The high mean value for SAT Interest is probably due to the fact that learning English is voluntary in the organisation. For this reason, learners are intrinsically motivated (which was also borne out by the high mean values for Intrinsic

Motivation). Also, given the nature of the organisation, all the employees have a college or university degree, so probably they enjoy learning better than an average person and are also willing to exert more effort in learning English just as they have presumably done so in their previous studies whether they be related to their profession or to language learning. The findings seem to confirm Deci and Ryan's (1985) self-determination theory, inasmuch as the more supportive the social environment is, the more intrinsically motivated the learner will be. Interestingly, however, they seem to refute Noels et al.'s (2003) findings, according to which the personal value and importance of learning a foreign language may be more important for sustained learning than intrinsic factors such as enjoyment and interest.

If we examine the mean values related to the Intrinsic Motivation and Extrinsic Motivation scales, we can see that the participants are highly motivated both intrinsically and extrinsically, approximately to the same extent (3.78 and 3.74 respectively). This again might be put down to the particularity of the context: the voluntary participation in English courses and the high qualifications of the workforce. On the other hand, the high mean value for Extrinsic Motivation highlights instrumental aspects of motivation that might be attributed to the prospects of a better job and/or a higher salary in a competitive corporate environment.

4.3. Relationships among the scales

In order to answer the third research question (what relationships might describe the obtained attributional scales?), we carried out correlational analyses. Table 3 presents the significant correlations among the attributional scales, whereas Table 4 shows the significant correlations between the attributional scales and the two criterion measure scales, Extrinsic Motivation and Intrinsic Motivation. In order to guarantee a much smaller likelihood of the events occurring simply by chance, only correlations where $p < .01$ are reported.

Table 3 Significant correlations ($p < .01$) among the attributional scales

	1	2	3	4	5	6	7	8	9
1. SAT Effort	—								
2. SAT Time Management	.749	—							
3. SAT Strategy	.487	.522	—						
4. SAT Milieu				—					
5. SAT Anxiety		.244	.423		—				
6. SAT Encounters				.233	.352	—			
7. SAT Corporate Culture				.283			—		
8. SAT Interest	.438	.344	.446	.354	.433	.355	.237	—	
9. SAT Ability	.502	.395	.499		.559			.470	—

As can be seen in Table 3, the strong correlation between the SAT effort and SAT time management variables (.749) indicates that the two latent dimensions tap into very similar domains in the investigated environment. On the one hand, time is always a prerequisite of exerting efforts. On the other hand, the reason for this strong correlation in this context might be that the survey was conducted among working adult learners of English who are especially likely to tend to equate time with effort as they are presumably constantly pressed for time, and finding time for learning represents a challenge for them.

The second strongest correlation (moderate correlation at .559) can be observed between SAT ability and SAT anxiety, which demonstrates either that learners who consider themselves more able tend to worry less or that anxious learners tend to underestimate their ability (the SAT Anxiety items were coded positively). This finding echoes the results of several other studies (e.g., DesBrisay, 1984; Ferguson, 1978; Holec, 1979) that have found that anxious individuals who have little faith in their capacities and their ability to control the environment systematically underestimate their abilities. Interestingly, these are SAT ability and SAT interest that correlate moderately with the highest number of other constructs, 7 and 5 respectively. It might indicate that these two variables are more central to the concept of attribution in language learning in this particular environment than the other variables. The correlational analysis for the criterion measure scales yielded the highest, but only moderate, correlation values (.636 and .509) in the case of Intrinsic motivation, and weak correlations (.342 and .345) in the case of Extrinsic motivation in the same domains: SAT interest and SAT ability (see Table 4).

Table 4 Significant correlations ($p < .01$) between the attributional scales and the criterion measure scales

	SAT Effort	SAT Time Strategy	SAT Milieu	SAT Anxiety	SAT Encounters	SAT Corporate Culture	SAT Interest	SAT Ability
Intrinsic Motivation	.330	.368	.332	.417	.304	.241	.636	.509
Extrinsic Motivation	.302	.255	.315		.340	.304	.342	.345

In order to determine causality and to find out which attributional constructs act as predictor scales of the students' motivated learning behaviour, we carried out linear regression analyses with a stepwise approach separately for the criterion variables of Intrinsic and Extrinsic motivation. The results are summarised in Tables 5 and 6. Out of the 9 dimensions investigated, only two contributed significantly to Intrinsic motivation: SAT interest and SAT ability (previously identified by Weiner [1985] as one of the two main internal attributional factors) were the most important predictor variables; and three contributed significantly to Extrinsic motivation: SAT encounters, SAT corporate culture, and SAT ability.

Table 5 Results of regression analysis of the attributional scales with Intrinsic motivation as the criterion variable (significance level $p < .01$)

Variable	β	t	p
SAT interest	.51	6.81	< .001
SAT ability	.27	3.63	< .001
R ²			.46

It can be seen from the data that the proportion of variance in Intrinsic motivation that can be explained by the two independent variables is 46%, and that the impact of SAT interest (.51) is almost twice as strong as the impact of SAT ability (.27). Given the fact that the key element of intrinsic motivation in general is the enjoyment of the activity in focus, it is not surprising that the SAT interest variable also contributed highly to the value of 46% in the investigated context. On the other hand, it is more challenging to find an explanation for the SAT ability variable being the second most important factor in line in this respect. It is possible that those respondents who feel that their successes can be attributed to their abilities feel more confident and enjoy language learning more than those who attribute them to other factors. Also, because of the positive perception they have of their abilities, due to the joy they might possibly derive from solving problems related to language learning they gain more enjoyment from learning, which, again, in turn leads to a heightened level of intrinsic motivation. It is important to note here that, as we have already mentioned in the literature review section, Heider (1944, 1958) emphasises that these are the learner's personal beliefs in their ability that guide their action and not their actual ability. As a consequence, we might challenge Weiner's (1985) original classification in AT: Even though ability might be constant and, as such, may not change through time, it is not ability that matters in AT but perceived ability, which is actually subject to change.

By comparison, the data obtained from the regression analysis of the attributional scales with Extrinsic motivation suggest a weaker causality between the two (see Table 6). Out of the nine dimensions, three contributed significantly to Extrinsic motivation: SAT ability, SAT encounters and SAT corporate culture. However, their overall effect (25%) on Extrinsic motivation is almost half as weak as the effect of SAT interest and SAT ability on Intrinsic motivation. Here, the distribution of the strength of the three scales is even (their β values are .26, .26, and .23 respectively). The significance of two of the scales (SAT Encounters and SAT Corporate Culture) can again be easily explained: The participants' work environment is highly competitive, and, therefore, instrumentality, which is a core determinant of extrinsic motivation in general, plays an important role. The role of SAT ability, however, is more puzzling. The explanation for this might be that those participants who attributed their successes to their self-perceived abilities more

than the average might fare better in general in life, not only when it comes to learning a language. They might be more competitive, might want to get higher positions on the corporate ladder or might want to earn more, which are all suggestive of the instrumental use of the learned language, that is, external motivation.

Table 6 Results of regression analysis of the attributional scales with Extrinsic motivation as the criterion variable (significance level $p < .01$)

Variable	β	t	p
SAT ability	.26	3.23	.002
SAT encounters	.26	3.20	.002
SAT corporate culture	.23	2.97	.004
R2			.25

5. Implications and further research

As it was already referred to in the method section of this paper, the pilot of the current study identified the role of the teacher and the nature of the tasks in the lessons as crucial factors in the investigated environment that learners attribute their successes to. The homogeneity in the data obtained in these two scales made it impossible for us to conduct statistical analyses; however, it must be noted that these two scales produced by far the highest mean values (over 4.7) compared to the other scales. Consequently, further research is needed to analyse these two constructs by possibly breaking up both into analysable sub-scales to explore which subcomponents learners find vital in their attributions.

Nevertheless, the rich data yielded by the nine scales and the two criterion measure scales lend themselves to interpretation that has profound implications for teachers of adult learners of English in a corporate environment, as well as employers. Starting with employers, we can see it ascertained by the data that adult learners of English attribute their successes to a great extent to their employer in as much as they acknowledge the significance of a corporate culture that supports continuous training and life-long learning, both of which promote employees' professional development. This is confirmed by the high mean value for the SAT Corporate Culture scale (3.61), as well as the answers given to 3 out of the 5 items with the highest mean values in the questionnaire: "I succeed in learning English as I'm lucky because my workplace supports life-long learning" (4.13), "I succeed in learning English because I need it for my professional development" (3.88), and "I succeed in learning English because my corporate culture supports continuous learning" (3.83). Most probably, the employees of this organisation are grateful for the opportunity they are given to learn English and appreciate the support they receive. It would be the subject

of another study to investigate what role this appreciation plays in employee commitment and employment satisfaction in the organisation.

Whether an organisation decides to contribute to the linguistic development of its employees is a question of company policy. But once employees of similar organisations are given the opportunity to develop or maintain their linguistic knowledge, it is well worth considering what implications the study has for teachers of adult learners in similar settings. Our research has shown that there are at least seven lessons teachers can learn from this study, which will be outlined in the following list:

1. *Minimise teacher talking time, maximise student talking time.* The mean value for *SAT Interest* turned out to be as high (3.60) as that for *SAT Corporate Culture* (i.e., the highest among the scales). Additionally, if we take into account that Item 12 of the questionnaire (“I succeed in learning English because I enjoy expressing my thoughts in another language”) had the second highest mean value falling short of the highest by merely 0.11, but with half of its *SD*, we can conclude that answers given to Item 12 show a more even distribution. As a consequence, the respondents were more unanimous in the importance of the joy of expressing their thoughts in English as a contributor to their successes than any other notions expressed in the other items of the questionnaire. We must not forget that all the participants in this context speak English at B2 or a higher level; therefore, they have the linguistic ability to really express themselves and they should have the opportunity to do so.
2. *Create an enjoyable learning environment.* In their answers to Item 26, which is part of *SAT Interest* again, the participants suggested that they succeed in learning English because they enjoy language learning. The mean value of their answers is 3.83 here, which is, once again, one of the highest values in the whole questionnaire. Apart from this, another reason why the items of *SAT Interest* deserve more attention is that the highest significant correlation between any of the attributional scales and either of the criterion measure scales was found between this construct and *Intrinsic motivation* (.636). The data obtained from linear regression analysis also confirm that 46% of the intrinsic motivation of the participants can be explained by two independent variables, *SAT interest* and *SAT ability*, and the impact of *SAT interest* (.51) is almost twice as strong as the impact of *SAT ability* (.27). Creating an enjoyable learning environment, which in turn might result in intrinsic motivation, is very much dependent on the teacher.

3. *Emphasise the joy of learning something new.* Both of the previous points were related to intrinsic motivation, and the third implication comes directly from the Intrinsic Motivation criterion measure scale as the participants valued the joy of learning something new very highly. The mean value for Item 46 was 4.02, which shows that the English learners in this context like learning new things in general. Teachers might possibly exploit this recommendation by raising awareness of the benefits of learning something new. Beside the obvious rewards, in a corporate environment language learning can on the one hand break the monotony of the daily office routine, and on the other hand, it can present employees who already have a well-established career with new challenges.
4. *Emphasise professional networking around the globe.* Even though it turned out from the results that in the investigated context not many of the participants have the opportunity to travel abroad or meet foreign business partners, many of them regard the English language as a tool for their professional development and consider this aspect of learning English very important in their attributions for their successes. Item 23 (“I succeed in English because I need it for my professional development”) yielded the third highest mean value in the survey (3.88). This can partly be explained by the fact that, despite the limited opportunities to travel abroad on business, the learners have access to professional literature and forums on the Internet, and some of them might consider working abroad a future possibility. It is again awareness-raising that teachers can do by encouraging the learners to access online literature and mull over working in another country. Also, more emphasis needs to be laid on personalised materials related to their field of work.
5. *Emphasise the role of English as a lingua franca.* Drawing on the previous point and justified by the high mean value (3.75) for Item 38 (“I succeed in learning English because it inspires me that I can become a member of the English speaking global community”), it is necessary to talk to any learners of English about the unique nature of English as a global language. Interestingly, the high mean value shows that the participants would like to become members of the global village, but in a corporate environment teachers might want to emphasise that the majority of foreign interaction takes place between nonnatives, thanks to which the anxiety level of learners can be reduced.
6. *Save time by personalising teaching materials.* As evidenced by correlational analysis of the data, adult learners tend to equate effort and time. The strong correlation between the SAT effort and SAT time management variables (.749) indicates that the two latent dimensions tap into

very similar domains in the investigated environment. Working adult learners of English tend to equate time with effort as finding time for learning represents a challenge for them. It is therefore crucial that learning should take place as efficiently as possible. With a personalised way of teaching, the teacher can focus on those areas that need to be developed more and can ignore the ones in which the learners excel.

7. *Enhance learners' perceptions of their language learning ability.* SAT ability correlated with seven of the scales and showed the highest correlation with SAT anxiety (.559). Also, the linear regression analyses have revealed that there is a causal relationship between SAT ability and both Intrinsic and Extrinsic motivation. As a consequence of these, it is not of minor importance how learners evaluate their language learning ability. Based on the analyses of the data we can say that the more able learners perceive themselves, the less they worry, and the more intrinsically and extrinsically motivated they become. It therefore seems to be a good idea to boost learners' self-confidence so that their perception of their abilities is more positive.

6. Conclusion

This study had three aims that have been successfully fulfilled. The first aim was to build a questionnaire with reliable constructs to measure adult learners' attributions for their success in learning English in a corporate setting. This aim was met by creating and piloting the questionnaire, and by the reported Cronbach's alpha values obtained through statistical analyses. It must be noted, however, that the reliability of the instrument could be improved by adding more items to each of the scales. If we did so, because of the length of the questionnaire, it would necessitate either removing one or two scales or creating a separate questionnaire with those scales only. Another important point is that two attributions that are traditionally considered as central in language learning had to be left out (teacher and task) due to the highly positive and homogeneous responses given by all the participants. This is a limitation of the questionnaire that needs to be considered if it is to be used in further studies, although it does not *per se* hinder the reliability and validity of the instrument.

The second aim was to use this questionnaire to measure the attributions that adult learners make for their success in learning English. The questionnaire included a broad range of possibilities for potential attributions, among which *interest*, *effort* and *corporate culture* showed to be the strongest reasons why adult learners think they are successful in language learning.

The third aim was to investigate the relationship between students' attributions and the constructs of intrinsic and extrinsic motivation central to self-determination theory. Due to limitations in the length of the questionnaire, these last two constructs could not be operationalised as multidimensional scales as in Noels et al. (2000). Instead, a unidimensional version of the scales developed in this study was used. Correlational and regression analyses showed that the scales SAT Ability and, particularly, SAT Interest seemed to contribute effectively towards intrinsic motivation. This has important implications for language teaching as it suggests that the joy of learning something new can on its own be a very strong intrinsic motivational factor. It also seems to suggest in line with numerous studies (e.g. Anderson, Manoogian, & Reznick, 1976; Deci, 1971; Pittman, Davey, Alafat, Wetherhill, & Cramer, 1980) that ability is an important contributor to intrinsic motivation, arguably because of the retroactive motivational processes derived from previous successes that have been attributed to one's own ability. Regarding Extrinsic motivation, the results from this study have shown that SAT corporate culture, SAT encounters with foreign professionals and SAT ability may contribute to this construct although only to a limited degree. The importance of SAT corporate culture and SAT encounters with foreign professionals in relation to Extrinsic motivation can be easily explained by the instrumentality of learning a language that is needed for professional reasons. However, the contribution of SAT ability towards Extrinsic motivation is a somewhat less clear and could benefit from further research in the future.

This study hoped to provide a deeper understanding of adult learners' attributions for success in learning English in a corporate setting and a new insight into the relationship between these attributions and intrinsic/extrinsic motivation. However enlightening the findings from this study may be, further research has been suggested throughout the paper in order to consider issues such as the difficulty to quantitatively measure central attributions in language learning such as task and teacher, or to consistently and confidently explain some of the results obtained from the statistical analyses. Follow-up qualitative studies could help clarify these issues. Finally, similar studies with learners of different ages, languages, cultural backgrounds and social or professional contexts could also be useful to identify differences in the language attributions and their contribution towards intrinsic/extrinsic motivation, which in turn could have a significant impact on teachers' approach to enhancing their students' motivation to learn the target foreign language.

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