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The Acquisition of the English Present Perfect by Arabic Speakers of English: Experimental Studies.

Gadah Almishwat

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Declaration

The candidate confirms that the work submitted is her own and the appropriate credit has been given where reference has been made to the work of others.

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The most challenging part of this whole thesis for me was writing the acknowledgement. In this situation, I must act more as a human rather than an objective researcher. I didn't want to cry while writing this section of the thesis. But I did it. I am grateful to Allah for giving me the patience and strength to complete my PhD research project.

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Abstract

The data from prior research has provided evidence for the L1 Arabic influence in the acquisition of L2 English present perfect. However, little is known about what is exactly being transferred from L1 Arabic grammar to facilitate or hinder the acquisition of the English present perfect contexts by Arabic speakers of English. This thesis presents two novel empirical studies into the acquisition of the L2 English present perfect by native speakers of Arabic, across a broad range of proficiency in English. The first set of studies develop a bottom-up approach to the Feature Reassembly Hypothesis (FRH) (Lardiere, 2012) to empirically determine how the present perfect feature mapping in English compares to feature mapping in Arabic, which leads to precise L1 Arabic transfer predictions for the FRH, which we then tested the in an L2 acquisition study. The results revealed that advanced L2 users (L2ers) reassembled the present perfect vs past features and assigned each feature to the corresponding morphological marker in English. The present was transferred beyond the [+continuative] and [+telic] context by L2ers of low proficiency levels. The L2ers of low proficiency level show low sensitivity to the feature of *temporal boundedness* compared to highly proficient L2ers. This inductive approach has showed new insights for the feature reassembly between L1 and L2 in the acquisition of the English present perfect that other approaches did not, where L2ers made form-meaning associations based on the properties of the lexical aspect (telicity) and the semantic interpretations of the English present perfect contexts. This approach also allows for defining the target as a range, which takes into account the variability in the native speakers' performance.

In the final part of the thesis, in an inference task, we investigate how L2ers interpret the English present perfect contexts: which type of current relevance interpretation (continuative vs. recent past) do they infer, and how this interpretation interacts with the telicity of the predicate, comparing with the English native speakers. The results revealed that the effect of telicity on the participants' acceptance rates of the inferences differs based on nativeness (native speakers vs non-native speakers) and proficiency. Telicity of the predicate influences the acceptance rates of English native speakers in the interpretation of the recent past, where there is a high probability of accepting recent past inferences when telic predicates are present.

On the other hand, the influence of telicity was manifested more in the continuative interpretation by L2 speakers, where the likelihood of accepting the continuative interpretation with telic predicates significantly decreased as the L2 English proficiency level increased. For lower proficiency groups of L2ers, the telicity did not show any effect in their acceptance rates of the (continuative vs recent past) interpretations in the inference task. The results of this study indicate that the effect of telicity could extend to high-proficient L2ers.

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List of Abbreviations

CR	Current relevance
TB	Temporal boundedness
T	Telic
A	Atelic
Adv.definiteness	Adverb definiteness
Pr.perfect	Present perfect
Pr.p.only	Present perfect only
+PP	Inducing contexts for the use of the present perfect
–PP	Blocking contexts for the use of the present perfect
+CR	Current
±CR	Neutral
–CR	Not current
NS	Native speaker
NNS	Non-native speaker
MC	Multiple-choice
PERF	Perfect
IMP	Imperfect
1	First person
2	Second person

3	Third person
Sg	Singular
NOM	Nominative
ACC	Accusative
PART	Particle
MSA	Modern Standard Arabic
SAD	Saudi Arabic dialect
ECA	Egyptian Colloquial Arabic
R	Reference time
E	Event time
S	Speech time
Acc	Accomplishment
Ach	Achievement
St	State
Act	Activity
Acc_w_cert	Acceptance with certainty

Chapter 1 Introduction

The acquisition of tense and aspect has been intensively investigated in second language acquisition (SLA) research (e.g., Slabakova, 2000). This interest is unsurprising because temporal distinctions are fundamental to communication, and the functional marking of tense and aspect differs substantially from language to language. The second language (L2) acquisition of English temporal and aspectual distinctions, such as the distinction between the present perfect and simple past (preterite), is notably challenging for L2 users (L2ers) of English. Numerous studies have demonstrated a low accuracy rate in the use of English present perfect by L2ers from diverse first language (L1) backgrounds (Slabakova, 2000; Bulut, 2011; Teran, 2014; Uno, 2014). L2 acquisition of the present perfect in English has been investigated in L1 speakers of many languages (e.g., Japanese: Yoshimura et al. 2014; Turkish: Bulut 2011; Korean: Han and Hong 2015; Spanish: Terán 2014). In these studies, the acquisition of the L2 English present perfect was tested by different methods, such as forced-choice, fill-in-the-blank and translation tasks. The L2ers of English in these studies generally misused the simple past form of the verb in the present perfect context in their L2 English production, argued to be due to L1 negative transfer from their mother tongues.

Present perfect acquisition by Arabic speakers of L2 English is challenging, even at advanced levels of L2 English proficiency (Mazyad, 1999; Shami, 2010; Alruwaili, 2014; Abu Jarad, 2017). Shami (2010) in a study of the developmental acquisition of the L2 English tense and aspect by Saudi learners of L2 English revealed that the present perfect was demonstrated to be the most challenging, where the accuracy of present perfect use was extremely low in both fill-in-the-gap and two-option multiple-choice tasks among Arabic learners of English.

Alruwaili (2014) investigated L2 acquisition of tense and aspect by Saudi Arabic learners of English using an acceptability judgement and a gap-filling assignment task. The results of Alruwaili's investigation revealed that the Arabic learners of English were unable to establish the temporal distinction between the simple past and the present perfect in L2 English. Similarly, Abu Jarad (2017) concluded in a study of English present perfect acquisition by L1 Arabic learners of L2 English that the participants tended to use the simple present or the simple past in contexts in which they were supposed to use the English present perfect. This difficulty

has been attributed to L1 influence and morphological-semantic differences between the two languages (O'Brien, 2003).

Farina (2017) investigated the L2 acquisition of the English present perfect among Arabic and Chinese learners of L2 English via two critical features of the English present perfect, namely boundedness and current relevance (CR). Offline rating and online self-paced reading tasks were conducted in Farina's investigation. Farina (2017) concluded that the Arabic group showed some indication of a beneficial L1 transfer compared to the Chinese group. The results revealed that the Arabic learners of English performed better than the Chinese learners in using the English present perfect; however, Farina also stated that it was unclear what exactly was being transferred from L1 Arabic. Farina (2017) assumed that the Arabic perfect and past continuous were functionally mapped onto the English bounded present perfect and non-bounded present perfect, respectively. Additionally, he posited that the processing and metalinguistic knowledge of boundedness exhibited in the tasks might be incidental to this form-function mapping that captures the perfective-imperfective distinction, rather than being indicative of an understanding of the semantic-syntactic composition of boundedness. However, to date, there is no clear evidence of how the features of the English present perfect are mapped onto morphemes in L1 Arabic. Hence, the present thesis addresses this gap by investigating the acquisition of the English present perfect by Arabic speakers of L2 English through four experimental studies, using the Feature Reassembly Hypothesis (FRH) proposed by Lardiere (2012). The FRH is a theoretical framework that seeks to explain L1 influence in the process of SLA. According to the FRH, L2 learners in their SLA initially rely on their L1 linguistic knowledge. Through a process of feature reassembly, these initial L1 features are subsequently reconfigured to match the grammar of the L2 language. This reassembly involves the recombination of L1 and L2 features to form a new and distinct set of interlanguage features. Moreover, feature reassembly is particularly challenging when the target features that exist in L1 are configured differently, which is the cause of the present investigation regarding the acquisition of the English present perfect by Arabic speakers of L2 English.

The English present perfect has caused persistent challenges for Arabic L2ers in their acquisition of the tense and aspect distinctions of L2 English due to the lack of a direct counterpart of the English present perfect in L1 Arabic. In English, according to Davydova (2011), the present perfect in English can be distinguished from the simple past by two

interpretative features: [CR] and [temporal boundedness] (TB). CR is the central feature of present perfect as the English present perfect refers to the ongoing CR of a past situation (Comrie, 1976). When speakers use the present perfect, they "bring what happened in the past to the realm of the present" (Suh, 1992, p.82). Linguists have derived four semantic functions for the present perfect based on the feature of CR (Depraetere, 1998). According to Huddleston and Pullum (2002, pp.141-146), the CR of the English present perfect can be instantiated through four major uses of the present perfect, which are:

- **Continuative present perfect**, which describes an event or situation that started in the past and continues in the present moment:

(1)   'Peter has lived in Cyprus ever since.' (Peter still lives in Cyprus).

- **Experiential/existential present perfect**, which describes what has happened so far and has the potential to occur again in the future:

(2)   'He has been to Paris twice.' (He might visit Paris again).

- **Resultative present perfect**, which indicates that the result of an event/action persists in the present:

(3)   'John has closed the door.' (The door is closed, and no one needs to close it).

- **Recent past present perfect** indicates situations that are close in time to the present moment:

(4)   'She has just finished her dinner.' (This happened very recently).

TB, which is operationalised as the definiteness of an adverb (indefinite vs. definite), is a feature that differentiates the present perfect from the simple past. The English present perfect occurs in temporally unbounded contexts, which refer to contexts featuring indefinite adverbs that indicate an indefinite time span, where they concentrate on specifying a feature of an event

rather than a reference time. With those adverbs, it does not matter on which particular date an event occurred; rather, they are only a particular property of when the event occurred, such as *already*, *recently*, *just now*, *since 2016*, or *for three days*, and they license the present perfect (Bardovi-Harlig, 2002). The following example illustrates that the English present perfect can imply the CR of a past state or event, where *lost* still holds at the present moment. Furthermore, the context in which the present perfect occurs in Example (5) is temporally unbounded, which is typically compatible with indefinite adverbs (*for three weeks*).

(5)　　　My Apple Watch has been lost for three weeks.

In contrast, the present perfect cannot occur in temporally bounded contexts featuring definite adverbs that indicate a definite timespan by specifying a specific reference time in the discourse, such as *yesterday*, *last week*, *this morning*, or *in 2020*, and are incompatible with the present perfect (Davydova, 2011).

Arabic however lacks a counterpart to the English present perfect. As such we aim in the present investigation to identify the source of the L1 influence that facilitates or inhibits the acquisition of the present perfect among Arabic L2ers of English. The difficulty of identifying precise transfer predictions for the acquisition of the present perfect by Arabic learners of English is further complicated by a theoretical controversy as to whether Arabic features a temporal or an aspectual distinction of inflected verbs (Farina, 2017). Temporal distinction indicates the time of the verb form (e.g., past or present), while aspectual distinction indicates the completion or incompleteness of the action (e.g., completed or ongoing action).

Some Arabic linguists argue that Arabic features a temporal distinction; the past or *al-maadhi*, and the present, *al-mudāric* (Eisele, 1990; ElSadek, 2016). On the other hand, other Arabic linguists argue that Arabic features an aspectual distinction; perfective vs imperfective (Cowell, 1964; Ryding, 2005; Bahloul, 2008; Beeston, 2016). Arabic utilises a tense/aspect system, according to Comrie (1976), which serves as the basis for the present investigation. In this thesis, we will remain agnostic as to whether the distinction in Arabic is temporal or aspectual and use combined labels for each form: "past/perfective" versus "present/imperfective".

Different perspectives in the literature assume that the semantic features of the present perfect in English can be encoded in Arabic in a variety of ways. There is however no clear evidence of how the features of the English present perfect are encoded onto morphemes in Arabic. Fassi-Fehri (2004) assumed that there is an interpretable [perfect] feature that is not marked explicitly in Arabic and can convey the English present perfect and simple past meanings. Some Arabic linguists argue that the relevant properties of the present perfect could be expressed in Arabic by different means, such as past/perfective, present/imperfective and *qad/laqad.* Mazyad (1999) and Alsalmi (2013) claimed that the meanings conveyed by the English present perfect could be expressed in Arabic by past/perfective or present/imperfective. as in the examples below. The sentence in (6) features an inflected verb form that can be translated into English as either simple past or present perfect (Mazyad, 1999, p.108).

(6)   katab-at   risaala.

          wrote-PERF-3fsg   letter-ACC

          "She wrote a letter." / "She has written a letter."

The present/imperfective in Arabic can be used express aspectual relations similar to the present perfect (Mazyad, 1999, p.120), as in the following example:

(7)   arifahu   mundu.   sanawaat

          know-IMP-3msg-he   since   years

          "*I know him for years." / "I have known him for years."

On the other hand, other linguists, such as Al-Saleemi (1987), Adel (2019), O'Brien (2003) and Mudhsh (2021) proposed that CR can be expressed in Arabic by the particle *qad* preceding past forms of the verb. According to O'Brien (2003), the Arabic particle *qad* can convey completion with CR when it is preceding the past/perfective form. In her analysis of the behaviour of the aspectual marker *qad* in Arabic, Adel (2019, p.53) found that *qad* typically favours the ideal interpretation of just-completed actions with past verb forms, as can be seen in the following example:

(8)   qad katabt

qad wrote-PERF-I

"I have written".   (Al-Saleemi, 1987, p.42)

Given the lack of consensus in the literature regarding the L1 transfer predictions for the acquisition of the English present perfect by Arabic L2ers of English, we chose in this thesis to adopt a bottom-up (i.e., inductive) approach to the FRH to empirically determine how the present perfect feature mapping in English compared with the feature mapping in L1 Arabic. According to the FRH (Lardiere, 2012), L2 learners must create new mappings of formal features (interpretation) onto forms (morphemes) and identify the conditioning environments in which these morphemes can appear. Mapping differences between L1 and L2 predicts what will be transferred and what will be challenging to re-map.

In the present thesis, the FRH predictions are determined inductively in two comparative studies. Study 1 (feature mapping in L1 English) aims to empirically confirm the role of [temporal unboundedness] and [CR] in native speakers' use of the English present perfect. Study 2 (feature mapping in L1 Arabic) was conducted in L1 Arabic to determine the extent to which *qad* is associated with [CR] in Arabic. Moreover, given the tense versus aspect controversy highlighted above, Study 2 aims to empirically determine whether verbal morphology is associated with [temporal boundedness] in Arabic. The results of two preliminary studies inform our bottom-up approach to deriving the FRH predictions about which form-feature mappings Arabic learners can exploit to acquire the English present perfect. The present investigation aims to test these predictions on L2 data in Study 3 (feature reassembly in L2 English) to uncover what exactly is being transferred from L1 Arabic, and how the feature reassembly could gradually take place to acquire the English present perfect by L2ers from different levels of L2 English proficiency.

Furthermore, we consider the telicity of the predicate, which concerns whether or not the predicate has an inherent endpoint (Bardovi-Harlig, 2000; Slabakova, 2000) as one of the critical features which will be tested in order to examine whether telicity is a relevant feature in the contexts which favour the use of the present perfect. Telicity differentiates two types of

events: telic (T) events and atelic (A) activities. A telic predicate describes an occurrence that progresses for some time before reaching its inherent endpoint, at which point it ends. An atelic predicate describes an event that lacks an inherent endpoint. In the aspect hypothesis (AH), Andersen and Shirai (1995) stated that L2 learners are strongly affected by the semantics of the predicates in their acquisition of tense-aspect markers, which means that according to this hypothesis, it can be predicted that the telicity of the predicates can influence the use of tense and aspect among both L1 and L2 speakers. The AH proposes that past perfective marking emerges with telic predicates (achievements and accomplishments) as a prototypical structure and that progressive markings are strongly associated with atelic predicates as a prototypical structure (Andersen and Shirai, 1995).

There is an extensive body of research in SLA concerning the effect of the aspectual property of the predicate on the acquisition of L2 tense-aspect morphology. Although the influence of telicity has been extensively demonstrated in studies of L2 learners using morphological markers such as simple past, simple present, and progressive marking (Andersen and Shirai, 1994, 1996; Shirai, 2004, 2009), relatively few studies have examined the acquisition of the L2 English present perfect in relation to the inherent semantic properties of predicates (telicity) (Terán, 2014; Uno, 2014; Karpava, 2017). Although these few studies have shown a slight effect of the telicity of the predicate on the use of L1 English present perfect, more research is needed to draw clear conclusions regarding the use of the English present perfect in relation to the telicity of the predicate. Furthermore, we are interested in examining how the predicates' telicity interacts with the CR type of present perfect contexts (continuative, experiential, resultative, and recent past). Little attention has been paid to examining the interaction between the lexical aspect of the predicate and the semantic interpretations of the English present perfect. To address this issue, we will test whether the telicity of the predicate a relevant feature in contexts favouring the use of the present perfect in L1 English and L1 Arabic. The present investigation also aims to examine the influence of the telicity of the predicate on the L2 acquisition of the English present perfect by Arabic L2ers of English in a contextualised multiple-choice (MC) task in Study 3 (Chapter 6) and in an inference task in Study 4 in (Chapter 7).

This thesis is organised as follows. Chapter 2 presents a contrastive analysis of the English and Arabic structures for tense and aspect (simple past versus present perfect). Chapter 2 will also

present a discussion of how distinctions such as the grammatical and lexical aspect of the predicate influence tense-aspect distinctions, and this discussion will conclude with an analysis of the grammatical and inherent lexical aspects of predicates in English and Arabic, as well as diagnostic tests for them. Chapter 3 presents experimental studies from the theoretical literature regarding the acquisition of the English present perfect in L2 English production and comprehension, including an evaluation of all factors expected to influence the re/assembly of the present perfect feature, such as L1 transfer, telicity of the predicate, and L2 English proficiency.

Four experimental studies are conducted in this thesis to investigate the acquisition of the present perfect by Arabic speaking of English. Chapter 4 presents Study 1 (feature mapping of the present perfect in L1 English), which is the first experiment conducted in this investigation of English native speakers to confirm the predictions from the theoretical literature regarding the role of [CR] and [temporal boundedness] in the licensing of the English present perfect. Chapter 5 presents Study 2 (feature mapping in L1 Arabic), which aims to empirically explore how the present perfect feature form mapping in English differs from the feature form mapping in L1 Arabic. Chapter 7 presents Study 3 (feature reassembly in L2 English), which is an L2 acquisition study of Arabic users of English from different L2 English proficiency levels and aims to test the predictions of the FRH that were empirically derived from Studies 1 and 2. Chapter 7 presents Study 4 (inference task) in which we aim to examine the participant' interpretation of the English present perfect contexts. Finally, in Chapter 8, we summarise these results of these studies and discuss their implications for SLA research.

Chapter 2 Background

2.1 Introduction

Both the English simple past and present perfect refer to anterior situations. However, they are not identical, and English as a second language (L2) learners need to understand the semantic and pragmatic differences between them to be able to acquire these two categories proficiently in their acquisition of English as a second language (Binnick, 1991; Comrie, 1976). Specifically, an L2 learner should grasp the differences between the simple past and present perfect, and comprehend the reference time and aspectual features associated with both of them (McCoard, 1978).

The subsequent sections in this chapter will outline the structure of tense and aspect in English and Arabic, focusing on the construction of the simple past and present perfect. As this research project aims to investigate the acquisition of the present perfect by Arabic users of L2 English, the present perfect will be described in depth. We will explain the morpho-syntactic and semantic properties of the English present perfect and review the corresponding properties of Arabic. In contrast, the simple past will be described briefly, focusing on the most important similarities and differences between it and the present perfect.

This chapter is structured as follows. First, we will present the structure of tense and aspect (simple past vs present perfect) in English and Arabic. Second, we will discuss how essential distinctions, such as the predicate's grammatical and lexical aspect, affect tense-aspect distinctions. This chapter will end with an evaluation of the grammatical and inherent lexical aspect of predicates in English and Arabic, as well as diagnostic tests pertaining to them.

2.2 Tense and Aspect in English

2.2.1 Simple Past or Preterite in English

The English simple past, or preterite, places a situation or an event prior to the time of speech (Petersen, 2004, p.105). According to Comrie (1985), the simple past is an absolute tense indicating that the reference time and event time are coincidental (happening or existing at the

same time). Reichenbach (1947) presented a diagram of the simple past (Figure 2-1), in which E refers to the time of the event, R is the point of reference from which tense is evaluated, and S is the moment of speech.

Figure 2-1

Temporal Construction of the Simple Past

<----------E, R-------------S----------------------------->

         Past   Now   Future
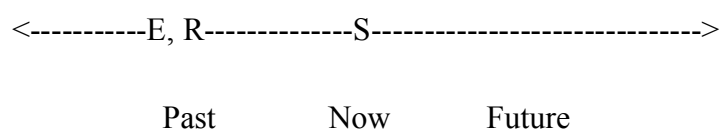
The following examples show how the simple past in English is characterised:

(1)   Yesterday, I finally **finished** my maths homework.

(2)   Yesterday, I **went** for a walk in the park.

The simple past verb in English is morphologically formed by the addition of the suffix -ed to the verb stem in the case of regular verbs, such as in (1) or by the suppletion for irregular verbs, such as in (2).

The actions of finishing the maths homework and going for a walk occurred a moment before the time of speech — yesterday. It is worth pointing out that some adverbial phrases are especially compatible with the English simple past, which refer to a specific time in the past, such as *yesterday, in 1990, in the past, and on Sunday* (Declerck, 2006). These definite adverbial phrases indicate that the situation took place firmly before the present moment at a specific or definite time (Davydova, 2011). The temporaral definiteness is one of the features that differentiates the simple past from the present perfect, which will be explained in more detail in (Section 2.2.2.2).

The past feature, which is modified by a definite adverbial phrase, semantically indicates that the event occurred at a time that is chronologically prior to the moment of speech. One question that needs to be asked is whether the situations expressed by the simple past are complete or incomplete situations. It is a widely held view that when the situation is anterior to the present time, listeners interpret this situation as completed, and this interpretation is significantly strong when the event expressed in this situation is bounded and has a clear endpoint; in Example (1) the action of finishing the math homework is completed (perfective). For this reason, some linguists such as (Andersen, 2002; Madden and Zwaan, 2003) concluded that the English simple past has a perfective or perfective-like aspect.

However, simple past contexts with a non-bounded situation that do not have a clear endpoint, such as in Example (2), could denote a non-complete or ongoing interpretation. Farina (2017, p.19) assumes that "the Simple Past may be used perfectively and imperfectively". Within the scope of our present investigation, the simple past will be viewed as a predicate with perfective or imperfective aspect. The concept of the grammatical and lexical aspect of the predicate and how they could influence tense-aspect distinctions will be discussed in further depth in this chapter in (Section 2.5).

2.2.2   Present Perfect in English

The English present perfect is a backward-looking present tense form that expresses the actualisation of an event relevant to speech time (Verkuyl, 2022). Comrie (1976, p.56) defines the present perfect as communicating "the continuing relevance of a previous situation". This means that when a speaker decides to use the English present perfect, he/she wants to concentrate on a past situation from the point of view of the present. The addressee will interpret the present perfect as referring to a situation that happened at an unspecific time in the past, but one that should be related to the time of speech. For instance, the following dialogue between two friends:

(3)   Amal: Would you like to have coffee with me?
           Sara: No, thanks. I have had my coffee.

Sara's response uses the present perfect. An event, drinking coffee, occurred at an unspecified time in the past. She seems uninterested in communicating the exact time of the event:

otherwise, she could have used the simple past with a specific time indicator, such as *last night, two hours ago, or yesterday.* The association with the present time is found in the fact that Sara does not want to drink coffee and, therefore, will not join Amal for coffee.

The English present perfect expresses current relevance (CR). CR is the central feature of the English present perfect. This feature distinguishes the present perfect from the simple past. Moreover, this kind of contrast between the present perfect and simple past in the notion of CR does not exist in Arabic (see Section 2.4). However, this feature exists in other languages such as in Italian. Both the present perfect (passato prossimo) and the simple past (passato remoto) have equivalents in Italian. These structures serve the same purposes as their English counterparts (Lorusso, 2015).

This concept of CR was first introduced by McCord (1978, p.19), who explains the present perfect as "an identification of prior events with the extended now". Similarly, Dowty (1979, p.341) claimed that "the perfect serves to locate an event within a period of time that began in the past and extends up to the present moment". In the same way, Comrie (1976, p.52) refers to current relevance as "the continuous relevance of a past situation". For example:

(4)   I've lost my keys.

In the example above, CR is represented by the fact that the consequences of this action of losing the keys persist at the moment of speech, which is represented in the following sentence:

(5)   I do not have the keys. They are still missing.

CR is represented by the fact that the consequences of the past situation persist at the present time. Consequently, the present perfect can be seen as referring to a past time that is related to the current time.

Reichenbach (1947) illustrates the temporal structure of the English present perfect in the diagram reproduced in Figure 2-2, where the relation between the past and present is symbolised by marking the reference point as coincident with the speech time. In Reichenbach's theory, the notions of event time (E) and speech time (S) have straightforward meanings: event time is the time at which the event occurred, and speech time is the moment

of utterance. Reference time (R) is a more complicated concept that refers to the point of time to which our attention is being directed. Weist (2002) points out that the notions of reference time and current relevance are equivalent. Thus, in Reichenbach's (1947) diagram of the English present perfect, event time is before reference time (or CR).

Figure 1-2

The temporal construction of the English Present Perfect

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<-----------E--------------S, R----------------------------->
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Past   Now   Future
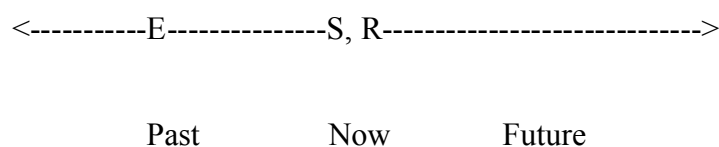
The present perfect in English morphologically consists of a present form of the auxiliary *have* and a past participle form of the main verb, as can be seen in Examples (6) and (7).

(6)   They **have lived** in this house since they got married.

(7)   Inflation **has gone up** unexpectedly.

The English present perfect is a well-known issue in the theoretical literature of tense and aspect in English. There is an argument in the linguistic community as to whether the present perfect is a tense, an aspect, or neither. Jespersen (1931) remarked that:

> "The present perfect is itself a kind of present tense, and serves to connect the present time with the past. This is done in two ways: first, the perfect is a retrospective present, which looks upon the present state as a result of what has happened in the past; and second, the perfect is an inclusive present, which speaks of a state that is continued from the past into the present time." (p.47)

What Jespersen (1931, p.47) refers to as the "retrospective present" is a synonym of the term that is currently named the resultative perfect (see Section 2.2.2.1.1), as can be seen in Example (8), and what he refers as the "inclusive present" is currently more popularly called the continuative perfect (see Section 2.2.2.1.3) or "continuous perfect"; this term is used by

McCord (1978). Example (9) presents examples of the inclusive present by Jespersen (1931, p.48).

(8)   **(Retrospective Present)**

    a. He has died.

    b. He has taken the matter so much to heart that he has remonstrated.

(9)   **(Inclusive Present)**

    a. He has lived here for three years.

    b. I have never seen my boy since he was a tiny baby. (Jespersen, 1931, p.48)

In the same vein, Comrie (1985) argued that the present perfect is a combination of the pre-present tense and the perfect aspect. Similarly, Declerck (2006) argued that the present perfect locates the situation in the pre-present, which is a part of the present time-sphere that expresses a period of time that is immediately before the present time but is still in the present.

A broader perspective has been described by Wolfson (1982, p.4), who noted that whereas normal narrative uses the simple past and the past perfect, in the historical present, the present tense and the present perfect are used. Hence, this perspective assumes that the English present perfect and simple past belong to two different systems. As argued by (Declerck, 2006):

> "The past tense requires that the speaker should place the 'temporal focus' on the past, the present perfect is a sign that the speaker is primarily concerned with the present. In fact, the observation that the present perfect reveals a concern with NOW is the main reason for our claim that a distinction needs to be made between a pre-present and a past time zone and that the present perfect locates a situation time in the present time-sphere (more specifically, in the pre-present zone) rather than in the past time-sphere." (p.213)

Similarly, Petersson (2012) argued that the English present perfect always characterises the present in some way or another and that there is a distinction between the simple past and the present perfect in English. A different view assumes that the English present perfect and the simple past have similar temporal structures. Comrie (1985) claimed that both the present

perfect and the past have an "E before S" temporal structure and differ only in the absence or presence of the feature of CR. However, Comrie (1986, p.290) defended a different perspective, and argued that the present perfect in English is considered one of the non-past tenses because the present perfect locates the situation in the pre-present time, not the past time. Declerck (1986) disagreed with Comrie (1985) in that the present perfect and the simple past have the same temporal structure. Rather, Declerck (1986) argued that the two tenses do not locate situations in anterior time in exactly the same way. As Comrie himself pointed out (1985, p.79) "adverbial indications of definite past time require the past tense". The English simple past contexts are modified by definite adverbials such as *yesterday or last year* to locate the past situations in a specific time, and those definite adverbs cannot be allocated with the present perfect context.

The general conclusion drawn from the above arguments is that the present perfect cannot be assigned the same tense structure as the simple past tense because the focus of the situation expressed by the English present perfect is more in the present than the past time-sphere. In other words, while the focus of the simple past is on the past situations, the focus of the present perfect is on the present time, as illustrated in Example (10), in the comparison in between (10a) and (10b).

(10)   a. John *was* in prison for seven years. Now he is out of that prison.

          b. John *has been* in prison for seven years. He is still in there.

Jespersen (1931, p.60) agreed this perspective, and pointed out that "the past refers to some time in the past without saying anything about its connection with the present moment. The question 'Have you finished?' refers to the present moment ('Are you through?'), while 'Did you finish?' asks about some definite portion of past time". These arguments from the theoretical literature assume a distinction between the present perfect and the simple past in English. The following section will discuss the features which mark the difference between the English present perfect and simple past.

In English, the two interpretive features mapped onto the present perfect, which make it completely different from the simple past, are [temporal boundedness] (TB) and [CR] (Davydova, 2011). As mentioned above, CR is the core meaning of the present perfect, which distinguishes it from the simple past. Suh (1992) distinguishes between the simple past and the

present perfect, indicating that their common shared feature is anteriority which indicates that the event is located at some past time before the time of speech (*+anterior*), and that they differ in one feature with the present perfect carrying [+current relevance] (+CR) and the simple past carrying [−current relevance] (−CR).

Furthermore, the English present perfect occurs in temporally unbounded contexts, which are typically identified by indefinite adverbs such as *already, recently, just now, since 2016, or for five days*. The present perfect is incompatible with definite adverbial phrases such as *yesterday or last week* because definite adverbial phrases always denote a definite time span (Bardovi-Harlig, 2002).

The contrast in Example (11) shows that English grammaticalises the CR of a past state or event (Davydova 2011). The continuation "and he still lives there now" is only compatible with the present perfect (b) and not with the simple past (a). Definite adverbials expressing a definite period are compatible with the simple past but not with the present perfect (which requires indefinite adverbials).

> (11) a. John lived in Leeds (in 2009) (*and he still lives there now).
> b. John has lived in Leeds (*in 2009) (and he still lives there now).

CR can be instantiated through the following four semantic features or interpretations of the English present perfect: continuative (the event still continues to the present time), experiential (the event might reoccur), resultative (a state resulting from the event still persists), and recent past (the event was recent) (Depraetere 1998).

These interpretations are derived through conventional implicatures (Davydova 2011). Smith (1981, p.260) claims that the perfect has "the conventional implicature [...] that the propositions relevant to the interpretation of the sentence include some present ones". As discussed in the former sections, CR is a semantic feature of the present perfect that implies linking a past event to the moment of utterance (Comrie, 1976). Downing and Locke (2006, p.364) state that CR refers to a past event "[which] is psychologically connected to speech time, and has some (implicit) relevance to it". This means that the central meaning of CR connects the past and present with a production environment that has some relevance to the present, and the relevance may or may not be articulated. The CR feature implicates a variety of meanings for the English

present perfect, where linguists (e.g., McCawley, 1971; Comrie, 1976; Huddleston and Pullum, 2003; Leech and Svartvik, 2013) have induced various functions of the present perfect from this feature, for example: "continuous action/event/state from past to present", "past events with results in the present moment", "experiential state", "repeated action/event", and "recent actions /events". Many of these meanings involve connections between the past and the present (Chareonkul and Wijitsopon, 2019). The four functions and the corresponding implicatures to derive these functions of the present perfect in English are illustrated in Table 2-1.

Table 2-1

The four current relevance interpretations of the English present perfect

Current relevance	Example	Implicature
Continuative	Ahmad has lived in Leeds since 1990.	→ He still lives in Leeds.
Experiential	The army has attacked Kyiv five times already.	→ They might attack again.
Resultative	Susan has watered the plants this morning.	→ They don't need more water.
Recent past	Mary has bought a table from IKEA just now.	→ This happened very recently.

The following sections will present a more detailed explanation of the two distinctive features assumed to distinguish the present perfect from the simple past, which are CR and TB. First, we will present a theoretical discussion of the four functions or interpretations of the English present perfect. Second, we will explain how the context's TB is operationalised as the

definiteness of an adverb (indefinite vs definite). We will also shed light on the semantic properties of the adverbial modifiers, such as the definiteness and CR of the adverbials which block or induce the use of the present perfect in English.

2.2.2.1   Current relevance types of the English present perfect

Several different interpretations of the present perfect have been recognised. According to Depraetere (1998, p.598), these interpretations follow four possible classifications: (1) the resultative perfect, (2) the experiential perfect, (3) the extended now or continuative perfect, and (4) the hot news perfect or the perfect of recent past (the event was recent). Comrie (1976, p.56) pointed out that "not all languages that have formed with perfect meaning have the full range of the meanings listed below, while in some languages there are distinct forms for some of these meanings."

2.2.2.1.1   The resultative perfect

Comrie (1976, p.56) points out that in the perfect of result "a present state is referred to as being the result of some past situation". McCawley (1971) states that the resultative present perfect expresses the present direct result of a past event. The resultative perfect context can be seen in the following examples:

(12)   a. [I can't come to your party tonight] – I've caught the flu. (McCawley, 1971, p.104)

b. Susan has watered the plants. [The plants do not need to be watered straightaway.] (Depraetere, 1998, p.601)

In these two examples, the direct resultant states of past actions still hold at present. The direct result in (12a) is [I can't come to your party tonight], and the sentence [The plants do not need to be watered straightaway] is the direct result of the past action [watering the plants] in (12b).

As Huddleston and Pullum (2002, p.143) observe, "the connection with the present in this resultative use is that the resultant state still obtains now", where the speaker in the first sentence still has the flu and the plants in the second example do not need to be watered at this moment. However, Depraetere (1998) argued that the resultant state of the present perfect could appear in two types. The first is a direct resultant state, illustrated in (12a) and (12b),

where the resultant state is entailed in the perfect sentence. This means that if someone catches the flu, the direct result will be her having the flu.

The second type is an indirect resultant state, where a state can be the result of a past event but is not entailed in the perfect sentence (Depraetere, 1998), as can be seen in the following example:

(13)   He has lived in London.
         a. He knows the place very well.
         b. That is why he receives letters from England. (Depraetere, 1998, p.610)

In this example, the resultant state (knowing the place very well) or (receiving letters from England) is an indirect resultant state because it is not entailed in the perfect sentence, but it is a resultant state of the past action (his living in London).

Some linguists, such as McCawley (1971) and Kiparsky (2002), argue that the term resultative perfect can only refer to a direct resultant state that holds at the moment of utterance. That is, they claim that if the resultant state does not hold at the present time, such as in (14a) where Ken's leg is no longer broken, compared with the entailed resultant state in (14b) where Ken's leg is still broken, the present perfect in a sentence (14a) according to their claim is not resultative, but must rather be considered as an existential present perfect or another type of present perfect.

(14)
         a. Ken has broken his leg, but he is OK now. [His leg is cured.] (Nishiyama and Koenig, 2004, p.102)
         b. Ken has broken his leg. [His leg is still broken.] (Nishiyama and Koenig, 2004, p.102)

On the other hand, other linguistic researchers utilise the term *resultative perfect* for expressing any direct or indirect resultant state holding at the present time. Depraetere (1998) argued that the resultative meanings that are derived from English present perfect sentences could be either entailments or conversational implicatures, and these resultative meanings are understood to

hold at present moment. For instance, an entailed resultant state is shown in (15a), and conversationally implicated resultant states are illustrated in (15b) and (15c).

(15)   He has caught malaria.

     a. He has malaria.

     b. That is why he looks pale.

     c. That is why he does not want to talk about his holiday in Africa. (Depraetere, 1998, p.609)

Figure 2-3 illustrates that an event expressed by the resultative perfect is an event that started at an unspecified time in the past and produced a result that persists in the present moment (Declerck, 2006).

Figure 2-3

Temporal structure of the resultative perfect

<-----------E [----result---S, R] ---------------------------->

          Past   Now   Future
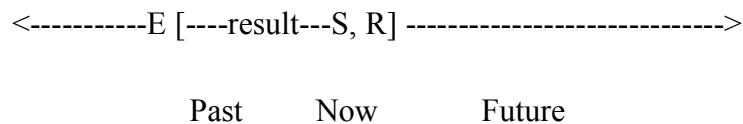
The event of the resultative perfect is expressed by a predicate, which should imply a change of state to allow the resultant state to emerge (Declerck, 2006). Thus, the resultative perfect has also been called *the perfect of result* (Comrie, 1976; 1985), *the resultant state perfect* (Brinton, 1988; Carey, 1990) and *the stative perfect* (McCawley, 1971).

2.2.2.1.2 The Experiential Perfect

The *experiential perfect* typically refers to an event that occurred once or several times prior to the present time, with a potential occurrence in the future (Comrie, 1976; Depraetere, 1998). In other words, it indicates that there were one or more occurrences of action at separate intervals before the moment of utterance. This is illustrated in the following example:

(16)   I have read Principia Mathematica five times.

Example (16) exemplifies an experiential perfect, where the action of reading occurred five times prior to the moment of utterance. As can be seen in Figure 2-4, the experiential perfect is used to describe an event that occurred at some time or times in the past (Declerck, 2006).

Figure 2-2

Temporal structure of the experiential perfect

<-[E1---(E2---En---En+1)] S, R------------------------------->

Past   Now   Future
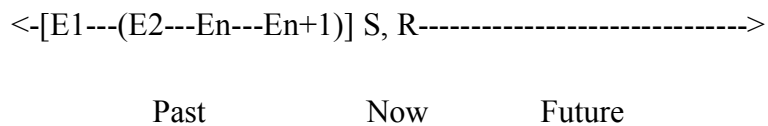
The experiential perfect occurs over an indefinite time span within the past, and the action expressed by the experiential perfect is repeatable (Declerk, 2006). Therefore, the experiential perfect has also been called the *existential perfect* (McCawley, 1971), *the up-to-now perfect* (Declerck, 2006), and the *indefinite anterior perfect* (Filppula, 1999).

2.2.2.1.3   The Continuative Perfect

Many linguists have argued that continuative perfect sentences are distinguished from other perfect sentences in that the base eventuality implies a situation that started in the past and still continues to the present time, with no change in status (Nishiyama, 2006). For example, the perfect sentence in Example (17) is classified as continuative perfect because the state of living in Leeds started in the past and still continues at the present time.

(17)   I have lived in Leeds since 2016.

On the universal perfect or continuative reading, it is understood that the eventuality of living in Leeds extends from 2016 up to now. Comrie (1978, p.6) calls this the "perfect or persistent situation" because it "persists into the present".

It can be seen in Figure 2-5 that the event expressed by the continuative perfect continues to the present and can be repeated in the future which means that the eventuality of the continuative perfect reading is ongoing (Declerck, 2006).

Figure 2-5

Temporal structure of the continuative perfect

<----------[E-------------S, R] ---------------------------->

Past   Now   Future
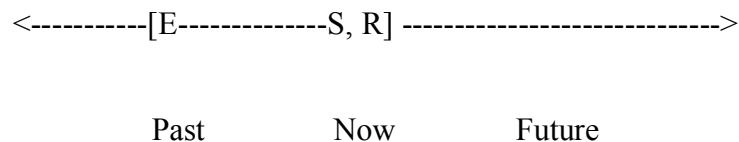
Inoue (1978) has shown that there is no clear evidence to distinguish continuative from non-continuative (existential) perfect readings and that the distinction between continuative and non-continuative readings is not as clear as it appears. Some linguists have suggested that a continuative perfect often implies that states denoted by stative verbs no longer hold without durational adverbial phrases such as for-phrases or since-phrases (McCoard, 1978). Some analyses that favour the ambiguity between the continuative and the existential perfect simply assume that durational adverbials such as *since* or *for* are obligatory for a continuative perfect reading to distinguish the continuative perfect from the other semantic interpretations of the present perfect (Mittwoch, 1988)

According to Dowty (1979) and some researchers after him, it is ambiguous whether Example (18a) lends itself to a continuative or an existential reading. That is, the sentence allows both the reading that John still lives in Boston (continuative perfect) and the reading that John lived in Boston in the past in a different period of time but does not anymore (existential perfect). In contrast, sentence (18b) allows only a continuative perfect reading (Portner, 2003). However, this distinction is no more than a tendency. Existential perfect readings are possible even when for-phrases or since-phrases are proposed in some cases, such as in (18a) and (18c). Portner (2003) concluded that the distinction between continuative and existential perfect readings does not stem from a structural ambiguity reflected in the possible positions of the durational adverbial phrases.

(18)

    a. John has lived in Boston for four years (as of January 1985, /as of now/as of some time).

    b. For four years, John has lived in Boston (as of now/*as of some time). (Dowty, 1979, p.343)

    c. I have met Bob every Sunday since early August. (Nishiyama and Koenig, 2010, p.630)

However, the perfect without durational adverbials can also allow the continuative reading that the state denoted by the base eventuality continues to hold, as seen in (19):

(19)   Ken has been sick.

    a. Ken is still sick.

    b. Ken is not sick anymore.

Sentence (19) can be interpreted as either a continuative or an existential perfect. Under a continuative reading (19a), it says that Ken's sickness holds for all time intervals from a given point in the past to the present. In contrast, an existential reading (19b) says that one or more occurrences of the denoted situation (Ken's sickness) existed during the period from a given point in the past to the present. As far as we can see, there is no clear explanation for the difference between the so-called existential perfect and the continuative perfect. There is considerable disagreement about how to categorise these interpretations of the present perfect and whether they correspond to different meanings. The function of the perfect operator is also widely debated. However, for the purpose of this study in Chapter 4, we will follow precise diagnostics to classify the present perfect sentences to the four semantic interpretations (continuative, experiential, resultative, and recent past).

2.2.2.1.4 Recent past or 'hot news' perfect

Some researchers consider the recent past context and its subtype, the *hot news* context, to be distinct semantic environments requiring the present perfect. The perfect of the recent past, or the hot news perfect, as Katz (2003) called it, is used to report an eventuality that just happened. This is seen in the following example:

(20)   The Belgian government has fallen. (Depraetere, 1998, p.598)

The relevant, pragmatic context for the hot news perfect is that the sender/speaker believes that the receiver/hearer knows the particular action may occur but not that it has occurred; the speaker thereby exploits this presupposition to achieve the hot news effect.

As illustrated in Figure 2-6, the prefect of the recent past focuses on the occurrence and the proximity of the event itself, which does not necessarily persist at the present moment (Comrie, 1985).

Figure 2-6

Temporal structure of the perfect of recent past

<--------------[recent-E]-S, R----------------------------->

Past   Now   Future
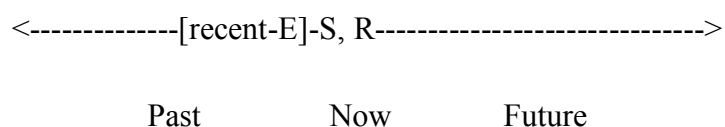
It can be noted that the perfect of recent past collocates with some adverbial phrases that indicate recency, such as *just* and *recently*, as in Examples (21) and (22).

(21)   Argh! I've (just) been scooped! (McCawley, 1971)

(22)   I have recently learned that the match is to be postponed. (Comrie, 1976)

The four semantic interpretations of the present perfect (continuative, experiential, resultative, and recent past) differ in the degree of the CR of the event. The degree to which CR is manifested in a present perfect sentence varies from one function of present perfect to the other. Davydova (2011) conducted a corpus-based study on variations in the CR of the four interpretations of present perfect. Davydova (2011) used corpora of standard, nonstandard, and L2 learner varieties of English to examine the acquisition of the present perfect in various dialects. The data was collected from non-native varieties of English, including Indian English, Singaporean English, and East African English, as well as foreign-spoken varieties of English, including those spoken in Russia and Germany. She claimed that for resultative contexts, the notion of CR seems to be the strongest, where the connection with the present moment is that the resultant state still obtains now. The continuative or extended-now contexts have the next

strongest relation to CR, as it describes a situation that began in the past and continues to the moment of utterance. In contrast, in the perfect of recent past and experiential contexts, the current relevance was found to be weaker. Based on these assumptions, Davydova (2011, p.66) constructed a hierarchy of uses of the present perfect as regards the notion of CR, with the resultative and the continuative perfects occupying the top positions in the ranking, followed by the experiential and recent past functions (see Figure 2-7).

Figure 2-7

The hierarchy of uses of the present perfect from Davydova (2011, p.66)

2.2.2.2 Temporal Boundedness (TB)

In addition to the feature of CR, it has been assumed that the English present perfect and simple past differ in the TB of the adverbs they are allocated with. Unlike the simple past, the English present perfect cannot be used with a specification of the time the past action occurred (Comrie, 1976, p.54). Those definite adverbial modifiers that identify a previous time in the past, such as *yesterday and long ago,* are unacceptable for use with the present perfect in most dialects of English, as in (23b). However, adverbials that specify a previous time in the present, such as *just, already, and today,* can be used with the English present perfect, as in (23a).

(23)   a. John has eaten lunch **already** [pre-present].

         b. John has eaten lunch ***yesterday** [past].

Bardovi-Harlig (2002) states that the present perfect is entirely incompatible with definite adverbial phrases because the present perfect always denotes an indefinite time span. Definite

adverbs of frequency are those adverbs that specify an exact time frame; those adverbs which collocate with the simple past, such as *yesterday, two years ago, last week, or in 2016.* In comparison, indefinite adverbs of frequency do not specify a definite time frame and, consequently, can be used with the present perfect. These include *already, always, ever, just, lately, never, recently, since, and (not) yet* (Comrie, 1976).

2.2.2.2.1 The semantic property of the adverbial modifiers

The adverbial modifiers that collocate with the English present perfect and the simple past differ in their semantic properties. In the following sections, we will evaluate the semantic properties of the adverbs, such as definiteness and CR and analyse how this difference can affect the use of the present perfect in English.

2.2.2.2.1.1 Adverbial definiteness (indefinite vs definite)

Definite adverbs indicate a definite timespan by specifying a particular reference time in the discourse, such as *yesterday, last week, this morning, in 2020,* etc. In contrast, indefinite adverbs are those adverbs that indicate an indefinite time span, where they concentrate on specifying a feature of the event rather than the reference time; with such adverbs, it doesn't matter which particular date the event occurred on, but only a particular property of when the event occurred such as *already, recently, just now, for three days,* etc. (Binnick, 1991; Bardovi-Harlig, 2002). Therefore, the diagnostics used to identify the definiteness of the adverbs in the present investigation is that if the adverb specifies a particular reference time in the discourse (date, time, day, year), it will be considered a definite adverb. On the other hand, if the adverb focuses on specifying a feature of the event rather than the specific reference time, it will be considered an indefinite adverb.

(i) Adverbial modification of simple past

The simple past can be allocated with adverbials which indicate an action started and ended at a definite time before the present moment. For example, adverbs like *yesterday, in the past, last week,* among others (Declerck, 2006). The simple past often collocates with adverbial phrases that overtly indicate definiteness in some past time context (e.g., *last summer, on Monday, two years ago, in 1990)* because it denotes a definite time span in the past (Binnick, 1991; Bardovi-Harlig, 2002). Reichenbach (1947) presented a diagram of the simple past

allocated with definite adverbs (Figure 2-8), in which E refers to the time of the event, R is the point of reference from which tense is evaluated, and S is the moment of speech.

Figure 2-8

The definite adverb in the temporal construction of the English simple past

<div align="center">

x Last summer x

<------------E, R--------------S-------------------------------->

Past   Now   Future

</div>
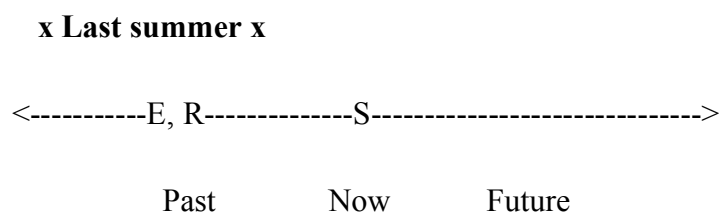
This can be seen in the following example:

> (24)   Andreas **improved** his swimming technique **last summer**. He did well in the competition.

Last summer is a definite adverb collocating with the simple past; it specifies a definite reference time in the past.

(ii) Adverbial modification of present perfect

The present perfect can be allocated with common indefinite adverbial modifiers, including the following: *already, always, ever, never, just,* and *lately* because the present perfect context always denotes an indefinite time span, whereas with these indefinite adverbs, it doesn't matter on which particular date or time the event occurred, but only a particular property of when the event that occurred (Bardovi-Harlig, 2002). This can be seen in the example below.

> (25)   Nora has been blind since birth. No operation can fix that. **(Continuative perfect)**

It can be seen in Figure 2-9 that the continuative perfect in Example (25) is modified by the adverb *since birth*, which refers to an event that continues to the present and can be repeated in the future, and this requires that the action be nonbounded (Declerck, 2006).

Figure 2-9

Temporal structure of the continuative perfect

x Since birth

<-----------[E------------------------S, R] ----------------------------->

Past   Now   Future
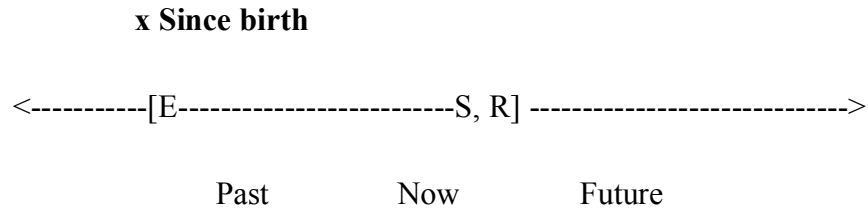
Contrastingly, Example (26) below exemplifies an experiential perfect, where dreaming occurred several times before the moment of utterance. As can be seen in Figure 2-10, the experiential perfect is modified by the frequency adverb *several times* to refer to an event that occurred at some time or times in the past with the potential to reoccur in the future (Declerck, 2006).

(26)   Jerry **has dreamed** of starting a business **several times**. He needs to come up
        with a viable plan. **(Experiential perfect)**

Figure 2-10

Temporal structure of the experiential perfect

several times

x x x x x x x

<-[E1---(E2---En---En+1)] S, R----------------------------->

Past   Now   Future
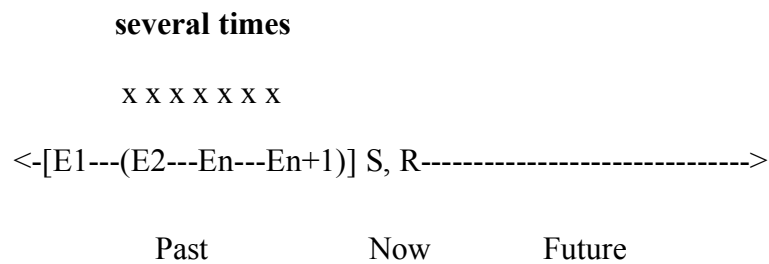
Example (27) and its associated Figure 2-11 illustrate that the event expressed by the resultative perfect is an event that began at an unspecified time in the past and produced a result that persists in the present moment (Declerck, 2006). Therefore, the adverb already denotes an indefinite time span in this context.

(27)   John **has left** the hall **already**. Now his friends cannot find him. (**Resultative perfect)**

Figure 2-11

Temporal structure of the resultative perfect

X a**lready**

<-----------E [----result---S, R] ----------------------------->

Past   Now   Future
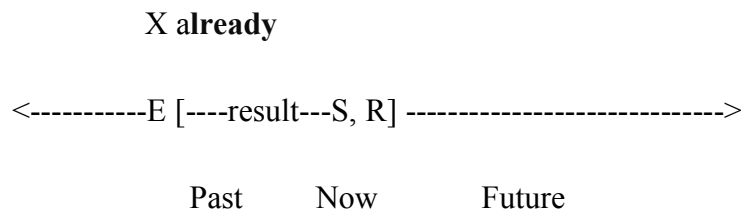
In Example (28) and Figure 2-12, the focus of the adverb *just now*, which modifies the perfect of the recent past, is on the occurrence and the proximity of the event itself. (Comrie, 1985)

(28)   Marry **has bought** a table from IKEA **just now**. She needs help to put it together. **(perfect of recent past)**

Figure 2-12

Temporal structure of the perfect of recent past.

just now

<--------------[recent-E]-S, R----------------------------->

Past   Now   Future
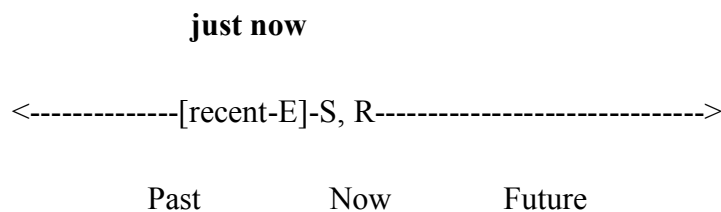
We can conclude from the above discussion that the contexts of the English present perfect can be associated with adverbials that situate the relevant event at or slightly anterior to the present

moment (now). Those adverbs that identify an anterior time in the present, such as *already, just,* and *today* are acceptable in standard dialects of English to be used with the present perfect. On the other hand, those that identify an anterior time in the past, such *as long ago* and *yesterday,* are unacceptable to be used with the present perfect contexts in most standard and non-standard dialects of English (Binnick, 1991; Bardovi-Harlig, 2002).

The TB of the context is operationalised as the definiteness of an adverb (indefinite vs definite). The adverbial modifiers are expected to influence tense and aspect distinction by facilitating the processing of the tense and aspect they are allocated with (Binnick, 1991; Bardovi-Harlig, 2002). Therefore, adverbial modifiers can be used to create *obligatory* or *blocking* contexts (−PP vs +PP) for the use of the present perfect. As can be seen in Table 2-2, the inducing adverbials in the first column collocate with the English present perfect with its four semantic interpretations (continuative, experiential, resultative, and recent past), and it is predicted that, in contexts where these adverbials are used (+PP), the present perfect is expected to be used. In contrast, blocking adverbials in the second column block the use of the present perfect, and they collocate with the simple past. Thus, the simple past is expected to be used in contexts with blocking adverbials (–PP) (McCoard, 1978; Davydova, 2011).

Table 2-2

Examples of inducing and blocking adverbs

Type of Current relevance	Inducing adverbs (+PP)	Blocking adverbs (–PP)
Continuative	Since [time]: e.g., since 2009, since birth For [duration]: e.g., for two weeks To [date] Yet	Long ago [*N* time unit] ago: e.g., three years ago, two hours ago Once Yesterday

Experiential	[*N* unit times]: e.g., several times Every [time] so far: e.g., every single day so far Never, ever	Last *(night, week, month, year)* In [year]: e.g., in 1900, in 2003 In [month]: e.g., in May, in June At [time]: e.g., at 3:00 p.m. In the past
Resultative	This [time]: e.g., this morning, recently	
Recent past perfect	Lately Just (now) Recently This very instant Already	

Table 2-2 also shows how different types of temporal adverbials are used in the four semantic interpretations of CR (continuative, experiential, resultative, and recent past) (Depraetere, 1998). The recent past perfect can be modified by recency adverbs, indicating an eventuality that has just happened, such as *just (now)*, *recently*, *already*, or *lately*. The continuative perfect can be modified by durative adverbs, which refer to a past situation that continues to the present moment, such as *since*, *for*, *yet*, or *to date*. The experiential perfect allows indefinite time adverbials of frequency, such as *often*, or those of *quantity*, *such as ever*, *never*, or *twice*, which indicate the possibility of future occurrence. The resultative perfect allows adverbs of recency, such as *this time*, or *recently*, that imply the direct or indirect result of a past event (Depraetere, 1998).

2.2.2.2.1.2 Current relevance of the adverbs

CR is one of the semantic properties of adverbs that need to be considered in this study to see how the difference in the property of the CR of adverbs can influence the use of English present perfect. CR is "a semantic component that implies the linking of a past situation to the moment of utterance." (Davydova, 2011, p.65). CR is an essential semantic feature of the present perfect because the present perfect expresses a situation that started in the past and still continues to the present moment. This is to say a situation expressed by the present perfect still has CR in the present moment. Davydova (2011) indicates that time adverbials that are allocated with the present perfect convey the meaning of CR since their inherent meaning is to link some past situation to the present moment.

Davydova (2011), following McCoard (1978), suggested that time adverbials should be classified according to the parameter of [±current relevance] (±CR). They found that [+CR] adverbials regularly collocate with the present perfect, and their meanings relate strongly to the moment of utterance. On the other hand, [–CR] adverbials collocate with the simple past, and their meanings are not related to the CR. (Davydova 2011; McCoard 1978). Neutral adverbs (±CR), such as *this morning*, *this afternoon*, *recently*, *or just (now)*, were mainly associated with the use of the present perfect and are associated with the simple past in some contexts. Table 2-3 shows how to classify the adverbs as +CR, –CR, and ±CR.

Table 2-3

Davydova's (2011) classification of adverbials adapted from McCord (1978)

[–CR]	[±CR]	[+CR]
Long ago	Never	At present
		Up until now
Five years ago	Ever	So far
Once	Always	As yet
		Not yet
Yesterday	Just (now)	Already
		During these five
Last night	Today	

In 1900	In my life	Since the war
At 3:00	Recently	For (three years)
After the war	Lately	Long since
No longer in the past	Often	
	Before (now)	

Therefore, this thesis's present investigation will follow Davydova's (2011) adverbials classification to identify the adverbs' CR.

To end this section, CR and temporal unboundedness are two features associated with the English present perfect. It is predicted from the theoretical literature that English native speakers overwhelmingly associate CR and temporal unboundedness with the present perfect. In the following section, we will discuss how the features associated with the English present perfect are presented in native language (L1) Arabic in order to identify predictions for the acquisition of the English present perfect by L1 Arabic users of L2 English.

2.3 Tense and aspect in Arabic

2.3.1 Tense/aspect distinction in Arabic: temporal or aspectual

The presence or absence of a tense and aspect system in Arabic has long been a subject of debate among linguists investigating Arabic. The tense and aspect system of English is highly structured compared to Arabic. Gadalla (2017, p.10) explains, "whereas the Arabic verb has two aspectual forms, the English verb has sixteen tenses". Unlike English and other Indo-European languages, it has been argued that Arabic's linguistic structures do not lend themselves to conceptualisation in terms of tense and aspect. Some, such as Bahoul (2008), have gone so far as to argue that Arabic has no detailed aspect or tense system.

Arabic lacks the use and structure of the present perfect: there is no counterpart for the English present perfect in Arabic, except for completed/non-completed actions. That means the Arabic verbal system concentrates on the perfective-imperfective distinction. The perfective form

denotes a situation that occurred and was completed in the past, whether the recent or remote past, definite or indefinite (Wright, 1971, p.18). In Arabic, this form is referred to as *al-maadhi* (past). On the other hand, the imperfective form denotes an event that occurs in the present or future.

There is controversy regarding tense and aspect distinction in Arabic, whether this distinction is temporal (i.e., verb form refers to an event time, e.g., past or present) or aspectual (the verb form refers to the completeness of an action, e.g., complete or incomplete). Arabic past and present, according to a variety of linguists (Comrie, 1976; Ryding, 2005; Gadalla, 2017), correspond to perfective/perfect and imperfective/imperfect aspect, respectively.

Eisele (1990) suggests that Arabic has two main tenses: *al-maadhi* (the past), and *al-mudāri^c* (the present) which they identify as perfect and imperfect, and which refer to completed and incomplete actions, respectively. Ryding (2005, p.440) states that "it is theorised that Classical Arabic was more aspect-specific than tense-specific, but in dealing with the modern written language, some linguists and teachers find it more pragmatic to describe Arabic verbs in terms of tense." Ryding herself adopts this approach while noting that many use the terms past/present and perfect/imperfect interchangeably when writing about Arabic. The term *perfect* signifies both the past tense and the perfective aspect, while *imperfect* denotes both the non-past or present tense and the imperfective aspect.

Cowell (1964, p.319) opposed the classification of Arabic verbs as aspectual and classified *al-maadhi* as "perfect or past" and *al-mudāri^c* as "imperfect or non-past"; however, he declared that these are more properly considered "aspects" than "tenses". This perspective on Arabic is known as the aspect view. Bahloul (2008) provides a concise summary of the aspect view's primary propositions as: (i) the perfect form of the verb which implies that the s-stem (take a suffix marker), and the imperfect form which implies the p-stem (takes a prefix marker).

Ziadeh and Winder (1957, p.21) capture the understanding of Arabic tense and aspect, pointing out that:

> "Arabic verbs have only two 'tenses,' perfect and imperfect. In reality, these are
> not tenses, for the distinction between them is not basically that of time. Rather,
> they indicate whether the action is complete or not. The perfect denotes

completed action, and the imperfect denotes incomplete ones. It is usually the case that the Arabic perfect is equivalent to the English past and that the Arabic imperfect is equivalent to the English present or future, but exact equivalents must be determined by the context."

Here, the terms perfect and imperfect will be used interchangeably with *al-maadhi* (the past) and *al-mudāri^c* (the present), respectively.

Comrie (1976) attempted to resolve the debate over whether the Arabic verb form distinction is temporal or aspectual. According to Comrie (1976), Arabic employs a tense/aspect system. Comrie (1976) states that Arabic verb forms refer to tenses and aspects together, which are juxtaposed. This means that the verb form refers to the past time when referring to a completed action, whereas the verb form refers to the present tense when referring to an incomplete action. Comrie (1976, p.80) indicated that "the perfective indicates both perfective meaning and relative past time reference, while the imperfective indicates everything else. The Arabic opposition Imperfective/Perfective incorporates both aspect and (relative) tense". Similarly, Fassi-Fehri (2003) suggests that tense forms can function as aspect forms in Arabic.

The debate among linguists as to whether Arabic is tense-specific or aspect-specific continues to this day, and new descriptions have been suggested. ElSadek (2016) considers Arabic a tense language with two specific forms, suffixed and prefixed, due to the morphological distinction that *al-maadhi* verbs take a suffix marker and *al-mudāri^c* verbs take a prefix marker.

On the other hand, Beeston (2016) has marked these two verb forms, *al-maadhi* and *al-mudāri^c*, as perfect and imperfect in Arabic. Similarly, in their analysis of Arabic and English verb tense and aspect using Google Translate, Alasmari et al. (2017) confirmed that perfect and imperfect verbs in Arabic could be employed to express multiple tenses or aspects based on sentence elements such as particles or time adverbials.

Therefore, the difficulty of identifying precise transfer predictions for the acquisition of the present perfect by Arabic second language users (L2ers) of English is further complicated by a theoretical controversy as to whether Arabic features a temporal or an aspectual distinction of inflected verbs (Farina, 2017). As discussed above, some argue that Arabic features a

temporal distinction (past vs present, such as ElSadek, 2016), while others argue that it features an aspectual distinction (perfective vs imperfective, such as Ryding, 2005).

However, the present study follows Comrie's explanations of the Arabic tense and aspect system. Comrie (1976) describes Arabic as employing a tense/aspect system. In this thesis, we will remain agnostic as to whether the distinction in Arabic is temporal or aspectual and use combined labels for each form: past/perfective vs present/imperfective.

Table 2-4

The controversy of the Arabic distinction of inflected verbs

	Al-maadhi (past) verbs Take a suffix marker	**Al-mudāri[c] (present) verbs** Take a prefix marker
Temporal distinction (ElSadek, 2016)	Past	Present
Aspectual distinction (Ryding, 2005; Beeston, 2016)	Perfect	Imperfect

2.4 Contrastive analysis of simple past versus present perfect in English and Arabic

In contrast to English, the distinction between the past and the present perfect is not grammaticalised in Arabic. The following example shows no specific morphological features which distinguish the simple past from the present perfect in Arabic.

(29)   Katab-at   Amal   Darsa-ha.

           wrote-PERF-3fsg   Amal   lesson. her.

           "Amal wrote her lesson." / "Amal has written her lesson."

In Example (29), the predicate Katabt-at can be used to express both the simple past and present perfect in Arabic. Alruwaili (2014) argued that the perfect form in Arabic is ambiguous between the two interpretations (past and present perfect). However, the intended meaning can be achieved through context or by using adverbial phrases. Alruwaili (2014) indicated that the distinction between simple past and present perfect in Arabic can be achieved by using adverbials similar to those used in English, such as *yesterday*, *just now*, *or yet*, and this is illustrated in the following Examples (30) and (31):

(30)   Katab   Ali   darsah   ams

           wrote-PERF-3msg   Ali   lesson. his yesterday

           "Ali wrote his lesson yesterday."

(31)   Tuuh Ali katab   darsah

           just. Ali wrote-PERF-3msg   lesson. his

           "Ali has just written his lesson."

Similarly, Fassi-Fehri (2004) proposed that there are two types of tense projections in the underlying structure: absolute tense (T1=past) and relative tense (T2=perfect). He assumed that there is an interpretable T2 feature under T1, and the T2 interpretable perfect feature is not overtly realised in Arabic morphology. On the other hand, English distinguishes morphologically between the two interpretations. Thus, the question arises as to how Arabic learners of English establish and acquire these aspectual meanings that are different from their L1.

2.4.1   Arabic alternatives to the English present perfect

Some Arabic linguists (e.g., Mazyad, 1999; O'Brien, 2003; and Alsalmi, 2013) argue that the relevant properties of the present perfect can be expressed in Arabic by different means, such as past/perfective, present/imperfective, and *qad/laqad*. In the sections below, example sentences are used to examine these perspectives, as they pertain to morphology.

2.4.1.1 Past/Perfective

Past/perfective in Arabic is characterised by a perfect form to which a set of personal suffixes are added, such as -a, - aa, -uu, -na, and -at, which indicate person, gender, and number rather than a past time. For instance, the following sentence in Example (32) features, in Arabic, an inflected verb form that can be translated into English as either simple past or present perfect (Alruwaili, 2014).

(32)   katab-at   risaala .

wrote-PERF-3fsg   letter-ACC

"She wrote a letter." / "She has written a letter."

2.4.1.2 Present/imperfective

The present/imperfective in Arabic, known as *al-mudāri^c*, can be used to express habitual actions; however, it can also express aspectual relations similar to the present perfect (Mazyad, 1999, p.120), as in the following example:

(33)   arifahu   mundu.   sanawaat

know-IMP-3msg-he   since   years

"I know him for years." / "I have known him for years."

2.4.1.3 Qad or Laqad

In contract to the views above, Al-Saleemi (1987), Adel (2019), and Mudhsh (2021) proposed that CR can be expressed in Arabic by the particle *qad* preceding past forms of a verb. The Arabic particle *qad* can convey completion with CR when used with past forms (O'Brien, 2003). In this sense, *qad* may be considered an optional marker of perfectivity referring to the completion of an action in the past (Comrie, 1976). It can be translated as a simple past or present perfect, and *qad* favours the CR interpretation but does not force it (Alhaider, 2021). O'Brien (2003) pointed out that *qad* can be replaced by a more emphatic form, *laqad.* Al-

Saleemi (1987) argued that when the particle *qad* in Arabic is followed by the perfective form of the verb, it indicates an action that just completed at the moment of speech as in Example (34). Similarly, according to Mazyad (1999, p.116), *qad/laqad* is an Arabic particle that can be used before the past to refer to recently completed actions and is considered one of the functions of the Arabic perfect form.

(34)   qad bi9tuka   haðah

        qad -sold-PERF-I you this-ACC

        "I have sold you this." (Al-Saleemi, 1987, p.42)

Adel (2019, p.53), in her analysis of the behaviour of the aspectual marker *qad* in Arabic, indicated that it typically prefers the perfect interpretation of recently completed actions when occurring with past verb forms. When *qad* is used as a temporal particle, it typically carries the meaning of precedence or immediate precedence (Fassi Fehri, 2012), as in Examples (35) and (36).

(35)   laqad   akmaltu   qiraʾata   al-kitāb

        laqad   completed-PERF-I   reading   the-book-ACC

        "I have completed reading the book." (Adel, 2019, p.57)

(36)   qad   shiribtu   qahwah
        qad   drank-PERF-I   coffee-ACC
        "I have just drunk the coffee." (O'Brien, 2003, p.101)

Adel (2019) concluded in her investigation of the use of the morpheme *qad* in Arabic that it can occur with both past and non-past forms of verbs. *Qad* is used with past forms of the verb to express completed actions with CR, as in (37a), whereas it is used with non-past forms of the verb to express probability or possibility of the occurrence of action, as in (37b).

Qad+past form of the verb

(37)   a. qad   atā

        qad   came he

        "He has (just) come." (Present perfect) (Adel, 2019, p.52)

Qad+non-past form of the verb

        b. qad   yaʿrifu   al-jawāb

        qad   may/might know he   the-answer-ACC

        "He may/might know the answer." (Adel, 2019, p.56)

Along with Al-Saleemi (1987) and Adel (2019), Mudhsh (2021), in his comparative study of tense and aspect categories in Arabic and English, indicates that the present perfect in Arabic consists of the morpheme *qad* and the perfective form of the verb. Although the use of *perfect* in relation to Arabic is controversial, it has been observed that in recent years English teachers in the Arab world have expressed in Arabic the sequence of *qad* plus the perfective form of a verb as equivalent to the English present perfect tense in teaching L2 English learners the structure of the present perfect in L2 English (Mudhsh, 2021).

However, some linguists do not find any difference between the perfective verb that precedes *qad* or *laqad* and the perfective/past verb form that appears alone in Arabic. The *qad* form puts more emphasis on the event, indicating that it did happen in the past (Mudhsh, 2021). The lack of a one-to-one relationship between the forms representing tenses and aspects in English and Arabic can lead to difficulties and challenges for L1 Arabic learners of English in their acquisition of different tenses, especially the acquisition of the English present perfect. As previously above shown, the English and Arabic tenses and aspects are vastly different. In Arabic, it has been assumed that the perfect is expressed using the same forms as the simple past, present, or by using the particle *qad* preceding the past/perfective form of the verb, whereas in English, it has its own form. Due to the influence of L1 Arabic, this may also result in the overgeneralisation of the simple past or present form to contexts where the present perfect is required in the interlanguage of Arabic L2ers of English.

2.4.2   How the Four Interpretations of Present Perfect are Encoded in Arabic

Little is known about how the semantic interpretation contexts of the English present perfect are encoded in Arabic. Different perspectives in the literature assume that the semantic interpretations of the present perfect in English can be encoded in Arabic in a variety of ways. Tendencies towards expressing equivalents to the four interpretations of the English present perfect (continuative, experiential, resultative, and recent past) differ between Arabic dialects. In the sections below, the most illustrative examples will be drawn on, mainly from Modern Standard Arabic (MSA), and then from a variety of dialects such as Saudi Arabic dialect (SAD) and Egyptian Colloquial Arabic (ECA). This is to provide a more complete oversight of the nature of the perfect in Arabic. Further, it is possible that due to the cultural reach of certain dialects in the form of media (particularly SAD and ECA), L1 Arabic learners may be partially or fully familiar with such constructions, even if they do not themselves use them in regular speech.

2.4.2.1   The resultative perfect

In MSA, the Arabic perfect can be used to denote the action that was completed in the past with present result, and the past/perfective can be used as a possible equivalent to the resultative interpretation of the English present perfect in Arabic (Bahloul, 2008). Similarly, ElSadek (2016) indicates that in ECA, the resultative perfect can be expressed using the past/perfective verb form, which will be ambiguous between simple past and present perfect in English. For example:

(38)   Jon   wasal
         John   arrived-PERF-3msg
         "John arrived/John has arrived." (ElSadek, 2016, p.32)

2.4.2.2   The Experiential Perfect

The experiential perfect involves using the perfect form to express a situation that occurred in the past and could be repeated (Comrie, 1976). This interpretation can be expressed through the simple past form (perfect) in MSA, ECA, and in most of Gulf dialects in Arabic (O'Brien, 2003; ElSadek, 2016). For instance:

(39)   Zurtu   miSr   thalaathah maaraat.

         visited- PERF-I   Egypt   three times.

         "I have visited/visited Egypt three times." (O'Brien, 2003, p.98)

2.4.2.3   The continuative perfect

The continuative perfect refers to situations beginning before the utterance and still ongoing (ElSadek, 2016). The continuative perfect in MSA Arabic and in the Gulf varieties of Arabic is generally expressed with the imperfective verb (present simple) (Mazyad, 1999; O'Brien, 2003) which can be translated in English as a continuative perfect or simple present as can be seen in Example (40) and (41). Similarly, in Catalan, the present simple is preferred over the present perfect in the continuative reading, as shown in Example (42), as well as in Spanish, French, German, and Russian (Comrie, 1976).

(40)   *Aashtaghil   fi aal sharika   sitah sanwaat.*

         work-IMP-I   in the company   six years

         "I work in the company for six years."

         "I've been working in the company for six years."

(41)   ? arifahu   mundu. sanawaat

         know-IMP-3msg-he   since   years

         "I know him for years."

         "I have known him for years." (Mazyad, 1999, p.120)

(42)   Visc a Barcelona des de 2009.

         Live-IMP-I in Barcelona from 2009

         'I live in Barcelona since 2009.'

         'I have lived in Barcelona since 2009.' (Xiqué, 2015, p.16)

However, ElSadek (2016) indicates that in ECA, the continuative perfect is expressed using a participle verb form and an adverb to show the interval through which the situation holds, as in Example (43):

(43) ana mistanni   men   s⁻aah.
      I   wait.PTCP.SGM.   from.   hour
      "I've been waiting for an hour." (ElSadek, 2016, p.33)

2.4.2.4 Perfect of recent past

This interpretation can, in both MSA and Gulf varieties including SAD, be expressed using a recent past action, which consists of the particle *qad* or *laqad* and the past/perfect form of the main verb (Mazyad, 1999; O'Brien, 2003; Alruwaili, 2014). For example:

(44) qad   katabat.   Hind   risaala
      prt.   wrote-PERF-3fsg.   Hind-NOM   letter-ACC
      "Hind wrote a letter."
      "Hind has just written a letter." (Mazyad, 1999, p.120)

Alruwaili (2014) indicated that the perfective verb in the recent past in SAD could collocate with certain adverbial phrases, such as *just now* or *already*.

(45) qad   shiribtu   qahwah
      prt. drank-PERF-I   coffee
      "I have just drunk the coffee." (O'Brien, 2003, p.101)

Similarly, ElSadek (2016) assumed that in ECA the perfect of recent past contexts could also be used with an adverb to show recency, as can be seen in the following example:

(46) ana lessa me2⁻abel   soè⁻ab-i
      I   just meet.PTCP.SGmM my friends
      'I've just met my friends.' (ElSadek, 2016, p.33)

Regarding adverbial modifiers, it can be seen that Arabic, like English, can rely on adverbs to distinguish the present perfect from the simple past and to derive the intended interpretation of the present perfect.

In summary, it may be seen above that Arabic does not have a direct counterpart to the English present perfect. There is no obvious frame for how the interpretations of the English present perfect are encoded in Arabic, which seems to differ between dialects. These perspectives from the literature do not assume a clear vision of what verb forms Arabic speakers use in Arabic for the distinctions that are grammaticised in the English present perfect contexts. Mazyad (1999) and Alsalmi (2013) claimed that the meanings conveyed by the English present perfect could be expressed in Arabic by past/perfective or present/imperfective. Other linguists however, such as Al-Saleemi (1987), Adel (2019), and Mudhsh (2021), have proposed that the English present perfect can be expressed in Arabic by the particle qad preceding past forms of the verb. This makes it very difficult to identify clear transfer predictions for the acquisition of the present perfect by Arabic L2ers of English in the present study. Therefore, it is necessary for this investigation to begin with a preliminary study on L1 speakers of Arabic, to determine empirically how the present perfect feature mapping in English compares to feature mapping in Arabic, and to explore the features that Arabic L2ers of English can map or transfer from their L1 Arabic in order to process the English present perfect easily or with difficulty. In the present investigation, we will examine how the features associated with the English present perfect (CR and temporal unboundedness) will be mapped from L1 Arabic into L2 English present perfect acquisition. In addition to the features associated with the present perfect, the semantic features of the predicate will be examined in this investigation in their relation to the L2 acquisition of the English present perfect. The aspectual meaning of the predicate consists of two types of aspect: lexical and grammatical. In the following section, we will shed the light on the lexical and grammatical aspect of predicates in English as well as the aspectual behaviour of predicates in Arabic.

2.5   Lexical aspect and grammatical aspect

The majority of linguists in the field of tense-aspect distinguish between two types of aspect: lexical and grammatical. Lexical aspect refers to the inherent semantic features of predicates (Smith, 1997). On the other hand, grammatical aspect refers to as aspectual distinctions

expressed by "auxiliaries, inflectional morphology, derivational morphology, and periphrastic constructions" (Shirai and Andersen, 1995 p.744; Li and Shirai, 2000).

2.5.1   Grammatical aspect

Comrie (1976) points out that the grammatical aspect separates perfective and imperfective viewpoints and can be expressed morphologically by inflectional morphology and auxiliaries. He points out that the grammatical aspect refers to the internal temporal constituency of a situation. The crux of grammatical aspect is the distinction between the perfective and imperfective aspect. First, the perfective aspect considers a whole event with a clear beginning and a clear end. In contrast, the imperfective aspect looks at an internal portion of an event with no clear endpoint. Both types are exemplified in (47). The sentences in (47) present the same situation, however, they differ in their grammatical aspects, possessing a perfective aspect in (47a), and an imperfective aspect in (47b). They present all or a portion of the event differently, depending on the sort of aspect. From (47a) we conclude that the event of walking was completed and happened in its entirety. In contrast, the event of walking to the store was in progress in (47b).

(47)   a. He walked to the store. **(perfective)**

b. He was walking to the store. **(imperfective)** (Zeng, Chen, and Shirai, 2021, p.2)

In Arabic, Mazyad (1999) proposed that the general temporal schema for the grammatical aspect in MSA is similar to the English one, where the Arabic perfect aspect refers to the situation as a whole with final end points, as in (48a). The Arabic imperfective form, on the other hand, refers to the durative situations without end points as in (48b).

(48)   a. *katabat*   *risaalatan. (perfective)*

wrote-PERF-3fsg.   Letter-ACC

"She wrote a letter".

b. *taktub*   *risaalatan. (imperfective)*

write-IMP-3fsg.   Letter-ACC

"She is writing a letter".

Similar to the simple past, the present perfect can exhibit various aspectual characters when the predicate is bounded or nonbounded. Boundedness is the primary feature that divides the present perfect into perfective and imperfective functions. Bounded predicates in the present perfect carry perfective meanings, as in (49a), whereas nonbounded ones most often carry imperfective meanings, as in (49b):

(49)

        a. Luisa has found the answer [perfective].

        b. Luisa has searched for the answer [imperfective]. (Uno, 2014)

This illustrates how grammatical aspect can interact with lexical aspect. Lexical aspect or *Aktionsart*, refers to the inherent semantic properties of verbs or the semantics of the predicates (Comrie, 1976; Dowty, 1979). The lexical aspect is an important feature that will be investigated in the present study because it can describe the aspectual meanings conveyed by the lexical semantics of the verb (Eriksson, 2016). Despite the fact that lexical aspect and grammatical aspect are independent, a strong relationship exists between them. The intriguing interaction between the two categories of aspect prompted numerous linguists to investigate the nature of this interaction, leading to the development of what is now known as the aspect hypothesis (AH). In the AH, Andersen and Shirai (1995) stated that L2 learners are strongly affected by the semantics of the predicates in their acquisition of tense-aspect markers, which means that according to this hypothesis, it can be predicted that the telicity of the predicates can influence the use of tense and aspect among both L1 and L2 speakers (see Section 3.5) in Chapter 3. Telicity and boundedness are two critical features which can influence the processing and production of tense and aspect distinctions in different ways (Terán, 2014; Eriksson, 2016; Farina, 2017). As a result, it will be an intriguing aspect of this inquiry to look at the ways in which these semantic properties of the predicates influence the acquisition of the present perfect among Arabic speakers of L2 English at different proficiency levels.

2.5.2   Lexical aspect

2.5.2.1   Telicity

Telicity concerns whether or not the predicate has an inherent endpoint (Bardovi-Harlig, 2000; Slabakova, 2000). Telicity differentiates between two types of events: telic events and atelic activities. A telic predicate describes an occurrence that progresses for some time before reaching an inherent endpoint, at which point it ends. An atelic predicate describes an occurrence that lacks an inherent endpoint and thus continues indefinitely.

One of the most widely used tests to identify telic and atelic predicates is Vendler's model (1967) of inherent verb semantics. Vendler's classification of verbs distinguishes four semantic predicate types: achievements, accomplishments, activities, and states. As Slabakova identifies (2001, p.742), states express "a stable persisting situation, which has no dynamics and does not require additional effort or energy to continue" (e.g., *see*, *love*, *hate*, and *want*). Activities are "situations that, similarly to states, are durative and have no inherent goal but are dynamic in nature and have an arbitrary endpoint" (e.g., *run*, *sing*, *play*, *walk* and *dance*). Accomplishments "denote dynamic situations with inherent culmination; in other words, they have a single clear inherent endpoint" (e.g., *run a mile*, *make a chair*, and *build a house*) and achievements "have no duration and are reducible to a single point in time" (e.g., *recognise*, *die* and *reach the summit*). Therefore, states and activities are inherently atelic since they do not have an inherent endpoint, as illustrated in (50a and 50b). Accomplishments and achievements are inherently telic, as they express situations with an inherent endpoint, as in (51a and 51b) (Crăiniceanu and Baciu, 2009, p.199).

  (50)   a. John believed in the devil for several years. (state)
          b. Mary ran for an hour. (activity)

  (51)   a. I arrived in an hour. (achievement)
          b. John dug a ditch in an hour. (accomplishment)

In Arabic, the aspectual behaviour of predicates was tested by McCarus (1976, p.24), who argues that verbs in MSA operate similarly to their English equivalents. The aspectual classes of Vendler (1967) and Dowty (1972) found in McCarus's (1976) MSA are based on similar

sets of predicates that fall into each class. Vendler's (1967) four-way classification of accomplishments, achievements, activities, and state can be presented by Arabic constructions (Fassi, Fehri and Vinet, 2008), as illustrated in the following examples from Al-Dobaian, (2018, p.86):

(52)

    a. Sarah tuḥibbu   assafara.
         Sarah like-3fsg-NOM   travel-ACC
         Sarah likes to travel. (state)

    b. nama   Muhammadun   baakiran.
         sleep-3msg   Muhammad-NOM early-ACC
         Muhammad sleeps early. (activity)

    c. mata   al-waladu.
         died-3msg   the boy-NOM
         The boy died. (achievement)

    d. tasallaqa   Sami al-jabala.
         climbed-3msg Sami the mountain-ACC
         Sami climbed the mountain. (accomplishment)

Similar to their English counterparts, stative verbs in MSA lack a terminating point, as in the predicate *tuḥibbu in* (52a). Similarly, the activity predicate *nama* in (52b) express a durative situation. On the other hand, predicates in (c) and (d) have inherent endpoints, and therefore, they are considered as telic predicates. The event of death *mata* denotes an event with a final endpoint. Similarly, the verb *tasallaqa* in (52d) is an example of an accomplishment verb, as the event denoted by the verb (climbing) ends when Sami reaches the mountain's peak.

To sum up, atelic predicate (states and activities) in Arabic are analogous to atelic predicates in English. On the other hand, telic predicates (achievements and accomplishments) in Arabic are similar to telic ones in English in the perfective meaning they denote. However, Mazyad

(1999, p.77) argued that telic predicates (achievements) in Arabic can accept both perfective and progressive meanings as in (53), while achievement predicates are not compatible with the progressive meaning in English. Accomplishment predicates are similar in both languages, and they indicate situations with inherent end points (Mazyad, 1999).

(53)   *yaksiru*   *alzujaja*
        break-IMP-3msg   the-glass-ACC
        "He is breaking the glass". (Mazyad, 1999, p.74)

2.5.2.2   Boundedness

Boundedness is an aspectual feature of predicates that is often confused with telicity; however, telicity and boundedness differ in meaning. While telicity concerns an action's inherent endpoint, boundedness concerns whether the action reaches some inherent or contextually determined endpoint (Depraetere, 1995; Smith, 1997). For instance, it can be seen that the predicate (read) is bounded in a sentence (54a) and nonbounded in a sentence (54b):

(54)   a. Alice read the book that the teacher recommended last week.
           b. Alice read books last week.

In (54a), the action of reading is bounded because Alice actually completes reading the book which the teacher recommended, the action of reading is complete and reaches its endpoint in this sentence. On the other hand, in Example (54b), the verb read is unbounded because the action of reading is without a contextually specified endpoint. There is no limit on the number of books to be read. So, the action cannot actually be completed.

The lexical aspect of the predicate (boundedness) is determined by its lexical properties and the syntactic context in which it occurs. Dowty (1979) suggests methods to predict the boundedness of predicates. Furthermore, these methods can be used as tests for telic and atelic interpretations (Vendler, 1967; Dowty, 1979). These methods will be discussed in the following subsections.

2.5.2.2.1 Mereological incremental theme (quantified object)

The mereological incremental theme is the first and most widely used method to predict the boundedness of a predicate through the quantification of the direct object. These predicates are discussed in depth by Dowty (1979). He notes that when a predicate has a quantised or definite noun as its direct object, the predicate is bounded (telic); but if the direct object lacks a quantised reference or is omitted, the predicate will be unbounded (atelic) (Croft, 2012, p.71). Krifka (1998, p.75) uses the term *cumulative* to describe the unbounded construal of objects, and *quantised* to describe the bounded construal of objects, as is illustrated in Examples (55a), where a glass of water has a quantised reference and the predicate is bounded (telic), and (55b), where the predicate has drunk is unbounded (atelic). Dowty (1979, p.56) probes for the use of temporal modifiers "in" and "for" to distinguish between these two kinds of predicates. Only telic and bounded predicates are compatible with "in" prepositional phrases, while atelic and bounded predicates are more natural with "for" prepositional phrases.

(55)   a. John has drunk a glass of water in/ *for an hour.
         b. John has drunk water for/*in an hour.

2.5.2.2.2 Property incremental theme

Predicates with property incremental themes may be constructed as bounded (accomplishment) or unbounded (directed activity) (Croft, 2012, p.73). However, Dowty (1979, p.88) states that the distinction between the two is not clear-cut. Even though many predicates that describe a scalar change in a property allow both accomplishment and directed activity meanings, Slabakova (2001) noted that durative adverbials could be used to distinguish bounded and unbounded predicates, as can be seen in sentences (56a) and (56b).

(56)   a. The soup cooled in ten minutes. (bounded)
         b. The soup cooled for ten minutes. (unbounded)

2.5.2.2.3 Holistic/path incremental themes

Regarding motion predicates, the prediction of boundedness can be through the specification of a goal of motion. A bounded path expression (specifying source and goal location) can make the predicate telic and bounded, as in (57a) and (58a), whereas unbounded or omitted path

expressions make the predicate atelic and unbounded, as in (57b) and (58b) (Demonte and McNally, 2012, p.24).

(57)   a. Dave walked from the university to the capitol in/*for an hour.

        b. Dave walked (towards the capitol) for/* in an hour.

(58)   a. James swam to the opposite shore *for/in one hour. (bounded)

        b. James swam in the ocean for/*in one hour. (nonbounded)

2.5.2.2.4   Representation-source themes

The distinction between bounded and unbounded predicates can also be based on the boundedness of the representation-source argument. For example, the predicate "read" in (59a) is bounded, while in (59b), it is unbounded.

(59)   a. Jane read War and Peace.
        b. Jane read magazines all afternoon. (Croft, 2012, p.75)

Similar to English, the quantified direct object and adverbial modifiers can determine the telicity of the event in Arabic (Mazyad, 1999; Fassi-Fehri, 2004; Al-Dobaian, (2018). The influence of the quantified object and type of adverbial on the telicity of the event in Arabic can be illustrated in the following example:

(60)

        a. Shariba Muhammadun kaasan min al-ḥaleeb   fii saa ateen.
        drank-3msg Muhammad-NOM one glass-ACC of milk- gen in two hours
        Muhammad drank a glass of milk in two hours/*for two hours. (telic)

        b. Shariba   Muhammadun al-ḥaleeba *fii saa ateen
        drank-3msg   Muhammad-NOM milk-ACC in two hours
        Muhammad drank milk *(in two hours). (atelic)

Drinking a glass of milk in (60a) is telic event because it is followed by a quantised direct object (a glass of milk), and the adverbial phrase *fi saa ateen* is compatible with telic predicates

since it denotes the duration of time until the event ends. The event ends when the glass is empty and two hours have passed. In contrast, the adverbial phrase *fi saa ateen* is in compatible with the atelic predicate in (60b) which is followed by non-quantised object (milk).

Several studies have been conducted in recent years which have investigated the effect of telicity on the acquisition of tense and aspect. In these studies, suitable tests for identifying one class or the other for the telicity of the predicate were utilised. Since one of our objectives in this research is to test to what extent the semantic feature [±telic] affects the acquisition of present perfect by L1 Arabic users of English, the present investigation will, in its experimental manipulations, rely on the methods that are most widely used to predicate the telicity of predicates: *incremental theme*, which includes quantifying the direct object of an activity predicate and specifying the goal of a verb of motion.

In the former sections, lexical aspect vs grammatical aspect has been evaluated in both English and Arabic. There are two types of grammatical aspect, dependent on how much of the situation is viewed: (i) perfective aspect which considers a situation in its totality, from beginning to end; and (ii) imperfect aspect which views a part of a situation with no endpoint. The associations between grammatical and lexical aspect can be observed when L2 learners tend to use perfective and past tense marking with telic predicates (achievements or accomplishments) and imperfective tense marking with atelic or durative predicates (state or activity). This association could be prototypical and natural in the use of any language and has been tested in a large number of L2 research studies (e.g., Salaberry, 2000; Bardovi-Harlig and Reynolds, 1995; Bardovi-Harlig, 2000). In Chapter 3, we will explain the studies which have supported this account (the associations between grammatical and lexical aspect) in more detail. Furthermore, Chapter 3 will present a discussion of the interaction between telicity and the present perfect to evaluate the role of the lexical aspect (telicity) on the use of the English present perfect.

2.6 Conclusion

This chapter has presented a discussion from the theoretical literature of how the simple past and the present perfect are structured in English and Arabic. The acquisition of these structures in L2 English requires learners to make a distinction according to certain tense and aspect features associated with each structure. This study focuses on two of these distinguishing

features, which are CR and temporal unboundedness. English native speakers are expected to associate CR and temporal unboundedness with the use of the English present perfect, using relevant morphology on the verb as well as with possible adverbial reference.

On the other hand, Arabic could grammaticalise CR through the morpheme *qad* (O'Brien, 2003), but it is unclear whether perfectivity is grammaticalised in Arabic: some argue that it is based on a temporal distinction (past vs present; ElSadek, 2016), others an aspectual distinction (perfect vs imperfect; Ryding, 2005; Farina, 2017. There is a lack of consensus in the literature regarding the L1 transfer predictions for the acquisition of the present perfect by Arabic users of English. Therefore, we chose in this study to adopt a bottom-up approach to transfer, based on the feature reassembly hypothesis (FRH) (Lardiere 2012) to empirically determine how the features associated with the English present perfect are mapped in Arabic. The results of the present study will contribute to the current literature on second language acquisition (SLA) by identifying clear predictions for the acquisition of the English present perfect by Arabic L2ers of English, which we then tested to explore what is precisely being transferred from L1 Arabic to facilitate or obfuscate the acquisition of the L2 English present perfect. The next chapter will review the SLA theories used as the framework of this research project, namely the FRH (Lardiere, 2012) and the AH (Shirai and Andersen, 1995). In addition, in Chapter 3, we will review a selected sample of the different empirical research studies that have investigated the acquisition of tense and aspect in general and specifically investigated the acquisition of the L2 English present perfect.

Chapter 3 SLA Literature review on the Acquisition of Present Perfect

3.1   Introduction

The purpose of the present study is to investigate the acquisition of the English present perfect by Arabic second language users (L2ers) of English and to shed light on the most central factors which are expected to influence their acquisition, such as native language (L1) Arabic transfer, telicity of the predicate, and second language (L2) English proficiency.

Crucially, Arabic and English differ in how these distinctions of the present perfect map to the functional categories. We follow Lardiere's (2009) approach, according to which L2 learners must remap features from representations in their L1 to new formal configurations of different lexical items in the given L2. The mapping difference between L1 and L2 predicts what will be transferred and what is difficult to remap. Thus, in approaching the study at hand it is important to evaluate some of the prior research concerning tense and aspect acquisition and to overview what has been figured out in the empirical literature regarding the influence of L1 on the acquisition of the present perfect. Therefore, this chapter outlines a selected sample of a number of empirical studies that have examined tense and aspect acquisition generally, and specifically examined the acquisition of the English present perfect.

This chapter will discuss several research studies concerning the influence of the lexical aspect of predicates and L1 transfer on the acquisition of tense and aspect distinctions in L2 English, with a primary focus on the present perfect. The studies represent research conducted among L2 learners of English from different L1s. Since these varied L1s feature different mappings, through inference and cross examination the landscape of the relevant literature's predictions as to the acquisition of the present perfect may be established.

In the present chapter, we will present the two second language acquisition (SLA) theories used as the framework of the present study, namely the feature reassembly hypothesis (FRH) (Lardiere, 2012) and the aspect hypothesis (AH) (Shirai and Andersen, 1995). After that, we will provide a brief overview of research that is specifically relevant to the present study, including an analysis of some experimental studies of the production of tense and aspect. The

discussion continues with a review of the processing of tense and aspect in L1 and L2 comprehension. This chapter will present research studies from the literature in which the influence of telicity on the acquisition of tense-aspect distinctions is examined. The chapter will end with a discussion of the role of L1 transfer and L2 English proficiency in the acquisition of tense-aspect distinctions. These research studies from the literature form the basis of the present investigation and were used to justify many of the motivations to conduct this research project.

3.2   L2 theories of the acquisition of tense and aspect

3.2.1   Feature Reassembly Hypothesis (FRH)

In the field of SLA, the role of the L1 has been the subject of debate. Numerous investigations on aspect-related morphology have revealed evidence of L1 influence on the acquisition process. Some linguists in SLA such as (Choi and Lardiere, 2006; Lardiere, 2008, 2009; Slabakova, 2008) note, based on the discussion on L1 linguistic features and how they are manifested in the L1 and L2, that the complexity of the form-meaning mapping presents certain learnability challenges for L2 learners. The FRH seeks to explain L1 influence on SLA. Lardiere (2012) proposed this hypothesis, which builds on Schwartz and Sprouse's (1996) full access/full transfer hypothesis.

Lardiere (2009) implies two steps: (i) "feature detection and mapping" in which L2 learners initially transfer the lexical encoding of L1 morphosyntactic and semantic features into the acquisition of their correspondences in L2, based on semantic meanings or grammatical functions, they map the feature set of the perceived L1 item onto the L2 target item; and (ii) "The feature reassembly" predicts that successful L2 acquisition requires reassembling L2 features that already exist in the L1 into new functional categories or lexical items (Lardiere, 2012). Crucially, reassembly may take a longer time to occur or may not occur at all if the feature is not frequently observed in the input or if it is obscured by L1 grammar. Consequently, any difficulty experienced by L2 learners is the result of an inability to reassemble the features into new lexical items or functional categories. However, in the reassembly stage, as learners' exposure to the L2 increases, they are able to add new features not present in their L1, discard L1 features not encoded in the L2, and reassemble these features based on the input from L2 (Shimanskaya and Slabakova, 2017).

In relation to the FRH, Taha (2013) and Alruwaili (2014) argued that L1 Arabic learners of English will struggle to reassemble the present perfect into the lexical item "have" due to L1 grammar and ambiguous evidence in the input, but they may manage to reassemble the past to the past-bound morphology "-ed" due to L1 grammar. However, there is no supporting evidence of what exactly is required to remap L1 Arabic features in reassembling the English present perfect. There is no obvious frame for how the features of the English present perfect are lexically encoded in Arabic, which seems to differ from one Arabic dialect to another, e.g., Egyptian (ElSadek, 2016) and Saudi Arabic dialects (Mazyad, 1999; O'Brien, 2003; Alruwaili, 2014).

FRH further posits L2 learners must create new mappings of formal features (interpretation) onto forms (morphemes) and identify the conditioning environments in which these morphemes can appear (Lardiere, 2012). In English, the interpretive features mapped onto the present perfect are temporal unboundedness and current relevance (CR). As explained in Chapter 2, CR can be instantiated in English through four semantic features: continuative, experiential, resultative, and recent past (Depraetere, 1998). Arabic grammaticalises CR through the morpheme *qad* (O'Brien, 2003), but it is unclear whether perfectivity is grammaticalised in Arabic: some argue that it features a temporal distinction (past vs present; ElSadek, 2016), others an aspectual distinction (perfective vs imperfective; Ryding, 2005). This makes it very difficult to identify clear transfer predictions for the acquisition of the present perfect by Arabic learners of English (Farina, 2017). Hence, we adopt a bottom-up approach in the present research project by conducting a study on native speakers of Arabic to establish how the features associated with the English present perfect manifest themselves in Arabic to identify predictions of the FRH precisely for this study; to predict what exactly would be mapped or reassembled from L1 Arabic in the acquisition of the English present perfect by Arabic L2ers of different levels of English proficiency.

3.2.2 Aspect Hypothesis (AH)

The AH (Andersen and Shirai, 1995) suggests that the inherent lexical aspect of predicates plays a role in the acquisition of tense-aspect morphology in both first and second languages. This hypothesis has been tested in several studies on the acquisition of L2 tense-aspect morphology. In general, the findings of those L2 studies illustrated the association of perfective

marking with telic predicates and the association of imperfective marking with atelic predicates. A number of studies have shown evidence consistent with the predictions of AH (Salaberry, 2000; Bardovi-Harlig and Reynolds, 1995; Bardovi-Harlig, 2000). According to Bardovi-Harlig (2000, p.227), the AH can illustrate the relation between the grammatical aspect, lexical aspect, and the Vendlerian categories (achievements, accomplishments, activities, and states). Bardovi-Harlig (2000) claims that according to the AH learners first use (perfective) past marking with achievement and accomplishment predicates, eventually extending the use of the perfective past marking to activities and statives. In addition. Bardovi-Harlig shows that progressive marking begins with activities, and then extends to be used with accomplishments and achievements in languages that have progressive aspect.

AH predicts that learners are strongly affected by the semantics of the predicates in their acquisition of tense-aspect markers. According to the AH (Andersen and Shirai, 1995), as stated before, past perfective marking emerges with telic predicates (achievements and accomplishments) as the prototypical structure, and progressive markings are strongly associated with atelic predicates as prototypical structure. However, lexical aspect influences the use of tense and aspect in low-proficiency L2 learners (Andersen and Shirai, 1995).

Similar to the AH is the prototype hypothesis proposed by Andersen and Shirai (1995) and Shirai (2002). The prototype hypothesis posits that language learners first acquire the prototypical structure for tense-aspect marking (perfective marking with telic predicates and progressive marking with atelic predicates) and then gradually, at a high level of language proficiency can acquire less-prototypical structures (perfective marking with atelic predicates, and progressive marking with telic predicates).

From a semantic perspective, language learners tend to acquire prototypical structures semantically, such as perfective marking with telic predicates and imperfective marking with atelic predicates, due to the inherent semantic characteristics of these predicates and their compatibility with certain aspects. Telic predicates naturally align with perfective marking because perfectivity emphasises the completion or achievement of a goal, resonating with the inherent nature of telic actions. Conversely, atelic predicates align with imperfective marking as it allows the depiction of ongoing, repetitive, or habitual actions. which corresponds well with the continuous or non-specific nature of atelic actions (Smith, 1991; Housen, 2000).

For the interpretation of the present perfect, it is clear that the perfect aspect associates a quantised event with its resulting state. The combination of the present perfect with non-quantised eventualities, such as states or processes, yields other meanings, including continuative and experiential interpretations (De Swart, 2000).

The research conducted on the acquisition of L2 English present perfect suggests that learners likely have common prototypes. Learners tend to link resultative and recent past functions with telic predicates, while they associate continuative and experiential functions with atelic predicates. This pattern is consistent across various studies, including those by Johnson (1985), Davydova (2011), Uno (2014), Karpava (2017), and Farina (2017). Additionally, corpus-based research has identified the same tendency among native speakers, as observed in studies by Declerck (2006) and Davydova (2011).

Terán (2014), in a study of the developmental acquisition of the English present perfect by L1 Spanish speakers, has elaborated on the AH to yield predictions of the acquisition of the present perfect based on basis of this hypothesis. Terán proposed that the acquisition of the (resultative perfect, perfect of recent, and the experiential perfect) is expected to emerge first with telic predicates (accomplishments and achievements) at the early stages of language acquisition. At a later stage, the former semantic interpretations of present perfect are predicted to start incorporating more with atelic situations, activities, and (eventually) states.

On the other hand, Terán (2014) assumed that the continuative perfect function of the present perfect would appear at the first stage of language acquisition with atelic predicates (states and activities) due to its atelic nature and then will extend to occur with the telic predicates (accomplishments and achievements) at the final stage of language acquisition among L2 learners of a high level of language proficiency. This developmental picture illustrates the complexity of the present perfect marker of perfectivity, which is clearly depicted by its underlying semantics (perfective and imperfective meanings).

Table 3-1

Terán's (2014) predictions regarding the influence of telicity on the acquisition of the English present perfect

Resultative perfect	With telic verbs (accomplishments & achievements) rather than with atelic verbs (activities & states)
Experiential perfect	With telic verbs (accomplishments & achievements) rather than with atelic verbs (activities & states)
Continuative perfect	With atelic verbs (activities & states) rather than with telic verbs (accomplishments & achievements)
Perfect of recent past	with telic verbs (accomplishments & achievements) rather than with atelic verbs (activities & states)

Telicity will be taken into consideration in this investigation to examine the extent to which it can influence the acquisition of the English present perfect by Arabic L2ers of English. The purpose of this study is to identify the predictions of the FRH, based on a cross-linguistic study on Arabic native speakers to test these predictions, and to test how the inherent semantic features of the predicates such as (telicity) influences the acquisition of the present perfect based on the AH. It is predicted that the telicity of predicates could affect the use of tense and aspect among low-proficiency L2 learners (Andersen and Shirai, 1995) as follows:

- The use of the present perfect in the (continuative and experiential) contexts is predicted to appear first with atelic predicates, and then extend to telic predicates. The present perfect in the continuative and experiential readings accommodate atelic predicates more than telic ones because they emphasise ongoing states or actions that started in the past and have relevance to the present.

- The use of the present perfect in the (resultative and recent past) contexts is predicted to appear first with telic predicates, and then extend to atelic predicates. Telic predicates are often associated with resultative and recent past contexts where the present perfect emphasises the completed action and its outcome.

In the following sections, we will review experimental studies on how the English present perfect is acquired by L2ers of various L1 backgrounds. We will evaluate the influence of the L1 and how form-meaning mapping took place in the acquisition of the present perfect in these previous studies. Furthermore, we will provide additional information about those studies that investigated the role of lexical aspect in the use of verbal morphology, highlighting their significant contribution and support for the prototype account.

3.3   Experimental Studies of the Production of the Present Perfect

A very significant study conducted by Bardovi-Harlig (2002) investigated the use of the present perfect in written and oral texts of 16 instructed adult learners of English as an L2. This longitudinal study analysed oral and written data elicited naturally from Arabic, Japanese, Korean, and Spanish L1 speakers in an intensive English language program and made several significant findings. First, L2 learners were able to acquire the present perfect after their acquisition of the simple past. Second, Bardovi-Harlig (2002) observed that most of those learners used the present perfect in writing before speaking. In addition, the L2 learners overgeneralised the use of the present perfect in simple past contexts in 63.1% of cases which shows that L2 learners most strongly associate the English present perfect with the simple past. Finally, L2 proficiency positively affected performance, indicating that L2 learners with higher proficiency are more accurate in using present perfect than those with low English proficiency.

Thus, the L2 English proficiency level is argued to be a significant factor in the acquisitional process of tense and aspect marking, and play a key role in L2 performance. The positive correlation between L2 English proficiency level and L2 English performance has been seen to be among one of the more stable findings in SLA research. As L2 English proficiency level improves, the correct use of tense-aspect marking will increase. Similar to the results of Bardovi-Harlig's investigation, previous SLA studies have reported that higher accuracy of the use of the present perfect form has been observed in L2 learners with higher proficiency levels (Liszka, 2002; Terán, 2014; Uno, 2014; Farina, 2017; and Karpava, 2017). Part of the aim of

our study is to assess the extent to which L2 English proficiency affects L2 present perfect acquisition among Arabic L2ers of English to understand how L1 features are gradually reassembled to acquire L2 features of the present perfect. According to previous SLA research, there should be a measurable improvement in performance as proficiency increases. What is not yet clear is the impact of L2 English proficiency on the acquisition of the current relevant type of the present perfect (continuative, experiential, resultative and recent past). It is necessary to understand how Arabic learners of various English levels differ in their acquisition of the semantic functions of the present perfect and if they achieve full attainment acquisition of one of the functions before the others.

Building upon these general findings, more detailed results pertaining the internal and external linguistics factors behind the occurrence of the English present perfect were produced by Davydova's (2011) corpus study. This corpus study by Davydova (2011) aimed at identifying the internal and external linguistic factors behind the occurrence of the English present perfect. This investigation focused on the four functions or meanings of the English present perfect (continuative, experiential, resultative, and recent past) and the overt markers of CR (the adverbial modifiers) to convey these functions. Davydova (2011) utilised corpora of standard, nonstandard, and L2 learner varieties of English to investigate the acquisition of the present perfect through different variations. The data were obtained from non-native varieties of English, namely Indian English, Singaporean English, and East African English, in addition to foreign-spoken varieties of English, such as those spoken in Russia and Germany. The findings of this investigation are crucial to the ongoing research on SLA in the area of tense and aspect.

The study indicates that L2 learners of English depend on the present perfect for the continuative and resultative function and that the continuative function has become much more strongly connected with the present perfect. Participants preferred to use the present perfect in the continuative and resultative functions more than the experiential and recent past functions. Davydova (2011) also found that L2 learners of English strongly prefer to use the CR adverbial phrases [+CR] associated with the present perfect to distinguish it from the other forms, and these adverbial modifiers were used by L2 learners of English more often than by Standard English speakers. This study makes two significant contributions to the present investigation. First, the resultative and continuative functions are the contexts most strongly associated with the present perfect. Second, the overt markers of CR (adverbials) are used by learners more

often than by Standard English speakers in their use of the present perfect and to distinguish it from other verb forms such as the simple past.

In a larger experimental study conducted by Karpava (2017), who examined the L2 acquisition of the English present perfect by L1 Cypriot Greek (CG) speakers. About one hundred Greek Cypriot university students participated in this investigation, the purpose of which was to test the influence of L1 CG on the production of L2 English present perfect and to examine to what extent the L1 CG transfer is affected by variables such as: gender; age; L2 English proficiency; L2 English exposure; *aktionsart*; and two semantic and pragmatic conditions of the present perfect (the experiential and resultative contexts). Two experimental studies were utilised in this investigation. First, the elicitation task was a passage correction task, adapted from Odlin et al. (2006) in which the participants were asked to proofread three passages and to correct the underlined tense verb forms in about 60 items. As can be seen in the following examples:

(1)   Virtually none of the thousands of women who **were financially assisted** (past simple instead of present perfect) by the bank for over 20 years **defaulted** (past simple instead of present perfect) on their payments. (Karpava, 2017, p.45)

(2)   These borrowings **enable** (present simple instead of present perfect) Bangladeshi women to set up numerous small-scale projects which directly benefit their families and the communities in which they live. The success of the experiment **brings** (present simple instead of present perfect) about a revolution in the way anti-poverty programmes are now organised. (Karpava, 2017, p.45)

The second part of this investigation focused on the collection of natural writings discourse where the participants were asked to write essays about personal experiences that might evoke the experiential and the resultative perfect. A small written corpus of 100 papers was analysed according to the context of the present perfect: continuative, experiential perfect, resultative, and perfect of recent past.

The analysis of the passage correction or the proofreading task revealed that the participants have a problem in their acquisition of the L2 English present perfect, where only about 16% of all errors were corrected perfectly, and the L1 CG learners of English used the targeted present

perfect form to correct the underlined verb form. On the other hand, there were about 2,100 (84%) non-target production verb forms in the contexts in which the participants were expected to use the target present perfect form of the verb for the passage correction. The participants tended to use other non-target tense forms instead of the target present perfect (see Table 3-2). They tended to use simple past in 46.16% of the contexts and simple present in about 32.36% of the items.

Table 3-2

(Non)-target present perfect production in (Karpava, 2017, p.45)

Target/ Present perfect	400	16%
Non-target	2,100	84%
Non-target production		
Past simple	1,154	46.16%
Past perfect	6	0.24%
Past continuous	36	1.44%
Present simple	809	32.36%
Present continuous	95	3.80%

Similarly, the analysis of the natural writings discourse revealed more non-target verb forms 64.91% used by the L1 CG learners of English. They used the simple past (45.05%) or the simple present (19.86%) more than the targeted present perfect (35.09%) in the obligatory present perfect contexts. Examples (3a) and (3b) show how participants used the simple present instead of the target present perfect, and Examples (4a) and (4b) illustrate the participants use of the simple past instead of the present perfect because of the similarity of certain features between the present perfect and the simple past in [current relevance] in [anteriority] (Bardovi-Harlig, 1997).

(3)   a. Michael has passion of photography and travel over 20 years as   photographer for national geographic magazine.

b. have made a lot of mistakes, but I never regret them.

(4)   a. People liked his pictures so he became.

b. It is nice to spend your free time discovering things you did not see before.

This overuse of the simple past was interpreted as L1 negative transfer from CG and the analysis of the participants' data in Karpava's investigation revealed that their production of the target present perfect improved with more years of exposure to L2 English

Together these studies provide important insights into the production of the English present perfect by L2 learners of English. The conclusion that emerges from these experimental studies is that a common substitution error involves using the simple past tense in place of the present perfect. Since both the present perfect and simple past share similar features. They are comparable in that their basic meanings both express the temporal relation of anteriority as well as the feature of perfectivity, i.e., that an event has been completed prior to the reference time (Huddleston and Pullum, 2003). This semantic overlapping makes a strong association between the present perfect and simple past and explains the extensive overuse of the simple past in present perfect contexts (Bardovi-Harlig, 2001). As discussed in Chapter 2, Arabic linguists such as Mazyad (1999), Taha (2013), and Alruwaili (2014) argued that the Arabic past/perfective can express both meanings denoted by the present perfect and simple past in English. Consequently, Arabic L2ers of English allowed use of both constructions (present perfect and simple past) interchangeably. For that reason, we selected these two constructions to test how feature reassembly takes place in L2 English present perfect acquisition by Arabic L2ers of English in these two comparative contexts.

Second, the presence of adverbial modifiers in the context is correlated with improvements in accuracy, and that L2 learners of English more accurately produce the present perfect construction when the predicate is modified by indefinite adverbs. For the investigation at hand these results suggest that temporal boundedness (TB) is a critical feature which is expected to affect the acquisition of the English present perfect. The manipulation of the adverbial modifiers is expected to influence how L2 learners process the English present perfect. Furthermore, these experimental studies have shown that L2 learners reassemble features from their L1 which are semantically or morpho-syntactically similar to those acquired in the L2, however, the difference in mapping between L1 and L2 leads to difficulties in the acquisition of the new feature in L2, as has been shown in Karpava (2017), when the findings revealed negative transfer from L1 Greek in the acquisition of the English present perfect. Th L1 Greek

learners of L2 English tended to use the simple past instead of the target present perfect in obligatory present perfect contexts, which is in line with the predictions of the FRH.

In the next section, we will review the processing of tense and aspect in L1 and L2 compression. Specifically, we will present a review of the comprehension studies of the processing of the L2 English present perfect in order to understand how the acquisition of the English present perfect has been processed from a psycholinguistic perspective.

3.4   Experimental Studies of the Processing of the Present Perfect

A considerable amount of literature has been published on whether L2 English learners can process different types of morphosyntactic features similarly to native speakers of English: for example, gender agreement (Foucart and Frenck-Mestre, 2012) or number agreement (Jiang, 2004).

However, only a handful of studies have investigated the processing of tense and aspect distinctions in L2 English. Specifically, little is known about the processing of the English present perfect, how its four semantic interpretations (continuative, experiential, resultative, and recent past) are processed by L2 English learners, and how the semantic property of the predicate (telicity) influences their processing of these four interpretations of the English present perfect.

In a study of L2 English processing of tense and aspect, Chan (2012) used the self-paced reading (SPR) paradigm to investigate whether L1 Korean, Chinese, and German learners of English are able to process temporal anomalies online in qualitatively similar ways to native speakers of English. Temporal violations of different types were constructed in the past simple condition, as in (6).

(5)   a. Yesterday several large snakes escape.

         b. Tomorrow several large snakes escaped.

In addition, aspectual violations of different types were constructed in the progressive condition, for example:

(6)   a. Currently the baby laughing.

        b. Lately the baby is laughing.

The study found that English native speakers and L1 Korean speakers were sensitive to errors in the simple past condition and the progressive condition; German learners of English detected errors in the past condition but not in the progressive; and Chinese learners of English showed increased processing costs for progressive violations but not for past violations. Chan (2012) concluded that there is a strong tendency for L1 transfer and that differences in reading time between groups can be explained by the presence or absence of a particular structure in the L1 (progressive marker or tense morphology).

Regarding perfect and non-perfect processing, only three processing studies have addressed the acquisition of English present perfect to date. The first was conducted by Roberts and Liszka (2013), who addressed the processing of the present perfect by employing a SPR technique. They investigated how native speakers of British English and advanced French and German L2 learners of English processed simple past and present perfect sentences with temporal-aspectual mismatches. As shown in (7b) and (8b), mismatches were triggered by starting sentences with temporal adverbials that did not collocate with the verbs:

(7)   **Present Perfect condition**

        a. Since last week, James has gone swimming every day. Now he's getting bored of it. (Match)

        b. ***Last year**, James **<u>has gone</u>** swimming every day. Now he's getting bored of it. (Mismatch)

(8)   **Simple Past condition**

        a. Last week, James went swimming every day. Now he's getting bored of it. (Match)

b.***Since last week**, James **went** swimming every day. Now he's getting bored of it. (Mismatch) (Roberts and Liszka, 2013, p.421)

Reading times were analysed at the verb and three subsequent regions. The results showed that the native speakers of English were sensitive only to violations in the present perfect condition, while violations in the simple past condition did not induce higher processing cost. However, native speakers assessed the past simple mismatch condition as significantly less acceptable than the corresponding match condition in the offline acceptability judgment task. Similar to native speakers, both German and French learners of English were able to assess the mismatch items in both the present perfect and the past simple as less acceptable than the match items in the offline judgment task. However, they processed the experimental items differently from native speakers and differently from each other in the online SPR task. The data from the online SPR task revealed that French learners encountered greater difficulty processing mismatch conditions compared to the match conditions for past simple and present perfect items. In contrast, German learners did not exhibit a processing cost for mismatches in either past simple or present perfect items.

The second study, which examined the processing of L2 English present perfect, was conducted by Eriksson (2016). In her study, she investigated the processing of the English present perfect–simple past distinction among 12 native speakers of British English and 24 advanced Russian learners of English. Eriksson examined how the participants handled two types of tense-aspect mismatches: present perfect mismatches, where the present perfect form did not match the preceding adverbial (9), and past simple mismatches, where the past simple form did not match the preceding adverbial (10). The structure of the materials used by Roberts and Liszka (2013) was adopted by Eriksson (2016).

(9)   ***Last year**, Kate **has studied** French.
(10)   ***Since last year**, Kate **studied** French.

The results of the offline judgment task revealed that both native English speakers and Russian learners of English distinguished between match and mismatch items in the present perfect condition.

The findings of the online SPR task were consistent with previous research (e.g., Roberts and Liszka, 2013) demonstrating that native speakers of English were sensitive to temporal mismatch in the present perfect condition but not in the past simple condition (*Last year, Kate has studied... vs. *Since last year, Kate studied...).

On the other hand, the advanced Russian learners' reading times did not indicate any sensitivity to temporal mismatches in the present perfect and simple past conditions in the online SPR task. The grammatical and ungrammatical sentences were processed similarly by the advanced Russian learners of English

Given the salience of Eriksson's study to the investigation at hand it is worthwhile to note that she has only examined advanced Russian learners of English. The focus of her study was only on L2 learners of one level of English proficiency. It would be better to have a comparison including different levels of L2 English proficiency (elementary, intermediate, advanced) to understand how L2 English proficiency level affects L2 tense-aspect processing. It is worth pointing out that greater insight to the mechanisms by which the present perfect is acquired by L2 learners (for instance, AH or FRH) could have been inferred through the inclusion of learners with varying levels of proficiency; it stands to reason in the light of the experimental studies seen above that the increased proficiency of more advanced L2 English learners may result from greater exposure to the possible and likely configurations of the present perfect

The third study, which examined the processing of present perfect in L2 English acquisition, was conducted by Farina (2017). It investigated the L2 processing and acquisition of the English present perfect among Arabic and Chinese learners of L2 English via two critical features of the English present perfect: boundedness and CR. Specifically, Farina used two tasks to explore the effect of boundedness, adverbial modifiers, L2 English proficiency and L1 background on the processing of the English present perfect.

The participants comprised 155 adult L2 English learners of varying proficiency levels from three L1 backgrounds (Arabic, Chinese and Other) and 72 L1 English speakers in the control group. Data were collected from the L1 English group to serve as a baseline for comparison with the data from the L2 English group. The L2 learners of English were divided by English proficiency (defined by proficiency score on the offline independent measure of proficiency (IMP): low, lower intermediate, upper intermediate and advanced) and by subgroup (L1

Arabic, Chinese, and Other: French, Hindi, Japanese, Korean, Spanish, Thai, and Vietnamese). All participants were students at the University of South Carolina.

Farina (2017) used two tasks in this investigation. The first was an online SPR task in which participants read sentences manipulated for grammatical tense (present perfect versus simple past) and boundedness, and grammatical tense and CR. The influence of boundedness on tense-aspect processing was determined through 24 sentences. Boundedness was manipulated through quantification of the direct object of a predicate, generating both bounded and nonbounded predicates for comparison, as can be seen in the following example (Farina, 2017, p.88):

(11)

    a. Deliberately, the researcher **has tested**$_V$ **her theory**$_1$ on$_2$ the$_3$ circus$_4$ monkeys$_5$ who had to identify colors. (Bounded, present perfect)

    b. Deliberately, the researcher **tested**$_V$ **her theory**$_1$ on$_2$ the$_3$ circus$_4$ monkeys$_5$ who had to identify colors. (Bounded, simple past)

    c. Deliberately, the researcher **has tested**$_V$ **theories**$_1$ on$_2$ the$_3$ circus$_4$ monkeys$_5$ who had to identify colors. (Unbounded, present perfect)

    d. Deliberately, the researcher **tested**$_V$ **theories**$_1$ on$_2$ the$_3$ circus$_4$ monkeys$_5$ who had to identify colors. (Unbounded, simple past)

The influence of CR on the processing of tense-aspect was investigated within the same experiment through the manipulation of adverbial modifiers in 24 sentences. The following examples illustrate how adverbial modifiers were manipulated — reading time differences for each condition were analysed by L2 proficiency and L1 influence:

    e. **For two minutes**, the dog **has chased**$_V$ the foxes$_1$ to$_2$ their$_3$ nearby$_4$ burrow$_5$ while barking to alert the hunters.

    f. **For two minutes**, the dog **chased**$_V$ the foxes$_1$ to$_2$ their$_3$ nearby$_4$ burrow$_5$ while barking to alert the hunters.

g. **In two minutes**, the dog **has chased**$_V$ the foxes$_1$ to$_2$ their$_3$ nearby$_4$ burrow$_5$ while barking to alert the hunters.

h. **In two minutes**, the dog **chased V** the foxes$_1$ to$_2$ their$_3$ nearby$_4$ burrow$_5$ while barking to alert the hunters.

The second task involved offline rating, whereby participants were asked to rate their agreement with a statement that described the content of the same sentences as those used in the first task. A six-point Likert-style scale was chosen in order to remove the neutral option present in odd-numbered scales (e.g., Neither agree nor disagree), and can be seen in Examples (12) and (13). The condition in Example (12) was created to test the influence of manipulation in boundedness on the participants' continuability ratings, whereas the conditions in (13) examined the influence of current relevance, which was marked by adverbials as in (20e) and (13f) or by morphological marking as in (13g) and (13h).

(12)

a. Sentence: Deliberately, the researcher has tested her theory on the circus monkeys who had to identify colors.

Statement to rate: When the action **has tested her theory** is finished, it can be continued.

(Strongly Disagree 1 2 3 4 5 6 Strongly Agree)

(PP and bounded (her theory))

b. Deliberately, the researcher <u>tested her theory</u> on the circus monkeys who had to identify colors.

Rating: When the action **tested her theory** is finished, it can be continued.

(Strongly Disagree 1 2 3 4 5 6 Strongly Agree)

(Simple Past and bounded (her theory))

c. Deliberately, the researcher <u>has tested theories</u> on the circus monkeys who had to identify colors.

Rating: When the action **has tested theories** is finished, it can be continued.

(Strongly Disagree 1 2 3 4 5 6 Strongly Agree)

(PP and non-bounded (theories)

d. Deliberately, the researcher <u>tested theories</u> on the circus monkeys who had to identify colors.

Rating: When the action **tested theories** is finished, it can be continued.

(Strongly Disagree 1 2 3 4 5 6 Strongly Agree)

(Simple Past and non-bounded (theories)

Farina (2017, pp.93-94), in the rating task in the conditions in Example (12), examined the participants' understanding of the boundedness of the predicates and how boundedness of the predicates interacts with tense-aspect distinction (simple past vs present perfect), Farina predicted that participants would rate the phrases in the non-bounded condition (c and d) as more continuous than those in the bounded conditions (a and b).

Farina (2017, pp.96-97) tested the influence of CR in the rating task in two ways. First: CR was marked adverbially, as seen in (13e) and (13f). Second: the CR was marked by morphological markers (present perfect vs simple past as in (13g) and (13h).

(13)

    e. Sentence: <u>At present</u>, Robert **has hiked** with Emma to the mountain summit in order to see the beautiful view.

    Statement to rate: The phrase **at present** indicates that the action or its consequences are still relevant.

<p align="center">(Strongly Disagree 1 2 3 4 5 6 Strongly Agree)</p>

(+CR – at present)

    f. <u>At some point,</u> Robert **has hiked** with Emma to the mountain summit in order to see the beautiful view.

    Rating: The phrase **at some point** indicates that the action or its consequences are still relevant.

<p align="center">(Strongly Disagree 1 2 3 4 5 6 Strongly Agree)</p>

(–CR – at some point).

    g. Cheerfully, the artist <u>has painted </u>a picture of the splendid mountains when the sun was rising because it was so beautiful.

    Rating: The fact that **a picture** has been **painted** is relevant at the present time.

<p align="center">(Strongly Disagree 1 2 3 4 5 6 Strongly Agree)</p>

    h. Cheerfully, the artist <u>painted </u>a picture of the splendid mountains when the sun was rising because it was so beautiful.

Rating: The fact that **a picture** was **painted** is relevant at the present time.

(Strongly Disagree 1 2 3 4 5 6 Strongly Agree)

Farina outlined predictions for the rating task in the conditions in (13) as follows: first, in the adverbial marker condition, participants were expected to view the [+CR] marker in condition (13e) as an indicator of CR compared to the [-CR] marker in condition (13f). Second, in the morphologically labelled condition, participants were expected to rate the present perfect phrases in condition (13g) as a better indicator of CR than the simple past verb phrases in condition (13h).

Rating differences were analysed by L2 proficiency and L1 pattern. Regarding the boundedness distinction, the SPR results for both native speakers and L2 English users show no differences in their ratings of the bounded and nonbounded predicates when they are compared to each other. However, these results indicate that performance in both the SPRT and rating task was affected by both English proficiency and L1 patterns.

Regarding L2 Proficiency, In the SPR task, the two intermediate groups and the advanced group responded to the manipulations of boundedness. Only the advanced group's reading times were affected by boundedness manipulations in that they processed bounded predicates more rapidly than nonbounded ones in the present perfect. The reading times of the two intermediate groups were very similar, with no meaningful effect of manipulation of boundedness on tense-aspect processing.

In the rating task, the ratings of the intermediate and advanced groups were also affected by manipulations in boundedness. These groups rated nonbounded predicates in the present perfect as much more continuable than either bounded predicates in the present perfect or any predicates in the simple past.

Second, L1 patterns also affected performance in the tasks. When the results of groups are compared according to their L1 background. The SPR task showed clear differences in reading times between the Arabic and Chinese groups. The Arabic group performed better than the Chinese group, and their reading times were affected by boundedness and grammatical tense manipulations. Conversely, the reading times of the Chinese group were not influenced by the manipulation of the boundedness of predicates. In the rating task, the Arabic group assessed

continuability more natively than the Chinese group. This significant difference indicates that the Arabic group experiences some facilitation or benefit, which seems to be rooted in the transfer of L1 processing strategies. Arabic marks boundedness semantically and does not have an English-like present perfect. Therefore, Farina (2017) believes it is unclear what features from the L1 grammar are being transferred to facilitate L1 Arabic speakers' processing of tense-aspect in this task.

Regarding the manipulation of adverbial modifiers, the results indicate that performance on both the SPR task and rating task was also meaningfully influenced by English proficiency and L1 background. First, the results indicated that advanced L2 learners of English were the only group whose scores indicated any association between adverbial phrases and CR. They accurately associated higher CR ratings with the predicted [+CR] modifiers, which induce the use of present perfect and lower ratings with the [−CR] adverbial modifiers, those adverbs which block the use of present perfect.

Second, the SPR task produced no evidence to suggest that the mother tongue of the L2 learners influenced the tense-aspect processing of manipulations of adverbial modifiers. However, in the rating task, both the Arabic and Other groups responded to manipulations in adverbially marked CR, but the Chinese group did not; no group displayed a clear association between verbal morphology and CR rating. The Arabic and Other groups associated higher CR ratings with [+CR] adverbial modifiers that collocate with the present perfect and lower ratings with [−CR] adverbial modifiers that collocate with the simple past. These findings suggest that the Arabic group understands the associations of [+CR] and [−CR] adverbial phrases. This indicates that they used adverbial phrases as cues for tense-aspect distinction, which may be a strategy transferred into English from Arabic.

One of the limitations of Farina's (2017) investigation is that the number and background of participants were restricted. This resulted from his assigning participants to multiple groups with different L1 backgrounds and different levels of English proficiency. The adult L2 English learners have the following native languages: Arabic (11), Chinese (42), French (2), Hindi (2), Japanese (5), Korean (2), Spanish (3), and Ukrainian (1). In the second administration using the rating task, they have the following native languages: Arabic (11), Chinese (44), French (2), Hindi (2), Japanese (10), Korean (4), Spanish (3), Thai (1), and Vietnamese (1). They were

divided into different levels of L2 English proficiency. It might have been better to include a sufficient number of participants and focus on a specific L1 group with different L2 proficiencies, in order to yield more precise results.

Farina (2017) pointed out that the choice of online reading measures in this investigation was made after weighing the costs and benefits of using those tasks, but they are not the only tasks that lend themselves to the study of tense-aspect acquisition and processing. Another prominent task to measure online processing is eye tracking. An eye-tracking study using similar sentences to those in the SPR task would capture both fixations and regressions, which would provide more detailed data on how tense and aspect are composed in each predicate and in the sentence as a whole.

To sum up, the results of the production vs processing studies revealed that the sensitivity to temporal/aspectual mismatches appeared more in the offline tasks compared with the online ones and the ability to detect temporal/aspectual mismatches in present perfect and simple past items was more evident in offline tasks as opposed to online tasks. The main reason for the observed difference in sensitivity to temporal/aspectual mismatches between offline and online tasks in production versus processing studies lies in the inherent characteristics of these tasks, where online tasks with their real-time nature require immediate comprehension and quicker responses, potentially leading to a lower level of sensitivity to subtle linguistic nuances.

Moreover, this sensitivity to the features associated with the use of the present perfect such as to current relevance or temporal unboundedness influenced by other factors such as Nativeness as in Eriksson (2016) between English native speakers and advance Russian learners of L2 English. It can be also influenced by L2 English proficiency and L1 background as in the results of Farina's investigation, which emerged from the Arabic group's performance on both the reading and the rating tasks, revealed that Arabic learners of English performed in a more nativelike manner in the SPR task than their proficiency predicted and in the rating task, they showed more nativelike continuability rating scores than the Chinese group. These findings from Farina's investigation are suggestive of positive transfer from L1 Arabic; however, as discussed in Chapter 2, it is not yet clear what feature or features were transferred from L1 Arabic to the interlanguage that produced these positive results. Until recently, there has been no reliable evidence that can empirically predict how the features of the English present perfect

map in L1 Arabic. This thesis, therefore, intends to determine what formal or functional features of L1 Arabic grammar benefit the acquisition and processing of [CR] and [temporal boundedness] in present perfect contexts in L2 English.

Furthermore, the present investigation in this thesis sets out to assess the effect of the inherent semantic properties of the predicate (telicity) on the acquisition of the English present perfect. It is widely known that telicity influences the tense-aspect distinction. The lexical aspect of the predicate (telicity) is an important issue that was taken into consideration when constructing the test items in our present investigation. As the prototype account suggests about the relationship between the grammatical and lexical aspects and the Vendlerian categories, "Learners first use a (perfective) past marking on achievements and accomplishments, eventually extending use to activities and statives" (Bardovi-Harlig, 2000, p.227). The following section will present a review of second language acquisition (SLA) studies that have investigated the acquisition of the English present perfect in relation to the semantic properties of the predicates (telicity).

3.5   Interaction between the present perfect and the lexical aspect (Telicity)

It is broadly known how the telicity of predicates could influence tense-aspect distinctions. Andersen and Shirai (1995) highlight the interaction between the grammatical aspect and lexical aspect by introducing the AH, which is similar to the prototype account by Li and Shirai (2000), in which they claim that language learners are strongly influenced by the inherent aspect of the predicates in their acquisition of tense and aspect markers. The AH suggests that language learners link past perfective markers with telic predicates (achievements and accomplishments) as a prototypical structure. In contrast, they tend to link imperfective markers with atelic predicates (activities and states) as a prototypical structure in their acquisition of temporal and aspectual distinctions. Since the meaning of the past perfective is associated with completed actions, its prototypical structure is more compatible with telic predicates. The progressive and imperfective marking is associated with the meaning of "in progress" or "the continuous existence" and is therefore associated with atelic predicates (Bardovi-Harlig, 2005). This hypothesis has been attested in a number of production studies on the acquisition of L2 English past perfective morphology. The data were collected by means of story narration and a short passage cloze task. Overall, the findings of those studies have

shown an agreement with the predictions of AH, where learners were more likely to use simple past with telic predicates (achievements and accomplishments) than with atelic ones (states and activities) (Bardovi-Harlig and Reynolds, 1995; Salaberry, 2000).

Recently, the interaction of lexical and grammatical aspect has attracted more attention in the field of language processing. Yap et al. (2009) carried out a processing study on native speakers of Cantonese to examine the interaction between grammatical and lexical aspect. In a self-paced reading task, the participants' reaction times were tested in their processing of manipulated items according to lexical and grammatical aspect features, for example, perfective aspect *zo* with accomplishment predicates and imperfective aspect *gan* with activity predicates. The results of this investigation revealed evidence consistent with the AH, where the perfective items were processed faster with accomplishment predicates. On the other hand, there was quicker processing for the imperfective sentences with activity verbs.

Zeng et al. (2021) conducted a self-paced reading task to investigate the impact of L2 English proficiency and the lexical aspect of the predicate on the processing of tense and aspect. A group of L2 Chinese learners of English and English native speakers took part in this investigation. The results of this investigation revealed that the lexical aspect of predicates affects the participants' processing of the sentences for both L2 Chinese learners of English and English native speakers in the same way for the processing of the prototypical combination (past marking with telic predicates and progressive marking with atelic predicates). The results of SPR task showed shorter reaction times in processing the sentences, including prototypical combinations, than the non-prototypical combinations (past marking with atelic predicates and progressive marking with telic predicates).

However, the issue of the influence of the lexical aspect of the predicate on tense-aspect processing is still controversial. In contrast to Yap et al. (2009) and Zeng et al. (2021), Chan (2012) did not find such an influence on the online processing of tense and aspect among L2 learners of English. Chan (2012) conducted a psycholinguistic study using a self-paced reading task to investigate the processing of the English past and progressive marking by native and non-native speakers of English. The design of the test items in Chan's investigation included two grammatical tense and aspect markers (past and progressive morphology) and three types of lexical aspect of the predicates (achievement, state, activity). The results revealed that both

German and Chinese learners of English had the quickest reaction times for their processing of the sentences, including stative verbs with a past marking which does not support the predictions of the AH.

Regarding the present perfect and the lexical aspect (telicity), little is known about the influence of the predicates' inherent semantics on the present perfect marking. Most studies in SLA research have focused on the effect of the semantics of the verbs on the production and processing of two grammatical marking types, which are past and progressive marking, as discussed at the beginning of this section. Uno's (2014) study is one of few studies which examined the impact of the inherent semantics of the predicates on the acquisition of the English present perfect by Japanese learners of English. The study focused on the acquisition and use of the present perfect in relation to the internal semantics of predicates, with the purpose of examining the effect of lexical aspect (telicity) on the ability of L2 leaners to use the present perfect form. The data was gathered from a group of 29 Japanese learners of English of different proficiency levels, who were given a cloze test. The test contained 4 passages, with slots for the participants to provide the correct tense and aspect forms. The passages targeted the present perfect form in contexts with and without durative adverbial modifiers to examine the L2 learners' accuracy in using the present perfect form. The target contexts of the cloze test were provided by 10 native American, Australian, and British English speakers. Additionally, the instrument was pilot tested with 24 Japanese students (similar to the subjects of the study itself), who helped to improve the test. Uno (2014) successfully demonstrated that the Japanese learners of L2 English were affected by lexical aspect in their use of the present perfect form. The results revealed that the participants tended to use the present perfect form with atelic verbs in contexts containing durative adverbs. Contrastingly, the participants were less accurate in their production of the present perfect form in contexts that did not contain durative adverbs, and those which occurred with telic verbs, as can be seen in Table 3-3

Table 3-3

Responses for the perfect form; percentage means and standard deviations (Uno, 2014)

Lexical aspect	Sentential contexts with a durative adverb		Sentential contexts without a durative adverb	
	M	*SD*	*M*	*SD*
Telic	43.36 (88)	21.74	32.75 (76)	18.72
Atelic	63.79 (74)	27.21	36.45 (74)	24.00

Note: Raw numbers of the present perfect form used provided in parenthesis: (w) Note that the number of the target contexts varies from each other

Uno (2014) concluded that the lexical aspect of the verb (telicity) and adverbial modification could influence the accuracy of learner production of the English present perfect. The results of Uno's study showed some influence of the inherent semantics of the predicates over the use of the present perfect form of the verb, where the participants tended to use present perfect with atelic verbs in contexts that included adverbs of duration. On the other hand, the participants had less accurate production of the present perfect with telic verbs in the absence of the adverbs.

Similarly, Shami (2010) investigated the role of lexical aspect in the acquisition of the use and development of L2 English tense among a group of Saudi Arabic learners of L2 English. Fill-in-the-gap and two-option multiple-choice tasks were used in this investigation. In the results of Shami's investigation, the present perfect proved to be the most challenging for the Arabic learners of English who participated in this study. Even though their use of the present perfect was extremely low in both tasks, the results revealed a preference for using the present perfect with activities (atelic), followed by accomplishments (telic), and then states (atelic). The greatest challenge for the participants was employing the present perfect with achievement predicates (telic). This pattern of use of the present perfect provides evidence against the AH, which proposes that the use of the perfect develops from achievements to accomplishments to activities to states.

Shami (2010) indicated that the increasing use of the present perfect with activity and accomplishment predicates could be attributed to the use of the temporal adverbials, which induce the use of the present perfect such as *for, since, or already*. Shami (2010) further investigated activity and achievement predicates, revealing that six of each class's ten predicates contain temporal adverbs such as *since, for, and already*. Presumably, due to their incompatibility with the simple past, these adverbials increased occurrences of the present perfect. Shami (2010) concluded from his investigation that the present perfect appeared to be influenced more by factors other than the lexical aspect of the predicate (telicity), including its semantic complexities, the use of temporal adverbials, and the L1 Arabic influence.

Contrary to the findings obtained in the investigations of Shami (2010) and Uno (2014), Liszka (2002), Collins (2002, 2004) and Eriksson (2016) did not show a significant influence of the lexical aspect of the predicate in the use of the present perfect form. Collins (2004) concluded in her investigation that the L2 Japanese learners of English in completing a cloze passage task tended to overuse the past perfect and the present perfect in simple past contexts, and they did not show a semantic bias to any of the lexical aspect categories of the verbs in their use of the present perfect. In the same way, Liszka (2002) found in her analysis of oral and written data gathered from L1 German, Chinese, and Japanese learners of English that the L2 learners did not associate the use of the English present perfect with a specific type of the lexical aspect of the verbs (telic vs atelic), except the Chinese learners who showed a slight tendency to use the English present perfect form with telic predicates.

Similarly, Eriksson (2016) concluded that the telicity of predicates did not significantly influence the participants' judgements of English present perfect sentences. Eriksson seeks the difference between the production and processing of the English present perfect by using an offline acceptability judgment task and online SPR task among L2 Russian learners of English and English native speakers. The study investigated whether the verbs' lexical aspect (telicity) affects the participants' processing behaviour. Telicity was manipulated in this investigation to create 4 items per each experimental condition, as can be seen in Examples (14) and (15). Eriksson used an offline acceptability judgment task and an online SPR task using the same test items to see the difference between the production and processing of the L2 English present perfect among the advanced Russian learners of English and the native speakers.

(14)   **Present Perfect Condition**

a. Since last year, Kate has studied French every evening (atelic, match)

b. * Last year, Kate has studied French every evening (atelic, mismatch)

c. Since spring, Bert has planted many different flowers (telic, match)

d. *Last spring, Bert has planted many different flowers (telic, mismatch)

(Eriksson, 2016, p.30)

(15)   **Past Simple Condition**

a. Last year, Kate studied French every evening (atelic, match)

b. *Since last year, Kate studied French every evening (atelic, mismatch)

c. Last spring, Bert planted many different flowers (telic, match)

d. *Since spring, Bert planted many different flowers (telic, mismatch)

(Eriksson, 2016, p.30)

The results of the offline judgment task showed that both native English speakers and Russian learners of English distinguished between matching and mismatched items in the present perfect condition. There was no significant effect of telicity on their judgments in the present perfect sentences. For the past simple condition, advanced learners judged atelic items to be slightly less acceptable than telic items in both match and mismatch conditions, similar to the native participants, but the difference between telic and atelic conditions did not reach significance.

The findings of the online SPR revealed that the participants were sensitive to temporal mismatch in the present perfect condition, where they slowed down in their reading of present perfect mismatch sentences, whether the predicate is telic or atelic. The reading times measured with the SPR task revealed that native speakers slowed down when encountering a present perfect mismatch irrespective of verb telicity and slowed down slightly when encountering

atelic verbs in the past simple mismatch. However, they were not affected when encountering telic verbs in past simple mismatch conditions. The grammatical and ungrammatical sentences were processed similarly by the advanced Russian learners of English, however, there was a difference in processing patterns for telic and atelic sentences. It has been suggested that the present perfect and simple past may be associated with L2 learners' perfective interpretation, which could lead to a processing cost in processing atelic sentence patterns.

Eriksson's investigation has provided important insights into the behaviour of native British English speakers and advanced Russian learners of English when they processed tense-aspect mismatches and the influence of telicity of the predicates on their processing of tense and aspect (present perfect vs simple past). Eriksson (2016) revealed a potential area of difficulty for advanced learners of Russian in their acquisition of the English present perfect: atelic predicates, where there were assessing and processing problems in both online and offline tasks. Further investigation of groups from different L1 backgrounds could clarify whether this behaviour in the acquisition of the English present perfect could be generalised to all L2 English learners or whether it is specific to Russian learners of English. However, this conclusion from Eriksson (2016)'s investigation might have been more comprehensive and detailed if this investigation included manipulation of the CR type of the present perfect context (continuative, experiential, resultative, and recent past) to test its interaction with the telicity of the predicate and to what extend this manipulation affects the processing and the acquisition of the English present perfect.

Little attention has been paid to examining the interaction between the lexical aspect of the predicate and the semantic interpretations of the English present perfect (continuative, experiential, resultative, and recent past). In a more targeted experimental study, Terán (2014) examined the influence of the telicity of predicates on the developmental acquisition of the English present perfect by L1 Spanish speakers. The participants were 85 students attending a teacher training programme at an Argentine University whose L1 is Spanish and who were learning English as an L2. The data was gathered through a forced-choice task with 16 situations equally distributed between two present perfect functions (continuative and experiential) and between telic and atelic predicates of four semantic categories: states, activities, achievements and accomplishments. The subjects were instructed to choose the

correct verb form out of three options (simple present, simple past or present perfect) that would best complete the given sentences, as can be seen in the following examples:

(16)   (Continuative Perfect: Atelic)

Did you read the local news? A clerk who _____ for the city government since 2006 with access to important documents is accused of revealing letters and memos that apparently show corruption in the mayor's office.

                    a. has worked   b. worked   c. works

                                                                (Terán, 2014, p.130)

(17)   (Continuative Perfect: Telic)

The six oil plants in Mexico cannot now meet the nation's needs. Mexico has to import nearly a quarter of its gasoline from the United States. It _____ a new oil plant since the 1970s.

                    a. hasn't built   b. didn't build   c. doesn't build

                                                                (Terán, 2014, p.131)

(18)   (Experiential Perfect: Atelic)

Christian Frederick Martin was born in Germany two hundred years ago. Today the Martin name is known by country musicians and by anyone who _____ a guitar.

                    a. ever plays   b. ever played   c. has ever played

                                                                (Terán, 2014, p.132)

(19)   (Experiential Perfect: Telic)

We each throw out our trash, and where does most of it go? The afterlife of our garbage is explained by Edward Humes, a Pulitzer Prize-winning journalist who _____ more than 10 books.

a. writes   b. wrote   c. has written

(Terán, 2014, p.133)

The results, supporting the conclusions of Bardovi-Harlig (2002), revealed that accuracy in the production of the present perfect in the study was significantly correlated with L2 English proficiency, as illustrated in Table 3-4. This is to say that learners with a high level of proficiency in English were more accurate in using the present perfect form than those with an intermediate level. In addition, the results showed the effect of the lexical aspect (telicity) on the participants' production of the correct form of present perfect: both the intermediate and advanced groups showed a tendency towards employing the continuative perfect with atelic verb types and the experiential perfect with telic verbs. However, overall, the data seem to suggest that the advanced group achieved higher rates of correctness in both the continuative and experiential perfect contexts, which provides evidence for the AH (Andersen and Shirai, 1994; 1996). Advanced learners outperformed intermediate levels in both continuative and experiential perfect situations, suggesting that they achieved the target-like performance in these two functions using both prototypical (continuative with atelic and experiential with telic) and non-prototypical (continuative with telic and experiential with atelic) structures, as expected from the AH's predictions.

Table 3-4

Percentage of appropriate use in the two basic functions of the English Present Perfect across proficiency levels in (Terán, 2014, p.73)

	PERSISTENT SITUATION	EXPERIENTIAL PAST
Intermediate	78%	60%
Advanced	**88%**[*]	**72% **[**]

Note: * = significant priority of the advanced group at alpha .025.

** = significant priority of the advanced group at alpha .01.

Furthermore, the error analysis of the participants' responses revealed a negative transfer from their L1 Spanish grammar, where most of the participants transferred the wrong verb form into their use of the English present perfect by selecting the simple present instead of the present perfect, which is acceptably used in Spanish in persistent situations with activity predicates, as can be noted in the following example:

(20)

    a. **English** (Perfect of persistent situation)

    We have lived in this house since we got married.

    b. **Spanish** (Compound continuous perfect)

    Vivimos (live) en esta casa desde que nos casamos. (present simple)

    "We have lived in this house since we got married." (Terán, 2014, p.16)

One of the limitations of Terán's study could be related to the level of the L2 English proficiency of the participants if the comparison of the L2 English proficiency levels included the elementary level. It would have provided a better understanding of the entire developmental process of the acquisition of the English present perfect by L1 Spanish speakers. Terán (2014) hypothesised that experiential perfect contexts are more compatible with telic predicates than

atelic ones. In contrast, Dahl and Hedin (2000) argue that stative and activity predicates are compatible with the experiential perfect because iterativity and repeatability are central features of this semantic interpretation of the present perfect. Consequently, the experiential perfect situation is assumed to be more associated with atelic predicates than telic ones. For our present study, we argued that the experiential perfect context is more compatible with atelic predicates since it expresses a situation that occurred several times in the past, and has a potential to reoccur in the future.

Unlike Terán (2014), Karpava (2017) proposed that the experiential and continuative present perfect contexts are more compatible with atelic predicates. In contrast, resultative and recent past perfect contexts are more associated with telic predicates. Karpava's investigation revealed that the lexical aspect or *aktionsart* of predicates affects the production of present perfect in relevant semantic contexts (experiential and resultative). It was found that experiential perfect context is strongly associated with atelic predicates, whereas telic predicates (achievements and accomplishments) are more compatible with the resultative perfect contexts.

The finding of Karpava's study is consistent with Davydova's (2011) corpus-based study on variations in the CR of the semantic contexts of the present perfect (continuative, experiential, resultative, and recent past). She found that activity and stative predicates are more compatible with continuative and experiential perfect contexts. Further, Davydova (2011) indicated that learner varieties of English associate telic predicates with the resultative function of the present perfect. She also found that the recent past interpretation of the English present perfect has very general semantic properties; it can be used with various verbs: achievements, accomplishments, activities, and states.

From the preceding discussion, it is apparent that further understanding is necessary before drawing a conclusion about the impact of the lexical aspect of the predicate (telicity) on the acquisition of the semantic functions of the English present perfect among L2 English learners. Therefore, one of the most significant goals of the present investigation is to develop an understanding of how telicity could influence the semantic functions of the present perfect. From the results of the previous studies, it can be initially predicted that the L2ers will easily

associate the present perfect in the resultative and recent past context with telic predicates. In addition, they are expected to associate the continuative and experiential perfect with atelic predicates and extend it to be used with telic predicates. However, the results may depend on other variables, such as the participants' L2 English proficiency and the influence of their L1. The following sections present a detailed discussion of the influence of the L1 on the acquisition of L2 English present perfect.

Second, the other conclusion that has been derived from the above empirical studies is that the use of the English present perfect significantly improves as the level of L2 English proficiency increases (Terán, 2014; Uno, 2014; Karpava, 2017). Moreover, the findings from Terán's (2014) study showed that the predicate's lexical aspect (telicity) effect on the acquisition of the present perfect decreased as L2 proficiency levels increased. The advanced level group was able to use both the continuative and experiential perfect with telic and atelic predicates more accurately than the learners of the intermediate level group. This conclusion has not been supported by Karpava (2017), who investigated the acquisition of the English present perfect by L2 Greek Cypriot learners of English. Karpava (2017) found that the use of the target present perfect form improves with L2 English proficiency levels; however, participants' L2 acquisition has been influenced by telicity, where the participants at the later stage of L2 English proficiency tended to decrease the use of perfective/past tense forms with atelic predicates and use these forms more with telic predicates. These results from the investigations of Terán (2014) and Karpava (2017) are in line with the findings in the production experiments. Some production experiments have shown that the effect of the lexical aspect of the predicates decreases with increasing proficiency (Rocca, 2007), while others have shown that it increases as the proficiency level goes up (Robison, 1995).

3.6   L1 Transfer in the Acquisition of the Present Perfect

The contribution of L1 transfer in L2 acquisition is undoubtedly one of the most prominent factors which affect the L2 acquisition of temporal and aspectual distinctions. Although the magnitude of L1 transfer has varied widely, it has been the focus of SLA research for decades. Several previous SLA studies have reported that L2 learners have difficulty acquiring English

tense and aspect distinctions due to morphological-semantic differences between their L1 and L2 English (Bardovi-Harlig, 2000; Slabakova, 2000).

Previous research by (Yoshimura and Nakayama, 2009) on the acquisition of English present perfect by Japanese learners revealed that L1 transfer had been observed in English-speaking Japanese who use simple past instead of present perfect in their English L2 composition due to L1 negative transfer, as can be seen in the following examples:

(21)

     a. *The Internet **influenced** a lot on the business. (L2 Japanese learners' production)

     b. The Internet **has influenced** the business side a lot. (Yoshimura and Nakayama, 2009, p.366)

(22)

     a. *Thanks to them, our life **became** more comfortable. (L2 Japanese learners' production)

     b. Thanks to them, our life **has become** more comfortable. (Yoshimura and Nakayama, 2009, p.367)

The situations in Examples (21) and (22) express the influence of the internet on our lives and how it has had a significant contribution to communication. The impact of the internet started in the past and still has a result on our lives at the moment. Thus, the underlined simple past forms of the verbs were considered misused in L2 Japanese learners' productions due to L1 negative transfer. The use of the present perfect form is the expected correct verb form to express these situations in English as in sentences (21b) and (22b). Yoshimura and Nakayama (2009) concluded that Japanese Speakers of English have difficulty perceiving the aspectual properties of simple past and present perfect in L2 English. Under the feature reassembly hypothesis (Lardiere, 2009), which posits that features from L1 are selectively transferred to L2, several features from Japanese may affect the acquisition of the English present perfect by Japanese learners of L2 English. Japanese has a different tense-aspect system compared to English. The absence of a direct equivalent to the English present perfect in Japanese may influence learners to use structures more familiar to their L1, such as the simple past.

Similar results were found for Turkish speakers. Bulut (2011) tackled the acquisition problem of the English present perfect by Turkish speakers and concluded that Turkish learners of English tended to substitute present perfect with simple past in L2 English due to the lack of present perfect form in their mother tongue. Turkish does not have a grammatical structure equivalent to the English present perfect. In Turkish, past actions are often conveyed using simple past forms. Turkish speakers identify a feature in their L1 Turkish related to expressing past actions or completed events. In this case, there is no a distinct present perfect in Turkish. As a result, Turkish learners of L2 English seek to reassemble this feature in the L2 English. In the absence of a direct parallel to the Turkish feature, they may select a corresponding feature in English that seems to have a similar function. Due to the absence of a direct equivalent to the present perfect in Turkish, Turkish learners may select the simple past in English as a substitute. This reflects a reassembly of the identified feature within the acquisition of L2 English tense-aspect distinctions as predicted by the FRH Lardiere (2009;2012).

L2 Korean learners of English show a very similar difficulty in their acquisition of L2 English present perfect acquisition in a study conducted by Han and Hong (2015), where Korean learners of English make much less use of the present perfect form than native speakers of English in both data from their written and spoken English as in an Example (23):

(23)
      a. *They **<u>cleaned</u>** the car. It looks new again. (L2 Korean learners 'production)
      b. They **<u>have cleaned</u>** the car. It looks new again.

The Korean learners of English tended to overuse simple past forms, as in (23a) in the context where they should use present perfect because both simple past and present perfect are expressed by the morpheme ***-ess,*** which is similar to the morpheme ***-ed*** in English which leads to a negative transfer from L1 Korean. According to the FRH, Lardiere (2012, p113) indicated that "difficulty in L2 grammatical acquisition is related to the extent to which formal features that have already been "packaged" or assembled into certain morphemes in the L1 must be isolated and redistributed among different morphological items in the L2". According to this account, the learning challenge for L1 Korean speakers in the use of L2 English present perfect,

entails isolating the perfective meaning from the simple past form (expressed by the morpheme *-ess,)* and reassembling it to the morphological form of the present perfect in L2 English.

However, the L1 background does not guarantee successful acquisition of tense and aspect distinctions in the target language. This can be observed in the performance of L1 Italian learners of English in the findings of Lock (1996)'s investigation. In the Italian language, there exist forms similar to the English present perfect (passato prossimo) and simple past (passato remoto). However, Italian learners of English show a tendency to use passato prossimo (present perfect) for any event occurring in the relatively past time, whereas English native speakers generally use the simple past, as in (24). This influence of the L1 on the acquisition of L2 English present perfect was also observed by Collins (1999), where French speakers of English overgeneralised the use of the present perfect to simple past contexts due to its formal similarity to the French passé *composé* which is appropriate in such contexts.

(24)   * I have met Sara last week.

On the other hand, Roberts and Liszka's (2013) revealed a positive L1 transfer from L1 French, where the findings of the self-paced reading task illustrated that French learners found mismatch conditions more difficult to process than the match conditions of past simple and present perfect items. German learners did not show a processing cost for mismatches in either past simple or present perfect items. The researchers suggested that this difference was due to L1 transfer. German differs from French in that the French passé composé (compound past) functions similarly to the English present perfect, while the German perfekt mainly infers a simple past interpretation. Roberts and Liszka's (2013) interpretation of their result was that:

> "it may be that apart from perfect aspect, it is the difference in whether … their first language distinguishes aspectual differences grammatically (French: im/perfective) or not (German) that underlies some of the differences in performance … Speakers of languages with encoded aspect … are more likely to be sensitive to the aspect of events in their production and comprehension of their L2." (Roberts and Liszka, 2013, p.429)

Similarly, the acquisition of the English present perfect caused persistent challenge for Arabic speakers of L2 English due to L1 Arabic influence. In a study conducted by Mazyad (1999) in which he examined the acquisition of tense and aspect morphology by Arabic learners of English at different levels of proficiency. In Mazyad's investigation, Arabic learners of English were tested in their use of the morphological markings of the English (present, present perfect, past, past perfect, future, and future perfect). Experimental methods such grammaticality judgement and gap-filling tasks were used to achieve this purpose. Mazyad (1999) found that Arabic learners of L2 English have transferred the use of the simple past from L1 Arabic to English present perfect contexts on both tasks. Mazyad (1999) argued that Arabic learners of English must use the simple past to express the same function of the present perfect in English since Arabic does not have a form for the present perfect.

In English, the simple past and present perfect meanings are manifested by two distinct forms, whereas Fassi-Fehri (2004) argued that Arabic only has one form (perfective) underlying both meanings of present perfect and simple past, indicating that the perfective form in Arabic can encode both meanings, and the intended meaning can be determined by adverbial phrase and context. Therefore, Fassi-Fehri (2004) assumed that there is an interpretable [perfect] feature that is not marked explicitly in Arabic and can encode the meanings of the English present perfect and simple past. AI-Thubaiti (2010), Taha, (2013), and Alruwaili (2014) followed the assumption of Fassi-Fehri (2004) in their investigations of the acquisition of L2 English simple present, simple past, and present perfect morphological markings by Arabic speakers of L2 English.

Al-Thubiti (2010) in a contextualised gap-filling task investigated the acquisition of L2 English temporal and aspectual distinctions by a group of Saudi Arabic learner of L2 English from different L2 English proficiency levels. In this task, the participants were provided with thirty contexts, ten of which favoured the simple past, ten the present perfect, and ten the simple present. Participants were given the uninflected form of the verbs and were asked to provide the correct form based on the context provided. Al-Thubiti (2010) found that the Saudi learners showed very high level of accuracy in producing the past form in the obligatory context for the use of simple past across proficiency levels, with the most proficient speakers supplying the target form with the highest frequency. On the other hand, the findings of Al-Thubiti's investigation revealed over use of the simple past in the contexts which favours the use of the

present perfect, even among the advanced group of the Arabic learners, who only managed to use the present perfect about 23% of the time in obligatory contexts. Thus, the Saudi Arabic learners demonstrated a lack of understanding of the target semantic distinction between the English present perfect and simple past in Al-Thubiti's investigation. Similarly, in a study conducted by Taha (2013), Syrian learners of L2 English were examined in their knowledge of the L2 English simple present, simple past, and present perfect. The findings the Syrian are consistent with those of Saudi learners in Al-Thubiti's investigation, as learners in both groups and at all proficiency levels are quite proficient at using the target simple past in the contexts favouring simple past. The findings indicate that advanced Syrian speakers, in contrast to advanced Saudi speakers, demonstrated the ability to attain target-like proficiency in the present perfect and effectively use its associated grammatical structures in the obligatory contexts for the use of the present perfect.

Alruwaili (2014) tested the role of L1 Arabic grammar in the developmental acquisition of the English simple past, present perfect, simple present, and progressive by Saudi Arabic learners of English. For this purpose, he conducted an acceptability judgement and a gap-filling assignment task. The findings of Alruwaili's study indicated that Arabic-speaking English learners encountered difficulties in distinguishing between the simple past and the present perfect in L2 English. This difficulty extends to even participants at the advanced level of English proficiency, where they supplied the simple past form in the obligatory contexts for the use of English present perfect.

3.6.1   L1 Arabic Transfer Predictions

To sum up, as discussed in Chapter 2, Arabic does not have a direct counterpart to the English present perfect. Al-Thubaiti (2010), Taha (2013), and Alruwaili (2014) followed Fassi-Fehri's (2004) assumption. They assumed that the present perfect and simple past are syncretic in Arabic, where the past/perfective can convey the meanings of both the English present perfect and simple past. Bahloul (2008) indicated that since the event expressed by present perfect can coincide with the moment of speaking, it has a present meaning and could be expressed in Arabic by present/imperfective. Mazyad (1999) and Alsalmi (2013) assumed that the meanings conveyed by the English present perfect could be expressed in Arabic by past/perfective or present/imperfective interchangeably based on the context. Abu Jarad (2017), after examining

the production of the present perfect among L1 Arabic learners of English, indicated that Arabic–English bilinguals, when dealing with the English present perfect, tend to substitute it with the simple past or simple present erroneously.

On the other hand, other linguists, such as Al-Saleemi (1987), Adel (2019), and Mudhsh (2021), have proposed that the English present perfect can be expressed in Arabic by the particle *qad,* which precedes the past form of the verb. Farina (2017), on the other hand, revealed a positive L1 transfer from Arabic in his investigation, where Arabic learners of English performed better than Chinese learners in their use of the English present perfect; however, he indicated that it was unclear what exactly was being transferred from L1 Arabic. Farina (2017) assumed that the Arabic perfect could be mapped onto the English bounded present perfect and the Arabic past continuous mapped onto the English non-bounded present perfect.

In conclusion, the existing body of literature does not provide a clear consensus on the predictions of L1 transfer in relation to the acquisition of the present perfect by Arabic learners of English. Moreover, as we discussed in Chapter 2, the controversy around tense and aspect in the Arabic language, particularly in relation to whether Arabic is a tense or aspect language, makes the process of identifying predictions for our investigation more difficult. Therefore, we decided in the present investigation to adopt a bottom-up (i.e., inductive) approach to the FRH to empirically determine how the features associated with the English present perfect are mapped in Arabic. This investigation begins with two studies in respective L1s, while two further studies test implications for L2 acquisition. Studies 1 and 2 aim to document what verb forms native speakers use in each language in contexts that are predicted to require/block the use of the present perfect. Study 1 is conducted in English to test native speakers of English, while Study 2 is conducted in Arabic to test native speakers of Arabic. Study 3 addresses implications for L2 acquisition by Arabic learners of English of different L2 English proficiency levels of present perfect forms while Study 4, in a slightly separate direction, examines interpretability.

These studies are organised as follows. Study 1 (feature mapping in L1 English) is presented in Chapter 4, which is the first experiment conducted in this investigation of English native speakers to confirm the predictions from the theoretical literature regarding the role of [CR]

and [TB] in the licensing of the English present perfect. Study 2 (feature mapping in L1 Arabic) in Chapter 5 aims to establish empirically feature form mapping in L1 Arabic compared with the present perfect feature mapping in L1 English. Then, Study 3 (feature reassembly in L2 English) in Chapter 6 aims to test the predictions of the FRH that were empirically derived from Studies 1 and 2. The second part of this thesis is dedicated to probing the participants' interpretation of the English present perfect contexts, not just their acceptability, through an inference task in Study 4, presented in Chapter 7. This inference task was designed to examine the participant's understanding of the use of the English present perfect. Chapter 7 presents the relevant theoretical literature and assumptions on this inference task for Study 4. For each study, we present the methods used to create the experiments, the findings, and a discussion of the collected data from these conducted experiments as separate chapters. After that, we summarise these results and discuss their implications for SLA research.

3.7   Conclusion

This chapter reviewed various empirical studies that examined tense and aspect acquisition in general, and the acquisition of the present perfect tense in English in SLA specifically. The results of these empirical studies contribute to the finding that factors such as adverbial modification, telicity of the predicates, L2 English proficiency level, and L1 transfer can affect the accuracy of L2 learner acquisition of the English present perfect. Based on these results, we created experiments which manipulated: (i) the type of CR supported by the context (continuative, experiential, resultative, or recent past), (ii) TB (definite or indefinite adverbial) and (iii) the telicity of the predicate (telic or atelic) to examine how these factors affect the acquisition of the English present perfect by L2ers from different levels of L2 English proficiency levels. The data from prior research provided evidence for predicting the influence of these factors; however, no known research empirically uncovers what is being transferred from L1 Arabic grammar to facilitate or impede the acquisition of the English present perfect contexts by Arabic L2ers of English. The present investigation will address this gap in the literature by adopting a bottom-up approach to the FRH to empirically determine how feature mapping of the present perfect in English compares to feature mapping in Arabic, which leads to precise L1 Arabic transfer predictions for the FRH, which we then tested the in the L2 acquisition study in Study 3 in (Chapter 6).

Chapter 4 Study 1: Feature Mapping of the PP in L1 English

4.1 Introduction

This chapter presents a norming study of native speakers of English that aims: (i) to confirm the predictions from the theoretical literature regarding the role of [current relevance] (CR) and [temporal boundedness] (TB) in the licensing of the present perfect in English, thereby validating the test items for the L2 study, and (ii) to obtain baselines for the L2 study. To achieve this purpose, the use of the present perfect by English native speakers was examined in Study 1 in a contextualised Multiple-Choice (MC) task according to (i) the CR type supported by the context (continuative, experiential, resultative, recent past) and (ii) TB (definite vs indefinite adverbial). We aim to investigate whether the present perfect is obligatory, possible, or impossible for English native speakers in contexts conducive to these four possible interpretations (continuative, experiential, resultative, recent past). TB is operationalised as adverb definiteness in the present investigation to create obligatory contexts (+PP) and blocking contexts (–PP) for the present perfect to confirm to what extent the feature of [temporal unboundedness] is associated with the English present perfect in distinguishing it from the simple past. We will also investigate the extent to which the semantic feature telicity [±telic] affects the use of the English present perfect in the contexts which favour the use of the present perfect.

This chapter is structured as follows: Section 4.2 presents the purpose of Study 1 (Feature Mapping in L1 English) and the general predictions informed by the theoretical literature regarding the features associated with the present perfect vs simple past temporal contrast in L1 English. Section 4.3 presents the methodology used to design the experiment in Study 1 and the procedures of administrating this experiment. Section 4.4 presents the results obtained via the MC task and the statistical analysis of these results, including a summary of these results and a discussion of the findings in relation to the research question of this study and the predictions from the literature. The chapter will end with a conclusion in Section 4.5.

4.2 The purpose of Study 1 (Feature Mapping in L1 English) and general predictions

Study 1 is a norming study investigating the relevant feature mapping in L1 English, and it targets native speakers of English. To restate its aims, it seeks: (i) to confirm the predictions from the theoretical literature, which means to empirically confirm the role of TB and CR in native speakers' use of the English present perfect and (ii) to provide baselines for the L2 study.

In Study 1, we created contexts conducive to the type of the CR of the present perfect context (continuative, experiential, resultative, recent past) and, within these, we manipulated the presence of contextual elements compatible or incompatible with the interpretive features associated with the present perfect. These contextual elements are the telicity of the predicates and boundedness-inducing modifiers. We aim to investigate whether the present perfect is obligatory, possible, or impossible for English native speakers in contexts conducive to these four possible interpretations.

Thus, the aim of conducting Study 1 is to answer the first research question of this project:

> **RQ 1**: Do temporal boundedness and current relevance predict English native speakers' use of the present perfect? and to what extent telicity of the predicate is a relevant feature in the contexts which favour the use of the present perfect in L1 English?

4.2.1 L1 English Feature Mapping Predictions

The predictions of the feature mapping of the present perfect in English that are drawn from the theoretical literature (Comrie, 1976;1985; McCoard, 1978; Binnick, 1991; Declerck, 2006) are listed below:

4.2.1.1.1 Temporal boundedness (TB) and L1 English present perfect

- **Prediction 1: The English present perfect is licenced in temporally unbounded contexts that are identified by indefinite adverbials.**

TB is operationalised in our study as the definiteness of an adverb (indefinite vs definite). The English present perfect is associated with [–temporally bounded] contexts, which are modified by indefinite adverbs. McCoard (1978) points out that the present perfect is entirely incompatible with definite adverbial phrases because the present perfect always denotes an indefinite time span. Adverbial modifiers are expected to influence the acquisition of tense and aspect distinction because they usually facilitate the acquisition of the tense and aspect they are allocated with (McCoard, 1978; Binnick, 1991). Adverbial phrases also can create obligatory or blocking contexts for the use of the present perfect. In the contextualised MC task, the (+PP) conditions include all the sentences followed by [–temporally bounded] contexts in which the English native speakers are expected to choose the present perfect form of the verb to fill the gap in the sentence. On the other hand, the (–PP) conditions present all the sentences followed by [+temporally bounded] contexts in which the native English participants should not use the present perfect, but rather they are expected to use past forms, as illustrated in Table 4-1.

Table 4-1

Example of Temporal boundedness manipulation.

[–Temporally bounded] context [–TB] (+PP)	[+Temporally bounded] context [+TB] (-PP)
Prices **have increased** a lot **recently**. Most people feel they cannot afford a holiday.	Prices **increased** a lot **last year**. The government had to bring in new measures to restore consumer confidence.

4.2.1.2   Current relevance (CR) and L1 English present perfect

- **Prediction 2: The English present perfect is licenced in contexts that favour a current relevance interpretation.**

English native speakers are expected to use the present perfect verb form in the semantic contexts which implicated these four interpretations: continuative, experiential, resultative, and recent past. It has been argued in the literature that these interpretations differ in the degree to which CR is manifested by these semantic interpretations, where the continuative and resultative contexts assumed to have the strongest relation to CR. In contrast, in the perfect of recent past and experiential contexts, the CR was found to be weaker (Depraetere, 1998). In the present study, it would be interesting to see what is the most favourable context for the choice of the present perfect by native speakers of English. We predicted that the continuative contexts have the strongest relation to CR since it describes a situation that began in the past and persists to the moment of utterance.

4.2.1.3   Telicity and L1 English present perfect

Study 1 aims to test whether telicity is a relevant feature in the contexts which favour the use of the present perfect in L1 English. It is important for such critical features to be considered in this study. The AH (Andersen and Shirai, 1995) proposes that past perfective marking emerges with telic predicates (achievements and accomplishments) as a prototypical structure and that progressive markings are strongly associated with atelic predicates as a prototypical structure. The influence of telicity is predicted to appear more in early stage than in later stages of language acquisition.

However, the influence of telicity has been tested more on the use of two tense and aspect markers, which are (past and progressive) marking, as discussed in Section 3.5 in Chapter 3; little is known about how telicity affects the use of the present perfect in L1 and L2. In an L2 study of the production and processing of the English present perfect, Eriksson (2016) concluded that the telicity of predicates did not have any big influence on the responses of both native English speakers and Russian learners of English in both the judgement task and the self-paced reading (SPR) task. The English native speakers in Eriksson' study recognised the mismatched sentences (e.g., *Last year, Kate <u>has studied</u> French) in the judgement task and

slowed down in reading these ungrammatical sentences in the reading task regardless of whether the predicate used in these sentences was telic or atelic.

According to several L1 studies, there is evidence suggesting that children who are acquiring English as their first language tend to acquire the present perfect tense at a relatively late stage, typically between the ages of 4 and 6. Furthermore, the initial usage of the L1 English present perfect is heavily influenced by various factors such as lexical and semantic features of the context (Gathercole, 1986).

Contrary to the results of Eriksson' study, Johnson (1985), in studying the L1 English present perfect acquisition, revealed a possible influence of the telicity of the predicate on the use of L1 English present perfect, where Johnson reported that twenty-two preschool children(ranging in age from 4 years and 5 months to 5 years and 11 months) tended to use the present perfect and the present progressive according to the telicity of the predicate, where the present perfect progressive form was strongly associated with atelic predicates as in (1), whilst in contexts with telic predicates the present perfect was strongly preferred as in (2).

(1)   I **have been practising** law for several years. (Johnson, 1985, p.329)

(2)   I **have just blown** a tyre. (Johnson, 1985, p.329)

On the basis of the results of the aforementioned studies, the influence of telicity on the use of the present perfect in L1 English will only manifest in the early phases of acquisition among L1 English native speakers and no expected effect of telicity on the use of the present perfect by adult native English speakers.

4.3   Methodology

In Study 1, a contextualised MC task was conducted. The reason for choosing this method is to empirically document which verb forms native speakers of English use in English in the contexts predicted to require/block the present perfect. This requires the participants to choose a suitable verb form (from four choices, as explained below) to fill a gap in a sentence that was followed up by an adverbial phrase and a context to induce or block the use of the present perfect, as in Table 4-2. Furthermore, a MC task was deemed to be appropriate for the objective of the present investigation because this kind of task presents the grammatical choices as

categorical options, which enhances the participants to consider the textual and semantic cues in the context during decision-making.

Table 4-2

Example of context manipulation and multiple-choice design in Study 1

PP-inducing context: (+PP) Amal -------- her skills in English since she came to the UK. She will soon be able to pass her exam.	PP-forbidding context: (–PP) Amal ------ her skills in English last year. She was able to pass her exam.
• has improved • will improve • improved • improves	• improves • has improved • will improve • improved

All the critical items and the distractors in these tasks were formulated in the same structure, as follows: [proper noun subject] [verb (with complement or locative adjunct)] [adverbial] + follow-up sentence. For the distractors, the participants were asked to choose between four options (simple past, simple present, conditional and simple future).

4.3.1 Design of the experiment

In Study 1, the use of the present perfect by English native speakers was examined according to the following variables:

- The type of CR supported by the context (continuative experiential, resultative, recent past).
- Telicity of the predicate (telic vs atelic).
- TB (indefinite vs definite) → operationalized as adverb definiteness.

- [±CR] of the adverb ([+CR] Current, [±CR] Neutral, [–CR] Not Current).

We crossed the four CR types (continuative, experiential, resultative, resultative) with the telicity of the predicate (telic vs atelic). Temporal adverbials and the follow-up sentence were manipulated to create two conditions, namely the +PP condition, in which the participants should use the present perfect, and the –PP condition, in which they should not use the present perfect, as in the following example:

(3)   Sarah and Mike ------ (adopt) several little kittens already. Now they want to adopt a dog too. (+PP)

(4)   Sarah and Mike ----- (adopt) several little kittens last summer. But the kittens ran away. (–PP)

In the design of the experimental items, we also manipulated the CR of the adverbs as follows: (i) adverbs expressing CR (+CR) were associated with the use of the present perfect in English, whereas (ii) the non-current relevance adverbs (–CR) were associated with the use of past forms, and (iii) neutral adverbs (±CR), such as *this morning, this afternoon,* were mainly associated with the use of the present perfect and are associated with simple past in some contexts. Table 2-3 (in Chapter 2) shows adverbs are classified as +CR, –CR, and ±CR.

When manipulating these variables in this experiment's design, different issues have been taken into consideration. We will explain in the following sections the properties and the diagnostics we relied on in manipulating these variables to create the experimental items in the present investigation.

4.3.1.1   The properties of the CR type of the present perfect

The properties of the context inducing each type of the interpretations under investigation (continuative, experiential, resultative, and recent past) are defined as follows:

- **The continuative perfect** expresses the past situation that continues to the present moment. Comrie (1978, p.6) calls this type the "Perfect or Persistent Situation" because it "persists into the present", for example:

(5)   Mike **has lived** in Leeds **since 1990**. **He likes this city and is still living there now.**

The present perfect in Example (5) is continuative because the state of living in Leeds starts in the past and still continues at present. Thus, the diagnostic used to create the continuative perfect in the test items is that this CR type of the present perfect implies no change of state and continuous relevance. Furthermore, it allows adverbs of duration such as: *for an hour, since yesterday,* or *since 1990*.

- **The experiential perfect** expresses an event that occurred once or several times prior to the present time, with a potential occurrence in future.

(6)   The army **has attacked** this city **five times. Many citizens were killed, and the city might be attacked again.**

Example (6) exemplifies an experiential perfect because the action of attacking the city occurred five times prior to the present and might occur again in the future. Thus, two major properties were used to create experiential perfects in the test items: First, it allows the likelihood of future occurrence (and they might occur again). Second, it allows indefinite time adverbials of frequency (*often*) or quantity (*ever, never, twice*).

- **The resultative perfect** expresses the present direct or indirect result of a past event.

When designing the experiment, the key property used to create the resultative perfect items was that each one of those resultative items implies a change of state (entailed or conversationally implied), for instance:

(7)   a. John **has left** this morning. **He is not here now**.

        b. John **has left** this morning. **That is why he cannot come to the party today.**

The contexts followed by the resultative perfect in the test items can differentiate between the two types of resultative perfect (direct and indirect resultant states). A direct resultative perfect in the Example (7a), whereby the resultant state is entailed by the perfect sentence in the follow-up context (He is not here now) which means a direct result of a past event. The other type is

an indirect resultant state of a past event, whereby a state can be a result of a past event but is not entailed in the perfect sentence and indirect as in (7b) (Depraetere, 1998). The first type is less ambiguous. It is illustrated in Example (7a), where the presented result state is direct (John is not here now). In the second type, the resultant state can be conversationally implied, and it is indirect, as in Example (7b), which creates more ambiguity (compared with the first type). Therefore, the resultative perfect sentences in the test items will be limited to the first type (direct resultative perfect).

- **The recent past** or **hot news perfect** is used to report an eventuality that just happened. This function relies on the interpretation that the action being described occurred recently. Thus, the diagnostic is that the predicate can be modified by a temporal adverb expressing regency.

(8) I**'ve just watched** the movie. It was very interesting.

The diagnostics used to classify Example (8) as a perfect of recent past is the state of watching the movie that just occurred, and it is modified by the adverb of recency such as *just, recently*, or *lately*. The recent past present perfect is slightly different from the resultative perfect, where the follow-up contexts in the recent past in the test items do not express results as those that followed the resultative perfect items, as illustrated in the following examples:

(9) Susan **has watered** the plants this morning. **They don't need any more water. (Resultative Perfect)**

(10) Nora **has found** a dress **just now.** It took her forever to choose one. **(Recent Past Perfect)**

4.3.1.2   The key properties of telicity of the predicates in the test items

As mentioned before, telicity has to do with whether a situation is described as having an inherent or intended endpoint (Declerck, 1989, p.277). The key property of identifying the telicity of predicates in the test items of this experiment is whether an event has **an intended endpoint (telic)** or **not (atelic).** Telicity does not focus on reaching the endpoint of the action but rather on the existence (or presupposition) of that intended endpoint.

4.3.1.2.1 Vendler's model (1967)

The defining properties determining the telicity of the predicates in the test items in the design of the experiment were based on Vendler's (1967) model of inherent verb semantics. The Vendlerian classification of verbs distinguishes four semantic predicate types as follows: achievements, accomplishments, activities, and states. It has also been argued that activities and states may be taken as atelic predicates, and achievements and accomplishments as telic predicates (Crăiniceanu and Baciu, 2009, p.199): states and activities are classified as atelic because they do not have an inherent endpoint. Accomplishments and achievements are classified as telic because they express situations with an inherent endpoint (Table 4-3).

Table 4-3

Types of telic and atelic predicates used in the test items adopted from (Slabakova, 2001)

Atelic predicates	Telic predicates
States are "described as stable persisting situations that have no dynamics and do not require additional effort or energy to continue" (e.g., see, know, believe, desire, love, hate, want, etc.)	**Accomplishments** "denote dynamic situations with inherent culmination." They have a single clear inherent endpoint (e.g., run a mile, make a chair, build a house, paint a picture, run across the street, etc.)
Activities "are situations that, like states, are durative and have no inherent goal" (e.g., run, sing, play, walk, dance, etc.)	**Achievements** "have no duration and are reducible to a single point in time" (e.g., recognise, find, reach the summit, etc.)

The telic predicates used in the test items consisted of 24 achievement verbs (e.g., finish, read, crash, win, lose, buy, adopt) and 24 accomplishment verbs (e.g., water, write, organise, improve). The atelic predicates were composed of 24 stative verbs (e.g., be, like, enjoy, become, want, feel, love) and 24 activity verbs (stay, play, study, eat, go). To determine the telicity of predicates in the test items, the diagnostic was based on the inherent-aspectual classification by Vendler (1967), as explained above.

4.3.1.2.2 Other tests to predicate telicity in the test items

The present investigation relied on some other methods that are used to predict the telicity of verbs in its experimental manipulations such as quantifying the direct object of the predicate, specifying the goal of a verb of motion, and the use of in/for adverbials. The subsequent sections describe the impact of quantised complements, the goal of motion, and the type of adverb on marking the predicate as telic or atelic.

- **Quantised Noun Phrase (NP)**

This method is discussed in depth by Dowty (1979). He notes that when a predicate has a quantised or definite noun as its direct object, the predicate is telic; in contrast, if the direct object lacks quantised reference or is omitted, the predicate will be atelic (Croft, 2012, p.71). Therefore, the diagnostic would be that if the direct object is quantised, the predicate will be telic, as in Example (11a), where the predicate *drunk* has a definite direct object, a glass of water. In addition, *in an hour* is used to modify the telic predicate *drunk* in (11a). In contrast, the diagnostic for classifying the verb *drunk* in Example (11b) as an atelic verb in that it lacks the definite object, where the object *water* is not specified. In addition, the verb *drunk* is modified by the durative adverbial *for an hour*, which is used to modify atelic predicates.

(11)   a. John has drunk a glass of water in /*for an hour.

          b. John has drunk water for/* in an hour. (adapted from: Dowty, 1979, p.56)

- **Specification of a goal of motion (using prepositional phrase)**

Specifying source and goal location can make the predicate telic, as in (12b), *to the opposite shore*, whereas omitted path expressions make the predicate atelic, as in (12a), *in the ocean*.

(12)   a. James swam in the ocean for/*in one hour. **(Atelic)**

          b. James swam to the opposite shore *for/in one hour. **(Telic)** (Farina, 2017, p.12)

- **In/ for adverbials**

The frame adverbials, such as *in an hour*, and the durative adverbials, such as *for an hour*, must be compatible with the telicity of the predicate. Frame adverbials imply a telic interpretation

because those adverbials usually indicate "a timespan that contains one of the available reference times in the discourse" (Spejewski, 1996, p.267); for example, a clause such as "John dug a ditch in an hour" indicates that the reference time for the event [John dug a ditch] is contained within *in an hour*.

On the other hand, durative adverbials, such as for an hour or *from midnight until two*, identify how long an eventuality lasted and usually imply an atelic interpretation. (Spejewski, 1996, p.267). So, as illustrated in Table 4-4, there are matches between the interpretive properties of the adverb and those of the predicate, and any mismatch between them will lead to anomalous sentences (or ungrammaticality). Hence, we utilised this method as a diagnostic tool to ensure that each predicate used in the test items was classified accurately as a telic or atelic predicate.

Table 4-4

Effect of modifiers on the diagnostics of the telicity of predicates (Depraetere, 1995; Crăiniceanu and Baciu, 2009, p.199)

Durative adverbials (Can modify atelic predicates)	**Frame adverbials** (Can modify telic predicates)
State: John has believed in the devil for several years	**Accomplishment:** John has dug a ditch in an hour
Activity: Mary has run for an hour	**Achievement:** John has discovered the math problem solution in an hour

4.3.1.3 The properties of adverbial modifiers used in the items of the experiment

The design of the experiment relied on two semantic properties to select the adverbial phrases in the test items: TB and CR. As mentioned before, TB is operationalised in our study as the definiteness of an adverb (indefinite vs definite). Thus, the diagnostics used to identify the TB (definiteness) of the adverbs in the test items is that if the adverb specifies a specific reference time in the discourse (date, time, day, year) such as *yesterday*, *in 1990*, or *in the*

last week, it will be considered a definite adverb. On the other hand, if the adverb focuses on specifying a feature of the event rather than the specific reference time, such *as recently*, *just now*, *since*, or *for several years*, it will be an indefinite adverb. Table 4-5 lists the indefinite and definite adverbials used in the test items in this experiment.

Table 4-5

The indefinite and definite adverbial used in the test items.

CR Type	Indefinite adverbs (+PP)	Definite adverbs (−PP)
Resultative	this time x recently	long ago (five, two, three years ago) once yesterday
Continuative	since time x for duration x To date yet	last (night, week, month, year) in (1900, 2003) in (May, June) at 3:00 in the past
Experiential	x times every x so far x times already never ever	
Recent past	lately just(now) recently this very x already	

Regarding the CR of the adverbs, the diagnostics used to identify the CR of the adverbs in the test items was based on Davydova's (2011) classification of adverbials, which was adapted from McCoard (1978) as summarised in Table 2-3 in Chapter 2.

In the previous sections, we identified the relevant features from the theoretical literature and how they were encoded in the test items. The following section will summarise these features to show how they combine to create the experiment's test items.

4.3.2 Material

In a $4 \times 2 \times 2$ design, we fully crossed the type of CR supported by the context x 4 (continuative, experiential, resultative, and recent past) and the telicity of the predicate x 2 (telic vs atelic), yielding eight lexical conditions. We included 12 items per lexical condition, i.e., a total of 96 *base sentences*. Each telicity category included an equal number of *aktionsart* subtypes, as clarified in Table 4-6 (i.e., six states, six activities for atelic predicates and six achievements, six accomplishments for telic predicates). Telic predicates were predicted to favour the simple past even in temporally unbounded contexts (Rothstein 2008).

Table 4-6

The number of experimental items, including manipulation

	Atelic	Atelic	Atelic Total	Telic	Telic	Telic Total	Base items	Total with manipulation
CR type of the context	**Activity**	**State**		**Accomplishment**	**Achievement**			
Continuative	6	6	12	6	6	12	24	48
Experiential	6	6	12	6	6	12	24	48
Recent past	6	6	12	6	6	12	24	48
Resultative	6	6	12	6	6	12	24	48
Grand Total	24	24	48	24	24	48	96	196

The base sentences were manipulated by the adverbial modifiers, which induce or block the use of the present perfect x 2 (definite vs indefinite adverbial). This manipulation resulted in 16 experimental conditions, as illustrated in Table 4-7, with 192 critical items in total. The total number of critical items used in this experiment is 192, and 48 distractors. All the test items and distractors for Study 1 are listed in Appendix A.

Table 4-7

The 16 conditions of the experimental items including manipulation

CR type	Telicity	Aktionsart	Condition	Example
Resultative	Telic	Accomplishment	+PP	Mike-----(paint) the house white this morning. Now, the house is bright and beautiful.
Resultative	Telic	Accomplishment	–PP	Mike-----(paint) the house white two weeks ago. His friends liked the colour.
Resultative	Atelic	State	+PP	Sandra ----- (consider) leaving her job recently. Her boss never treats her well.
Resultative	Atelic	State	–PP	Sandra ----- (consider) leaving her job last year. But then her boss started to treat her well.
Continuative	Telic	Achievement	+PP	The company-------- (invested) $30 million to date. Things are likely to get better.
Continuative	Telic	Achievement	–PP	The company --------- (invested) $30 million in

				2016. That was an excellent mode.
Continuative	Atelic	State	+PP	Ahmad---------- (live) in Leeds since 1990. He likes this city and is still living there now.
Continuative	Atelic	State	–PP	Ahmad---------- (live) in Leeds in 1990. He hopes to visit it again one day.
Experiential	Telic	Achievement	+PP	Sarah and Mike ------ (adopt) several little kittens already. Now they want to adopt a dog too.
Experiential	Telic	Achievement	–PP	Sarah and Mike ------- (adopt) several little kittens last summer. But the kittens ran away.
Experiential	Atelic	Activity	+PP	Asma------(travel) by bus several times. She thinks it's a great mode of transport.
Experiential	Atelic	Activity	–PP	Asma------(travel) by bus yesterday. Her car was at the garage.
Recent past	Telic	Accomplishment	+PP	Alice------(finish) reading this novel just now. She enjoyed reading it.
Recent past	Telic	Accomplishment	–PP	Alice------(finish) reading this novel yesterday. She enjoyed reading it.

Recent past	Atelic	Activity	+PP	Asma ----- (work) at a bank recently. She isn't sure she likes it.
Recent past	Atelic	Activity	–PP	Asma ----- (work) at a bank yesterday. It was a bad experience.

Wherever possible, the test items were taken or adapted from the following sources: Terán (2014, p.20), Yoshimura et al. (2014, p.144), Alruwaili (2014, p.326), Depraetere (1998, p.609) and Eriksson (2016, p.77).

To reduce the length of the experiment and avoid fatigue/learning effects, the Latin square method was used to distribute the experimental items into the four lists so that each participant was presented with 96 items: 48 test items and 48 distractors, as shown in Table 4-8. Each participant would not see the two manipulations of the base sentence in the same list. The same distractors were used in all the lists to allow us to derive a baseline of between-subject variability.

Table 4-8

Using the Latin Square Method to distribute the experimental items

LATIN SQUARE DESIGN				
base sentences		lexical conditions	exp.manipu	Aktionsart
		0	1	
1		a	a-bis	
2		a	a-bis	
3		a	a-bis	
4		a	a-bis	
5		a	a-bis	
6		a	a-bis	
7		a	a-bis	
8		a	a-bis	
9		a	a-bis	
10		a	a-bis	
11		a	a-bis	
12		a	a-bis	
13		b	b-bis	
14		b	b-bis	
15		b	b-bis	
16		b	b-bis	
17		b	b-bis	
18		b	b-bis	
19		b	b-bis	
20		b	b-bis	
21		b	b-bis	
22		b	b-bis	
23		b	b-bis	
24		b	b-bis	

Table 4-9

An example of how the critical items ordered by list, then telicity, then condition, then aktionsart, and how they distributed across the four lists.

item numb	base-ser	lexical interpreta	telicity	aktionsa	conditic	List
1	1	Continuative	T	Acc	+PP	1
2	1	Continuative	T	Acc	-PP	2
3	2	Continuative	T	Ach	+PP	1
4	2	Continuative	T	Ach	-PP	2
5	3	Continuative	A	St	+PP	1
6	3	Continuative	A	St	-PP	2
7	4	Continuative	A	Act	+PP	3
8	4	Continuative	A	Act	-PP	4
9	5	Continuative	T	Acc	+PP	3
10	5	Continuative	T	Acc	-PP	4
11	6	Continuative	T	Ach	+PP	3
12	6	Continuative	T	Ach	-PP	4
13	7	Continuative	A	St	+PP	2
14	7	Continuative	A	St	-PP	1
15	8	Continuative	A	Act	+PP	2
16	8	Continuative	A	Act	-PP	1
17	9	Continuative	T	Acc	+PP	2
18	9	Continuative	T	Acc	-PP	1
19	10	Continuative	T	Ach	+PP	4
20	10	Continuative	T	Ach	-PP	3
21	11	Continuative	A	St	+PP	4
22	11	Continuative	A	St	-PP	3
23	12	Continuative	A	Act	+PP	4
24	12	Continuative	A	Act	-PP	3

All the critical items and the distractors were formulated in the same structure as follows:

Proper noun subject + verb (with complement or locative adjunct) + adverbial → follow-up sentence

The distractors required choosing between present and future tense and modality. The total number of distractors is 48 items: 16 present, 16 future, and 16 hypothetical sentences. The goal of forming the distractors in this way was to avoid showing precisely the tense–aspect distinction, which we aimed to investigate for the participants. The adverbial modifiers used in the filler sentences could induce the use of present, simple, future or hypothetical; as illustrated in Table 4-10:

Table 4-10

The contexts used to create the distractors in Study 1

Context	Expected verb form	Example
Habitual context	Present	The restaurant-----(open) at 21.30 every night. Jack and his friends plan to meet there.
Future context	Future	Nora ------ (send) the email to her teacher after lunch. She is so busy now.
Hypothetical	Conditional form of the verb	John and his friends ----- (visit) that new restaurant if they got up early. But they would probably be too late as usual.

Regarding the predicates that were used in the experimental items, we avoided using the same verb form more than two times, except the verb *be* and no verb appeared more than once in each list except *be*. Regarding the verb form in the distractors, we avoided using any verb in the test items in the distractors, and no one verb was allowed to be repeated more than twice in the distractor.

For all the test items and the distractors in this task, the participants were asked to choose the suitable verb form to complete the sentence according to the content of the context that followed the sentence. For the test items, they chose between four options (simple past, simple present, present perfect, and simple future). We avoided the present perfect form altogether in the responses for the distractors, where the participants were asked to choose between four options (simple past, simple present, conditional, and simple future). The position of each type of response was systematically altered between items. These responses were presented in a randomised order for all the experimental and filler items. By doing this, the participants were unaware of which tense would be examined in this investigation.

4.3.3 Participants

Seventy native English speakers aged 18–60 years were recruited to complete the online MC task in Study 1; 20 of the participants were male, and 50 were female. Only native speakers of British English were allowed to participate in this task. That is important because US English differs, especially in the use of simple past with *already* and *yet*. Sempere-Martinez (2008) explained the cultural and psychological factors for the present perfect in British English and American English and illustrated that in contemporary American English, *never*, *lately*, *already*, *yet*, and *just (now)* lent themselves to being used indistinctly with the present perfect or the simple past in the same environments. All the participants signed a written informed consent form before participating in the MC task. Twenty of native English speakers were tested in the lab (5 participants per list) to ascertain the validity of the online results.

4.3.4 Procedures

Full ethical approval was obtained before commencing the experiment to satisfy the ethical standards of research, (Ethics reference: LTSLCS-099). The participants were presented with an information sheet in which they could read the description of the study purpose and procedures, as seen in Appendix B. Participants were presented with the consent form at the beginning of the experiment to give their consent to take part in this experiment, as seen in Appendix C. Moreover, they were informed on the information sheet that they had the full right to withdraw at any time without giving any reason and without any negative consequences.

The data were mainly collected using the Jisc online survey tool designed for academic research, education, and public sector organisations. For 20 of the native English speakers, they were collected personally under the researcher's supervision before commencing the online task. This procedure aimed to ascertain that the experimental procedures and sample were reliable by comparing the participants' responses with the online data.

The participants, who were recruited via email (starting from acquaintances of the applicant) and social media, were selected using convenience sampling. They were invited to complete an online MC task. There were four different lists in English, with each list consisting of 96 items, including 48 test items and 48 distractors. All the test items and distractors consisted of a sentence with a gap followed by an adverbial phrase and a short context that induced or

blocked the use of the present perfect. The participants were asked to fill the gap with a suitable verb form from different options, based on their intuition. Before beginning the task, the subjects read a written description and instructions on how to complete it. The task started with a brief questionnaire on the participants' language backgrounds. This experiment took no more than 20 minutes to complete.

4.4 Data analysis and results

4.4.1 Initial visualisations of the data

4.4.1.1 English +PP vs –PP conditions

In this section, we will start with a general overview of the English native speakers' results in Study 1. As outlined above, in the MC task in this experiment, the choice of the verb form to fill the gaps in the +PP and –PP contexts will be analysed according to the following variables: (i) the CR type of the context (continuative, experiential, resultative, and recent past), (ii) TB (definite vs indefinite adverbial), and (iii) the telicity of the predicate (telic vs atelic). In Study 1, we are primarily interested in confirming the impact of CR and TB on the use of the present perfect by English native speakers to confirm the predictions from the theoretical literature.

Based on the predictions from the theoretical literature, the English present perfect is associated with two features: [CR] and [temporal unboundedness]. In the MC task, the +PP conditions include all the experimental sentences followed by [–temporally bounded] contexts in which the English native speakers are expected to use the present perfect form of the verb to fill the gap in the sentence. On the other hand, the –PP conditions present all the experimental sentences followed by [+temporally bounded] contexts in which the native English participants should not use the present perfect, but rather are expected to use past forms.

Figure 4-1 illustrates the mean distribution of the native English speakers' responses in present perfect-inducing (+PP) versus present perfect-blocking (–PP) contexts. The responses in Figure 1 shows that our design was on the right track, and the +PP versus –PP manipulation was successful. From Figure 4-1, we can see that there was a clear preference to use the present perfect form of the verb in the +PP conditions and the past form in the –PP conditions.

Figure 4-1

The distribution of the native English speakers' responses in present perfect-inducing vs present perfect-blocking contexts in Study 1
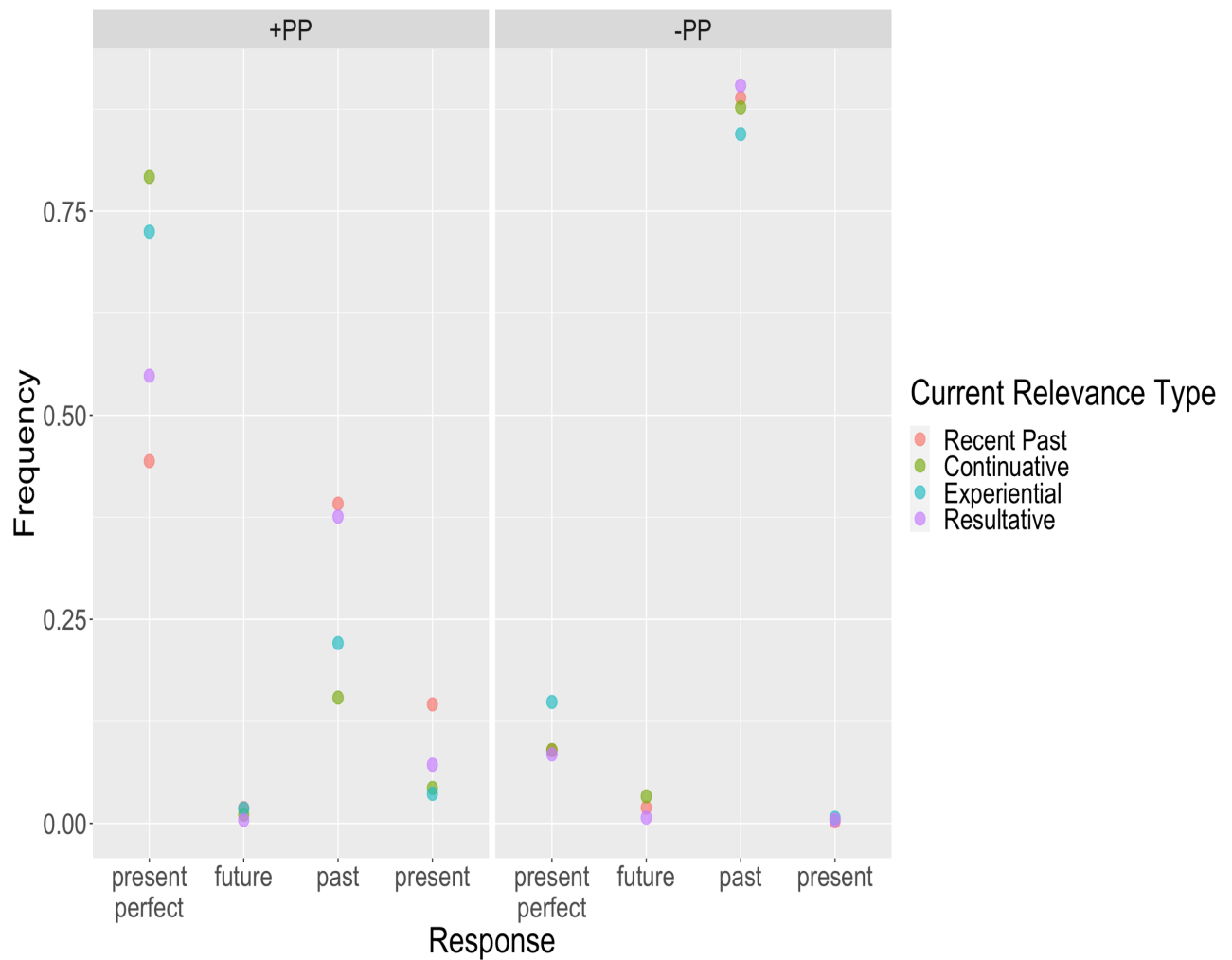
4.4.1.2   Telicity in +PP vs –PP conditions

One of the objectives of Study 1 is to investigate the effect of the telicity of the predicate on the use of the L1 English present perfect. From a visual overview of the data, it does not appear that the telicity of the predicates affects the use of the present perfect among L1 English native speakers. It is apparent from the descriptive results in Figure 4-2 that there is a clear preference to use present perfect form of the verb in the +PP conditions and past form in the –PP conditions

when the verb is telic or atelic. The majority of the participants, English native speakers, preferred to use the present perfect in the contexts where they should use it (+PP contexts), and most of them avoided using present perfect form in the contexts where they should not use it (–PP contexts) regardless of the telicity of the predicate.

Figure 4-2

The influence of telicity on the native English speakers' responses in present perfect-inducing vs Present perfect-blocking contexts in Study 1.
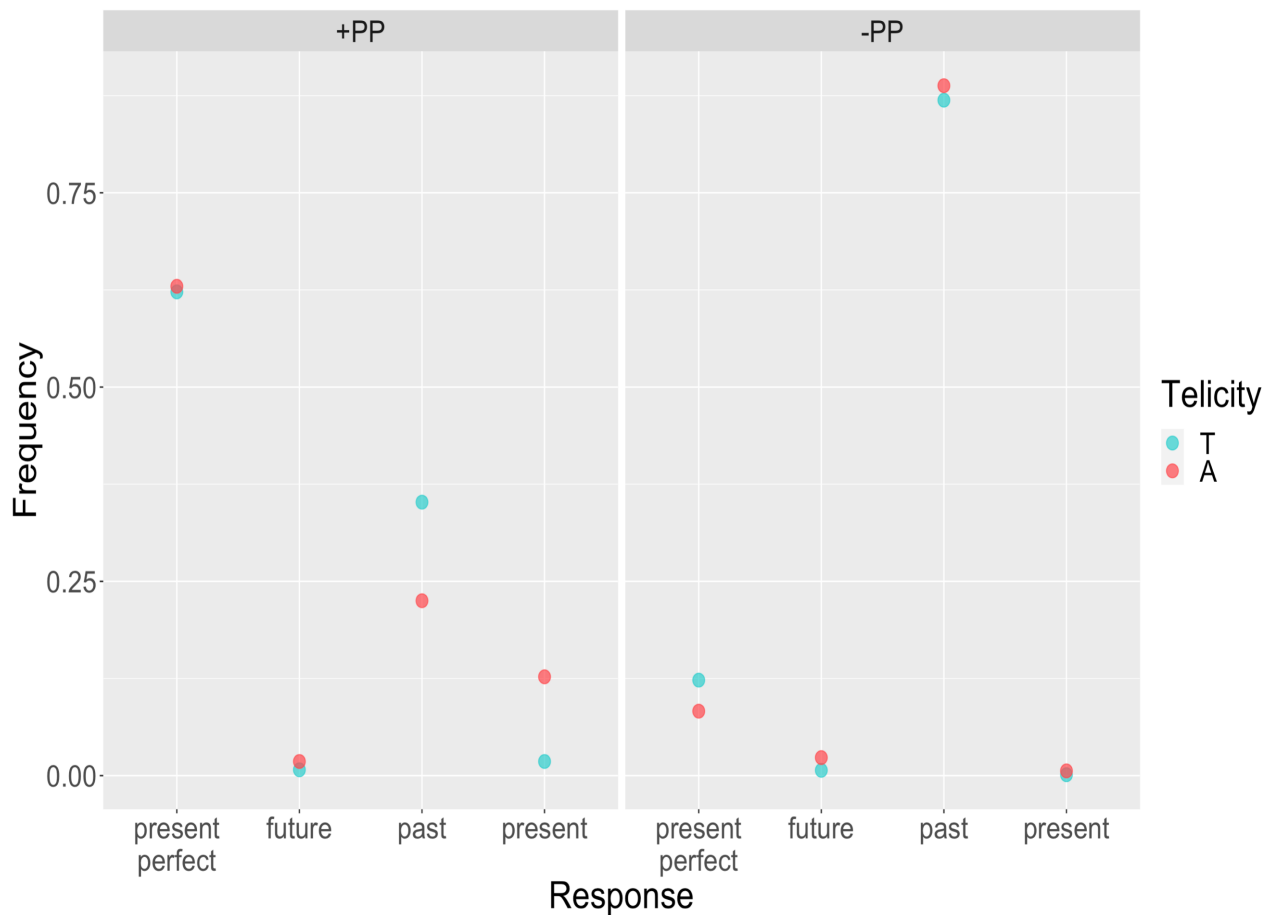
4.4.2   Statistical analysis

The statistical analysis of the English native speakers' data in Study 1 was conducted in R (version 3.6.1) using generalised linear mixed models (GLMMs), which are extensions of linear mixed models allowing response variables from different distributions, such as categorical responses. Alternatively, GLMMs could be taken as an extension of generalised

linear models (e.g., logistic regression) to include both fixed and random effects, hence mixed models (Winter, 2019). The models were built bottom-up, starting from a null hypothesis model, including only random effects for participants and items. Predictors were only retained if they improved the model fit (estimated by likelihood ratio tests). Table 4-11 lists the predictors considered in the regression modelling in the analysis of the English native speakers' responses. The reference levels are underlined for each factor.

The response variable was recoded to merge present and future into a single level (Other), as both are predicted to be unacceptable, and the difference between the two is irrelevant to our current aim. Therefore, the *present perfect* is used as the reference level in the analysis of the English participants' data, and a new three-level (ternary) factor for the response was created: *present perfect*, *past*, and *other*.

Table 4-11

Description of the factors used for the analysis of the English native speaker data in Study 1

Factors	**Levels**
Current Relevance type of the context	Continuative, Experiential, Resultative, and Recent past
Telicity	Telic (T) vs Atelic (A)
Aktionsart	Accomplishment, Achievement, State, Activity
Adverb definiteness	Indefinite vs Definite
Current relevance of the adverb	Current (+CR), Neutral (±CR), Not Current (–CR)
Experimental Setting	Lab vs Online

In the optimal model, the response variable was predicted by the interaction between (adverb definiteness and CR type of the context).[1] Telicity of the predicate (telic vs atelic) ended up

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[1] The formula for the optimal model was: glmer (Response ~ (1|Participant) + (1|Item. number) + 1+Adv.definiteness|Base.sentence) + (1|Experimental. setting) + Adv. definiteness * Current Relevance Type + Current.relevance, family=binomial(link="logit"), control = glmerControl(optimiser="bobyqa"), data = datC)

not being significant and hence was not included in the optimal model. The experimental setting was considered to have a random effect as a control variable.

Table 4-12 summarises the statistics for the fixed effects in the optimal model. Given our choice of reference levels, the model intercept represented a present perfect response in contexts featuring an indefinite adverbial, favouring a current relevance interpretation (recent past), and with the telic predicate. The model, therefore, predicts the effect of the various factors on the likelihood of choosing a response other than the present perfect. Negative coefficients indicate a reduced likelihood not to choose another verb form than the present perfect (i.e., a greater likelihood to choose the present perfect); positive coefficients indicate a greater likelihood not to choose the present perfect.

Table 4-12

Coefficients for the optimal model for Study 1.

Fixed effects	Estimate	Std.Error	z-value	p-value
(Intercept)	-0.5608	0.3713	-1.510	0.13093
Adv.definiteness: definite	1.2770	0.5164	2.473	0.01339 *
Current relevance type: continuative	-1.0782	0.4087	-2.638	0.00834 **
Current relevance type: experiential	-1.0051	0.3192	-3.149	0.00164 **
Current relevance type: resultative	-0.5469	0.3528	-1.550	0.12109
Current relevance: neutral	0.7717	0.2943	2.623	0.00873 **

Fixed effects	Estimate	Std.Error	z-value	p-value
Current relevance: not. current	2.4888	0.4516	5.511	3.56e-08 ***
Adv.definiteness: definite: Current relevance type continuative	0.8944	0.5744	1.557	0.11944
Adv.definiteness:definite:Current relevance type experiential	0.2308	0.5014	0.460	0.64536
Adv.definiteness:definite:Currentrelevance type continuative resultative	0.3753	0.5317	0.706	0.48026

Note: The optimal model predicts the likelihood of not choosing the present perfect, according to adverb definiteness, current relevance type of the context and current relevance of the adverbs. The reference levels are CR type: recent past, CR of the adverb: current, and adverb definiteness: indefinite.

To be able to plot all the interactions of interest, the optimal model was refitted using multinomial regression analysis. Figures 4-3 and 4-4 were generated by refitting the model using multinomial regression (yielding the same patterns of significance as the mixed-effect model) to make it possible to plot the modelled response choices and to make the interpretation of the coefficients of the optimal model easy and clear. Figure 4-3 visualises the English native speakers' likelihood of choosing a verb form (present perfect (pr.perfect), past, present, or future) when the adverb definiteness (indefinite vs definite) interacts with the type of CR (continuative, experiential, resultative, and recent past). Figure 4-4 shows the main effect of the telicity of the predicate (telic vs atelic) on the possibility of selecting a particular verb form (present perfect, past, present, or future) to fill the gap in the experimental sentences by the English native speakers in Study 1.

Figure 4-3

English native speakers' likelihood of choosing a particular verb form in Study 1, as predicted by the interaction between relevance type and adverb definiteness
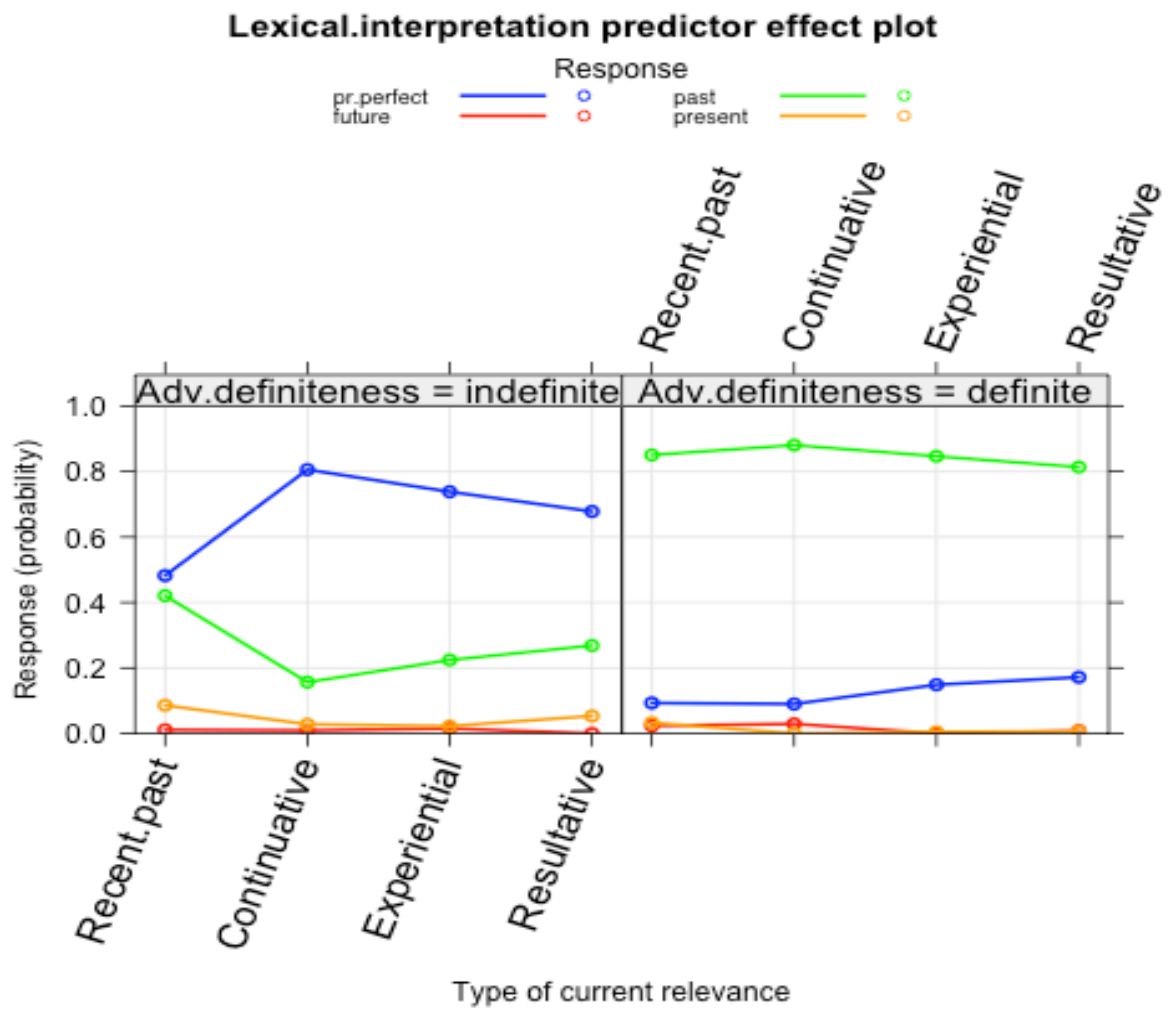
Figure 4-4

The main effect of telicity on the English native speakers' likelihood of choosing a particular verb form in Study 1
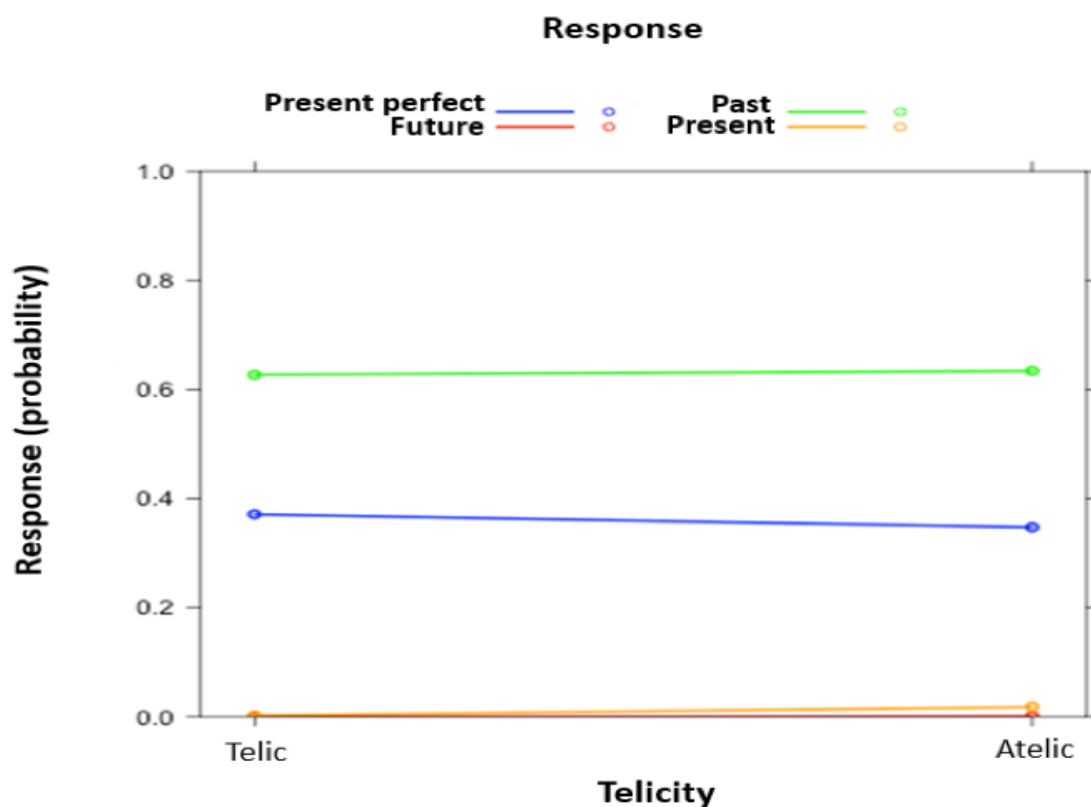
As can be seen from Figure 4-3, [TB], which is operationalised in our study as the definiteness of an adverb (indefinite vs definite), significantly affects the likelihood of choosing a particular verb form to fill the gaps in the experimental items by the English native speakers in Study 1. Figure 4-3 shows that the present perfect form was preferred to be chosen in [–temporally bounded] contexts (featuring indefinite adverbials), while the simple past was preferred in [+temporally bounded] contexts (featuring definite adverbials). The choice of the present perfect form was more favourable in [–temporally bounded] with [+continuative] contexts,

where the probability of choosing the present perfect in [–temporally bounded] with [+continuative] contexts by the English native speakers reached 80%. There was, however, no preference between the choice of the present perfect and simple past in [–temporally bounded] with [+recent past] contexts. Figure 4-4 shows that the lexical aspect of the predicate (telicity) did not have a significant impact on response choice. The model did not support an interaction between [telicity] and either of [TB] or [CR] type.

The model summary in Table 4-12 shows that contexts suggesting a continuative interpretation of CR strongly favours the choice of the present perfect. Participants were significantly less likely to choose another verb form than the target present perfect in the continuative contexts (Estimate: -1.0782, z: -2.638, p: <0.001). Similarly, the experiential contexts favour the choice of the present perfect, where the results in the optimal model revealed less likelihood to choose another verb form (past, present, or future) than the target present perfect in the experiential perfect context (Estimate: -1.0051, z: -3.149, p: <0.001). On the other hand, the present perfect form is not significantly more likely to be chosen in resultative contexts compared with recent past contexts.

The results of Study 1 also revealed that the adverb definiteness has a significant effect on the choice of the present perfect response, where contexts featuring a definite adverbial are significantly less favourable to the present perfect than those featuring an indefinite adverbial. Participants were significantly less likely to use the present perfect with definite adverbs compared with indefinite adverbials (Estimate: 1.2770, z: 2.473, p: <0.001).

Similar to the adverb definiteness, a strong influence of the CR of the adverbs was found in the responses of the English native speakers, where the contexts that are either neutral or not conducive to a CR interpretation are significantly less favourable to a present perfect response than those conducive to a current relevance interpretation as shown in Table 4-12. Participants were significantly more likely to choose another response than the present perfect response when the contexts were modified by natural adverbs (±CR) (Estimate: 0.7717, z: 2.623, p: <0.001) or modified by not current adverbs (–CR) (Estimate: 2.4888, z: 5.511, p: <0.001).

As for the influence of the telicity of the predicate, the results of the English native speaker responses revealed that the telicity of the predicate (telic vs atelic) has no significant impact on

whether the resent perfect or another response is chosen, as illustrated in Figure 4-4. Therefore, telicity was not included in the optimal model.

4.4.3 Discussion

The purpose of Study 1, Feature Mapping in L1 English, is to confirm the predictions from the theoretical literature regarding the role of [CR] and [TB] in the licensing of the present perfect in L1 English. This purpose was achieved by examining the use of L1 English present perfect in a contextualised MC task according to: (i) the CR type of the context (continuative, experiential, resultative, recent past), (ii) TB (definite vs indefinite adverbial), and (iii) telicity of the predicate (telic vs atelic). According to what was covered in Section 4.2.1, the following is a list of the predictions that were obtained from the theoretical literature concerning the feature mapping of the present perfect in English:

- The present perfect is licenced in contexts that favour a CR interpretation (continuative, experiential, resultative, recent past) in L1 English.

- The present perfect is licenced in temporally unbounded contexts that are identified by indefinite adverbials in L1 English.

- Telicity of the predicate could not be a relevant feature in the contexts favouring the present perfect in L1 English.

The results of Study 1 confirm the predictions of the theoretical literature, namely that the present perfect is licenced in contexts that favour a CR interpretation. The results showed that the majority of English native speakers preferred to choose the present perfect response to fill the gaps in the experimental sentences when the contexts implicate CR interpretations (continuative, experiential, resultative, recent past). The results show that the continuative interpretation is the most favourable context for the choice of the present perfect. A large number of English native speakers in Study 1 favour the choice of the present perfect more in the continuative contexts than the other CR interpretations of the present perfect (experiential, resultative, and recent past). This finding corroborates the conclusion of Davydova (2011) in her corpus-based study on variations in CR, which suggested that the degree to which CR is manifested in a present perfect context differs from one interpretation of present perfect to the

other, where the continuative contexts have the strongest relation to CR, as they describe situations that began in the past and continue up to the moment of utterance. In contrast, in the perfect of the recent past, the CR was found to be weaker (Davydova 2011). Therefore, the results of Study 1 concur with those findings reported by Davydova (2011), specifically when the participants in Study 1 showed a high percentage (80%) of appropriate choice of the present perfect in the continuative contexts, as can be seen in Figure 4-3. We can conclude that the English present perfect is strongly promoted by the continuative interpretation of CR.

What is surprising in the results of Study 1 is that recent past contexts are an exception in that they equally allow the present perfect and the simple past, as in Figure 4-3. The English native speakers did not prefer the choice of the present perfect or simple past in the [+recent past] [−temporally bounded] contexts, and both the present perfect and simple past were equally preferred to be chosen in the recent past contexts by English native speakers in Study 1. A possible explanation for this might be that the present perfect is being replaced with the simple past to express recent past situations in the recent past function of the present perfect in American and British English (McCoard, 1978). Even though the present perfect is more frequent in British English than in American English, the use of the present perfect with recency adverbs such as *already* and *just* demonstrates a declining tendency to be used in both American and British English (Kathon, 2019, p.27). According to Roberts and Liszka's (2013) discussion, one of the potential reasons for the decline in the use of the present perfect in British English may be the tendency for some varieties of British English to utilise adverbs signifying the CR with simple past in spoken conversation similar to what is used in North American English.

The findings of Study 1 also provide evidence in support of the predictions from the theoretical literature, namely, that the present perfect is licenced to be used in temporally unbounded contexts, which can be recognised in L1 English by the presence of indefinite adverbials. Adverb definiteness, and thus TB, has a significant impact on the results of the English native speakers in Study 1. The English native speakers are more likely to choose the present perfect response with [−temporally bounded] contexts which are modified by indefinite adverbials such as *for*, *since*, *already*, *yet*, *to date*, *ever*, or *never*. On the other hand, the past form of the verb is significantly more likely to be chosen with [+temporally bounded] contexts which were identified by definite adverbials such as *yesterday*, *in 2016*, or *three days ago*.

Similarly, the CR of the adverbs has a significant influence on the responses of the English native speakers in Study 1, current (+CR) adverbs are strongly associated with the use of present perfect response in the English data, whereas non-current (–CR) adverbs are strongly associated with the choice of past response. Neutral adverbs (±CR) such as *this morning* or *this afternoon* are mainly associated with the use of present perfect, and they are also associated with simple past in some contexts; however, it was noted in this experiment that the English native speakers preferred to choose the past form of the verb in the resultative and recent past perfect contexts if the adverb used in the sentence is neutral (±CR) adverb. The findings of the current study are consistent with those of McCoard (1978), Elsness (1997), and Davydova (2011) who confirmed that (+CR) adverbials regularly collocate with the present perfect and (–CR) adverbials collocate with the simple past.

Regarding telicity, the results of this experiment show that the telicity of the predicate has no statistically significant effect on the choice of the English present perfect by native English speakers, as expected. The participants are more likely to use the present perfect form of the verb with [+CR] and [–temporally bounded] contexts and the past form of the verb with [−CR] and [+temporally bounded] contexts irrespective of the verb telicity, whether the predicate is telic or atelic. English native speakers did not rely on the telicity of the predicate in their choice of the verb form in the MC task. This finding is in an agreement with Eriksson's (2016) findings which showed that the telicity of predicate did not have a significant influence on the English native speakers' judgments of the present perfect sentences in the judgement task. Similarly, the results of the measured reading times in the self-paced reading task in Eriksson's investigation, revealed that the English native speaker's group slowed down when encountering a present perfect mismatch sentences (e.g., *Since spring, Bert planted many different flowers.) in the SPR task regardless of whether predicate is telic or atelic.

We conclude from Study 1 that the features determining the choice of the present perfect versus the simple past in English are as follows:

Figure 4-5

Feature mapping in English from the results of Study 1 (indicating less likely forms in parentheses).

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                        ┌─────────────┐
                        │ [+Anteriorty]│
                        └──────┬───────┘
              ┌────────────────┴──────────────────┐
       ┌──────┴──────┐                      ┌──────┴──────┐
       │ [– Temporally│                     │ [+ Temporally│
       │  bounded]   │                      │  bounded]   │
       └──────┬──────┘                      └──────┬──────┘
    ┌─────────┼───────────┐                        │
┌───┴────┐ ┌──┴──────┐ ┌──┴──────┐                 │
│[Continu-│ │[Experen-│ │[Recent  │                 │
│ative]   │ │tial]    │ │ past]   │                 │
│         │ │[Resulta-│ │         │                 │
│         │ │tive]    │ │         │                 │
└───┬────┘ └──┬──────┘ └──┬──────┘                 │
┌───┴────┐ ┌──┴──────┐ ┌──┴──────┐          ┌───────┴─────┐
│Present │ │Present  │ │Present  │          │ Simple past │
│perfect │ │perfect  │ │perfect /│          │             │
│        │ │(Simple  │ │Simple   │          │             │
│        │ │past)    │ │past     │          │             │
└────────┘ └─────────┘ └─────────┘          └─────────────┘
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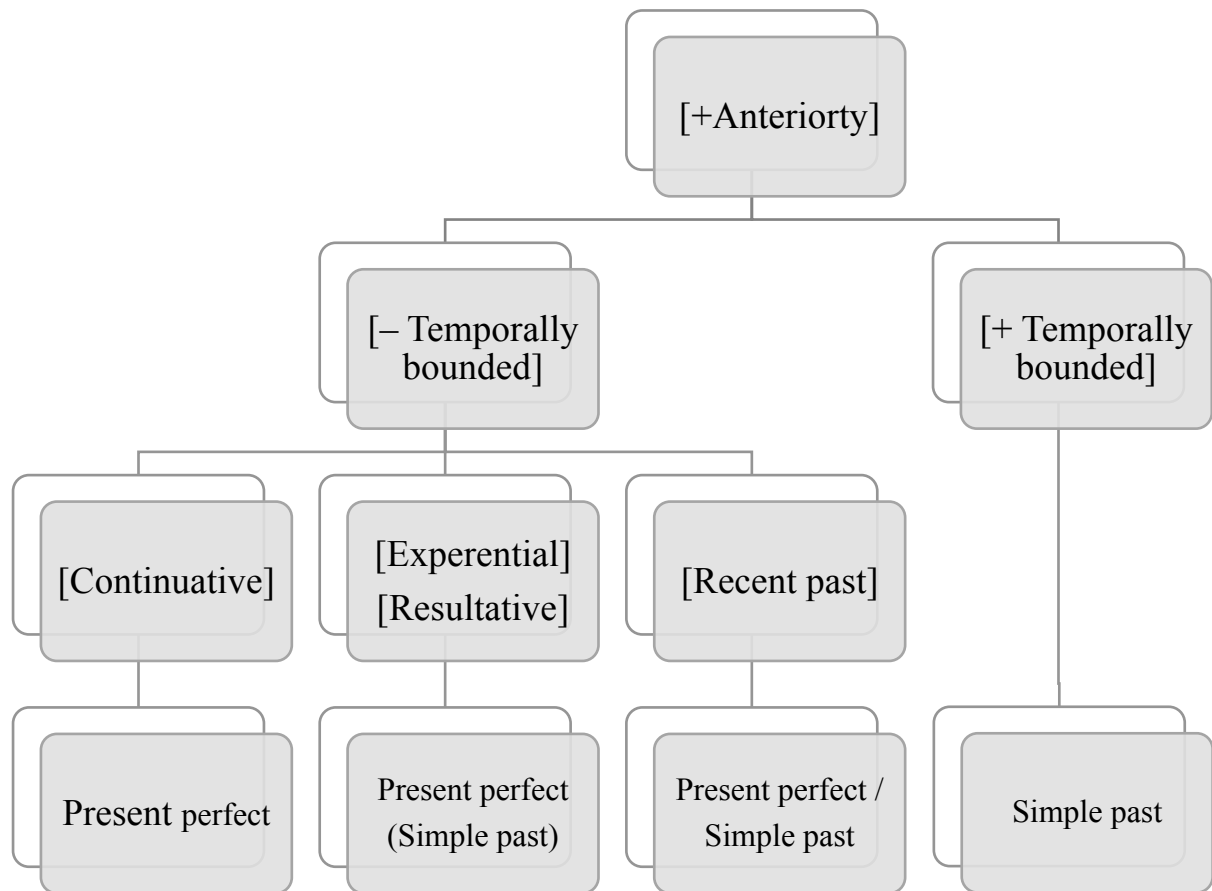
4.5   Conclusion

To sum up, we followed in Study 1 a new more extensive way to analyse feature mapping of the present perfect in L1 English. The empirical findings in this study provide a detailed analysis of the role of: (i) CR type (continuative, experiential, resultative, recent past); (ii) TB

(indefinite vs definite); (iii) CR of the adverts (+CR, ±CR, −CR); and (iv) telicity of the predicate (telic vs atelic) in the use of the present perfect by British native speakers of English.

The results obtained from the English native speakers in Study 1 demonstrated the predictions from the theoretical literature concerning the role of CR and temporal unboundedness in the licensing of the present perfect in L1 English. The results indicate that the present perfect was strongly preferred to be used in L 1 English with the contexts implicated the CR types (continuative, experiential, resultative, and recent past perfect). The most favourable context for the use of the present perfect in L1 English is the continuative perfect context. It is somewhat surprising that the simple past was preferred equally to be chosen with the present perfect in the [−temporally bounded] with [+recent past] contexts.

The results of Study 1 confirmed the strong association between indefinite adverbs and the choice of the present perfect. The results of the English native speakers revealed that the adverb definiteness has a significant impact on the choice of the present perfect response, where contexts featuring an indefinite adverbial are significantly more favourable to the present perfect than those featuring a definite adverbial. Similarly, the findings of Study 1 confirm the association between the choice of the present perfect and the current relevant (+CR) adverbs. It has been proven that not current (−CR) adverbs frequently collocate with the simple past, and current (+CR) adverbs are frequently collocate with the present perfect.

Finally, as for the telicity of the predicate, the English native speakers could access the correct expected choice to fill the gaps in the +PP and in the −PP conditions, regardless of whether the predicate used in the experimental sentences was telic or atelic. The results revealed no significant impact of telicity on the English native speakers' choice of the present perfect in the +PP contexts or their choice of the simple past in the −PP contexts. We conclude that the telicity of the predicate is not a relevant feature in the contexts favouring the use of the present perfect in L1 English

Chapter 5 Study 2: Feature Mapping in L1 Arabic

5.1   Introduction

The previous chapter established the features determining the choice of present perfect versus the simple past in native language (L1) English. The current study in this chapter is an equivalent study to Study 1, in Arabic, which seeks to empirically determine how present perfect feature mapping in English compares to feature mapping in Arabic through a multiple-choice (MC) task conducted among L1 Arabic native speakers. Establishing the differences between Arabic and English will guide us in identifying precise predictions for the feature reassembly hypothesis (FRH) regarding the acquisition of second language (L2) English present perfect by Arabic L2ers of English. According to Lardiere's (2009) FRH, acquiring new formal features of an L2 requires reassembling features from one's L1 onto standard equivalent features in the L2. As discussed in Chapter 2 and Chapter 3, there is no empirically clear evidence from the theoretical literature that can predict how the features associated with the English present perfect are mapped in comparison to feature mapping in L1 Arabic. Consequently, the purpose of conducting Study 2 (Feature Mapping in L1 Arabic) is to identify precise predictions for the L1 Arabic transfer in L2 English present perfect acquisition.

The results of Study 1 conducted in the previous chapter revealed that current relevance (CR) and temporal unboundedness are strongly associated features with the L1 English present perfect. On the other hand, the telicity of the predicate is not a relevant feature of L1 English present perfect; English native speakers overused the present perfect in the [–temporally bounded] and [+CR] contexts, regardless of whether the predicate is telic or atelic. In the current study, we will test how present perfect feature mapping in English compares to feature mapping in Arabic. To achieve this purpose, L1 Arabic native speakers were presented with an MC task. All the experimental sentences and distractors from Study 1 were translated into Arabic for Study 2. Instead of the present perfect choice, which does not exist in Arabic, *qad* was included as one of the four options (i.e., "past/perfect", *qad* + "past/perfect" +, "present/imperfect", future). According to O'Brien (2003), the utilisation of the Arabic particle

qad in conjunction with past forms can effectively convey a sense of completion that is still relevant in the present (see Section 2.4.1.3 in Chapter 2 for more details).

The following constitutes this chapter's structure: Section 5.2 discusses the objectives and research questions of Study 2 (Feature Mapping in L1 Arabic). The methodology utilised in the design of the experiment carried out in Study 2, and the procedures for conducting this experiment are presented in Section 5.3. The results obtained through the L1 Arabic MC task and the statistical analysis of these results are presented in Section 5.4. This section also includes a summary of these results and a discussion of the findings in relation to the research question that was asked by this study as well as the predictions that were taken from the previous research. This Chapter will end with a conclusion in Section 5.5.

5.2   The purpose of Study 2 (Feature Mapping in L1 Arabic) and general predictions

Study 2 is the Arabic counterpart of Study 1. Study 2 aimed to empirically determine the mapping between verb forms, the features associated with the English present perfect, and whether telicity is relevant in the contexts of interest. Our objective is to examine whether the selection of the verb form in native Arabic speakers is induced by the type of CR, adverb definiteness, or telicity in the +PP versus –PP situations.

The perspectives from the relevant literature did not assume a clear vision of what verb forms speakers use in Arabic for the contexts favouring the use of the present perfect in English [temporally unbounded] and [+CR] contexts. Arabic does not have a directly corresponding equivalent to the English present perfect, as was discussed in Chapters 2 and 3. Fassi-Fehri (2004) argued that the perfective form in Arabic can encode both meanings (present perfect vs simple past) and that the intended meaning is determined by the adverbial cue and context. The Arabic past/perfective or present/imperfective could convey the same meanings as the English present perfect, according to Mazyad (1999) and Alsalmi (2013). On the other hand, several linguists, like Al-Saleemi (1987), Adel (2019), and Mudhsh (2021), have suggested that the Arabic particle *qad*, which comes before the verb's past tense, can represent the English present perfect in L1 Arabic. Farina (2017) found in his research that Arabic learners of English outperformed Chinese learners in using the English present perfect. However, he added that precisely what was being transferred from L1 Arabic was unclear. According to Farina (2017),

the Arabic past continuous could be mapped onto the English non-bounded present perfect and the Arabic perfect onto the English bounded present perfect.

Consequently, the main objective of conducting Study 2 is to identify precisely what is being transferred from L1 Arabic to acquire the L2 English present perfect. This will inform the predictions of the FRH regarding the acquisition of the present perfect in English in order to expand our understanding of how the feature mapping in L1 Arabic differs from the present perfect feature mapping in L1 English.

This experiment in Study 2 was designed in Arabic and targeted Arabic native speakers to answer the following research questions:

- How are temporal unboundedness and CR grammaticalised in Arabic? To what extent is *qad* associated with CR in Arabic?

- Is the telicity of the predicate a relevant feature in the contexts favouring the use of the present perfect in Arabic?

5.3 Methodology

To address the above research questions, we conducted a contextualised multiple-choice (MC) task in L1 Arabic that required L1 Arabic native speakers to select an appropriate verb form from four options to complete a gap in a sentence that was followed by an adverbial phrase and a context to induce or block the use of the present perfect.

5.3.1 Design of the Experiment

The experiment's design was an Arabic version of Study 1. Instead of the present perfect, the choice of verb form included *qad* + past/perfective, as can be seen in the following example:

(1)

.... أحمد بالملاريا مؤخراً، وهو يشعر بضعف شديد الآن.

-------- Ahmd balmlarya m'ekhraan, whw ysh'er bd'ef shdi:d alan.

"Ahmad ------- malaria recently. He is feeling very weak."

- قد أُصيب *qad* ausyb (*Qad* + Past/Perfect) "has caught"
- يُصاب yusab (Present/imperfect) "catches"
- أُصيب ausyb (Past/perfect) "caught"
- سوف يُصاب swfa yusab (*Sawfa* + Present) "will catch Future"

5.3.2 Material

Similar to the design of Study 1, the contexts in the L1 Arabic study were manipulated according to the following variables:

- CR type of the context (continuative, experiential, resultative, and recent past).
- Telicity of the predicate (telic vs atelic).
- Temporal boundedness is operationalised as Adverb definiteness (indefinite vs definite).
- ±CR of the adverb ([+CR]: current, [±CR]: neutral, [–CR]: not current).

Each category of telicity had the same amount of *aktionsart* subtypes (six states and six activities for atelic predicates, and six achievements and six accomplishments for telic predicates). The aspectual behaviour of the Arabic verbs behaves in the same way as their English counterparts. The aspectual verb classes of Vendler (1967) and Dowty (1972) are also found in Arabic, with possible meanings of similar sets of predicates falling into each class (McCarus, 1976; Mazyad, 1999).

Table 5-1

Example of context manipulation and multiple-choice design in the L1 Arabic feature mapping study

PP-inducing context:	PP-forbidding context:
--------- الأسعار كثيراً في الآونة الأخيرة. معظم الناس يشعرون أنهم لا يستطيعون تحمل تكاليف المعيشة ---------alas'ear kthyraan fy alawnh alakhyrh. m'ezm alnas ysh'erwn anhm la ystatiwn thml tkali:f almai:shah. "Prices ------- a lot recently. Most people feel they cannot afford a holiday."	--------- الأسعار كثيراً العام الماضي لذلك يجب على الحكومة إتخاذ تدابير جديدة لإستعادة ثقة المستهلك. ---------alas'ear kthyraan al'eam almadi lðlk yjb 'ela alhkwmh etkhad tdabyr jdi:dh lest'eadh thqht almsthlk. "Prices -------- a lot last year. The government had to bring in new measures to restore consumer confidence."
• قد ارتفعت qad artf'et (*Qad +* Past/Perfect) "have increased" • سوف ترتفع sawfa trtf'e Future (Sawfa + Present) "will increase" • ارتفعت artf'et (Past/Perfect) "increased" • ترتفع trtf'e ´Present/Imperfect "increase"	• ترتفع trtf'e (Present/Imperfect) "increase" • قد ارتفعت qad artf'et (*Qad +* Past/Perfect) "have increased" • سوف ترتفع sawfa trtf'e (Future (Sa/Sawfa + Present) "will increase" • ارتفعت artf'et (Past/Perfect) "increased"

As in Study 1, translated distractors were included, requiring the use of the simple present (habitual context), simple future (future context), or conditional. The experimental items were

distributed across four lists, and the identical 48 distractors were included in each list (see Section 4.3.2 in Chapter 4 for further explanation).

5.3.3 Participants and Procedures

Study 2 was completed online using the Jisc Online Survey Tool (formerly BOS) by 218 native Arabic speakers (including 20 males). Recruitment was done through opportunity sampling (via cascading email contacts) and social media. Twenty Arabic participants were tested in the lab (five per list) under the researcher's supervision before starting the online task, to ascertain the reliability of the experimental procedures. All the participants read an information sheet and signed a written informed consent form before participating in the experiment (translated versions of the consent form and participant information sheet are presented Appendix B and C and are the same as those used in Study 1). After providing consent, the participants completed the language background questionnaire (Appendix D), in which they were asked about their linguistic profiles in terms of how many L2 languages they speak and the variety of Arabic they speak, to ascertain that their responses would not be affected by their knowledge of another language. Study 2 targeted Arabic native speakers from different Saudi Arabic dialects, namely Najdi Arabic, Hijazi Arabic, Shamali Arabic, Baha Arabic and Bisha Arabic, to understand how the features of the present perfect are mapped in Arabic by native Arabic speakers from different dialects. Four participants speaking the Egyptian-Arabic dialect participated in this study. Those four Egyptian participants who have been living in Saudi Arabia for years and have been affected by the Saudi Arabic dialect.

Following this, in an online MC task, the participants were presented with a total of 192 test items and 48 distractors in Study 2. Due to the large number of test items involved, the test items were divided across four lists (List 1, List 2, List 3, List 4). Each list has 48 test items, and the same 48 fillers were the same across the four lists. Each test item consists of a sentence with a gap followed by an adverbial phrase and a short context which induce or block the use of the present perfect. Based on their intuition, the participants were asked to fill the gap with a suitable verb form from four options: past/perfect, present/imperfect, future, *qad* + past/perfect).

5.4 Data analysis and results

5.4.1 Initial visualisations of the data

5.4.1.1 L1 Arabic +PP vs −PP conditions

This section will begin with a basic descriptive summary of Study 2's results. The selection of the verb form to fill the gaps in the +PP and −PP contexts by the L1 Arabic speakers will be analysed in the MC task in Study 2 based on the following variables: (i) the CR type of the context (continuative, experiential, resultative, and recent past); (ii) temporal boundedness (TB) (definite vs indefinite adverbial); and (iii) the telicity of the predicate (telic vs atelic). In Study 2, our primary goal is to empirically determine how the features associated with the English present perfect, which are CR and temporal unboundedness, are mapped in comparison to feature mapping in L1 Arabic. The findings of Study 2 will assist in clarifying and organising the predictions and hypotheses for the second language acquisition (SLA) study (Study 3) in the following Chapter.

Figure 5-1 shows the mean distribution of the Arabic native speakers' responses in PP-inducing (+PP) vs PP-blocking (−PP) contexts, interacting with the CR type (continuative, experiential, resultative, and recent past). Figure 5-1 reveals that there has been a clear preference in the responses of Arabic native speakers to select the past/perfective form of the verb to fill the gap in the +PP condition in all contexts except in the continuative perfect, where the present/imperfective was strongly also preferred. The distribution of the responses in Figure 5-1 also reveals that *qad* was chosen by the Arabic native speakers about 25% of the time across all the conditions, except for the continuative context, which was even less used.

Figure 5-1

The distribution of the Arabic native speaker responses in PP-inducing vs PP-blocking contexts in Study 2
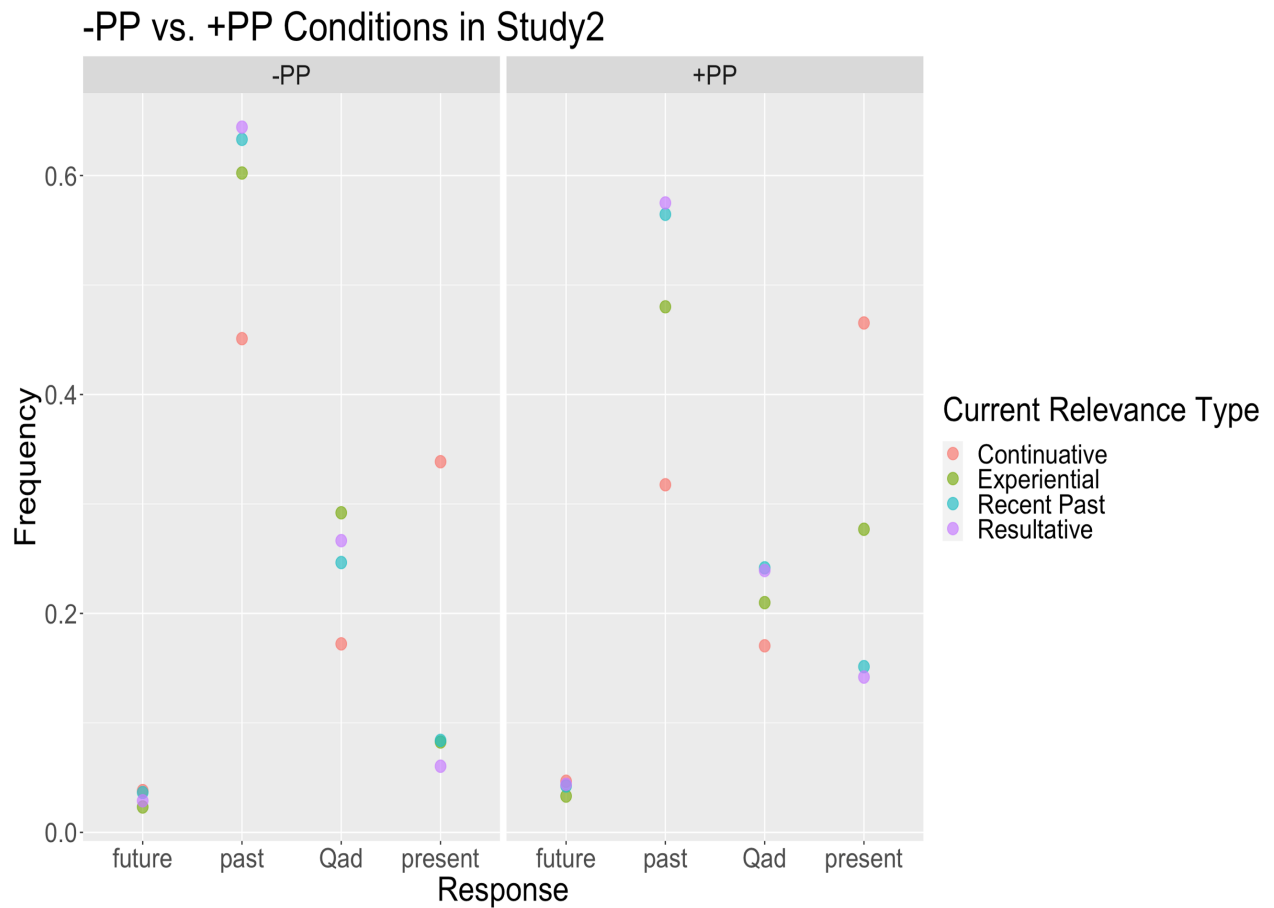
5.4.1.2   Telicity in L1 Arabic +PP vs –PP conditions

Figure 5-2 shows an overview of the influence of the telicity of the predicate on the Arabic native speakers' choices of the verb form in Study 2. From this figure, we can see that telicity on its own is not significant. Past/perfective was the favourable choice of the Arabic native speakers in both +PP contexts (featuring indefinite adverbs) and in –PP contexts (featuring definite adverbs), whether the predicate was telic or atelic. However, when the predicate is atelic, there is also a tendency to use present/imperfective in the +PP contexts (featuring indefinite adverbs).

Figure 5-2

The influence of telicity on the native Arabic speakers' responses in PP-inducing (+PP) vs PP-blocking (–PP) contexts in Study 2
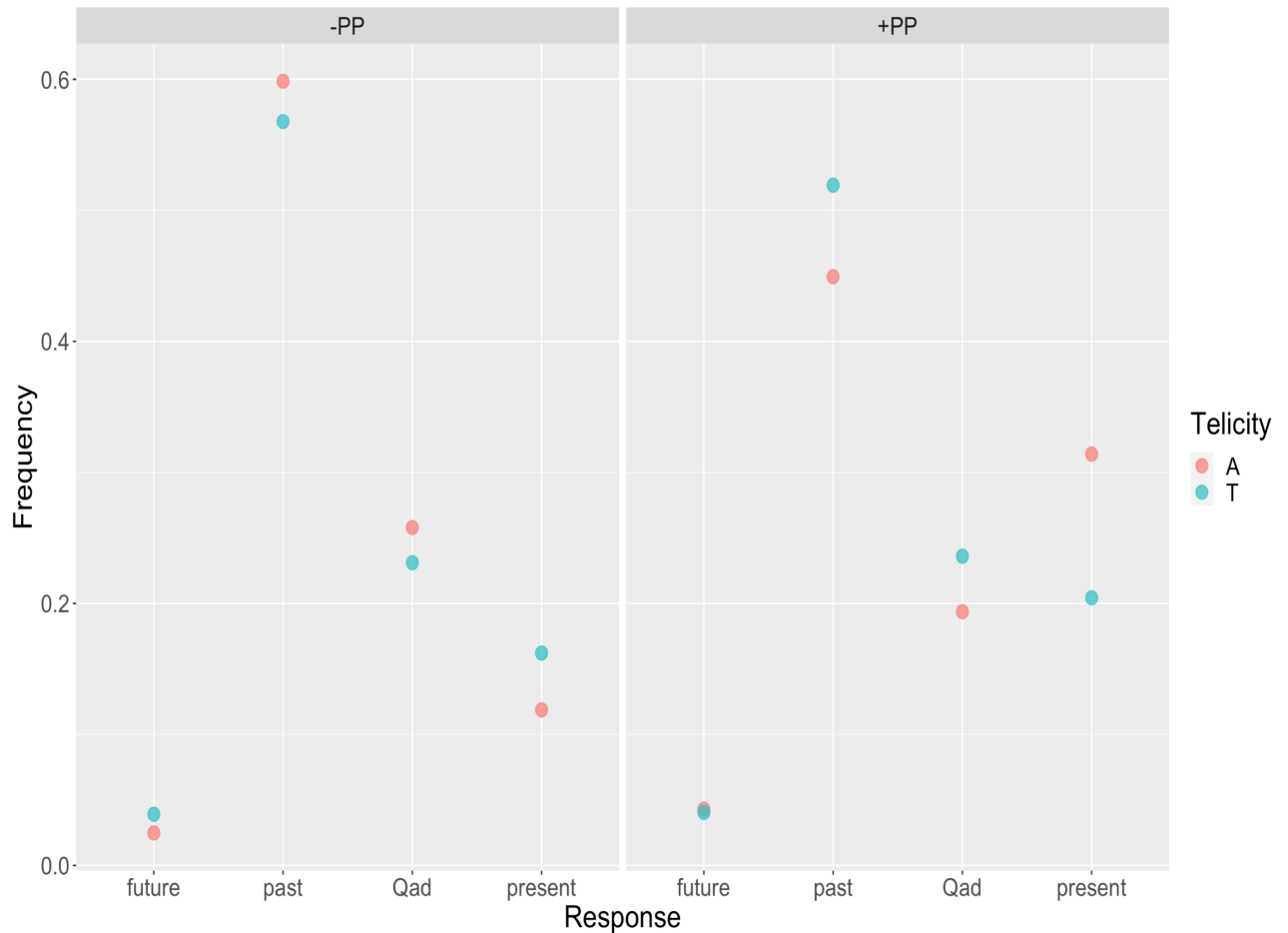
5.4.1.3   The interaction between current relevance type and telicity in the +PP condition in L1 Arabic

The telicity of the predicate seems to show an impact on the Arabic data when it interacts with the CR type of the context (continuative, experiential, resultative, and recent past). From the distribution of the responses in Figure 5-3, we can see a high frequency of employment of the past/perfective in all contexts, except for the continuative context, where the present/imperfective form of the verb was preferred by Arabic native speakers. Figure 5-3 illustrates that using the present/imperfective form of the verb is preferred with a continuative interpretation of CR when the predicate is telic. It is also can be seen from the figure that there

is also a tendency to choose the present/imperfective form of the verb in the experiential present perfect context with atelic predicates.

Figure 5-3

The interaction between current relevance type and telicity in the +PP condition in the Arabic native speakers' responses in Study 2
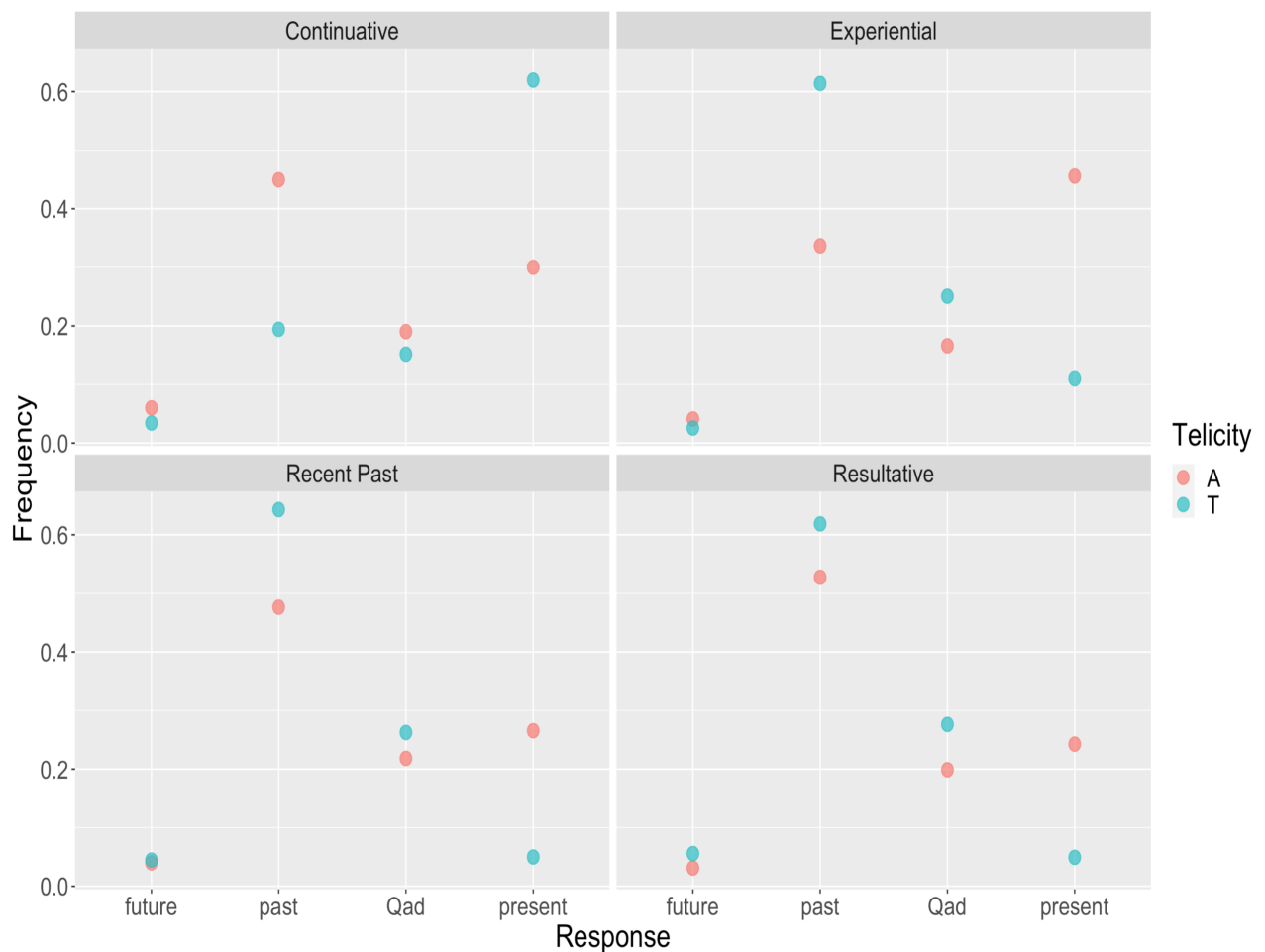
5.4.2 Statistical analysis

Similar to Study 1, the Arabic native speakers' responses to the experimental items in Study 2 were statistically analysed in R Studio (version 3.6.1) using a generalised linear mixed model. In this analysis, we explored the favourable form of the verbs the Arabic native speakers prefer to use in these contexts (+PP vs –PP) and what factors could affect their choice of the verb form in these contexts.

The same model-fitting procedures were adopted as per Study 1. First, models were only from random effects, including *participant*, *item number*, *experimental setting*, and *adverb definiteness.* The random and fixed effects were gradually added one by one to improve the fitted model until the optimal model was created. There was no improvement in the model fit if adverb definiteness interacted with CR type or telicity interacted with adverb definiteness.

The optimal model 2 was predicted by the interaction between the telicity of the predicate and CR type by adverb definiteness and CR of the adverb. Table 5-3 summarises the coefficients of the optimal model for the analysis of Study 2.

Beginning with a null hypothesis model and adding random effects for participants and items, the models were constructed bottom-up. Only those predictors that enhanced the model fit (as determined by likelihood ratio tests) were kept. The variables which were taken into account in the regression modelling for the analysis of the responses from Arabic native speakers are listed in Table 5-2. For each factor, the reference levels are underlined. Factors such as *list*, *Arabic dialect*, and *experimental setting* do not significantly improve the model fitting, and therefore, they were excluded from the optimal model.

---

[2] The formula for the optimal model of Study 2 was: glmer (Response.ter ~ (1|Participant) + (1|Item.number) + (1+Adv.definiteness|Base.sentence) + (1|Experimental.setting) + Telicity * Current Relevance Type + Adv.definiteness + Current.relevance, data= datC, family = binomial(link = "logit"), control = glmerControl(optimiser = "bobyqa")).

Table 5-2

A description of the factors considered in the model-building procedure for the analysis of the Arabic data.

Factors	Conditions
Current relevance type	Continuative, Experiential, Resultative, and Recent past
Telicity	Telic (T) vs. Atelic (A)
Aktionsart	Accomplishment, Achievement, State, Activity
Adv. definiteness	Indefinite vs Definite
Arabic. Dialect	Bishi, Egyptian, Hejazi, Najdi Northern, Southern, Other
Current relevance of the adverbs	Current (+CR), Neutral (±CR), not Current (-CR)
List	List 1, List 2, List 3, List 4
Experimental. Setting	Lab vs Online

Table 5-3

Coefficients for the optimal model for Study 2

Fixed effects	Estimate	Std. Error	z-value	p-value
Intercept	-1.01963	0.21556	-4.730	2.24e-06 ***
Current Relevance Type: **Continuative**	2.34384	0.30131	7.779	7.32e-15 ***
Current Relevance Type: **Experiential**	0.21613	0.29174	0.741	0.4588
Current Relevance Type: **Resultative**	0.04176	0.29921	0.140	0.8890
Telicity A	0.59635	0.28642	2.082	0.0373 *
Adv. definiteness: I**ndefinite**	0.07979	0.24914	0.320	0.7488
Current relevance: **Current**	0.49497	0.26495	1.868	0.0617.
Current relevance: N**eutral**	0.44017	0.23430	1.879	0.0603.
Current relevance type: **Continuative**: Telicity **A**	-2.31746	0.40923	-5.663	1.49e-08 ***
Current relevance type: **Experiential**: Telicity **A**	0.11369	0.40681	0.279	0.7799
Current relevance type: **Resultative**: Telicity **A**	-0.22296	0.41488	-0.537	0.5910

Note. Coefficients for the optimal model for Study 2, predicting the likelihood of not choosing the past/perfective, according to telicity, current relevance type of the context and current relevance of the adverb. The reference levels are current relevance type: recent past; current relevance of the adverb: not current; telicity: telic; and adverb definiteness: definite.

Past/perfective was used as the reference level for the outcome variable, as it was the most frequent response (cf. Figure 5-1). In Table 5-3, the model intercept represents past/perfective in contexts with not current adverbs (–CR), recent past and telic predicates. The model predicts the influence of the different factors on the probability of the choice of a response other than the past/perfect form of the verb. Therefore, the negative coefficients indicate a greater likelihood of choosing past/perfective, whereas the positive coefficients indicate a greater probability of choosing another verb form.

To get the whole picture, the optimal model was refitted using multinomial regression analysis to generate Figures 5-4 and 5-5 (producing the same patterns of significance as the mixed-effect model) to facilitate the interpretation of the coefficients of the optimal model. Figure 5-4 visualises the likelihood of selecting a verb form (*qad*+past/perfective, past/perfective, present/imperfective, or future) when the telicity of the predicate (telic (T) vs atelic (A)) interacts with the category of CR (continuative, experiential, resultative, and recent past). Figure 5-5 depicts the impact of the adverb definiteness (indefinite vs definite) on the likelihood of choosing a specific verb form by the L1 Arabic participants to fill the gap in the experimental phrases in Study 2.

Figure 5-4

Native Arabic speakers' likelihood of choosing a particular verb form in Study 2, as predicted by the interaction between current relevance type and telicity of the predicate
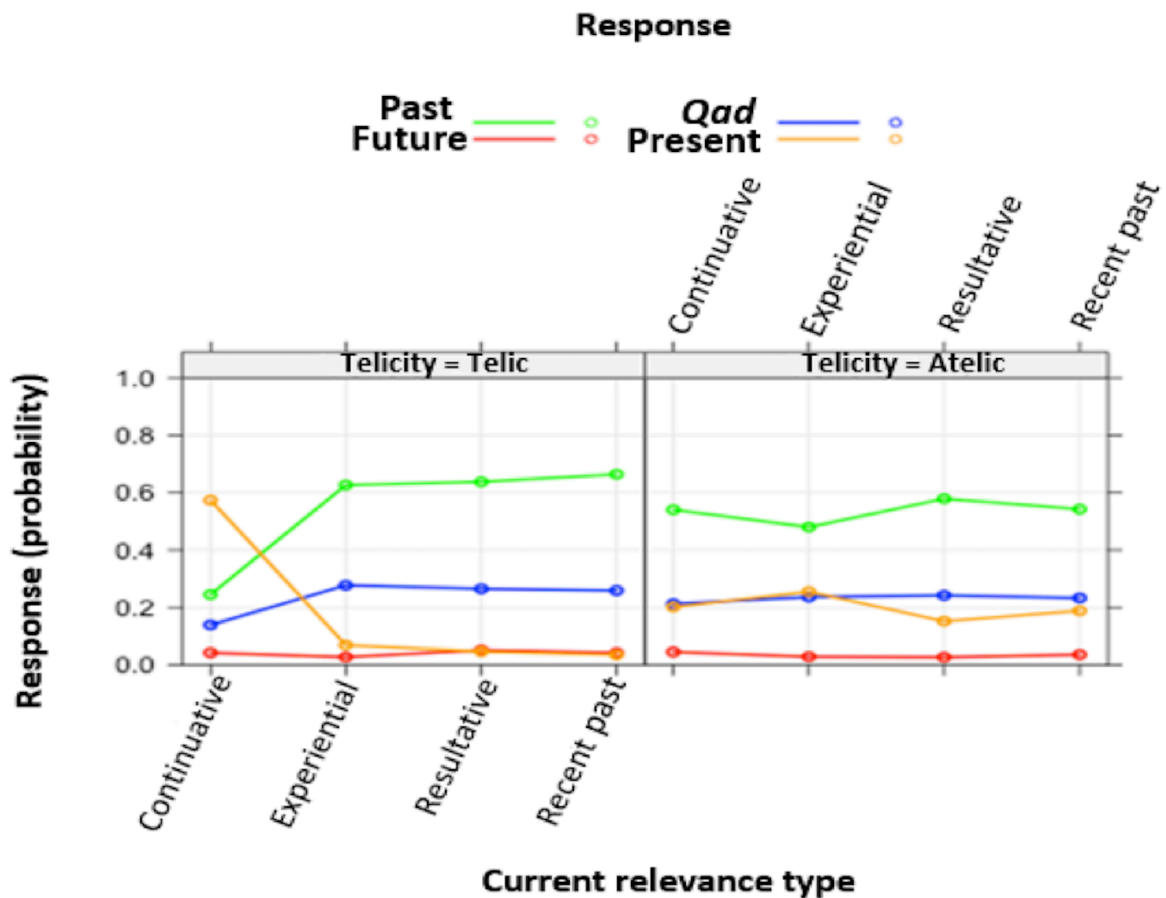
Figure 5-5

The main effect of adverb definiteness (indefinite vs definite) on the Arabic native speakers'
likelihood of choosing a particular verb form in Study 2
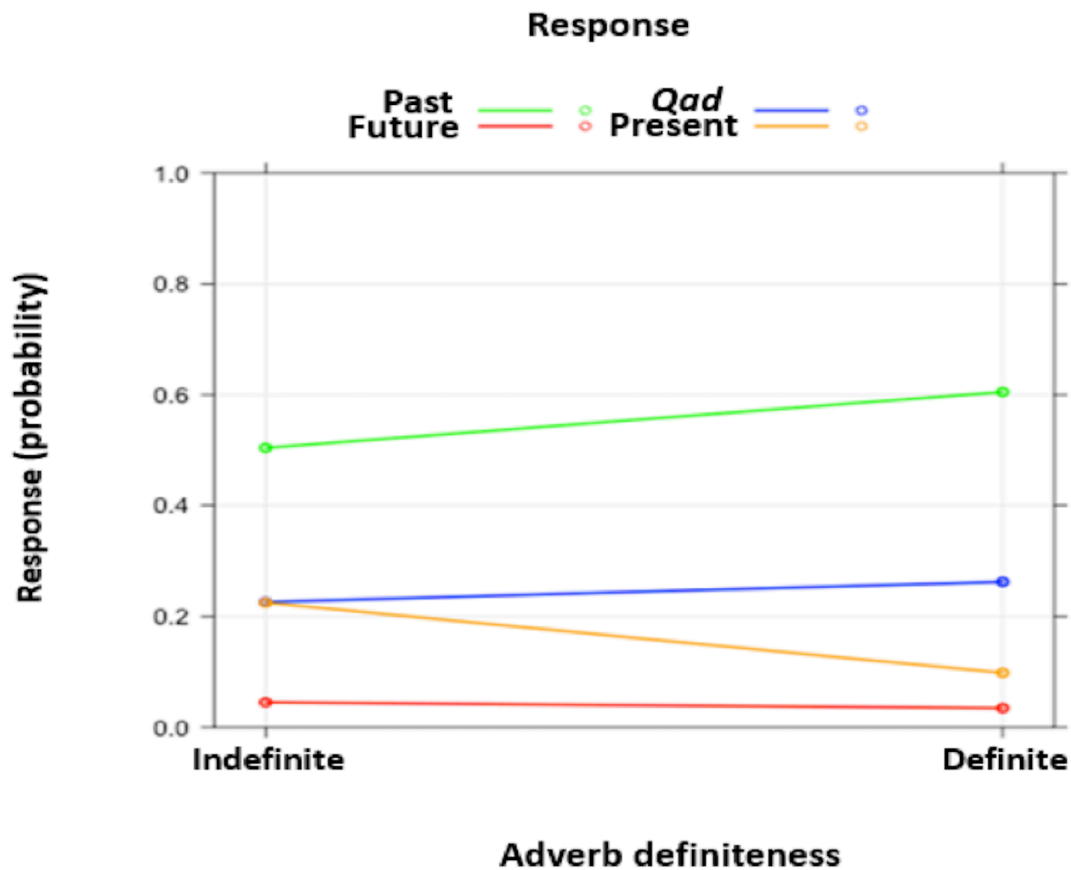
As shown in Figures 5-4 and 5-5, there was a different configuration of predictors in Study 2 from the one observed in Study 1. First, we can see from Figure 5-4 that there is a significant interaction between telicity and the type of CR (whereby telic predicates were associated with a preference for the past/perfect in all the contexts, except in the continuative contexts, when the present/imperfect was preferred with telic predicates and atelic predicates were associated with a preference for the past/perfect, albeit also allowing the present/imperfect). The Arabic native speakers chose *qad* about 25% of the time across most CR contexts: experiential, resultative and recent past perfect, but not for continuative, where the present was preferred, and the use of *qad* in the continuative context is even less.

Unlike the results of Study 1, temporal unboundedness, which operationalised in our study as the definiteness of an adverb (indefinite vs definite), does not significantly impact the choice of verb forms among Arabic native speakers. Figure 5-5 shows that the past/perfective was strongly preferred to be chosen in both [−temporally bounded] contexts (featuring indefinite adverbials) and in the [+temporally bounded] contexts (featuring definite adverbials). *Qad* and the present/imperfective are equally likely to be chosen about 25% of the time in the [−temporally bounded] contexts.

Therefore, we can interpret the results of the optimal model in Table 5-3 as follows. The Arabic data shows a significant interaction between the CR type and the telicity of the predicate. The majority of the native Arabic speakers tended to use the past/perfective form of the verb in all contexts except for the continuative context, where the present/imperfective was preferred. Contexts favouring a continuative interpretation of CR favour the choice of the present/imperfective with a telic predicate. From the results in Table 5-3, we can see a positive coefficient indicating a greater likelihood to select another verb form with the continuative context (Estimate: 2.34384, z: 7.779, p: <0.001), Past/perfective is less likely to be chosen in contexts including atelic predicates (Telicity A) (Estimate: 0.59635, z: 2.082, p: <0.001), except the atelic predicates in the continuative context were associated with a preference for the past/perfect (Estimate: -2.31746, z: -5.663, p: <0.001).

Adverb definiteness does not significantly impact the choice of verb forms. The Arabic native speakers preferred to use the past/perfective in both contexts, which included definite and indefinite adverbs as can be seen in Figure 5-5. However, there is little impact of the CR of the adverbs on the use of the past/perfective in the Arabic data. Non-current adverbs are more strongly associated with the choice of the past/perfective than the current or neutral adverbs. With contexts including current or neutral adverbs, meaning in the +PP condition, there is more likelihood to choose a verb form other than the past (verb forms such as present or *qad*) in the Arabic data.

5.4.3   Discussion

The present experimental investigation in this Chapter used a contextualised MC task with L1 Arabic native speakers to examine how the relevant features associated with the English present perfect differ from feature mapping in L1 Arabic. The general overview of the results

of the L1 English data in Study 1 and its counterpart in the L1 Arabic in Study 2 illustrate that the feature-form mapping in L1 Arabic for [–temporal boundedness] and [+CR] differs entirely from what exists in L1 English. The results of the Arabic native speakers in Study 2 revealed a different configuration of predictors (compared with what was found in the results of the English native speakers in Study 1): unlike the results of the English native speakers, the telicity of the predicates has a significant impact on the responses of the Arabic native speakers in Study 2. The results of the L1 Arabic participants illustrate a significant interaction between the CR type of the context (continuative, experiential, resultative, and recent past) and the telicity of the predicate.

The majority of the native speakers of Arabic used the past/perfective form in contexts favouring the experiential, recent past, and resultative perfect, especially with telic predicates. However, it can be noted that there was some probability of using the present/imperfective form or *qad* in addition to the past/perfective in these contexts (experiential, resultative, and recent past) with atelic predicates. Arabic speakers align with prototypical patterns or typical representations of how verbs are used in relation to telicity and completion marking. This result can be related to the explanation of the Aspect hypothesis, prototypicality.

On the other hand, in continuative contexts, use of the past/perfective is not preferred to express the continuative perfect in the Arabic data), but there is an interaction with telicity: with atelic predicates, the likelihood of choosing the past/perfective is significantly higher (than with telic predicates). In contrast, telic predicates are less likely to be associated with the past/perfective form in the continuative context. As such, most participants used the present/imperfective in the continuative perfect context in the Arabic data. Mazyad (1999, p.77) argued that telic predicates in Arabic can accept both perfective and progressive meanings. This may lead the Arabic participants to associate the use of present/imperfective with telic predicates in the continuative perfect contexts.

The telicity of the predicate does not significantly impact the choice of the past/perfective form by the Arabic participants in the –PP condition. It is apparent from Figure 5-2 that most Arabic native speakers significantly preferred to use past/perfective in the –PP contexts, as we expected. The influence of the inherent lexical aspect of the predicates on the choice of tense-aspect markers has been investigated and found in both L1 and L2 acquisition. Andersen and

Shirai (1994, p.133), in the aspect hypothesis, proposed that "first and second language learners will initially be influenced by the inherent semantic aspect of verbs and predicates in the acquisition of tense and aspect markers associated with or/affixed to these verbs". It has been noted that native English speakers in their early stages of learning English use the past tense -ed on accomplishment and achievement verbs and the progressive tense -ing on activity verbs more frequently than on other verb tenses (Andersen and Shirai, 1996). A series of L1 acquisition research studies such (as (Stephany, 1981) in L1 Greek, (Aksu-Koç, 1998) in L1 Turkish, (Shirai and Andersen, 1995) in L1 English) have provided evidence that participants in the early stages (children) of L1 acquisition acquire verb morphology by marking the lexical aspect of the predicate and associate the past-perfective marking more with telic predicates (achievement and accomplishment).

On the other hand, these L1 acquisition studies have observed that participants in the later stages of L1 acquisition (adults) could make the target tense-aspect distinctions, whether the predicate was telic or atelic. The present investigation of Study 2 in L1 Arabic revealed that Arabic native speakers could use the target past form in the –PP condition when the predicate was telic or atelic. On the one hand, Study 2 showed that the Arabic native speakers relied more on the inherent lexical aspect of the predicate rather than the grammatical aspect in their choice of the verb form in the +PP condition. The influence of telicity appeared more among the L1 Arabic participants' responses in the +PP condition.

The other conclusion that can be derived from Study 2 is the influence of the semantic property of the adverbs (definiteness and CR). They have little significant impact on the Arabic data. Adverb definiteness does not have a significant influence on the L1 Arabic data. However, it can be noticed that contexts not conducive to a CR interpretation (–PP contexts) are more favourable to the past/perfective response than those contexts which conducive to CR interpretation (+PP contexts). Participants were more likely to use another verb form than the past/perfective, for example (present/imperfective or *qad*) with the contexts including the +CR or the neutral (±CR) adverbs in the (+PP condition).

Regarding the particle *qad,* Al-Saleemi (1987), Bahloul (2008), Adel (2019), and Mudhsh (2021) have predicted that when the Arabic particle *qad* is used before the past/perfective form of the verb, it can convey the CR meaning expressed by the English present perfect. However,

the results of the L1 Arabic empirical study in this chapter revealed that the Arabic native speakers chose *qad* about 25% of the time across all the conditions (i.e., experiential, resultative, recent past perfect), except continuative in which the use of *qad* was even less. *Qad* and the present/imperfective are equally likely to be chosen in the [−temporally bounded] contexts in the L1 Arabic data. This result indicates that *qad* may not inherently convey sensitivity to CR or boundedness. The lack of sensitivity to CR and boundedness may suggest that *qad* is primarily concerned with indicating the completion of an action but may not inherently convey additional information about the nature of the action (such as whether it is ongoing, resulting in a state, or part of a sequence) or its temporal boundaries.

We therefore conclude that telicity is expected to be a source of L1 Arabic transfer, leading to the over-use of the present with telic predicates in the continuative context. We predict that [+telic] [+continuative] will be mapped onto the present at low proficiency levels. The summary of feature-form mapping in Arabic concluded from the results of Study 2 is listed in Figure 5-6:

Figure 5-6

Feature mapping in Arabic from the results of Study 2 (indicating less likely forms in parentheses)
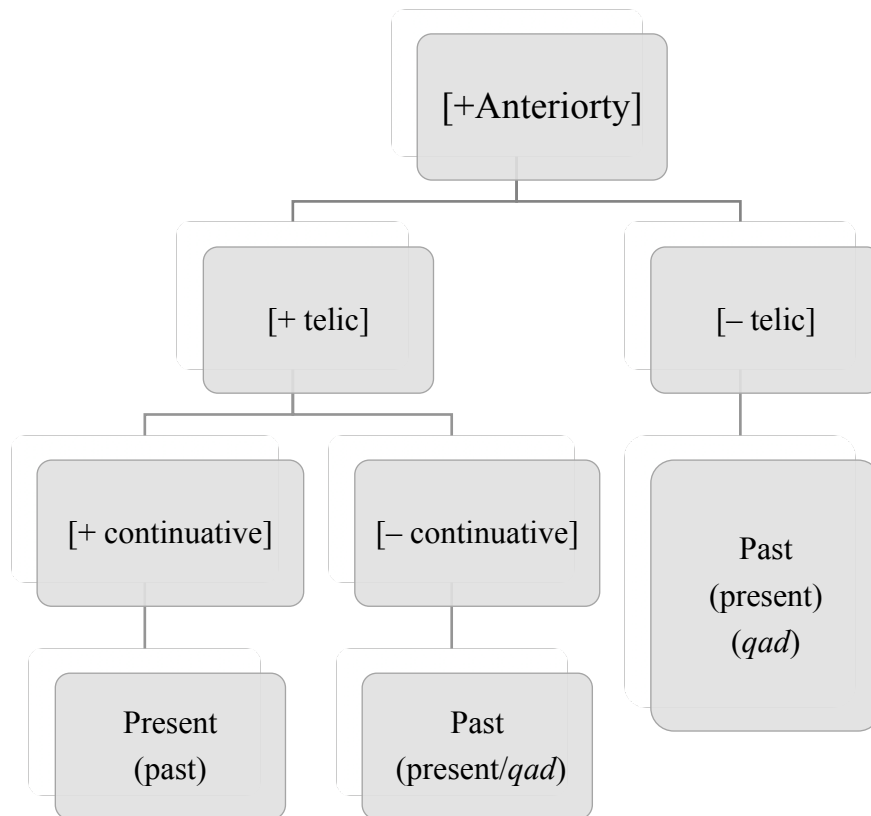
5.5 Conclusion

The empirical findings in this study provide a new understanding of how the feature mapping of the English present perfect differ from the feature mapping in L1 Arabic. The results of the Arabic native speakers in Study 2 (Feature Mapping in L1 Arabic) revealed a different feature-mapping arrangement compared to English. Temporal boundedness, operationalised as the definiteness of the adverb, had little bearing on participants' verbal choice in that language, suggesting that temporal unboundedness is not linked to a specific verb form. However, a significant interaction was found between the predicate's telicity and the type of CR. The majority of native Arabic speakers tended to use the past/perfective form of the verb in all contexts, except for the continuative context, when the present/imperfective was preferred, particularly with telic predicates. The choice of *qad* + past/perfective was preferred 25% of the

time in all contexts, except in the continuative perfect situations. Hence, we can predict that the semantic features such as telicity of predicate and CR type could be a source of L1 transfer in the acquisition of the English present perfect by Arabic L2ers of English.

The results of Study 1 and Study 2 enable us to draw precise predictions for the FRH for the L2 acquisition of the English present perfect by native Arabic speakers. It is predicted that the past will be preferred initially, except in continuative situations with telic predicates. The present is predicted to be chosen particularly by Arabic L2ers at low L2 English proficiency. From Study 2, we can predict that Arabic L2 users of English, particularly those with low English proficiency, will not be sensitive to temporal unboundedness, and adverb definiteness will not impact their choice of verb forms. These L1 Arabic transfer predictions for the FRH will be discussed and tested in the L2 acquisition study in Study 3 in Chapter 6.

Chapter 6 Study 3: Feature reassembly in L2 English

6.1 Introduction

In the previous chapters Study 1 and Study 2 empirically reported how the features associated with the English present perfect (i.e., temporal unboundedness and current relevance [CR]) map onto verb forms in English native speakers in Study 1 and in Arabic native speakers in Study 2.

Study 1 supported the theoretical literature's predictions that English native speakers would most often identify the present perfect with CR and temporally unbounded situations. The responses of the native English speakers revealed that the present perfect was favoured in the [+CR] and [–temporally bounded] contexts (i.e., featuring indefinite adverbials), while the simple past was preferred in [–CR] and [+temporally bounded] (i.e., featuring definite adverbials) contexts. However, there was no preference between the present perfect and simple past in the [–temporally bounded] with [+recent past] situations, and there was no interaction with telicity. The telicity of the predicates did not significantly impact the responses of the English native speakers in Study 1.

Study 2 revealed a different feature-mapping configuration in Arabic. Participants' choice of verb form was not significantly influenced by the adverb definiteness, indicating that temporal unboundedness is not linked to a particular verb form in that language. Past/perfective was preferred in [+past] contexts. However, a significant interaction was observed between the CR type and the predicate's telicity. Most native Arabic speakers tended to use the past/perfective form of the verb in all contexts aside from the continuative context, where the present/imperfective was preferred, particularly with telic predicates.

Based on the feature mapping configurations identified in Studies 1 and 2 for English and Arabic (respectively), we are now in a position to lay out and test the predictions of the feature reassembly hypothesis (FRH) (Lardiere, 2012) for the acquisition of the present perfect by second language users (L2ers) whose native language (L1) is Arabic. Accordingly, in Study 3, we conducted a contextualised multiple-choice (MC) task to test how L2ers of English from different levels of English proficiency map or reassemble these features into new formal configurations in their L2 acquisition of the English present perfect.

The sections of this chapter are structured as follows. Section 6.2 outlines our research questions and the predictions of the FRH, which were derived from Study 1 and Study 2 and were tested in the L2 acquisition study (Study 3) in the present chapter. Section 6.3 presents the methods used to design this experiment, while Section 6.4 presents the results of Study 3 and the statistical analysis of these results. This section also discusses the findings of this Study in relation to the listed research questions. Finally, Section 6.5 concludes the chapter.

6.2 The purpose of Study 3 (Feature reassembly in L2 English), Research questions, and predictions

6.2.1 Aim

The experiment designed for Study 3 aims to test the FRH predictions regarding the L2 acquisition of the English present perfect by Arabic users of L2 English to understand how feature reassembly occurs in the L2 English present perfect acquisition of Arabic speakers.

6.2.2 Research questions

In Study 3, we designed an MC task conducted among Arabic users of English of different levels of L2 English proficiency to answer the following research questions:

RQ1. Do Arabic L2ers transfer the native form-meaning associations from their L1 into their acquisition of the English present perfect?

RQ2. Is the telicity of the predicate a relevant feature in the obligatory contexts for the use of the present perfect by Arabic L2ers of English?

RQ3. Is the influence of L1 Arabic transfer progressively overcome as English proficiency increases?

6.2.3 Predictions

The predictions we aim to test in Study 3 are based on Lardiere's FRH, which states that learners transfer form-meaning associations from their first language into their second language.

The FRH seeks to explain L1 influence on second language acquisition (SLA). Lardiere (2012) proposed this hypothesis, building on Schwartz and Sprouse's (1996) full access/full transfer hypothesis. The FRH predicts that successful L2 acquisition requires reassembling L2 features already existing in the L1 into new functional categories or lexical items (Lardiere, 2012).

In cases where there is a difference between the L1 and L2, as in our case between English and Arabic, L2ers must determine which tenses/aspects are chosen for grammaticalisation in L2. First, they need to figure out how these meanings differ from the L1, what the morphological forms are associated with them, and map these syntactic and semantic features in the L2. Second, the L2ers must reconfigure or remap particular temporal/aspectual meanings from how they are represented in the L1 Arabic to new configurations on various morphological forms in L2 English.

According to Slabakova (2009), when there is a mismatch between L1 and L2 realisations of grammatical features, re-assembly of these features in L2 acquisition will be more cognitively challenging for the learner than when there is a straightforward mapping between L1 and L2 morphemes. Accordingly, since English and Arabic both convey the simple past by using grammatical morphological marking, it is expected that the acquisition of the simple past requires direct mapping of L1 and L2 morphemes. As such, L2ers are expected to recognise that English, like Arabic, grammaticalises the meanings associated with the simple past and acquire the English morphological forms (-ed) that encode these features of the simple past: [+past], [+temporally bounded] → past.

On the other hand, it has been demonstrated in Study 1 and Study 2 that the feature mapping configurations associated with the English present perfect are represented differently in L1 Arabic. Consequently, the use of the English present perfect by Arabic users of English is expected to afford a higher level of difficulty than the simple past. The L2ers are expected, therefore, to reconfigure or remap the temporal/aspectual meaning associated with the present perfect from how it is represented in the L1 Arabic into new configurations on various types of morphological forms in the L2 English.

Regarding the acquisition of the L2 English present perfect, we identified the relevant form-meaning associations in the previous chapters presenting the two native speaker studies (in English and Arabic). The English study enabled us to define the target (i.e., the form-meaning

associations to be acquired), and the Arabic study enabled us to predict what would be transferred from the grammar of Arabic. The feature mapping associations from Study 1 and Study 2 are summarised in (Figure 4-5) in Chapter 4 and (Figure 5-6) in Chapter 5.

Based on the feature mapping configurations for tense and perfective aspect identified in Study 1 for English and in Study 2 for Arabic, and focusing our enquiry on features marking two CR types (continuative vs recent past) and telicity, we predicted the following for L2 acquisition of the English present perfect by native speakers of Arabic, according to the FRH:

Prediction 1

For L2ers at initial stages of acquisition,
- Arabic users of L2 English will generally transfer L1 features to associate perfective aspect with past tense.

- Telicity is expected to impact on feature mapping. In [+continuative], [+telic] contexts, features will generally transfer to present tense marking with some optionality between past and present marking in [–telic] contexts.

- [Temporal boundedness] is not predicted to have an impact on feature mapping at this level.

Prediction 2

For L2ers at advanced stages of acquisition,

- Arabic users of L2 English may be able to distinguish perfective aspect from past tense, remapping features marking temporal unboundedness and continuative CR to present perfect forms.

- In view of the optionality for present perfect marking found in the L1 English group in recent past contexts, where there is no preference between present perfect and past marking in recent past contexts Arabic users may show similar optionality.

- Telicity is not expected to impact on feature mapping.

In addition, following the aspect hypothesis (AH) (Andersen and Shirai, 1995) and the findings for a telicity effect in the L1 Arabic study (Study 2), we consider it is likely that Arabic learners of English will tend to associate perfective markers with telic predicates (achievements and accomplishments), while they tend to associate imperfective markers with atelic predicates (activities and states). Therefore, we will elaborate upon the predictions of this hypothesis to predict that the lexical aspect of the predicate (telicity) could also affect the acquisition of the English present perfect by Arabic users of English.

Prediction 3

- Arabic L2ers of English may tend to associate the perfective markers of the present perfect more with telic predicates than with atelic ones. The target present perfect form is predicted to increase with telic predicates (achievements and accomplishments) compared with atelic predicates (state and activity).

- An interaction between CR type (continuative vs recent past) and telicity may impact the use of the target present perfect. The target present perfect form is predicted to increase in recent past contexts with telic predicates, and in continuative contexts with atelic predicates.

6.3 Methodology

The research questions of Study 3 will be answered through a contextualised MC task designed in a PsychoPy platform (version 2020.1). In this experiment, Arabic L2ers of different levels of proficiency had to choose an appropriate verb form from four options (present, future, past, present perfect) to complete a gap in a sentence, which is followed by an adverbial phrase and a follow-up context that prompts or prohibits the use of the English present perfect as illustrated in Figure 6-1. Similar to Study 1, the MC task was thought to be appropriate to answer the research questions of Study 3 as it encourages the L2ers to consider the morphological and semantic clues during their decision-making to select the appropriate grammatical verb option

to fill the gap in the sentence. Consequently, this provides information about feature reassembly in L2 English present perfect acquisition.

Figure 6-1

How the items were presented to the participants in Study 3 in PsychoPy software (version 2020.1)
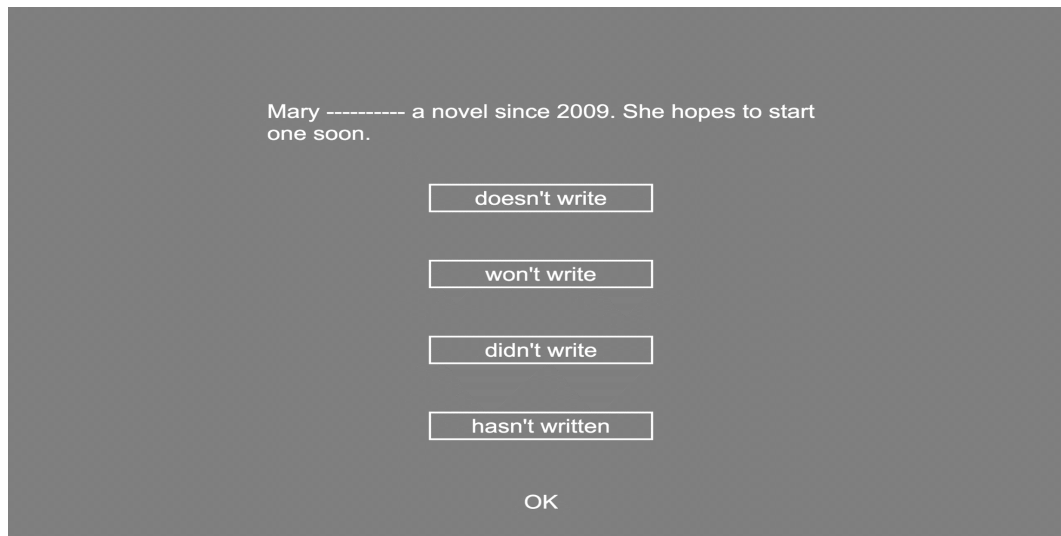
6.3.1   Design of the Experiment

In this MC task, the choice of the English present perfect by the L2ers was investigated according to the following variables:

(i) The Current relevance (CR) type of the context (continuative vs recent past)

In Study 3, we simplified the design of Study 1 to concentrate on two types of CR of the English present perfect: a) continuative and b) recent past. Studies 1 and 2 revealed a significant difference between the response form used in these two contexts in both the L1 English and Arabic data. Moreover, these two semantic functions of the present perfect differ in the strength of the current relevance they denote. While both continuative and recent past present perfect constructions involve a connection to the present, the former has a stronger relation to the CR moment because it emphasises the ongoing nature of an activity with a focus on duration, while the latter has a weaker relation to the CR moment because it emphasises the immediacy and recency of an action completed just before the present moment. Therefore, the design of Study

3 included a comparison between these two interpretations of the English present perfect, namely the continuative and the recent past.

(ii) Temporal boundedness (TB) (indefinite vs definite)

Similar to the design of Study 1, temporal boundedness is operationalised in Study 3 as *the definiteness of an adverb* (indefinite vs definite). In this experiment, we manipulated the definiteness of the adverbs to yield two contexts: temporally bounded contexts (in which we do not expect to use the present perfect) and temporally unbounded contexts (in which we expect to use the present perfect). We excluded using neutral adverbs (±CR) such as (*this morning, this afternoon*) from the design of Study 3. It is evident from the results of Study 1 (Chapter 4, Section 4.4) that English native speakers tended to use the past form equally with the present perfect in [+recent past] [–temporally bounded] contexts when they include neutral adverbs. As a result, one type of [±CR] was excluded (e.g., *this morning, this afternoon*). We used adverbial phrases that indicate recency, such as *just* and *recently* for recent past contexts and durative adverbials such as *since* and *for* to identify the continuative contexts.

(iii) Telicity of the predicates: telic predicates (accomplishment achievement) and atelic predicates (state and activity)

Telicity was taken into our consideration as a critical feature in the design of Study 3 to evaluate the relevance of telicity to contexts favouring the present perfect's use. In the L1 Arabic data in Study 2, telicity had an impact on the chosen verb form, where the past/perfective form was preferred by L1 Arabic speakers in all [+past] contexts, except continuative contexts with telic predicates where the present/imperfective was preferred. Consequently, it is crucial to determine whether the influence of telicity could be transferred to the acquisition of present perfect in L2 English by L1 Arabic users of English because telicity could make the acquisition of the L2 English present perfect more challenging.

(iv) L2 English proficiency

As English proficiency is predicted to influence the responses of L2ers in a variety of contexts and predicted to affect present perfect feature mapping by Arabic L2ers of English. An independent measure of English proficiency was administered to categorise the participants according to their proficiency level. Thus, Study 3 sought to test L2 English feature reassembly

in the acquisition of the English present perfect among L2ers of English at early and late L2 acquisition. This was determined based on a MC task at the beginning of the experiment consisting of a subset of the Standardized Oxford proficiency test with 40 Multiple-choice questions (Appendix A). This proficiency measure was selected for different reasons: first, it is a consistent and reliable measure that has been used extensively in SLA literature (Slabakova and Garcia Mayo, 2015; Jensen, 2016). Second, it can be administered in a short time. This test consists of sentences with a blank gap and three choices listed below. The participants were asked to select the option that rendered the sentence acceptable, and they received one point for each choice that was chosen correctly, as illustrated in the following examples from Study 3:

Figure 6-2

Examples of the MC task in the Standardized Oxford proficiency test in Study 3

14. 1) Water _____ at a temperature of 100° C.

- is to boil
- is boiling
- boils

15. 2) In some countries _____ very hot all the time.

- there is
- is
- it is

16. 3) In cold countries people wear thick clothes _____ warm.

- for keeping
- to keep
- for to keep

17. 4) In England people are always talking about _____.

- a weather
- the weather
- weather

6.3.2 Material

In the design of Study 3, as noted earlier, two types of CR of the English present perfect (continuative vs recent past) were crossed with the telicity of the predicates (telic vs atelic). We manipulated the definiteness of the adverbs (definite vs indefinite) to yield two contexts: [+temporally bounded] contexts with definite adverbs (in which we do not expect the use of the present perfect) and [−temporally bounded] contexts with indefinite adverbs (in which we expect the use of the present perfect), except at lower proficiency group, over use of the present marking in this context is predicted. As such, there are eight conditions in the design of this experiment as shown in the following Table 6-1:

Table 6-1

The eight conditions of the experimental items, including manipulation in Study 3

Current relevance type	Adverb definiteness	Telicity	Example
Continuative	Indefinite [−temporally bounded]	(Telic)	Amal ------ (improve) her skills in English since she came to the UK. She will soon be able to pass her exam.
Continuative	Definite [+temporally bounded]	(Telic)	Amal ------- (improve) her skills in English last year. She was able to pass her exam.
Continuative	Indefinite [−temporally bounded]	(Atelic)	Sylvia and Mary ------- (remain) friends for all these years. They still write to each other regularly.

Continuative	Definite [+temporally bounded]	(Atelic)	Sylvia and Mary -------- (remain) friends until 2010. Then Sylvia moved to Australia.
Recent past	Indefinite [–temporally bounded]	(Telic)	The school hockey team ----- (win) all the games recently. They improved significantly over a short period of time.
Recent past	Definite [+temporally bounded]	(Telic)	The school hockey team ----- (win) all the games in 2018. Their performance improved significantly over a short period of time.
Recent past	Indefinite [–temporally bounded]	(Atelic)	Emma ------ (love) her healthy lifestyle lately. She eats healthy food and goes to the gym every day.
Recent past	Definite [+temporally bounded]	(Atelic)	Emma ----- (love) her healthy lifestyle four years ago. Now, she overeats fast food.

We included ten items per lexical condition, i.e., a total of 80 test items. Each telicity category included an equal number of *aktionsart* subtypes (i.e., five states, five activities for atelic predicates, and five achievements, five accomplishments for telic predicates). *Aktionsart* was employed in the design to split the telicity types equally. As one of the goals of Study 1 was to validate the test items for the L2 study, we employed the exact items from Study 1 in this study to provide a basis for comparison between the responses of the L2ers and the English native speakers in the usage of the English present perfect.

The test items are distributed among two lists: (List 1 and List 2), using a Latin Square design, with each list containing 66 items: 40 test items and 26 distractors to shorten the experiment's duration and prevent fatigue/learning effects. The two lists were completed by the same participants on two different days. The same 26 filler sentences were used in the two lists. The participants could not see the same manipulation in the same list. The participants were presented with the two lists (List 1 and List 2) in two orders: Order 1, in which the participants were first tested in List 1 and then in List 2 at two different times; and Order 2, where they were first tested in List 2 and then in List 1. The lists were distributed in two different orders to ensure that the order in which the lists were sent to the participants would not affect the experiment's results.

The distractors were created the same way as those used in Study 1. In summary, all the items (distractors or experimental items) were formulated in the same structure as follows:

Proper noun subject + verb (with complement or locative adjunct) + adverbial → follow-up sentence.

The distractors required choosing between the present and future tense and hypothetical modality. The total number of distractors is 26 items. By creating the distractors in this manner, we tried to avoid revealing to the participants the precise tense-aspect distinction under investigation. As can be observed in the following instances in Table 6-2, the adverbial modifiers employed in filler sentences could enhance the use of present simple, future, or hypothetical tenses. For all the test items and the distractors in this task, the participants were asked to choose the suitable verb form from four choices to complete the sentence according to the content of the context following the sentence. These responses were presented in random order for all experimental and filler items.

Table 6-2

The contexts used to create the distractors in Study 3

The context	The expected verb form	Example
Habitual context	Present form of a verb	John----- (listen) to the news daily. He likes to know what happens around the world.
Future context	Future form of a verb	Sara ------ (visit) her friends next week. She has a lot of work to complete this week.
Hypothetical	Conditional form of a verb	Mary ------- (pass) her exams this year if she studied hard. Nevertheless, she will do her best.

6.3.3 Participants

In this experiment, 202 Arabic users of English were invited to participate (184 female). The participants were all between the ages of 18 and 55. The participants were recruited via email (through convenience sampling) and social media. The participants speak different L1 Saudi dialects (Southern, Northern, Najdi, Hejazi, and Bishi). Of the participants, 77% were L2ers from different levels at the English department (from the 1st to the 8th level), or English teaching assistants, at the University of Bisha in Saudi Arabia. For their participation, they earned course credits. Eight teaching assistants from the same university took part in this study. They had studied English as a second language in Saudi Arabia and worked as English teaching assistants for two to five years. About 23% of the participants were MA or PhD candidates in different specialisations attending the University of Leeds in the UK. They all had approximately the same level of proficiency in English (very high). All the L2ers who participated in this experiment were tested for their English proficiency through a subset of the Standardized Oxford proficiency test.

At the beginning of the experiment, the participants were asked to complete a brief questionnaire about their language background, and the Language Experience and Proficiency Questionnaire (LEAP-Q; Marian, Blumenfeld and Kaushanskaya, 2007). The background questionnaire revealed that most participants had a university level of formal education (BA

and BS). Most participants speak the Southern dialect of Arabic. English is the second language of all the participants.

The following presents an overview of the results of the LEAP-Q to access the language profiles of the L2ers who participated in the present study, to provide the extent to which the participants are currently exposed to English in different contexts. The participants were asked to rate the extent to which they usually use their L2 English in the following situations: *Interacting with friends, interacting with family, watching TV, listening to radio/music*, and *reading*). In general. Arabic users of English who participated in Study 3 have a good level of exposure to English. Of the participants 42.1% preferred to use English in their contact with friends about half the time. Similarly, 41.6% of the Arabic users of English used English in their reading. In addition, 33.2% preferred to use English most of the time to listen to radio or music. On the other hand, 33.7% of Arabic speakers of English do not prefer to use their L2 English when communicating with family members.

6.3.4   Procedures

Full ethical approval was obtained before commencing the experiment to satisfy the ethical standards of research (Reference number: LTSLCS-118). The data were mainly collected using online tools. It was challenging to collect the data from the participants under the researcher's personal supervision in labs because of the spread of Coronavirus worldwide in 2020. We could not access the lab at the University of Leeds in the UK or the University of Bisha in Saudi Arabia because of COVID-19 restrictions. The schools and universities had been closed and turned to an online learning system. As a result, using online tools during this time made it possible to contact the participants to collect the data for Study 3.

Before the participants started the experiment, they read information about the experiment and were asked to consent to participate in the study, as illustrated in Appendixes B and C. The participants were tested for their English proficiency and completed a brief questionnaire about their language background and the LEAP-Q (as in Appendix D). Both were administered via the Jisc online platform. Afterwards, each participant performed a decision task spread over two sessions. In each session, the participant was presented with 66 items (40 test items and 26 distractors) consisting of a sentence with a gap followed by a short context. In the instruction screen, as illustrated in Appendix E, they were asked to choose (from four options) the verb

form required to fill the gap based on their intuition. Figure 6-1 illustrates how the items were presented to the participants in the experiment. The decision task was designed in PsychoPy (version 2020.1) and administered via the Pavlovia platform. The task was piloted online on 10 participants (5 per list) before commencing the online data collection.

6.4 Data analysis and results

This experiment aims to test the predictions of the FRH and the use of the English present perfect by Arabic speakers of English (L2). In the following, we first analyse the participants' proficiency scores from the proficiency test to see if the proficiency scores represent the participants' overall performance and exposure to English. The collected data from the MC task is statistically analysed and discussed in the second section.

6.4.1 L2 English proficiency test

As mentioned earlier, Study 3 aimed to gather data from L1 Arabic speakers of English in five different levels of L2 English proficiency; beginner, low-intermediate, intermediate, high-intermediate, and advanced (defined below). Therefore, an independent measure of proficiency (IMP) was administered to categorise the participants according to their proficiency levels. The participants' proficiency level was based on their score in the MC task in the Standardized Oxford proficiency test, and the maximum possible score was 40 (one point per correct answer). The following five levels are distinguished by the proficiency test: beginner (n=12 participants) (a score lower than 10), low intermediate (n=51) (a score between 11 and 17), intermediate (n=49) (a score between 18 and 22), high intermediate (n=74) (a score between 23 and 32) and advanced (n=16) (a score of 33 or more). Figure 6-3 shows the distribution across proficiency levels. The L2 English proficiency measure was centred on this analysis.

Table 6-3

The participants' scores in the Standardized Oxford Proficiency test in Study 3

L2 English proficiency levels	Frequency	Percentage of participants
Beginner (score lower than 10)	12	5.9
Low intermediate (score between 11 and 17)	51	26.2
Intermediate (score between 18 and 22)	49	23.8
High intermediate (score between 23 and 32)	74	36.1
Advanced (score of 33 or more).	16	7.9
Total	202	100

Figure 6-3

Proficiency scores by proficiency group in Study 3
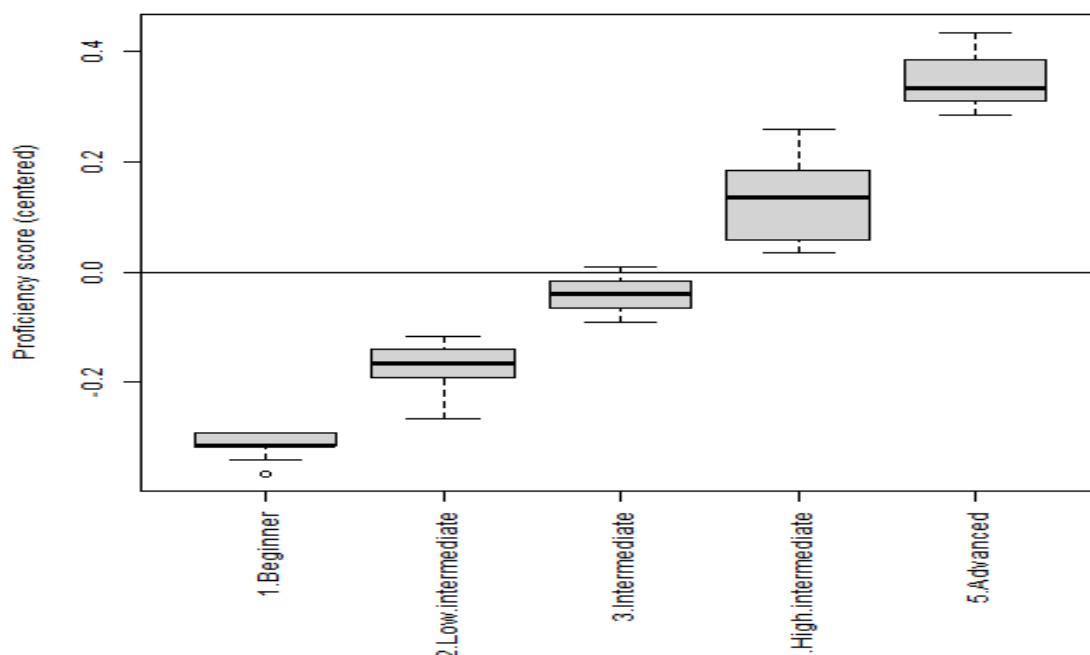
6.4.2   Initial visualisations of the data

We start the analysis of the results with an initial visual exploration of whether the L2ers selected the target-like response in the +PP and –PP conditions. The +PP conditions included the [–temporally bounded] [+CR] contexts which favour the use of the present perfect. The results of Study 1 showed that the English native speakers strongly preferred to use the present perfect in +PP contexts; the resultant target-like response. Figure 6-4 presents the distribution of L2ers' responses from different levels of L2 English proficiency in Study 3. The overall impression emerging from Figure 6-4 is that the target-like response (i.e., the present perfect, designated as *Pr.p.only* in the Figure) choice in +PP contexts varies according to L2 English proficiency levels. L2ers from the highest proficiency groups (high intermediate and advanced) selected the proper target-like response (present perfect) in the [–temporally bounded] [+CR] contexts. The participants from the lowest proficiency groups (beginner and low intermediate) chose non-target verb forms instead of the present perfect in these contexts.

Figure 6-4

The distribution of the use of the target-like response in the present perfect (present perfect only) in +PP condition and the past (Past only) in –PP contexts by Arabic speakers of English in Study 3
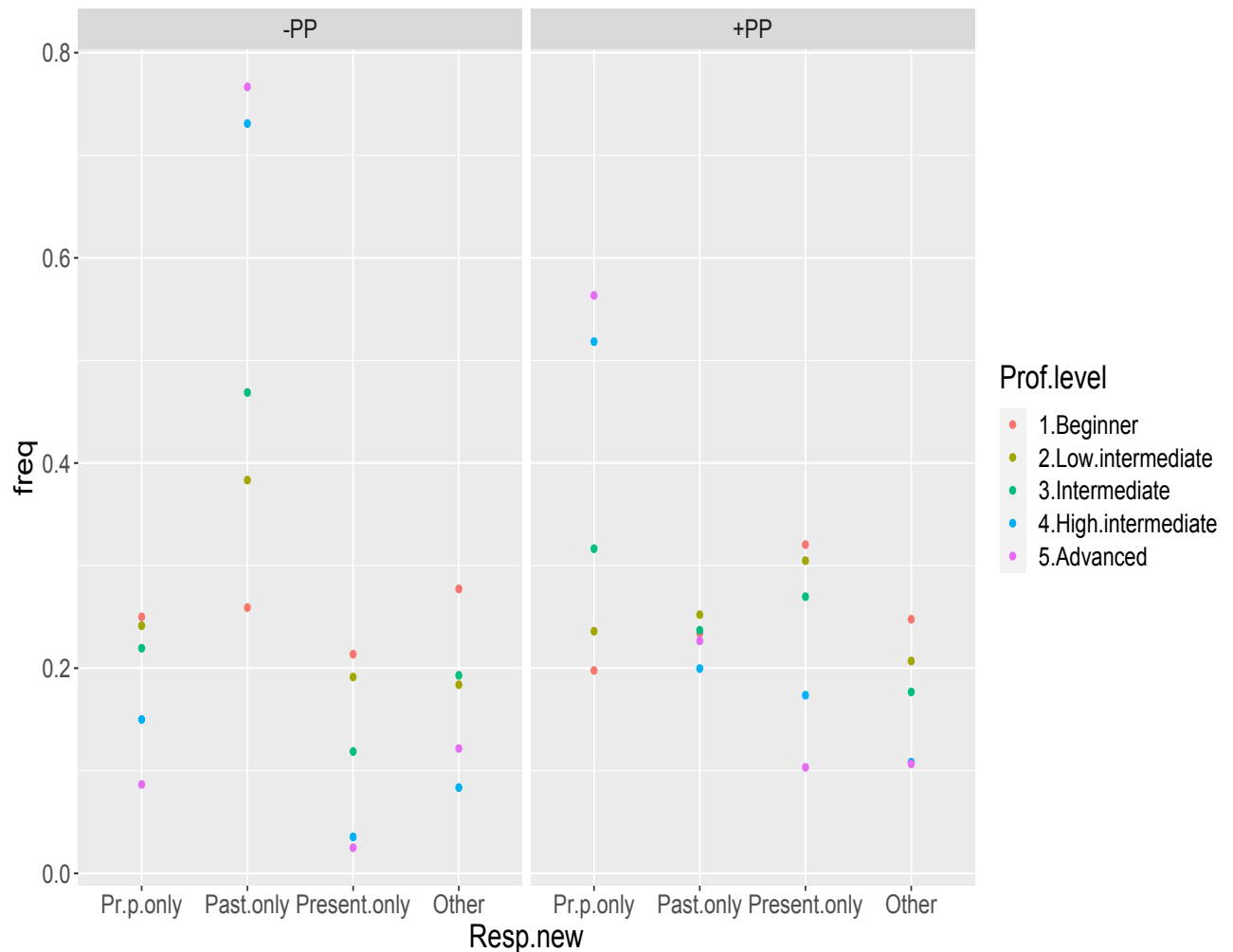
In contrast, the –PP conditions included the [+temporally bounded] [–CR] contexts, where the participants are expected not to use the present perfect in these contexts. The simple past (past only) is the target-like response in –PP conditions since English native speakers in Study 1 strongly favoured the use of the past in the [+past] [+temporally bounded] contexts. The distribution of the participants' responses in Figure 6-4 revealed a notable preference of the target-like response (past only) in the –PP context by most participants, specifically by intermediate, high intermediate, and advanced groups. It appears that L2ers performed better with the target simple past in –PP contexts than with the target present perfect in +PP contexts.

Nonetheless, it can be observed that participants with the lowest levels of proficiency used non-target responses even in –PP contexts.

6.4.3   Statistical analysis

The data collected in Study 3 were analysed with generalised linear mixed models (GLMMs) (Winter, 2019) in R Studio (version 4.1.2). The same procedure for statistical analysis was used as in Studies 1 and 2. In the model fit, we looked for the effect of the predictors such as (CR type of the context, telicity, adverb definiteness, proficiency) on the choice of the present perfect response vs the other response.

The response variable in the optimal model 3 was predicted by the interactions between (adverb definiteness and proficiency.c), (adverb definiteness and relevance type), (telicity and proficiency.c), and (relevance type and proficiency.c). The interaction between telicity and relevance type did not improve the model fit. The model included random intercepts for the item and base sentence and random slopes for adverb definiteness by participants. Table 6-4 lists the predictors that were used in fitting the model in the regression analysis of the participants' responses in Study 3. The reference level of each factor is underlined.

Multinomial regression analysis followed the mixed-effect model, as shown in Figure 6-5, which displays the same patterns of significance as the mixed-effect model, in order to be able to plot all the interactions of interest in the optimal model to make the interpretation of the optimal model easier. In Figure 6-5, the x-axis represents proficiency and the present perfect, designated as *Pr.p.only* in this Figure.

It can be seen in Figure 6-5 that the participants from the lowest proficiency levels used non-target response which is the present (Present.only) in [–temporally bounded] contexts instead of the target present perfect. In contrast, the target present perfect (Pr.p.only) response was chosen by the L2 English intermediate and advanced proficiency groups in these contexts. The

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[3] The formula for the optimal model was :glmerbest <- glmer(Resp.new ~ (1+Adv.definiteness|Id) + (1|Item.number) + (1|Base.sentence) + Adv.definiteness * Proficiency.c + Adv.definiteness : Relevance.type + Telicity : Proficiency.c + Relevance.type : Proficiency.c, data= dat, family=binomial(link="logit"), control=glmerControl(optimizer="bobyqa")) summary(dat.glmerbest)

continuative context was the most favourable for using the present perfect by the highest proficiency levels. Figure 6-5 also illustrates that simple past (Past.only) was preferred by intermediate proficiency levels and upwards in [+temporally bounded] contexts. The participants from the beginner proficiency levels seem to face difficulty in associating the simple past (Past.only) with the given [+temporally bounded] [–CR] contexts.

Figure 6-5

Results of the optimal model of the results in Study 3: Feature reassembly in L2 English (interaction between relevance type and telicity) in [–temporally bounded] and [+temporally bounded] contexts
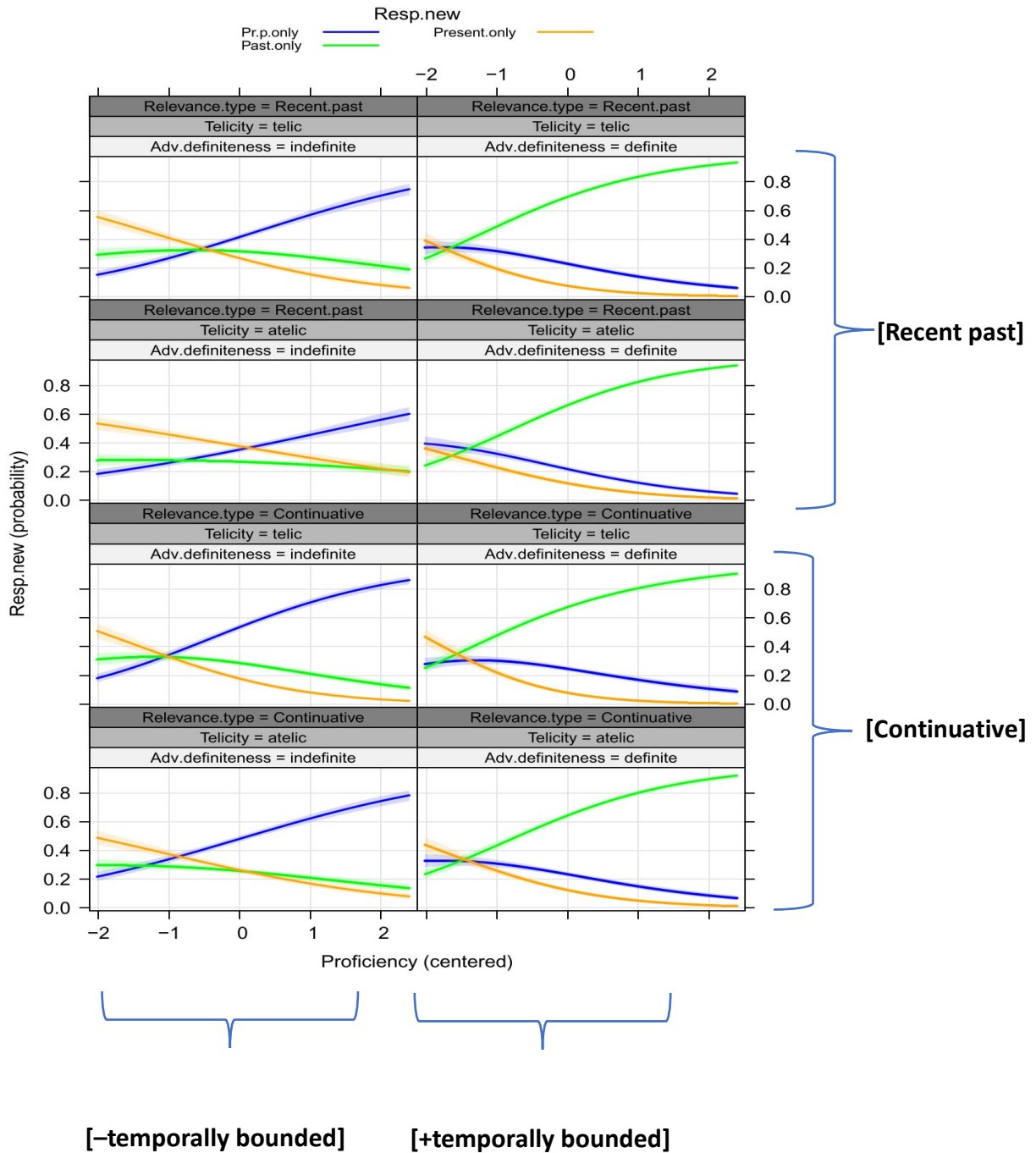
Table 6-4

A description of the factors used for analysis of the L2ers data in Study 3

Factors	Levels
Relevance.type of the context	Continuative vs Recent past
Telicity	Telic(T) vs Atelic (A)
Aktionsart	Accomplishment, Achievement, State, Activity
Adverb definiteness	Indefinite vs Definite
L2 Proficiency level **(Proficiency.c)**	Beginner, Low Intermediate, Intermediate, High Intermediate, Advanced (The L2 proficiency score was centred on this analysis.)

Table 6-5 below presents the coefficients of the optimal model for the statistical analysis of the collected data in Study 3. It is a mixed-effect model for the choice of the present perfect vs other verb forms and how the present perfect is induced by other factors such as telicity, CR type, adverb definiteness, and proficiency.

The response variables included Pr.p.only (present perfect), Past.only (past), Present.only (present) and Other. Other included the possibility for multiple responses. We chose the present perfect (Pr.p.only) response as a reference level for the response variable which is the level of comparison to the other levels.

In Table 6-5, the negative coefficients indicated a greater likelihood of choosing the present perfect (Pr.p.only). The positive coefficients indicated a greater likelihood of choosing another response form (Past.only, Present.only or Other) rather than the present perfect (Pr.p.only).

Table 6-5

Coefficients for a mixed-effect model for the predictors for the choice of present perfect vs other forms in Study 3(reference levels: Telicity: atelic; Current relevance (CR) type: recent past; Adverb definiteness: indefinite; proficiency.c)

Fixed effects	Estimate	Std.Error	z value	P-value
(Intercept)	0.8439	0.1103	7.648	2.05e-14 ***
Adv.definiteness definite	0.8381	0.1443	5.809	6.28e-09 ***
Proficiency.c	-3.0333	0.4757	-6.377	1.81e-10 ***
Adv.definiteness definite: Proficiency.c	6.2101	0.5709	10.877	< 2e-16 ***
Adv.definiteness indefinite: Relevance.type Continuative	-0.5642	0.1142	-4.942	7.74e-07 ***
Adv.definiteness definite: Relevance.type Continuative	-0.1160	0.1178	-0.985	0.324770
Proficiency.c: Telicity telic	-0.9252	0.2371	-3.903	9.51e-05 ***
Proficiency.c: Relevance.type Continuative	-0.8102	0.2386	-3.396	0.000684 ***

From the optimal model and Figure 6-6, the statistical analysis revealed that participants were sensitive to adverb definiteness (as a main effect), because they used the present perfect significantly less in temporally bounded contexts featuring definite adverbials. It is apparent from Table 6-5 that the use of the present perfect form of the verb to complete the sentence in the contexts identified with definite adverbs was significantly less likely than in the contexts

with indefinite adverbials (Estimate: 0.8381, z: 5.809, p:<0.001). However, the effect of adverb definiteness increased with L2 English proficiency. The L2ers with a high proficiency level were more sensitive to adverb definiteness than those with the lowest levels. As can be seen in Table 6-5, there is a significant interaction between adverb definiteness and proficiency. As the proficiency level of the participants increased the use of the present perfect, in contexts which were modified by definite adverbs, significantly decreased (Estimate: 6.2101, z: 10.877, p: <0.001).

As a significant impact, increasing proficiency levels increased the likelihood of choosing the target present perfect when appropriate in the [–temporally bounded] [+CR] situations. As L2 English proficiency increased, participants were less likely to use a different verb form (i.e., present, past, or other) than the target present perfect in the contexts (Estimate: -3.0333, z: -6.377, p: <0.001).

The likelihood of choosing the present perfect by L2ers of a high level of L2 English proficiency significantly increased when the predicate is telic. As shown in Table 6-5, there is a significant interaction between the level of L2 English proficiency and the telicity of the predicate. As proficiency increased, there was less likelihood of choosing a different verb form (present, past, or other) than the present perfect in the [–temporally bounded] [+CR] contexts, specifically when the predicate was telic (Estimate: -0.9252, z: -3.903, p: <0.001).

Figure 6-5 shows that the participants from the intermediate to the advanced group could choose the target present perfect form in the [–temporally bounded] contexts to a greater degree than the participants from the lowest group of L2 English proficiency. The highest proficiency group showed a better performance in their use of the present perfect in the obligatory present perfect contexts in the two CR types *continuative* and *recent past*. However, the choice of the target present perfect was more favourable for the high intermediate and advanced group in the continuative contexts than in the recent past perfect contexts. As the optimal model shows a strong interaction between the CR type and adverb definiteness, it suggests that it is less probable to use a different verb form rather than the English present perfect in the [–temporally bounded] contexts (featuring indefinite adverbs) (Estimate: -0.5642, z: -4.942, p: <0.001).

Moreover, favouring the present perfect in the continuative perfect context increased significantly with the L2 English proficiency level. As proficiency levels increased, the

likelihood of choosing the present perfect is robustly greater in the continuative perfect contexts (Estimate: -0.8102, z: -3.396, p: <0.001). To sum up, the findings of Study 3 showed that L2 English proficiency and adverb definiteness have a main effect on the responses of the L2ers in this experiment. The effect of CR type, telicity, and adverb definiteness on the participants' accuracy in their judgements significantly increased with the L2 English proficiency of the Arabic users of English.

6.4.4   Discussion

Based on Studies 1 and 2, we identified the FRH predictions and tested them in Study 3, allowing us to answer research questions (Section 6.2.2) as follows. The results of Study 3 revealed that L2ers of the highest proficiency levels were able to recognise the distinction between the present perfect and simple past in English, remapping features associated with [temporal unboundedness] and [continuative] CR to its corresponding morphological forms in L2 English (present perfect form).

However, as illustrated in Figure 6-5, the performance of the high proficient L2ers in the choice of the target simple past in [+temporally bounded] contexts were better than their performance in choosing the target present perfect in the [–temporally bounded] contexts. The high proficient L2ers allowed the use of some other responses than the present perfect in [–temporally bounded] contexts with recent past situations.

Although the most advanced learners correctly chose the target present perfect in the majority of [–temporally bounded] contexts, their performance remained lower than in contexts requiring the simple past [+temporally bounded] contexts. This confirms previous literature showing that the present perfect is acquirable after the simple past by L2ers in L2 English grammar (Bardovi-Harlig, 1997, 2000; Liszka, 2002, 2004; AI-Thubaiti, 2010; Alruwaili, 2014), but that the challenges of feature reassembly are not entirely overcome even at advanced proficiency levels (Lardiere, 2012). The acquisition of form-meaning associations for the simple past will be more straightforward than reassembling the feature associated with the present perfect at all proficiency levels. Since the [+past] tense component is stated in L1 Arabic, it was predicted that L2ers would directly benefit from their L1 by associating this specific form with its meaning in L2 acquisition. The results of the high-proficient L2ers in Study 3 meet our prediction that Arabic L2ers at later stages of acquisition will be able to

distinguish perfective aspect from past tense by reassembling features denoting temporal unboundedness and continuative perfect to present perfect forms. In addition, they showed similar optionality to that found in the performance of L1 English native speakers in Study 1, where they allowed optionality between the use of the present perfect and simple past in the recent past situations. There is no interaction between CR type and telicity in the feature mapping of the advanced L2ers, as we expect that telicity should not affect the present perfect feature mapping by Arabic L2ers at advanced stages of language acquisition.

However, at initial stages of acquisition, the results showed that telicity predicts the choice of the present perfect compared with other forms, albeit in interaction with the type of CR in the responses of L2ers. We predicted that telicity could have an impact on the present perfect feature mapping by Arabic L2ers who have low level of L2 English proficiency. In [+continuative], [+telic] contexts, features will generally transfer to present tense marking, whereas in [–telic] contexts, it is predicted to show some optionality between past and present marking. The results of Study 3 in the present chapter revealed that at low proficiency levels, preference for the present extended beyond [+continuative] and [+telic] contexts. The overuse of present in [+continuative] [+telic] contexts demonstrated that L1 Arabic had influenced speakers of low proficiency. The subjects assigned the incorrect tense-aspect marker to the [+continuative] [+telic] by choosing the present, which was a more frequent form in L1 Arabic in the results of Study 2 in the continuative perfect situation with telic verbs and comparatively less so with atelic predicates. For instance, the participants favoured choosing the present verb (improves) to complete the sentence in Example (1) instead of the target present perfect form (has improved). Similarly, those participants with low L2 English proficiency tended to select the present (invests) instead of the present perfect (has invested) in order to complete sentence (2).

(1)   Amal ---------- (**improve**) her skills in English **since she came to the UK**. She will soon be able to pass her exam. (**+continuative, telic; accomplishment**)

(2)   The company ---------- (**invest**) $30 million **to date.** Things are likely to get better. (**+continuative, telic; achievement**)

These findings are in line with Terán (2014), who revealed similar L1 influence in the acquisition of the English present perfect by L2ers speaking Spanish, indicating that L2ers of English had been influenced by L1 Spanish and the majority of the participants transferred the incorrect tense form (present) from L1 Spanish into their L2 English acquisition. Notably, the L2ers in Terán's investigation assigned the incorrect tense/aspect marker (simple present) to the semantic feature of the present perfect [continuative] CR by selecting the present to complete the sentence, which is an acceptable and more frequent form in Spanish in continuative perfect contexts.

On the other hand, there was no preference for the past in [–temporally bounded] contexts at any proficiency level in the findings of Study 3. We predicted that Arabic users of English with low L2 English proficiency levels would transfer the past beyond all [+past] contexts, except for [+past] [+continuative] contexts with [+telic] predicates, where they are expected to (predominantly use present) and to a lesser extent with atelic predicates (occasionally use present). The results of Study 3, as shown in Figure 6-5, revealed that the L2ers of the lowest proficiency levels overused the present in [–temporally bounded] contexts. A suggested approach from Verkuyl (2022) could interpret the over-use of the present in the present perfect context by Arabic L2ers of English at low levels of English proficiency in the results of Study 3. Verkuyl (2022) argued that the present perfect could be called *the present in the past*. In the use of the present perfect in English, there is a sense of falling within the time-sphere of the present. The structural approach to the English present perfect puzzle proposed by Verkuyl (2022) is represented by binary operators as seen in Example (3) and Figure 6-6.

(3)   a. Maria has sung. (Present perfect) (PERF)

        b. PRES (SYN (PERF (Maria sing)). (Verkuyl, 2022, p.55)

Figure 6-6

Tense operators expressing the three binary oppositions from (Verkuyl, 2022, p.55). The abbreviations: a. Present (PRES) vs Past (PAST), b. Synchronous (SYN) vs Posterior (POST), c. Imperfect(-ive) (IMP) vs Perfect(-ive) (PERF).
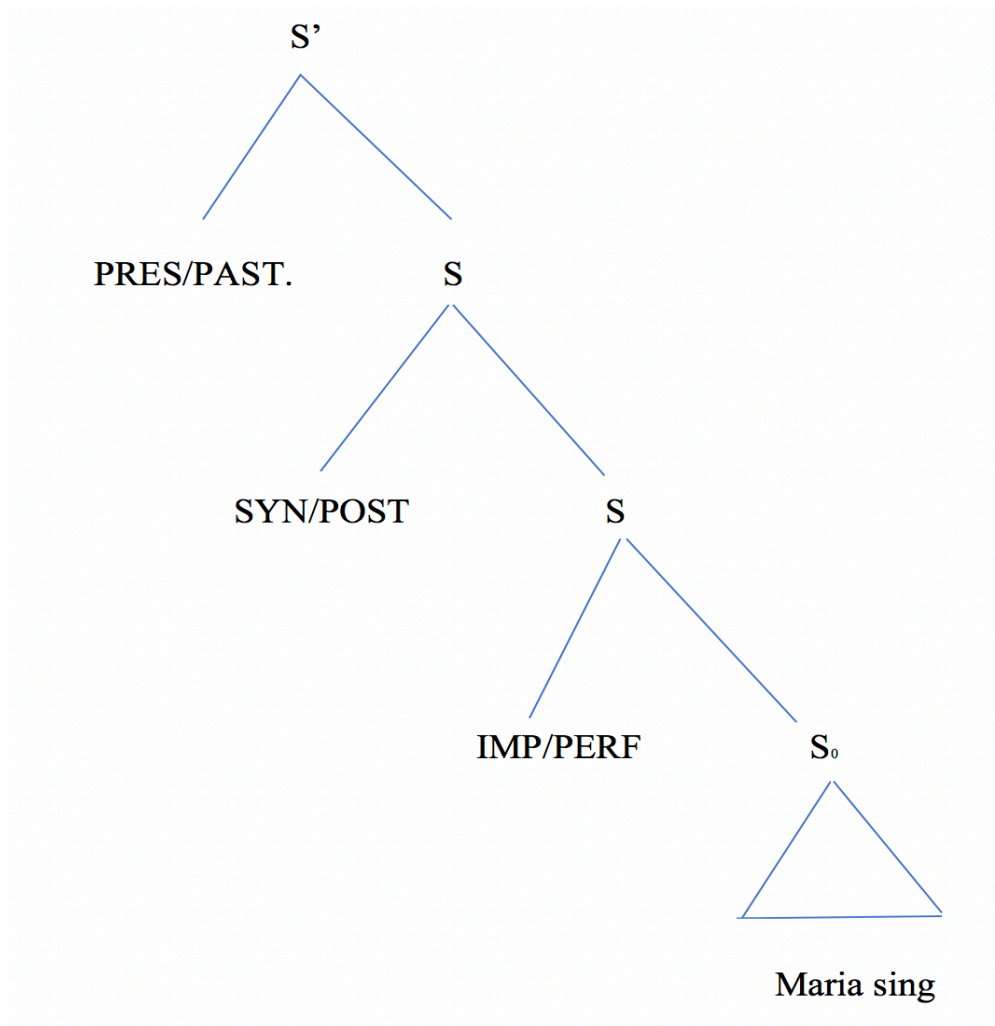
As seen in Figure 6-6, Verkuyl's approach proposed that the *Perfect(-ive)* (PERF) is taken by the operator *Synchronous (*SYN), producing the tensed sentence represented as PRES (SYN (PERF (Maria sing)). The choice of the speaker to use a present perfect from Verkuyl's approach is to keep the backward, going on and forward perspective.

This approach is in consistent with the argument in the literature that the English present perfect always characterises the present in some way or another (Declerck, 2006). Verkuyl (2022)

proposes that the actualisation (Syn/Post distinction in the tree) plays a role in licensing the English present perfect. Debate continues about whether the English present perfect could have an absolute perfective value (Bardovi-Harlig, 2000). Verkuyl's approach could afford new insights to answer this question which remains contentious among linguists. According to Verkuyl's approach, the English present perfect is licenced by the present in the past. Terán (2014, p.107) argued, "If the situations denoted by the present perfect have both past and present validity, then we should claim that the prototypical canonical value of this tense-aspect (TA) form should be the imperfective". The CR feature of the present perfect, suggests that this perfective form can convey a present/imperfective meaning. Hence, it is reasonable to see in the results of Study 3 that the low-proficient L2ers overused the simple present form as a replacement for the present perfect in the [–temporally bounded] contexts with both continuative and recent past contexts. They generalised the use of the present form instead of the present perfect, possibly because of the common CR feature they share. Farina (2017) revealed in a rating task that the participants rated the present perfect as a more continuable, which means more connected to the present than the simple past contexts. This association between the continuability and the contexts of the present perfect suggests that the CR is a central feature of the present perfect. The participants in Farina's investigation perceive the present perfect as being less completed than the simple past, as they rate the present perfect contexts as ongoing or continuous events. The overuse of the present verb form instead of the present perfect in continuative and recent past contexts among beginners may be ascribed to the fact that the learners are more attuned to the imperfective aspects of English present perfect contexts. Additionally, these learners demonstrate heightened sensitivity to aspectual distinctions, potentially leading them to default to the present tense as the default form within the verbal paradigm.

The comparison between the present perfect and the past in Chapter 2 reveals that they have different reference times. While the simple past has perfective meaning, denoting situations that occurred with no connection to the present, the present perfect denotes situations that occurred in the past but continue in the present or are connected to the present in some way. According to this perspective, the present perfect can possess an imperfective atelic feature. Thus, it should be predicted that the imperfective value is a relevant feature of the present

perfect, which is proposed to be assembled or reassembled from the L1 in the L2 acquisition. By taking into consideration the type of the CR of the present perfect that was the focus of the present study, namely the continuative and recent past, it will be assumed that the continuative perfect will be the most favourable context for the choice of the present perfect due to the imperfective atelic value of the present perfect. The recent past context will be second. These predictions are suggested to be investigated in further research.

Moving to temporal boundedness, as predicted temporal boundedness does not have an impact on feature mapping at initial stages of acquisition. The results of Study 3 revealed that L2ers with low L2 English proficiency did not show sensitivity to temporal boundedness, as adverb definiteness did not affect their verb choice in Study 3. This feature does appear to be mapped onto the present (although without much certainty) at the lowest proficiency levels. On the other hand, (as seen in Figure 6-5) among the participants from low intermediate to advanced levels of L2 English proficiency, the past becomes the preferred option in temporally bounded contexts and the present perfect in temporally unbounded contexts. As proficiency level increases, there is a gradual developmental acquisition of the English present perfect by L2ers. The results revealed that high-proficient L2ers successfully acquired the new English morphological form of the present perfect and recognised the L1 semantic value [+past], which is associated with the simple past. This conclusion indicates that highly proficient L2ers have overcome their L1 influence and acquired the form meaning associations of the English present perfect. This shows evidence of feature reassembly, which meets our prediction for the higher-proficiency L2ers. This conclusion is in line with the findings of numerous SLA studies (e.g., Bardovi-Harlig, 1992; Collins, 2002; Terán, 2014; and Uno, 2014) on the influence of proficiency in the developmental acquisition of the tense and aspect distinctions by demonstrating that higher levels of proficiency are associated with greater accuracy in the use of tense-aspect morphological forms.

However, it can be seen in Figure 6-5 that even some of the high intermediate and advanced L2ers occasionally made residual mistakes by using past/present in temporally unbounded contexts where they were expected to use the target present perfect form of the verb. The findings observed in this study mirror those of the previous studies that have examined the effect of the development of L2 proficiency in the acquisition of L2 English present perfect. For example, Liszka's (2002) study revealed that the advanced L2ers performed better than the

intermediate ones; however, she notes that the advanced L2ers did not fully attain their use of the present perfect. She observed that the L2ers from the advanced group of L2 proficiency in form-meaning associating of the present perfect did not demonstrate native-like performance. It is possible to conclude that even at advanced proficiency levels, L1 transfer may continue to exist. It can be observed that even those with a high proficiency level have difficulty using the present perfect due to the lack of using this tense-aspect form in L1. It also seems possible that perfectivity distinctions drive these errors.

Regarding telicity, the findings of Study 3 (Table 6-5) revealed an association between the present perfect and telic predicates. As proficiency increases, the choice of the present perfect in temporally unbounded contexts augments faster with telic predicates. This result is in line with the prediction of the AH, which proposed that L2ers tend to associate perfective markers with telic predicates. In contrast, they tended to associate imperfective markers with atelic predicates as prototypical structures. The suppliance of the target present perfect increased when the predicate is telic. This finding is in line with Collins (2004), who revealed similar association between the use of the English present perfect with telic predicates among the responses of the Chinese learners of L2 English. Furthermore, this conclusion is corroborated by Karpava (2017), who examined the acquisition of the English present perfect by L2 Greek Cypriot English learners. Karpava (2017) discovered that the use of the target present perfect form increases with L2 English proficiency levels; however, participants' L2 acquisition has been influenced by telicity, where participants at the later stage of L2 English proficiency tended to decrease their use of perfective/past forms with atelic predicates and increase their use of these forms with telic predicates.

Furthermore, Table 6-5 shows that the continuative was the most favourable context for the use of present perfect by L2ers of high proficiency level. This is in line with native speaker performance, as unveiled in Study 1: the continuative contexts are the most favourable to the choice of present perfect by the English native speakers. The continuative perfect, with its inherent imperfective meaning, revealed higher rates of L2 acquisition by highly proficient L2ers across both telic and atelic predicates. As such, the results of the present study are also in an agreement those of Liszka (2002), Uno (2014), and Terán (2014). The conclusions from Liszka's (2002) and Uno's (2014) investigations revealed that the use of the target present perfect was strongly promoted by the continuative contexts which contained durative

adverbials such as *for seven years*, *since 1990*, *up to the present moment*, and *to date*. Similarly, Terán (2014) found that the L2ers supplied the target present perfect more accurately in continuative perfect situations than experiential ones. This difficulty faced by L2ers in using the present perfect in experiential contexts compared with continuative ones could be due to the difference in the degree of CR they denote. The continuative or extended-now contexts have a stronger relation to CR compared with the experiential ones, as it describes a situation that began in the past and continues to the moment of utterance since the continuative perfect describes a situation that began in the past and continues to the moment of speech (Davydova, 2011).

To sum up, we follow in this thesis a bottom-up approach to deriving the FRH predictions from two preliminary studies conducted initially to determine empirically how the present perfect feature mapping in L1 English differs from the feature mapping in L1 Arabic. In this chapter, the present study aims to test these predictions on L2 data in Study 3. The feature reassembly in which the L2ers reconfigure the form-feature mapping as presented in L1 Arabic and L2 English provides insights into the challenge L2ers face in acquiring the English present perfect. It has been supported by the data presented above that reassembling the form-feature mapping of the associations related to the English present perfect reveals a higher level of difficulty compared with the simple mapping of the form-feature mapping of the simple past, which is similar in both Arabic and English. This inductive approach has shown new insights for feature reassembly between L1 and L2 in the acquisition of the English present perfect which will be further discussed in Chapter 8. In Study 2 (feature-mapping in L1 Arabic), we found that aspectual distinctions, telicity of the predicate, and CR type play a main effect in the L1 Arabic feature-mapping. Following this bottom-up approach suggests that telicity (telic/atelic) and CR type (continuative, experiential, resultative, recent past) could make the acquisition of the English present perfect features more challenging for Arabic L2ers of English. These predictions derived from the bottom-up approach to the FRH differ from those predictions made using the traditional approach such by (Fassi-Fehri, 2004; Al-Thubaiti, 2010; Taha, 2013, and Alruwaili, 2014) in their investigations of the acquisition of tense and aspect distinctions by Arabic learners of English. They assumed that there is an interpretable [perfect] feature that is not explicitly marked morphologically in Arabic and can convey the English present perfect and simple past meanings, which causes persistent difficulty for Arabic learners of English in

their acquisition of the English present perfect. In Arabic, the temporal distinction between simple past and present perfect is not explicitly indicated, but in English, it is realised morphologically. In English, the verb + -ed suffix encodes the simple past, while the auxiliary have/has and the verb's past participle form actualise the present perfect. On the other hand, Arabic does not differentiate between these differences; both interpretations can be encoded in the perfective form (Fassi-Fehri, 2004).

On the other hand, the approach adopted in this thesis suggests that the difficulty in present perfect feature mapping is not only due to syntactic and morphological feature differences, but also due to semantic features such as telicity and CR type. The significant value of this bottom-up approach is that it provided empirical evidence of how certain semantic features (telicity and relevance type) have predictable influence in the feature reassembly in L2 English present perfect acquisition. We predicted that semantic features (telicity and relevance type) would induce the re-assembly of form-meaning associations between the L1 Arabic and L2 English, and there would not be sensitivity to temporal boundedness.

The derived FRH predictions have been supported by part of the data in the L2 acquisition study in the present chapter, where L2ers of low proficiency level transferred the present in [+continuative] and [+telic] contexts and the there was no preference for the past in [−temporally bounded] contexts at any proficiency level. The overuse of the present in the contexts favouring the present perfect could be due to aspectual distinctions. L2ers could transfer the imperfective feature beyond the obligatory contexts to use the present perfect. This finding provides new insight for further research to test the reassembling of imperfective value from L1 in the L2 acquisition of the English present perfect by L2ers.

The results also revealed low sensitivity to temporal boundedness among the low proficient L2ers, as we predicted, compared to highly proficient L2ers. The highly proficient L2ers have evidenced a high level of accuracy in their use of the target present perfect in [−temporally bounded] contexts which contain indefinite adverbials such as *since*, *for*, or *yet* as in an Example (4) below. On the other hand, they did not associate the present perfect with [−temporally bounded] contexts which contain definite adverbials such as *yesterday or three days ago*, as illustrated in Example (5).

(4)   Alice **has not read** the recommended book **yet.** She still has two chapters to read. (**–temporally bounded context**)

(5)   Alice **did not read** the recommended book **yesterday**. Now it is too late to get it from the library. (**+temporally bounded context)**

It is predicted that the adverbial phrases trigger the use of the target verb form, or as Liszka (2002, p.113) phrased it: "the adverb triggers an associative response to produce the target form". Consequently, we can speculate that the presence of the inducing adverbials in the [– temporally bounded] contexts facilitated the target use of the present perfect among the highest proficient L2ers due to their extensive exposure to L2 English. The presence of the inducing adverbial modifiers led the L2ers in Study 3 to rely on these adverbs in choosing the target present perfect form. The results of Study 3 revealed limited insights regarding the extent to which the interaction between (telicity and CR type) can induce the choice of the present perfect since the L2ers rely more on the temporal boundedness than on the semantic features of the context, such as the telicity of predicate (telic vs atelic), or relevance type (continuative vs recent past). For that reason, we decided in this thesis to conduct a semantic study (Study 4), which will be presented in the following chapter, in which we will test which type of CR interpretation L2ers will assign to the present perfect, depending on the context with no associative adverbial clue, and how this interpretation will interact with the telicity of the predicate.

6.5   Conclusion

In Study 3, we used a contextualised MC task to answer the question of the assembly and re-assembly of form-meaning associations between the L1 Arabic and L2 English in acquiring the English present perfect. The FRH predictions were identified through a bottom-up approach from two preliminary studies, and were tested in the L2 acquisition study in the present chapter. We aimed to reveal what is being transferred from L1 Arabic in acquiring the L2 English present perfect. Study 3 also tested whether the effect of L1 Arabic transfer is progressively overcome when L2 English proficiency increases.

The results showed that as the L2 proficiency level increases, the past becomes the preferred option in temporally bounded contexts and the present perfect in temporally unbounded contexts. However, using the present perfect is more challenging for the L2ers in this study than simple past due to the straightforward mapping between L1 and L2 to assign the past in [+past] [+temporally bounded] context. L2ers of low proficiency level preferred the present in [+continuative] and [+telic] contexts, and there was no preference for the past in [–temporally bounded] contexts at any proficiency level. The results showed no impact of temporal boundedness on present perfect features mapping among the low proficient L2ers compared to highly proficient L2ers. The use of the present perfect increased with proficiency in the continuative contexts and with telic predicates.

The results of this study show that temporal boundedness and proficiency significantly induce target like use of the present perfect by L2ers. Further investigation is required to understand more how the semantic features (telicity and relevance type) could induce the use of present perfect by L2ers without depending on temporal boundedness of the context. In the next chapter, we will conduct an inference task to probe the participants' interpretation of the English present perfect contexts, not just their acceptability. We will further examine whether the interaction between telicity (telic vs atelic) and relevance type context interpretation: (continuative vs recent past) affects the participants' interpretation of the English present perfect contexts (over the course of proficiency development).

Chapter 7 Study 4: The Interpretation of the Present Perfect Contexts

7.1 Introduction

The findings of the contextualised multiple-choice (MC) task reported in the previous chapter indicate that temporal unboundedness and second language (L2) English proficiency levels substantially induce use the present perfect by native language (L1) Arabic speakers of English. The presence of the inducing indefinite adverbs in the contexts of Study 3 significantly triggers the choice of the target present perfect by the high-proficient L2 users (L2ers). In contrast, the L2ers of the lowest proficiency group relied more on the semantic features of the predicate, as they predominantly tended to choose the present beyond [+continuative] contexts with [+telic] predicates. The core insight presented by the previous study is that reliance on the lexical aspect (telicity) diminishes as proficiency increases, and the choice of the present perfect was increasingly associated with temporal unboundedness as proficiency level increased. The results of the previous study provided limited insight into the extent to which the interaction between telicity and current relevance (CR) type can influence the selection of the present perfect, which will be built upon by the study presented in this chapter.

Building from this, we conducted a semantic study (Study 4), which will be presented in this chapter. In this study, we will examine which type of CR interpretation Arabic users of English assign to the present perfect in the absence of constraining contexts, and how this interpretation interacts with the telicity of the predicate. In Study 4, we administered an inference task to native and non-native English speakers to determine how they interpret present perfect contexts in English. In addition, we examined whether the interaction between telicity (telic vs atelic) and CR type context interpretation: (continuative vs recent past) affects participants' interpretation of English present perfect contexts.

The novelty of designing an inference task in Study 4 centred on its ability to access the pragmatic relevance of the present perfect context and the contextual knowledge of participants due to its novel approach to language comprehension and interpretation. It also contributes to our understanding of the acquisition and comprehension of tense and aspect distinction. This kind of task touches on the semantic-pragmatic interface of language, examining not only the

grammatical-syntactic features but also the pragmatic-semantic considerations that regulate the use of the present perfect. It is not just a matter of recognising the present perfect tense, but also of comprehending its meaning and application in context.

This chapter begins with a brief discussion of the pragmatic perspective of present perfect contexts in Section 7.2. Section 7.3 outlines the research questions and the predictions for the conducted inference task. Section 7.4 will describe the empirical design, material, study sample, and procedures for administering the inference task. Section 7.5 presents the methods used to analyse the data collected for this study, and it concludes with a discussion of the results of this interpretation task in relation to the listed research questions and predictions. This chapter concludes with a summary of the study's key findings in Section 7.6.

7.2   Background

In this section, we will present a brief discussion about the present perfect in English from a pragmatic perspective. "Pragmatics is concerned with context-dependent inference." (Yao, 2014, p.58). A speaker's judgement of an event's relevance is a key pragmatic feature of the present perfect. When a speaker indicates an event with the present perfect, the speaker's perspective determines that the event is relevant at the time of the speech Givon (1993), as in the following example:

(1)   (Professor to class) Good morning! Your mid-term exam results have arrived.

Pragmatically, the speaker in Example (1) preferred to choose the present perfect to emphasise the current relevance of the present situation.

The CR of the present perfect is determined via an implicature. Linguists such as McCawley (1971), Comrie (1976), Huddleston and Pullum (2003) have induced four CR types of the present perfect (continuative, experiential, resultative, and recent past) from the CR feature and based on implicature.

7.2.1   The continuative interpretation

Yao (2014, p.90) argued that "the continuative inference derives from the situation's property of being in progress at the present moment", for example:

(2)　　　"For some years schemes **have existed** to encourage teachers to set out like Victorian missionaries to explore the strange and wild territory of industry and to convert its leaders to an acceptance of the virtues of education." (Yao, 2014, p.90)

Yao (2014) indicated that the continuative inference from Example (2) is that the "schemes still exist".

7.2.2　The resultative interpretation

McCawley (1971) indicated that the resultative present perfect implicates a result at the present moment, as illustrated in the following example:

(3)　　　I've caught the flu (so I can't come to the party tonight).

From Example (3), the inference (so I can't come to the party tonight) represents the implicated result in the resultative present context in this example.

7.2.3　The experiential interpretation

The traditional interpretation of experiential perfects indicates that the situation occurred "once or more than once in the speaker or writer's experience." The experiential interpretation implicates repetitive occurrence of the situation within a period of time (Yao, 2014).

(4)　　　I have read Principia Mathematica five times. (McCawley, 1971).

The experiential interpretation in Example (4) implicates that "reading Principia Mathematica" occurred five times within an extended period of time.

7.2.4　The recent past interpretation

According to a widely held belief, the recent past perfects indicate that the event occurred recently. The recent past or the hot news interpretation implies that the situation is informative for the audience, and this message represents an inference. Yao (2016, p.2), in an evaluation study of the hot news perfect in English, indicated that "the use of the hot news perfect is strongly motivated by pragmatic considerations, insofar as the past situation is related to the present state of the interlocutors by virtue of its surprise value for the communicator as well as

the communicator's assumptions about its surprise value for the audience". The inference of the recent past (hot news) perfect in Example (5) indicates that this interpretation of the present perfect conveys the informational value of the situation for the audience and indicates that this event just happened.

(5)   The man has just died.

From the discussion above, we can conclude that these interpretations of the English present perfect contexts are derived through conventional implicatures (Davydova, 2011). In the following section, we will present the objective of designing the inference-task to test the interpretation of the present perfect in the present chapter.

7.3   The purpose of Study 4 (Inference task), research questions, and predictions

7.3.1   Aim

The main task in Study 4 was an inference task designed to indicate the contexts in which the present perfect would be licit in the view of the participants, to see whether telicity affects the participants' acceptance rates of the continuative vs recent past inferences. These two types of the CR of the English present perfect were the focus of the present study because the results from Studies 1 and 2 revealed a significant difference between the response form used in these two contexts in both the L1 English and Arabic data. Similarly, the design of the previous study (Study 3) included a comparison between these two interpretations of the English present perfect, (continuative vs recent past). Therefore, we decided to focus on these two CR types in the design of the inference task in the present study (Study 4) to allow some kind of comparison between the participants' responses in the previous contextualised multiple-choice tasks and in the inference task in Study 4. Furthermore, these two CR types differ in the strength of the CR they implicate; while the recent past has less clear connection to the present moment, the continuative perfect has a stronger connection to CR since it expresses a situation which starts in the past and still continues to the present moment (Davydova, 2011).

We aimed to understand how the interaction between telicity (telic vs atelic) and CR type context interpretation (continuative vs recent past) affects the participants' interpretation of the English present perfect contexts (over the course of development). The results of Study 3

provided limited insights regarding the interaction between the CR type of the present perfect (continuative vs recent past) and the telicity of the predicate (telic vs atelic). The results of the previous study (Study 3 in Chapter 6) revealed that the use of the target present perfect by the highly proficient L2ers significantly increased with telic predicates, and continuative context was the favourable context for the use of the present perfect compared to the recent past. The use of the present perfect was more influenced by the temporal unboundedness of the contexts and L2 English proficiency level compared with the sematic features such as CR type and telicity. Consequently, we decided in the present investigation to conduct an inference task (Study 4) to examine the L2ers' interpretations of the English present perfect contexts with no adverbial clues to evaluate the extent to which the interaction between the CR type and telicity will affect their interpretation in the absence of constraining contexts.

7.3.2 Research Questions

Study 4 sets the following research questions:

1. Which type of current relevance (CR) interpretation (continuative vs recent past) do Arabic L2 users of English assign to the present perfect in the absence of constraining contexts, compared with native speakers of English?

2. Does telicity affect the type of CR interpretation allowed by L2ers and English native speakers to be associated with the present perfect?

3. Does the impact of telicity on the interpretation of the L2ers differ according to their L2 English proficiency level?

7.3.3 Predictions

Based on the prototype account (Andersen and Shirai, 1995), there is a prototypical association between the continuative contexts and atelic predicates and between the recent past contexts and telic predicates.

The continuative inferences would be more acceptable with atelic predicates than telic predicates. On the other hand, the recent past inference will be more acceptable with telic predicates than atelic ones. The recent past interpretation has less obvious association with the present moment since the events describe by the recent past are more likely to be interpreted as occurred recently or just ended. So, telic predicates are more amenable to a recent past interpretation as they have an inherent end point, whereas since atelic predicates lack an inherent endpoint, they are more associated with the continuative interpretation (Smith, 1991; Housen, 2000; Huddleston and Pullum, 2003). Hence, we can predict that the prototypical combinations [recent past inference with telic predicates] and [the continuative inference with atelic predicates] will be more accepted than the non-prototypical combinations [continuative inference with telic predicates] and [recent past inference with atelic predicates].

We predicted that this association between the context relevance type and telicity of the predicate would appear more in the L2ers' performance than in the English native speakers' interpretations of the contexts as follows:

(a): A facilitation in understanding the continuative contexts with atelic predicates rather than with telic predicates as atelic predicates are more amenable to the continuative interpretation, as they do not have an inherent end point and the continuative contexts of the English present perfect have stronger relevance to the current moment of the event.

(b): A facilitation in understanding the recent past perfect contexts with telic predicates rather than atelic predicates as telic predicates are more amenable to a recent past interpretation, as they have an inherent end point and the recent past context of the present perfect has weaker relevance to the current moment of the event.

7.4 Design of the Experiment

7.4.1 Material

The inference task was designed to target the participants' interpretation of the English present perfect. This kind of inference task was utilised in the present study to examine which CR type interpretation (continuative vs recent past) the participants assign to the present perfect in the absence of constraining contexts and whether telicity affects their interpretation.

In a 2 (relevance context) x 2 (telicity) design, we manipulated: (i) the properties of the context (continuative (ongoing) vs recent past); (ii) the telicity of the predicate (telic vs atelic) to yield four conditions with 10 items per condition. This is illustrated in Figure 7-1:

Figure 7-1

The number of experimental items, including manipulation
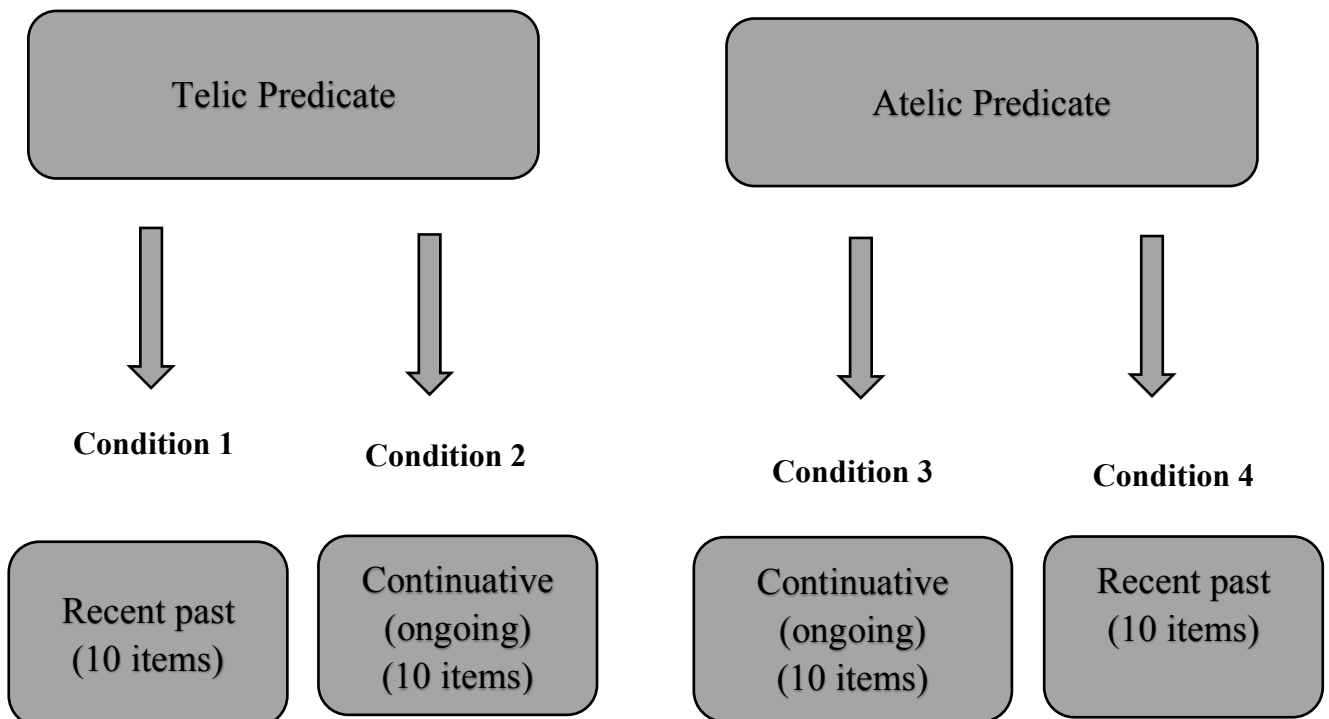
Each telicity condition contained two types of *aktionsart*, which included an equal number of *aktionsart* subtypes (i.e., five states and five activities for atelic predicates, five achievements and five accomplishments for telic predicates). This produces four critical conditions. *Aktionsart* serves as a control variable, and is not expected to have an effect.

The task was presented in a PsychoPy platform (version 2021.2.3). On the screen, the participant would see pairs of sentences associated with two persons (Sara and John). Sara says the first sentence and the second sentence describes how John interpreted Sara's sentence. Then the participant would be asked to judge whether John interpreted Sara's sentence correctly through a Yes/No choice. Afterwards, participants would be asked to indicate to what extent they are certain of their response, as illustrated in Figure 7-2:

Figure 7-2

How the items were presented to the participants in Study 4 in PsychoPy software (version 2021.2.3)

The total number of experimental items is 40. A complete list of these items is presented in Appendix A. The four critical conditions in Study 4 are illustrated in the following table:

Table 7-1

The four critical conditions used in the inference task in Study 4

Conditions	CR type	Telicity	Sara says	John concludes
Condition 1	Recent past	Telic	Ali **has published** two books.	Ali **published** the two books **recently.**
Condition 2	Continuative	Telic	Ali **has published** two books.	Ali **is still publishing** two books **now**.
Condition 3	Continuative	Atelic	Prices **have increased** a lot.	Prices **are still increasing now.**
Condition 4	Recent past	Atelic	Prices **have increased** a lot.	Prices **increased recently.**

As illustrated in Table 7-1, in this inference task, we tested both CR interpretations (continuative vs recent past) for each sentence. Since the inference of continuative contexts is based on the fact that the situation's property is in progress at the moment, the continuative inference in this experiment was formulated as follows:

[Subject] + [still] + [present or present progressive] + [now]

For example, the continuative inferences in the sentences in Conditions 2 and 3 are *Ali is still publishing two books now*, and *Prices are still increasing now*.

On the other hand, since the inference of the recent past indicates that the situation's property occurred within the recent past and the English native speakers in Study 1 allowed the use of both the present perfect and simple past equally in the recent past contexts, the formulae used to create the recent past inference in the inference task were as follows:

[Subject] + [past] +[recently]

This can be seen in the recent past inferences in Conditions 1 and 4: *Ali **published** the two books **recently*** and *Prices **increased recently***.

The task in Study 4 comprised 40 critical items, divided into two lists containing 20 critical items and 20 distractors. Each participant was exposed to a different list and only saw each lexicalisation once. The identical 20 distractors were included in each list (i.e., 50% of items in each list).

The design of Study 4 also includes an inference baseline. All of the distractors in this task are based on world-knowledge inferences which is very important in providing a baseline of the participants' ability to draw inferences, which is central to the interpretation of the present perfect being tested in this experiment. The distractors are all made of inferences. This gives us a baseline for participants' ability to derive inferences (which are at the heart of the interpretation of the present perfect probed in this experiment (i.e., working out the CR of the event/state). All the distractors used in Study 4 are listed in Appendix A. In Study 4 we used scalar Gricean inference (Grice, 1975), which refers to "implicatures based on a scale with members being higher than the others in informational strength." (Snape and Hosoi, 2018, p.1). We used the quantifiers *some, all, most, almost,* to create ten inferences in the distractor items. For example:

(6)   **Inference baseline**

        Expected response: Yes

-   Sara says: Paul dropped **most of the pencils**.
-   John concludes: Paul dropped **more than half of the pencils.**

(7)   **Inference baseline**

      Expected response: No

- Sara says: Asma **almost finished her painting.**
- John concludes: **Asma's painting is complete.**

The pragmatic answers expected in Example (6) is *Yes*, and *No* in Example (7). The logical response is to accept the inference in (6) because when Paul dropped most of the pencils, more than half of the pencils were dropped. On the other hand, the logical response is to reject the inference in Example (7) because when Asma almost finished her painting, it means that Asma has not completed her painting yet.

The second type of inference used to create the distractors was "world-knowledge inference", which refers to "the process of deriving the general causal relation and checking it against the reader's world knowledge". (Cozijn et al., 2011, p.475). We created ten world-knowledge inferences as a part of the distractors for Study 4, for example:

(8)   **Inference baseline**

      Expected response: Yes

- Sara says: Henry didn't tidy up his bedroom.
- John concludes: Henry's bedroom was messy.

(9)   **Inference baseline**

      Expected response: No

- Sara says: Asifa only sees her brother on Christmas day.
- John concludes: Asifa sees her brother three times per year.

The anticipated pragmatic responses in Example (8) are *Yes*, and *No* in Example (9). Accepting the inference in Example (8) is logical because Henry didn't tidy up his bedroom. It is expected

to be messy. In contrast, it is logical to reject the inference in Example (9) because when Asifa only sees her brother on Christmas day, she should see her brother only once yearly. Half the word-knowledge inferences have a 1:1 ratio of correct to incorrect responses. The design's experimental and distractor items were counter-balanced based on the expected Yes/No responses. By considering scalar implicatures, they can capture the pragmatic aspects of language understanding for the participants to enable us to test their abilities to derive the inferences. Scalar implicatures provide a clear and widely applicable starting point for capturing pragmatic reasoning inferences to provide a precise baseline for the participant's abilities to derive inferences. For example, when someone says "Some students in the class passed the exam," the scalar implicature is that not all students passed. This reasoning about quantity is a fundamental aspect of comprehension, and scalar implicatures provide a way to capture it.

7.4.2 Participants

One hundred and fifty-four native speakers of English participated in Study 4 (103 female). The English native speakers were all between the ages of 18 and 61. Those participants were recruited via the Prolific platform that facilitates the recruitment of participants for online data collection. All the native speakers were paid as a reward for their participation in Study 4. The information sheet of Study 4 was displayed on the Prolific platform (see Appendix B), in which we illustrated the procedures of the experiment, participant criteria, and a reward for participation. The native speakers of English completed a language background questionnaire to ensure that all the participants were native English speakers. Seven participants were excluded from the experiment as it was shown in the language background questionnaire that their native language is not English.

For the Arabic L2ers of English, 231 individuals (224 female) were invited to participate through convenience sampling via email and social media. About 72% of the participants were the same participants as Study 3. The participants' ages were between 19 and 50 years old. The participants were Arabic L2ers from different levels at the English department at the University of Bisha in Saudi Arabia or MA and PhD candidates in different specialisations at the University of Leeds in the UK. A language background questionnaire and Standardised Oxford Proficiency test were administered at the beginning of the experiment via the Jisc online

platform. These are the same questionnaire and proficiency tests as utilised in Study 3 and are available in Appendix A. The background and language questionnaire revealed that of these 231 individuals, 51.5% were less than 20 years. Most of the L2ers are females. The level of formal education of most L2ers is BA and BS. Most participants speak the Southern dialect of Arabic.

7.4.3 Procedures

Full ethical approval was obtained before conducting Study 4 to satisfy the ethical standards of research (Reference number; LTSLCS-138). The inference task was created using PsychoPy software (version 2021.2.3) and administered via the Pavlovia platform.

Before the participants started the experiment, they read instructions about how to run the experiment. They were asked to consent to participating in this study by clicking the button "Ok", as illustrated in Appendix B, C, and E. Afterwards, the participants were presented with two training examples to see how the experiment would run and to familiarise them with the task. The experiment was run over two sessions. In each session, the participants were presented with 40 items: 20 test items and 20 distractors. Each part of this task took approximately 15 minutes to be completed.

Each participant read two sentences associated with two persons (Sara and John) on the screen. Sara says the first, and the second sentences show how John interpreted what Sara said. The participants were asked to judge whether John interpreted Sara's sentence correctly through a Yes/No choice. After that, they were asked to indicate to what extent they are certain of their responses by indicating their levels of certainty on a 4-point scale (Not certain at all, Not very certain, Quite certain, Completely certain). The certainty scale was displayed onscreen after each item. The participants selected an option by clicking it to highlight it, and when they finished choosing options, they pressed the "Ok" button to see the following question on the screen.

7.5   Data analysis and results

The following section will analyse the L2ers' proficiency scores collected through the Standardized Oxford proficiency test. After that, in the second section, we will present the statistical analysis and discussion of the collected results from the inference task.

7.5.1   L2 English proficiency test

We aim in this study to probe the interpretations of the English present perfect contexts from Arabic L2ers at different levels of L2 English proficiency; therefore, an independent measure of proficiency (IMP) was administered to classify the L2ers according to their proficiency levels into five L2 English proficiency levels: beginner, low intermediate, intermediate, high intermediate, and advanced. The same procedures used to analyse the proficiency scores in Study 3 (see Section 6.4.1) were used to analyse the proficiency scores of the L2ers who participated in the inference task in Study 4. English native speakers were assigned the highest level of proficiency. Accordingly, the L2ers were categorised according to their level of L2 English proficiency, as illustrated in Table 7-2, and the proficiency score was centred, as shown in Figure 7-3.

Table 7-2

Distribution of participants across proficiency groups, based on the Standardized Oxford Proficiency test

L2 English proficiency levels	N	Proportion
Beginner (a score lower than 10)	16	6.9%
Low intermediate (a score between 11 and 17)	104	45.0%
Intermediate (a score between 18 and 22)	45	19.5%
High intermediate (a score between 23 and 32)	51	22.1%
Advanced (a score of 33 or more).	15	6.5%

Total	231	100%

Figure 7-3

Centred proficiency scores by proficiency group in Study 4
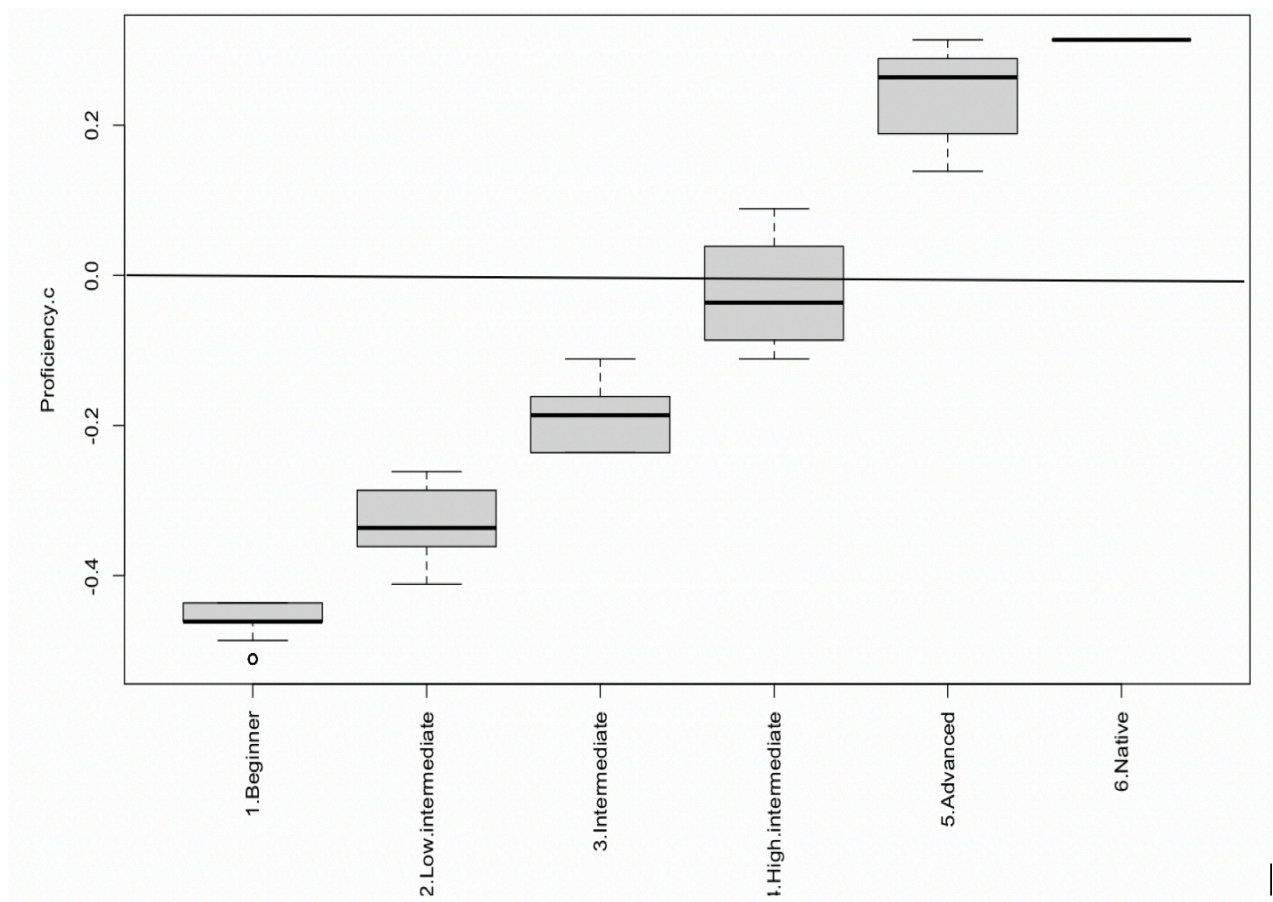
7.5.2 Analysis of the Participants' responses to the distractor items in Study 4

As mentioned earlier, the distractors used in Study 4 are baseline items. The aim of the analysis of the participants' performance with regard to distractor items is: (i) to evaluate the participants' ability to derive pragmatic inferences; (ii) to create the "Inference Baseline" from the distractor scores to be used as a predictor variable in the analysis of the critical items.

Data collected in Study 4 were statistically analysed with generalised linear mixed models (GLMMs) in R Studio (version 4.1.2). In the model fit in the analysis of the distractor items, we used an accuracy score as the outcome measure. The outcome measure should be an accuracy score: (accurate vs inaccurate). *Accurate scores* refer to the expected responses in which the participants accepted the inferences (provided *Yes* answers) or rejected the inferences (provided *No* answers), as we expected in accept contexts as in Examples (6) and (8), and as we expected in reject contexts as shown in Examples (7) and (9) in Section 7.4.1. *Inaccurate scores* refer to unexpected responses (incorrect ones). We are looking for the predictors of accuracy such as nativeness (English native speaker vs non-native speakers), the inference type and proficiency level.

7.5.2.1   Using Accuracy as an outcome variable (Predictors of Accuracy)

(All participants)

First, models were only from random effects, including participant and item number. The additional variables were gradually added one by one to improve the fitted model. Table 7-3 presents a summary of the optimal model. The model's coefficients for the optimal model are plotted in Figures 7-4 and 7-5.

Table 7-3

Summary of the optimal Generalised Linear Mixed Model (GLMM) of the Accuracy scores of the Distractors for All Participants

Fixed effects	Estimate	Std. Error	z value	p.value
(Intercept)	1.34255	0.21743	6.174	6.64e-10 ***
Proficiency.c	2.86159	0.36002	7.948	1.89e-15 ***
Nativeness non-native speakers	0.05415	0.22069	0.245	0.806

Inference type World-knowledge inference	0.26548	0.23402	1.134	0.257

Figure 7-4

Results of the (GLMM) of the Accuracy scores of the Distractors for All Participants (native vs non-native speakers of English) (showing the predicted probabilities of accuracy in the distractors for all the participants)
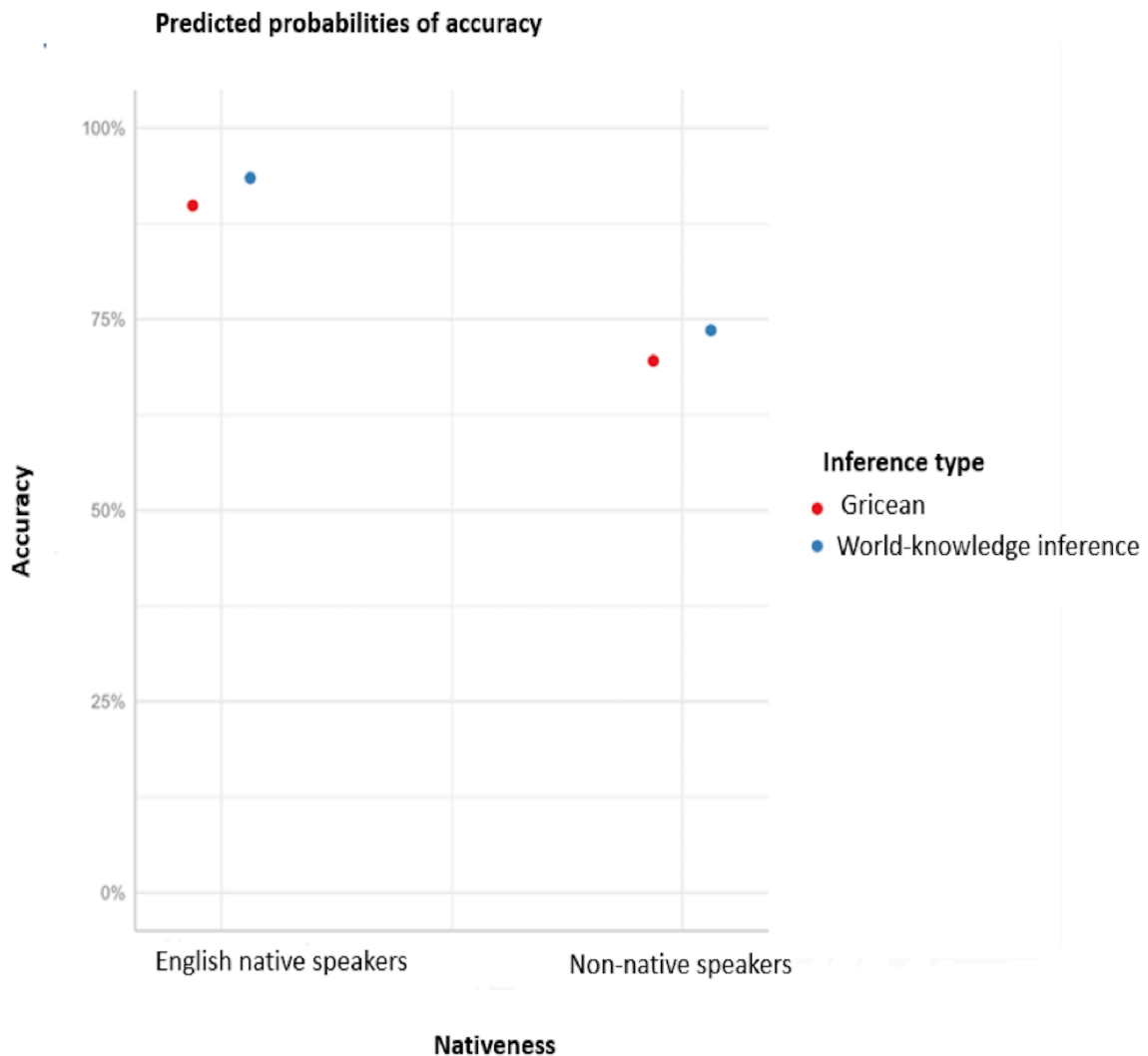
Overall, from Table 7-3 and Figure 7-4, the results show high accuracy in interpreting the distractor items by both English native speakers and non-native speakers (Arabic L2ers). As we expect, most participants are more likely to accept the expected acceptable inferences and reject the expected rejected inferences in the contexts of the two inference types (Gricean and world-knowledge inference). However, the English native speakers show higher accuracy rates in the interpretation of the distractor items than the Arabic L2ers of English.

Figure 7-5

Results of the (GLMM) of the Accuracy scores of the Distractors for all participants (showing the predicted probabilities of accuracy in the distractors by their Proficiency.c)
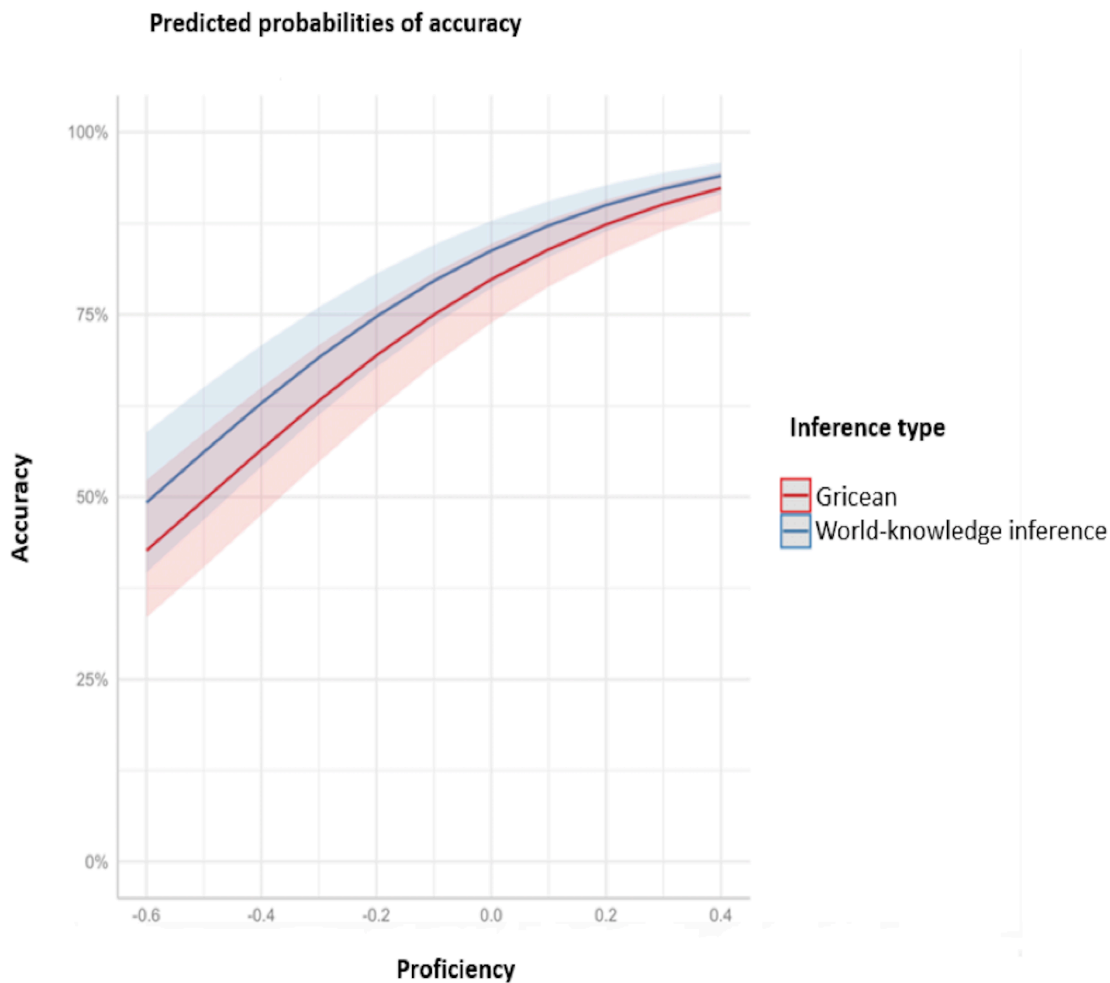
It is evident from Table 7-3 and Figure 7-5 that as the level of L2 English proficiency increased, the rate of accuracy in the interpretation of distractor items increased substantially. As proficiency increases, the likelihood of choosing the accurate expected responses significantly increases (Estimate: 2.86159, z: 7.948, p: <0.001). Therefore, we can conclude that English native speakers and high proficient L2 speakers are better able to draw pragmatic inferences from the baseline items than low-proficient L2 speakers.

Accordingly, based on the analysis of the distractions, we can conclude that the participants in this study have a very strong ability to draw pragmatic inferences. We calculated the percentage score for each participant on the baseline items (distractors) in order to be used as the baseline ability score for pragmatic inferencing in the analysis of the critical items. Figure 7-6 shows the distribution of the baseline scores between the native speakers and non-native speakers. It can be seen that Sum Score points for English native speakers 18 and 19 scores showed high accuracy. But for non-native speakers, high variability was observed between Sum Score points of 10 and 16 to 18 scores.

Figure 7-6

The distribution of the Baseline scores between the English native speakers and Arabic L2ers of English
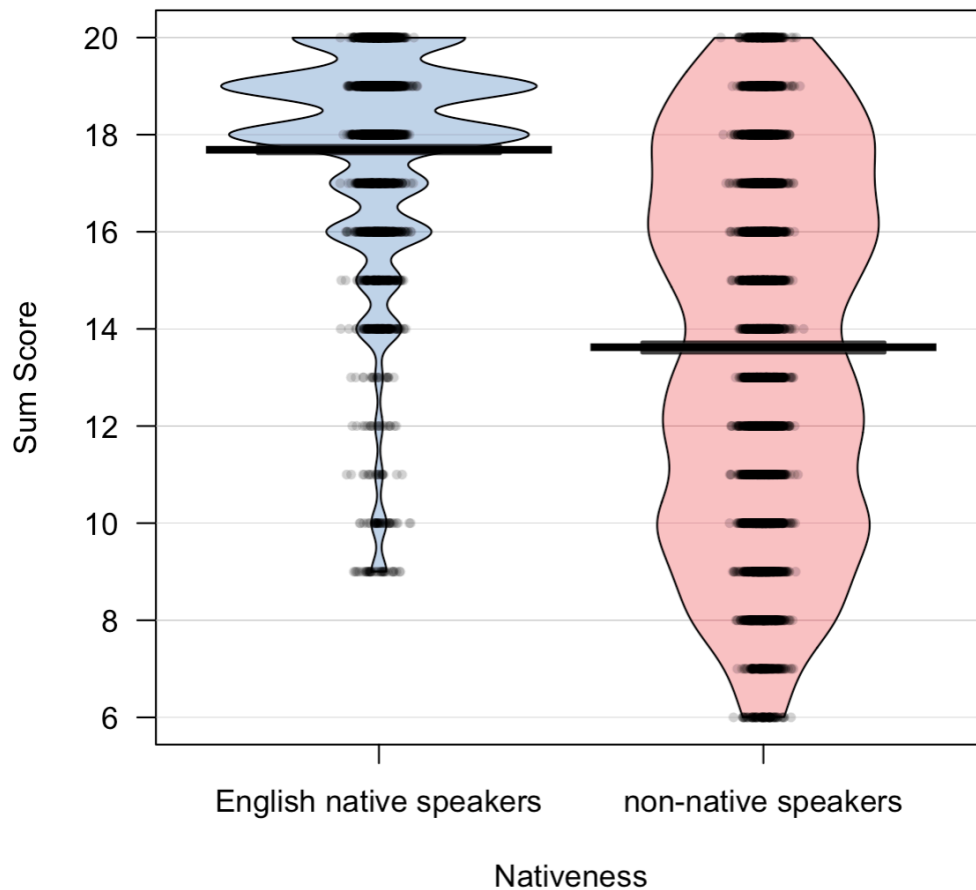
7.5.3 Analysis of the Participants' responses to the critical items in Study 4

In the following, we present descriptive statistics for the participants' acceptance rates to the critical items in Study 4 for the recent past and continuative inferences and telicity according to group (NS, Low, Mid, High).

Table 7-4

Descriptive statistics for the participants' acceptance rates for recent past/continuative inferences according to group (NS, Low, Mid, High).

Relevance Type	Telicity	Proficiency Levels			
		Low	**Mid**	**High**	**Native**
Recent past	telic	0.74 (SD = 0.44)	0.78 (SD = 0.42)	0.78 (SD = 0.42)	0.63 (SD = 0.48)
	atelic	0.67 (SD = 0.47)	0.65 (SD = 0.48)	0.66 (SD = 0.48)	0.36 (SD = 0.48)
Continuative	telic	0.57 (SD = 0.5)	0.46 (SD = 0.5)	0.31 (SD = 0.47)	0.28 (SD = 0.45)
	atelic	0.67 (SD = 0.47)	0.61 (SD = 0.49)	0.56 (SD = 0.5)	0.41 (SD = 0.49)

*Average acceptance rate and standard deviation of acceptance rate.

The descriptive statistics table showed the average acceptance rate for each relevance type and telicity by the proficiency levels of the participants. Here, we can observe that, when the relevance type is recent past and the telicity is telic, the highest acceptance rate of 0.78 (SD = 0.42) is observed for mid- and high proficiency levels, and when the telicity is atelic, the highest acceptance rate of 0.67 (SD = 0.47) is observed for low proficiency levels. Next, we can observe that, when the relevance type is continuative and the telicity is telic, the highest acceptance rate of 0.57 (SD = 0.5) is observed for low proficiency level, and when the telicity is atelic, the highest acceptance rate of 0.67 (SD = 0.47) is observed for low proficiency level.

7.5.3.1   Using Acceptance as an outcome variable (Predictors of Acceptance)

The participants' acceptance rates of the inference in the critical items were analysed via generalised linear mixed-models (GLMMs) in R Studio (version 4.1.2). First, in this analysis,

we used acceptance as our outcome variable, in which the measure was just their response (accept or reject).

7.5.3.1.1 Predictors of Acceptance for the English native speakers (NS)

We started with an analysis of the acceptance rates of the English native speakers in the inference task. The models were fitted bottom-up, beginning with random effects and adding fixed effects gradually. The model was first constructed with participant and item numbers as random effects. The fixed effects were added one by one and only kept if they enhanced the model fit. Acceptance, in the optimal model[4], was predicted by the interaction between the telicity of the CR type of the context. In Table 7-5, a summary of the optimal model is provided, and the coefficients are depicted in Figure 7-7.

Table 7-5

Summary of the optimal Generalised Linear Mixed Model (GLMM) of the acceptance rates of the critical items for the English native speakers (NS)

Fixed effects	Estimate	Std. Error	z value	p.value
(Intercept)	3.8902	1.1884	3.274	0.00106 **
Distractor score (Inference baseline)	-5.0782	1.2702	-3.998	6.39e-05 ***
Telicity telic: Relevance type Recent past	1.4689	0.5210	2.820	0.00481 **

---

[4] dat3.glmer.NS <- glmer(Acceptance ~ (1|participant) + (1|Item_number) (Telicity*Relevance_type)+Distractor.score

Fixed effects	Estimate	Std. Error	z value	p.value
Telicity atelic: Relevance type Recent past	-0.2892	0.5197	-0.557	0.57785
Telicity telic: Relevance type Continuative	-1.1072	0.5245	-2.111	0.03475 *

The coefficients for the optimal model in Table 7-5 predict the likelihood of accepting the inferences according to telicity, CR type, and inference baseline (Distractor score). The results generally revealed a significantly high likelihood of accepting the recent past inferences with telic predicates (Estimate: 1.4689, z: 2.820, p: <0.001). In contrast, participants are much less likely to accept continuative inferences with telic predicates than those with atelic predicates. (Estimate: -1.1072, z: -2.111, p: <0.001).

There is some telicity bias in the responses of English native speakers, which appears more with recent past interpretations of the present perfect than with the continuative ones. From Table 7-5 and Figure 7-7, we can see that English native speakers are significantly more likely to accept the recent past interpretation of the present perfect with telic predicates than with atelic predicates. Specifically, as can be seen from Figure 7-7, English native speakers who participated in Study 4 are significantly more likely to accept the recent past inference with telic predicates (70%) compared with atelic predicates (30%). We can also observe from Figure 7-7 that the continuative inference is less likely to be accepted with telic predicates compared with the atelic ones. The figure also indicates that the acceptance rate of the continuative interpretation reaches about 25% with telic predicates, and about 54% with atelic ones.

As mentioned earlier, we used the distractor percentage scores as baseline ability scores for pragmatic inferencing. The results demonstrated that as the distractor score (inference baseline) increased, the acceptance rate decreased substantially, indicating that as the accuracy rate of

the distractors increased, the English native speakers were less likely to accept every inference (Estimate: -5.0782, z: -3.998, p: <0.001).

Figure 7-7

Results of the (GLMM) of the acceptance rates of the critical items for the English NS (showing the predicted probabilities of the acceptance of the recent past and continuative inference by the interaction with telicity of the predicate (telic vs atelic)
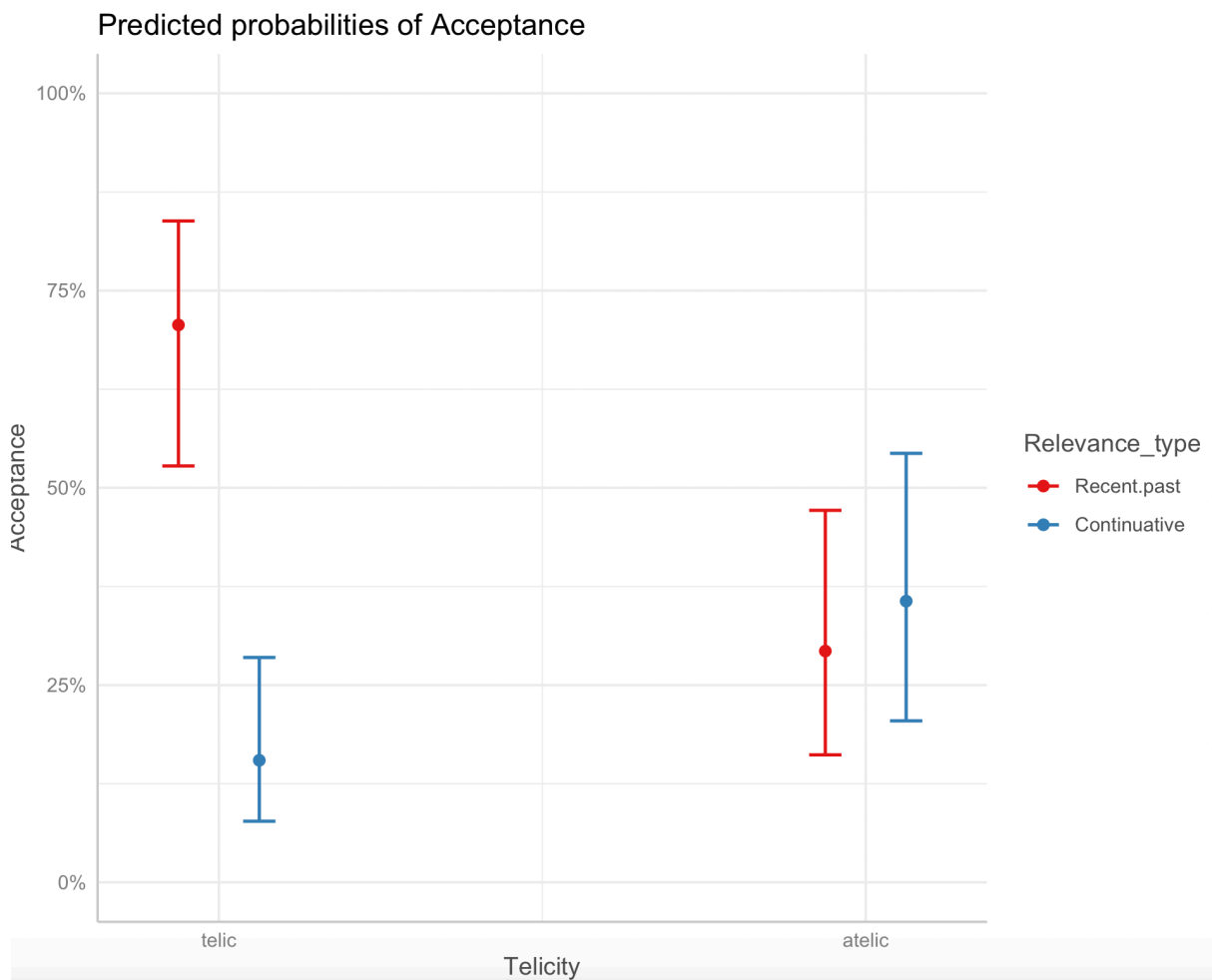
7.5.3.1.2 Predictors of Acceptance for the non-native speakers (NNS): Arabic L2ers of English

In this analysis, we examine the acceptance rates of only Arabic L2ers of English in the inference task to determine to what extent the impact of telicity on the L2ers' acceptance rates of the (continuative vs recent past inferences) differ according to their L2 English proficiency level. The outcome variable is their acceptance rate. In this analysis, models were fitted bottom-up, beginning with random effects (participants and item number). The fixed effects were added incrementally and only kept if they improved the model fit. In the optimal model[5] acceptance was predicted by two ways of interaction between (telicity and CR type), and proficiency. A summary of the optimal model is presented in Table 7-6, and the coefficients are plotted in Figure 7-8 to interpret the results more straightforwardly.

Table 7-6

Summary of the optimal Generalised Linear Mixed Model (GLMM) of the Acceptance rates of the critical items for only non-native speakers (Arabic L2ers)

Fixed effects:	Estimate	Std. Error	z value	p.value
(Intercept)	0.8688	0.2547	3.411	0.000647 ***
Proficiency.c	-0.7350	0.4225	-1.740	0.081934
Distractor.score	-0.3234	0.3420	-0.946	0.344369
Telicity telic: Relevance type Recent past	0.6542	0.1316	4.973	6.59e-07 ***

---

[5] dat3.glmer.NNS<- glmer (Acceptance ~ (1|participant) +(1|Item_number) + Proficiency.c * (Telicity* Relevance_type) +Distractor.score,

Fixed effects:	Estimate	Std. Error	z value	p.value
Telicity atelic: Relevance type Recent past	0.1044	0.1295	0.806	0.420215
Telicity telic: Relevance type Continuative	-0.6234	0.1291	-4.830	1.36e-06 ***
Proficiency.c: Telicity telic: Relevance type Recent past	1.7204	0.3904	4.407	1.05e-05 ***
Proficiency.c: Telicity atelic: Relevance type Recent past	0.9973	0.3646	2.735	0.006232 **
Proficiency.c: Telicity telic: Relevance type Continuative	-0.9523	0.3652	-2.607	0.009121 **

The coefficients in Table 7-6 of the optimal model determine the likelihood of accepting the interpretations in the critical items according to telicity, CR type, Proficiency.c, and Distractor.score (Inference baseline).

The results in Table 7-6 revealed a strong interaction between telicity and CR type in the responses of the Arabic L2ers of English. In general, Table 7-6 findings show that telic predicates are strongly associated with recent past interpretations. L2ers are significantly more likely to accept the recent past interpretation of the present perfect with telic predicates rather than with atelic predicates (Estimate: 0.6542, z: 4.973, p<0.001). On the other hand, atelic predicates are strongly associated with the continuative interpretation, and the results revealed less likelihood of accepting the continuative interpretation with telic predicates compared with the atelic ones among the L2ers (Estimate: -0.6234, z: -4.830, p<0.001).

However, these acceptance rates significantly differ according to L2ers' proficiency levels in English. The proficiency level in English is significant. As proficiency increases, the likelihood

of accepting every inference significantly decreases (Estimate: -0.7350, z: -1.740, p<0.001). Table 7-6 and Figure 7-8 show an interaction between proficiency, telicity, and relevance type in the L2ers' data. As proficiency level increases, the likelihood of accepting the continuative interpretation with telic predicates significantly decreases (Estimate: -0.9523, z: -2.607, p<0.001). On the other hand, as proficiency level increases, L2ers are more likely to accept the recent past interpterion with both telic (Estimate:1.7204, z: 4.407, p<0.001) and atelic predicates (Estimate: 0.9973, z: 2.735, p<0.001).

It is apparent from Figure 7-8 that the telicity of the predicates less influences L2ers with the lowest English proficiency in their responses, where they accepted the continuative and recent past inferences with telic and atelic predicates similarly. Conversely, there is a bias regarding telicity in the responses of L2ers with the highest level of L2 English proficiency, which is more pronounced in the continuative interpretation of the present perfect than in the recent past interpretations. A closer look at Figure 7-8 shows that as L2ers' proficiency level increases, the likelihood of accepting the continuative interpretation with telic predicates robustly decreases (25%). The figure also indicates that the likelihood of L2ers with high proficiency accepting the recent past interpretation with telic predicates was approximately 80%, and with atelic predicates approximately 75%.

Figure 7-8

Results of the (GLMM) of the acceptance rates of the critical items for only Arabic users of English (showing the predicted probabilities of the acceptance of the recent past and continuative inference by the interaction with telicity of the predicate (telic vs atelic) and by their proficiency level
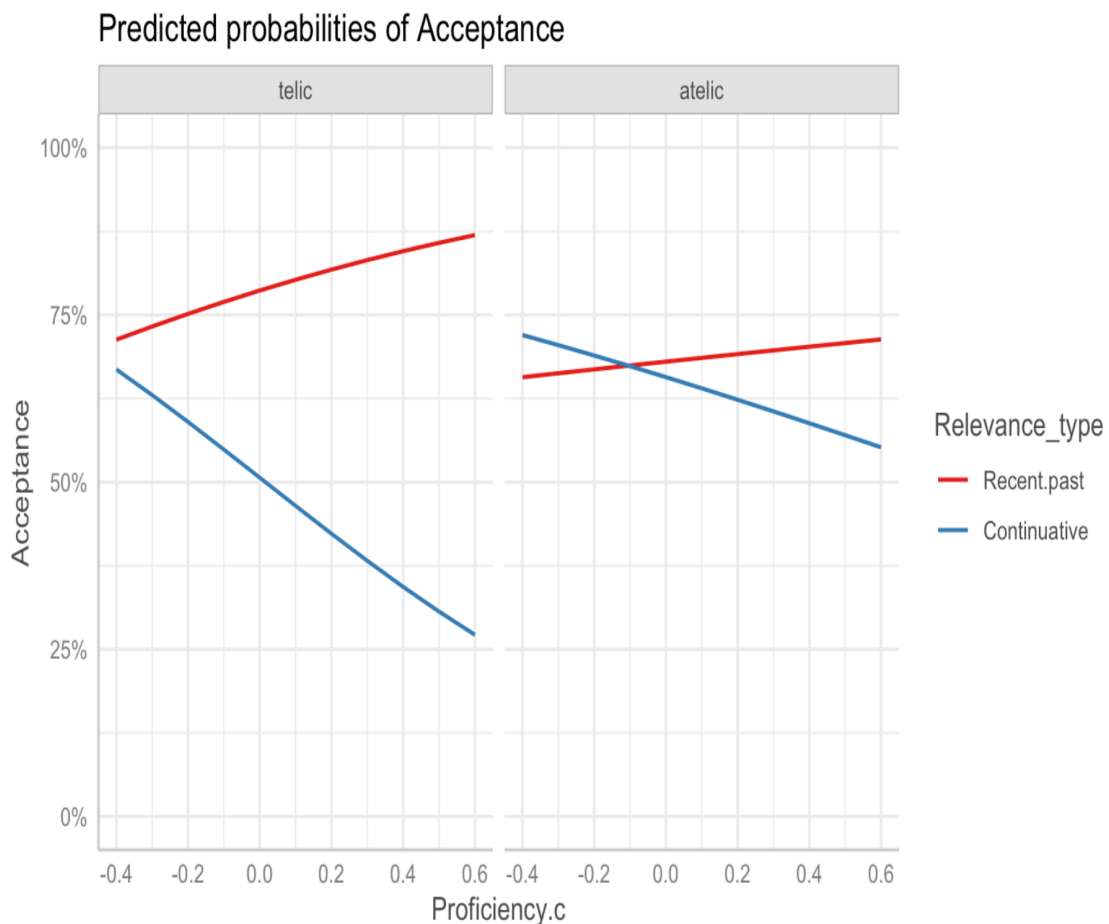
7.5.3.2   Using Acceptance and Certainty as the Outcome Variable (Predictors of Acc_w_cert)

We created a new outcome variable by combining acceptance and certainty, as illustrated in the Table 7-7, to examine to what extent the participants were certain, neutral, or not certain of their responses when they accepted or rejected the interpretations in the inference task in Study 4.

Table 7-7

Combing acceptance with certainty to create a new outcome variable acceptance with certainty (Acc_w_cert)

Predictors of Acceptance	Accept			Reject		
Predictors of Certainty	2 (very certain) (Confident)	1 (quite certain) (Neutral)		-1 (quite uncertain) (Neutral)	-2 (very uncertain) (Not. confident)	
Predictors of (Acc_w_cert)	Confident accept	Neutral accept	Not.confident accept	Confident reject	Neutral reject	Not.confident reject

7.5.3.2.1   Predictors of acceptance with certainty (Acc_w_cert) for the English native speakers (NS)

In this analysis we fitted a Cumulative Link Mixed Model (CLMM), which was implemented in R Studio (version 4.1.2) using the ordinal package. The results presented in the output are from a CLMM fitted with random intercepts for the grouping variables participant and Item_number. The model analyses the relationship between the ordinal response variable Acc_w_cert and the predictor variables telicity and CR type using the data for only English native speakers (NS). Table 7-8, a summary of the optimal model[6] is provided. The summary

---

[6] CLMM_Model1.NS<- clmm (Acc_w_cert ~ interaction (Telicity, Relevance_type) +
        (1|participant) + (1|Item_number)

of coefficients for random effects is shown in Table 7-9, while threshold coefficients are summarised in Table 7-10.

Table 7-8

Summary of the optimal Cumulative Link Mixed Model (CLMM) of acceptance with certainty for only native speakers of English

Coefficients	Estimate	Std. Error	z value	p.value
Interaction (Telicity,Relevance_type)atelic.Recent.past	-1.2262	0.5957	-2.058	0.039553 *
Interaction (Telicity, Relevance_type) telic. Continuative	-1.9868	0.5963	-3.332	0.000863***
Interaction (Telicity, Relevance_type) atelic. Continuative	-1.0739	0.5953	-1.804	0.071242

Table 7-9

Summary of the random effects

Groups	Variance	Std.Dev.
participant	1.5781	1.2562
Item_number	0.7537	0.8682

Table 7-10

Summary of the threshold coefficients

Threshold coefficients	Estimate	Std.Error	z value
Confident.reject|Neutral.reject	-3.6348	0.5852	-6.211
Neutral.reject|Not.confident.reject	-0.6042	0.5849	-1.033
Not.confident.reject|Not.confident.accept	-0.5711	0.5850	-0.976
Not.confident.accept|Neutral.accept	-0.5587	0.5849	-0.955
Neutral.accept|Confident.accept	2.1298	0.5756	3.700

The coefficients of the model are plotted in Figure 7-9. In this plot, the y-axis represents the probability of each level of the ordinal response variable. The values on the y-axis range from 0 to 1, where 0 represents a low probability, and 1 represents a high probability of the corresponding response category. The x-axis represents the values of the predictor variables telicity and relevance type, for which the probabilities of the response variable acceptance with certainty (Acc_w_cert) are being predicted.

Figure 7-9

Results of the Cumulative Link model showing the relationships between the predictor variables of telicity and relevance type and the probabilities of each level of acceptance with certainty for English native speakers
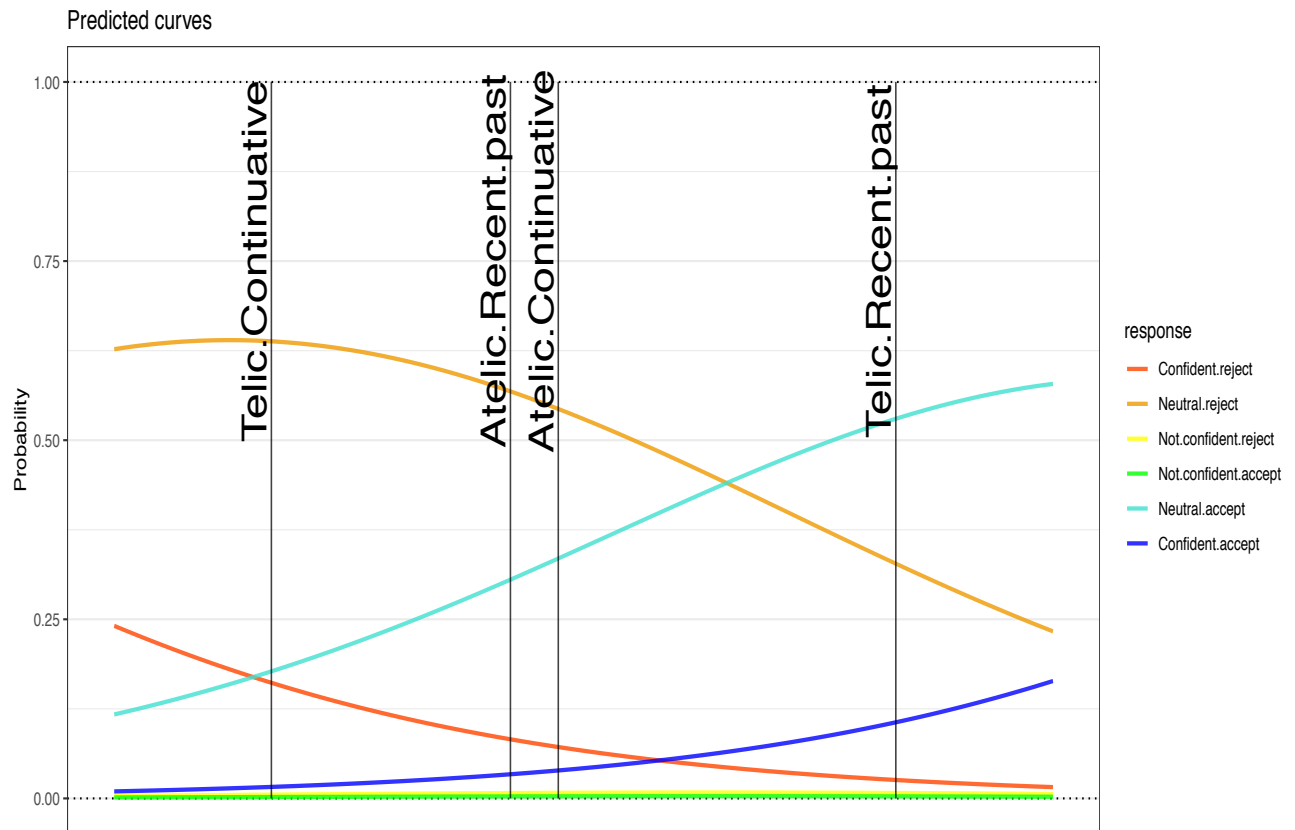
Overall, the results provide insights into how the predictor variables Telicity and Relevance type influence the probabilities of different confidence levels for English native speakers. The negative coefficients suggest that certain combinations of Telicity and Relevance type are associated with lower probabilities of achieving higher confidence levels, as indicated by the respective response categories. The thresholds help identify the points at which participants are more likely to move from one confidence level to another.

The CLMM model plot in Figure 7-9 represents the increasing and decreasing trend in probabilities of different categories of response variables on different combinations of the predictor variables: Telicity and Relevance type. The results revealed that:

- The probability of the confident reject was around 0.15 for the combination of telic continuative, but for the other combinations, its probability decreases and goes around the threshold value.

- The probability of the neutral reject was very high, around 0.65 for the combination of telic continuative, and around 0.60 for the combination of atelic recent past, and the probability of neutral reject starts to decrease for the other combinations such as continuative with atelic, and recent past inference with telic predicates.

- The probability of the neutral acceptance of inference begins to increase with the combination of (atelic with recent past) and (atelic with continuative). It is notable from Figure 7-9 that there is a high probability of neutral acceptance for the recent past inference with telic predicate among English native speakers.

The negative coefficients in the fixed effect estimates in Table 7-8 for the interaction between Telicity and Relevance type (atelic and recent past) (Estimate: -1.2262, z: -2.058, p: <0.001) and for the interaction between (telic and continuative) (Estimate:-1.9868, z: -3.332, p: <0.001), suggest a lower probability of achieving higher levels of confidence (Neutral.accept|Confident.accept) in these combinations compared to the reference level (telic and recent past).

7.5.3.2.2 Predictors of acceptance with certainty (Acc_w_cert) for the non-native speakers (NNS): Arabic L2ers of English

A CLMM fitted to the data of Arabic L2ers of English. This model type is used for ordinal logistic regression, where the dependent variable is ordinal, and the predictor variables are categorical or continuous. The model aims to predict the probability of different levels of the ordinal response acceptance with certainty based on the specified predictors interaction (telicity, relevance type, and proficiency level). Proficiency level (Prof.ter) consists of three levels: (i) low (beginner and low intermediate), (ii) mid (intermediate and high intermediate),

and (iii) high (advanced). The model[7] includes two random effects: participant and item number. The model examines the association between the ordinal response variable "Acc_w_cert" and the predictor variables telicity, relevance type, and proficiency level using non-native speaker's data.

Table 7-11 provides a summary of the optimal model. Table 7-12 provides a summary of coefficients for random effects, whereas Table 7-13 provides a summary of threshold coefficients.

Table 7-11

Summary of the optimal Cumulative Link Mixed Model (CLMM) of acceptance with certainty for Arabic L2ers of English

Coefficients	Estimate	Std.Error	z value	P value
interaction(Telicity, Relevance_type, Prof.ter) atelic.Recent.past.Low	-0.3134	0.1231	-2.546	0.0109 *
interaction(Telicity, Relevance_type, Prof.ter) telic.Continuative.Low	-0.7145	0.1234	-5.789	7.10e-09 ***
interaction(Telicity, Relevance_type, Prof.ter) atelic.Continuative.Low	-0.2864	0.1235	-2.319	0.0204 *
interaction(Telicity, Relevance_type, Prof.ter) telic.Recent.past.Mid	0.3500	0.1367	2.561	0.0104 *
interaction(Telicity, Relevance_type, Prof.ter) atelic.Recent.past.Mid	-0.2489	0.1671	-1.489	0.1364
interaction(Telicity, Relevance_type, Prof.ter) telic.Continuative.Mid	-1.1939	0.1676	-7.122	1.07e-12 ***

[7] CLMM_Model1.NNS<- clmm (Acc_w_cert ~ interaction (Telicity, Relevance_type, Prof.ter) + (1|participant) + (1|Item_number),

Coefficients	Estimate	Std.Error	z value	P value
interaction(Telicity, Relevance_type, Prof.ter) atelic.Continuative.Mid	-0.3945	0.1673	-2.358	0.0184 *
interaction(Telicity, Relevance_type, Prof.ter) telic.Recent.past.High	0.3574	0.2707	1.321	0.1866
interaction (Telicity, Relevance_type, Prof.ter) atelic.Recent.past.High	-0.2202	0.2881	-0.764	0.4446
interaction(Telicity, Relevance_type, Prof.ter) telic.Continuative.High	-1.6640	0.2873	-5.792	6.95e-09 ***
interaction(Telicity, Relevance_type, Prof.ter) atelic.Continuative.High	-0.6327	0.2892	-2.188	0.0287 *

Table 7-12

Summary of the random effects

Groups	Variance	Std.Dev.
participant	0.60581	0.7783
Item_number	0.04593	0.2143

Table 7-13

Summary of the threshold coefficients

Threshold coefficients	Estimate	Std.Error	z value
Confident.reject|Neutral.reject	-3.1666	0.1204	-26.292
Neutral.reject|Not.confident.reject	-1.1471	0.1142	-10.048
Not.confident.reject|Not.confident.accept	-1.0358	0.1140	-9.084
Not.confident.accept|Neutral.accept	-0.8898	0.1139	-7.813
Neutral.accept|Confident.accept	1.4882	0.1151	12.934

The coefficients of the CLMM model are plotted in Figure 7-10. The visualisation of the predicted curves allows us to examine the estimated probabilities for each response category "Acc_w_cert" based on the predictor variables proficiency level, telicity, and relevance type.

The x-axis displays the different levels or categories of the predictor variables, such as proficiency level, telicity, and relevance type. The predicted curves showcase how the probabilities of the acceptance with certainty levels change across these categories. By observing the curves, we can gain insights into how the predictor variables influence the likelihood of individuals falling into specific confidence levels (e.g., Confident.reject, Neutral.reject, etc.) when responding to the inference task.

The y-axis represents the probability of each acceptance with certainty level, ranging from 0 to 1. A probability of 0 indicates an impossible outcome, while a probability of 1 denotes a certain outcome. The curves depict how the probability of each acceptance with certainty level changes as we move along the x-axis. Because of the complexity of the interactions, the results will be interpreted graphically.

Figure 7-10

Results of the Cumulative Link model showing the relationships between the predictor variables telicity and relevance type and the probabilities of each level of acceptance with certainty for English native speakers
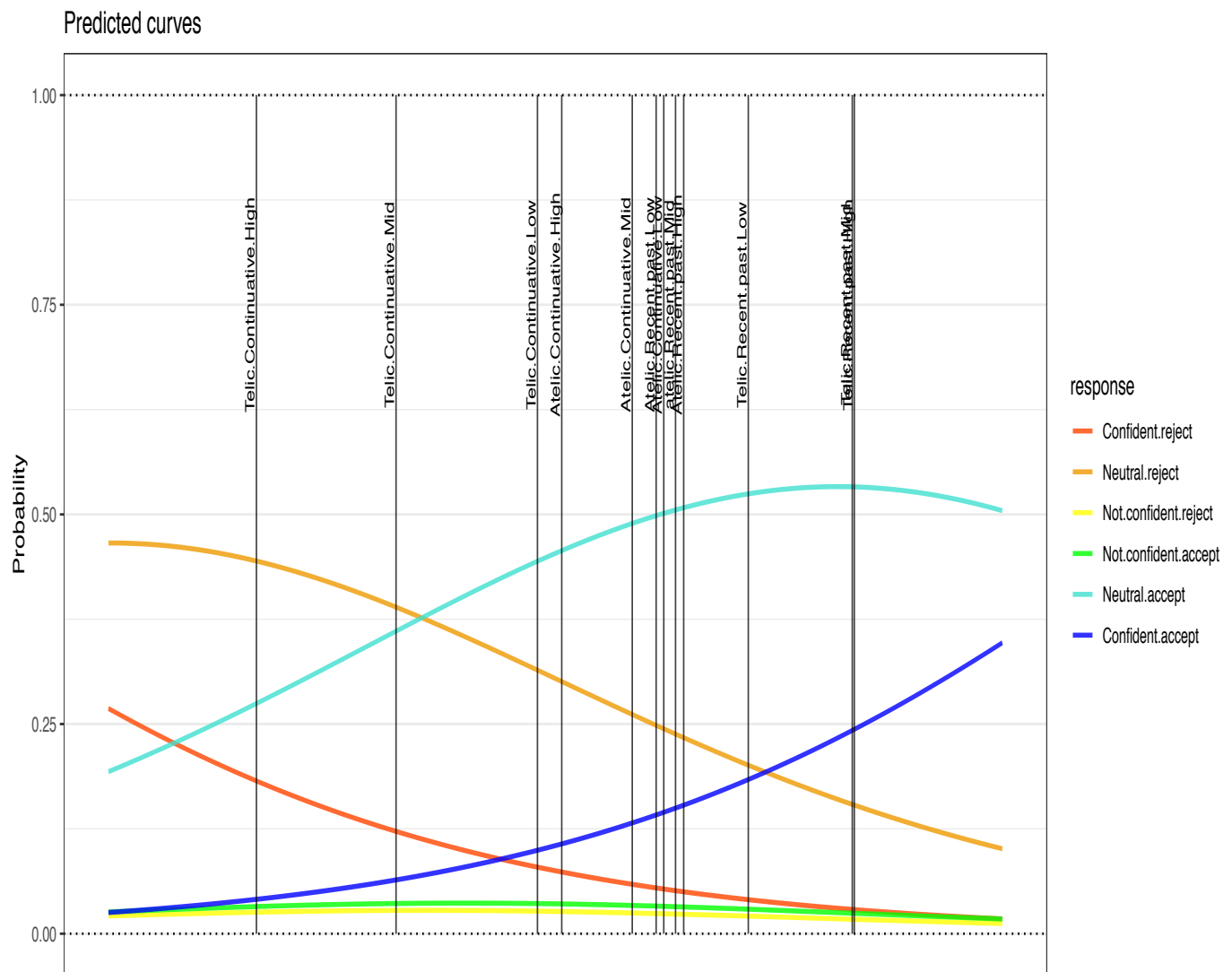
It is apparent from Figure 7-10 that:

- The probability of the neutral reject (orange line) was high for the combination of telic and continuative by L2ers with a high level of L2 English proficiency, and it was chosen almost 50% of time. In contrast, the neutral reject of the continuative inference with telic predicates starts to decrease with L2ers of mid and low levels of English proficiency.

- There is a high probability of neutral acceptance for the recent past inference with telic predicate among L2ers of high and mid-level English proficiency. Furthermore, it is observed from this figure that the recent past inference with telic predicate starts to be accepted confidently by (low, mid, and, high) proficient L2ers.

7.6   Discussion

This inference task in Study 4 aims to evaluate which type of CR the L2ers will assign to the English present perfect in the absence of constraining adverbs and compare that with the English native speakers. In Study 4, we are mainly interested in investigating how the interaction between telicity (telic vs atelic) and relevance type context interpretation: (continuative vs recent past) affects the participants' interpretation of the English present perfect contexts (over the course of development) in comparison with the performance of the English native speakers. The experimental material in the inference task was designed to identify the contexts in which the present perfect would be acceptable from the participants' perspectives and how telicity of the predicate could affect their acceptance rates of the continuative vs recent past inferences. We hypothesised that the continuative inferences would be more acceptable with atelic predicates than telic predicates. On the other hand, the recent past inference will be more acceptable with telic predicates than atelic ones. We hypothesised that this association between the context relevance type and telicity of the predicate would appear more in the L2ers' performance than in the English native speakers' interpretations of the contexts.

The results of the inference task in Study 4 revealed that both the Arabic L2ers of English and the English NS ascribed the recent past interpretation to the present perfect in an inference dependent manner. In these recent past conditions with telic predicates, the L2ers and English NS performed similarly. This finding differs from the conclusions which were derived from Study 1 and Study 3 in this research project, where the continuative perfect was the favourable context for the use of the present perfect in the MC tasks among both the English NS in Study 1 and the high-proficient L2ers in Study 3. This finding may indicate that participants in the inference task in Study 4 were sensitive to aspectual contrasts and able to recognise the perfectivity of the present perfect by associating it with the recent past interpretation, which denotes a recently completed action. On the other hand, the findings of Study 3 revealed that the favourable suppliance of the present perfect form was in the continuative context by English NS and L2 speakers in the MC task. The findings of Study 3 could be interpreted that the participants were more sensitive to the durative temporal adverbs used in the continuative present perfect context, which matches the findings observed in earlier studies such as (Uno, 2014). The results of Uno's study revealed that participants tended to use the present perfect more frequently in contexts containing durative adverbs such as *since* or *for*, and that these temporal adverbs are more commonly associated with the continuative present perfect.

Regarding the impact of telicity, in the present study (Study 4), we found that telicity (telic vs atelic) has a general effect on the type of CR interpretation (continuative vs recent past inferences) accepted by L2ers and English NS to be associated with the present perfect. The findings of Study 4, as shown in Table 7-5 and Table 7-6, indicate that telic predicates are strongly associated with recent past interpretations. In Study 4, participants are significantly more likely to accept the recent past interpretation of the present perfect with telic predicates than atelic predicates. In contrast, atelic predicates are strongly associated with continuative interpretations, and Study 4 participants were less likely to accept the continuative interpretation with telic predicates than atelic ones. This may suggest that the role of the prototypical associations between telicity and the relevance type of the present perfect was observed in the general participants' acceptance rates of the inference in the inference task in Study 4. The participants generally accepted the prototypical combinations [recent past inference with telic predicates] and [the continuative inference with atelic predicates].

In contrast, the non-prototypical combinations [continuative inference with telic predicates] and [recent past inference with atelic predicates] were in general less accepted. The participants' acceptance rates seem more closely aligned with the prototype account. However, the influence of telicity on the CR type allowed by the participants to be associated with the present perfect differs according to nativeness and L2 English proficiency levels of the Arabic L2ers of English.

For the English NS, the influence of telicity interacts more with the recent past interpretation. The findings revealed a telicity bias in the responses of English NS with a recent past interpretation of the present perfect compared to those with a continuative interpretation. It is apparent from Figure 7-7 that the English NS accepted the recent past interpretation and assigned it with the English present perfect contexts with telic predicates significantly more than atelic ones. A possible explanation for the high acceptance of the recent past inference with telic predicates by the English NS might be that telic predicates are more amenable to a recent past interpretation, given that they contain an intrinsic conclusion. Since the events described by the recent past are more likely to be interpreted as occurring recently or having just ended, and telic predicates denote an inherent endpoint (Huddleston and Pullum, 2003).

A closer look at acceptance with certainty in Figure 7-9, revealed a neutral accept level of certainty when the English native speakers accepted the recent past with telic predicates. Furthermore, the English NS showed high probability of neutral reject for the continuative inference with telic predicates. The probability of the confident reject was around 0.15 for the combination of telic and continuative. Similarly, the probability of confident accept for the recent past inference with telic predicates was around 0.15 by the English native speakers. It is apparent from Figure 7-9 that there is no combination of CR type and telicity that was highly confidently accepted or rejected, indicating that these combinations could be not categorised in L1 English. The only CR reading that was accepted (albeit marginally) by NS is the recent past interpretation with telic predicates. With atelic predicates, neither CR reading was accepted more than 30% of the time. Interestingly, English NS very rarely associated a high level of confidence with their judgements. Participants were asked to judge if the CR reading (continuative vs recent past inference) proposed was *correct*. This could have been interpreted by native speakers as *obligatory*. As this is not unambiguously the case (i.e., it is derived by

pragmatic inference rather than semantically determined), a rating of *correct* could have been deemed too strong, which decreased the level of confidence with their judgements.

One limitation lies in the design of Study 4 which did not compare tense/aspect forms: all the critical items were in the present perfect. In future investigations, it might be possible to add the simple past form to provide a comparison with the present perfect in this kind of inference task, to understand more how these combinations (telic with recent past, and atelic with continuative) are categorised in L1 English, and to confirm whether these combinations are associated with the present perfect in comparison with another tense/aspect form such as the simple past.

The results of the L2ers in the inference task in Study 4 revealed that Arabic L2ers of English showed a telicity bias more in their acceptance rates of the continuative inference compared with the recent past ones. Figure 7-8 illustrates that the high-proficient L2 speakers accepted continuative interpretations with telic predicates substantially less than atelic ones. Concerning the level of L2 English proficiency, these findings from the inference task in Study 4 provide evidence of a significant difference between the acceptance rates of the L2ers that could be explained by differences in L2 English proficiency. L2 English proficiency level is significant; the likelihood of accepting every inference decreases considerably as proficiency rises. Figure 7-8 demonstrates that the telicity of the predicates less influences L2 speakers with the lowest English proficiency in their responses. They preferred to accept everything, accepting continuative and recent past inferences with telic and atelic predicates similarly.

In contrast, the responses of L2 speakers with the highest level of L2 English proficiency exhibit a bias towards telicity, which is more pronounced in the continuative interpretation of the present perfect than in the interpretations of the recent past. Figure 7-8 illustrated that as L2 English proficiency increased, the likelihood of accepting the continuative interpretation with telic predicates significantly decreased. The acceptance of the recent past interpretation by L2ers with high proficiency was around 80% with telic predicates and 75% with atelic ones. The finding of the high proficient L2ers in the inference task is in line with the conclusions from Davydova's (2011) corpus-based study on variations in the CR of the semantic contexts of the present perfect (continuative, experiential, resultative, and recent past). According to Davydova (2011), learner varieties of English associate the atelic predicate with the

continuative function of the present perfect. She also found that the recent past interpretation of the English present perfect has very general semantic properties. The recent past function is flexible and can be used with various predicates, including telic (achievement and accomplishment) and atelic predicates (state and activity). The data of the high proficient Arabic L2 speakers of English in the present study supported the findings of Davydova's (2011) corpus-based study, where the high proficient L2 speakers in the inference task were flexible in accepting the recent past interpretation with both telic and atelic predicates. They accepted the continuative interpretation with atelic predicates more than telic ones.

Furthermore, we can observe from Figure 7-10 that the probability of neutral reject of the continuative inference with telic predicates raised by high proficient Arabic L2ers of English, and they confidently rejected the continuative with telic predicate about 25% of time. The likelihood of the confident acceptance increased with the recent past inference with telic predilates by the L2ers of mid and high proficiency levels. It is also apparent that there is high probability of neutral acceptance of the recent past interpretation with telic predicates by L2ers from all the proficiency levels (low, mid, high). The findings of Study 4 supported the conclusion derived from this research project that the use of the present perfect is influenced by both syntactic and morphological features as well as aspectual distinctions, specifically telicity and current relevance type. This implies that Arabic speakers consider not only the grammatical structure and form of the present perfect but also the aspectual features and the contextual relevance of the event or action being described when deciding to use this tense, where the influence of telicity appeared in the acceptance rates of high proficient L2ers. In further research, the use of this design (inference task) could be tested in L1 Arabic by Arabic native speakers to expand our understanding of how these associations between telicity and CR type are interpreted by Arabic NS in L1 Arabic.

7.7 Conclusion

In Study 4, we conducted an inference task to investigate the type of CR that participants assign to the present perfect in the absence of constrained contexts and to what extent the interaction between telicity (telic vs atelic) and relevance type (continuative vs recent past) influences participants' interpretation of English present perfect contexts.

In general, participants' acceptance rates on the inference task appear consistent with the prototype account in that they accept the recent past interpretation with telic predicates but reject the continuative interpretation with telic predicates. However, the influence of the interaction between (telicity and relevance type) on the participants' acceptance rates differ according to nativeness (NS vs non-native speakers) and the L2 proficiency level of the L2ers.

The acceptance rates of the English NS exhibit a bias towards telicity in the recent past conditions, where they accepted the recent past inferences with telic predicates more than with atelic ones. For the L2ers, the findings clarify how proficiency affects how the L2 English users interpret the contexts of the English present perfect. The high-proficient L2ers show an effect for the interaction between telicity and relevance type in the continuative perfect contexts, where the continuative inferences were significantly rejected with telic predicates and accepted with atelic ones. By contrast, the lower proficiency groups of L2ers did not show any effect of for telicity of the predicates in their acceptance rates of the (continuative vs recent past) interpretations in the inference tasks. These findings have important implications for developing our understanding of how telicity interacts with the functions of the present perfect (continuative and recent past). The following chapter will discuss the implications of our findings for the four studies conducted in this research project and the recommendations for future research.

Chapter 8 Conclusion and Implications

This thesis contributes to the current literature on second language acquisition (SLA) with implications for first language (L1) transfer predictions in the acquisition of the English present perfect by Arabic second language users (L2ers) of English within a feature reassembly approach (Lardiere, 2012). The findings contribute to a controversial debate regarding the lexical encoding of the features associated with English present perfect in L1 Arabic. In the literature, there is no consensus on what exactly is transferred from L1 Arabic during the acquisition of the English present perfect by Arabic L2 speakers. Fassi-Fehri (2004) proposed that the [perfect] feature, which is not marked explicitly in Arabic, can encode the meanings of both the present perfect and simple past in English. Mazyad (1999), Bahloul (2008), and Alsalmi (2013) presumed that, depending on the context, the meanings conveyed by the English present perfect could be expressed in Arabic by the past/perfective or present/imperfective. On the other hand, other Arabic linguists, including Al-Saleemi (1987), Adel (2019), and Mudhsh (2021), argue that the English present perfect can be conveyed in Arabic by the particle *qad*, which precedes the past form of the verb. Moreover, as discussed in Chapter 2, the controversial debate regarding whether distinction in Arabic is temporal or aspectual complicates the process of identifying precise L1 transfer predictions for the acquisition of the present perfect by Arabic speakers of English (Farina, 2017).

In this research project, we adopted a bottom-up approach to the feature reassembly hypothesis (FRH) (Lardiere, 2012) to empirically determine how the present perfect feature mapping in English differs from the feature mapping in Arabic, and hence derive predictions as to how Arabic users of L2 English would map or reassemble these features into new formal configurations in their L2 acquisition of the English present perfect. Three experimental studies informed this. In a slightly different direction, the fourth study examines interpretability of the present perfect contexts. In this final chapter, we will summarise the findings obtained from these four experimental studies, including their implications for the FRH and the prototype

account. Based on the findings of this research project, future research directions will be suggested at the end of this chapter.

We conducted four experimental studies in this thesis to investigate the acquisition of the English present perfect by Arabic L2ers at different levels of English proficiency. Studies 1 and 2 empirically determined the mapping of features associated with the English present perfect, such as current relevance (CR) and temporal boundedness (TB) onto verb forms in native speakers of English (Study 1) and native speakers of Arabic (Study 2).

In Study 1 (feature-mapping in L1 English), presented in Chapter 4, we used a novel, more comprehensive method to analyse the feature mapping of the present perfect in L1 English through a contextualised multiple-choice task. The empirical findings of Study 1 provide a new understanding of the roles of: (i) CR type (continuative, experiential, resultative, recent past), (ii) TB (indefinite vs. definite), (iii) CR of the adverbs (+CR, ±CR, −CR), and (iv) telicity of the predicate (telic vs. atelic) in the use of the present perfect by British native speakers of English. The results of Study 1 confirmed the predictions of the theoretical literature, namely that English native speakers strongly associate the features of [CR] and [temporal unboundedness] with the present perfect. The responses of the British English native speakers who participated in Study 1 showed that the present perfect was the favoured choice in the [−temporally bounded] and [+CR] contexts, while the simple past was strongly preferred in [+temporally bounded] and [−CR] contexts. The English native speakers chose the present perfect form in the contexts implicated the CR types (continuative, experiential, resultative, and recent past). However, there was no preference between the present perfect and simple past in [−temporally bounded] with [+recent past] contexts. The results show that the continuative interpretation is the most favourable context for choosing the present perfect. The continuative contexts have the most robust relation to current relevance, as they describe situations that began in the past and continue up to the moment of utterance. Contrastingly, in the recent past, CR was weaker (in line with Davydova 2011). Temporal boundedness, which is operationalised as adverb definiteness, significantly influences the choice of the present perfect response by English native speakers, with contexts containing an indefinite adverb being substantially more favourable to the present perfect than contexts containing a definite adverb. In Study 1, the telicity of the predicate did not have a significant effect, suggesting that it is not

part of the feature matrix associated with the present perfect in English. We summarised the feature mapping associations concluded from Study 1 in Figure 4-5 in Chapter 4.

After that, in Study 2 (feature-mapping in L1 Arabic), in Chapter 5, an identical contextualised MC task to Study 1 was administered in L1 Arabic. This is the first empirical study to report how feature mapping in L1 Arabic differs from the present perfect feature mapping in L1 English. The findings of Study 2 make a valuable contribution to the ongoing debate regarding the lexical-syntactic representation of the features associated with the English present perfect tense in L1 Arabic.

The objective of Study 2 was to establish the mapping between verb forms, the features linked to the English present perfect tense in L1 Arabic, and the potential relevance of telicity in the contexts of interest. Study 2 revealed a different feature-mapping configuration in L1 Arabic. In that language, temporal boundedness is not associated with a particular verb form: adverb definiteness did not significantly impact participants' choice of verb form in L1 Arabic. However, a significant interaction was observed between the CR type and the predicate's telicity. The majority of the native Arabic speakers tended to use the past/perfective form of the verb in all contexts except in the continuative context, where the present/imperfective was preferred, especially with telic predicates. No robust association of *qad* with CR was observed in this L1 Arabic study, contrary to the findings of Al-Saleemi (1987), Adel (2019), and Mudhsh (2021). Rather, the form with *qad* was chosen about 25% of the time across all the experiential, resultative, and recent past perfect conditions, and even less in the continuative contexts. In Study 2, the choice of verb form by native Arabic speakers was influenced more by the telicity of the predicate and the CR type of the context (continuative, experiential, resultative, and recent past) than by the [temporal boundedness] of the contexts. An implication of this is the possibility that these factors (CR type and telicity) could influence the assembly and reassembly of form-meaning associations between the L1 Arabic and L2 English in the acquisition of the English present perfect by Arabic speakers of L2 English. The feature mapping associations in L1 Arabic concluded from Study 2 are summarised in Figure 5-6 in Chapter 5.

Based on Studies 1 and 2, we identified the following FRH predictions for the L2 acquisition of the English present perfect by Arabic L2ers of English and tested them in Study 3:

- **FRH (1)** predicts that Arabic speakers of English will be able to map the associated semantic meaning [+past] from L1 to recognise the target morphological marking past (-ed) in L2 English. (They are expected to successfully assign the target simple past in the [+past] contexts).

- **FRH (2)** predicts that Arabic users of English will find it more challenging to reassemble the [past] feature into present perfect in L2 English, where the past is expected to be favoured initially, except in the continuative context, where the present is expected to be preferred.

- **FRH (3)** predicted that the telicity of the predicate would impact the feature mapping, where Arabic users of English with low L2 English proficiency levels are expected to transfer the past beyond all [+past] contexts, except for [+past] [+continuative] contexts with [+telic] predicates, where they are expected to (predominantly use present) and to a lesser extent with atelic predicates (occasionally use present).

- **FRH (4)** predicted that Arabic speakers of English with low L2 English proficiency would not be attuned to temporal boundedness, nor would adverb definiteness impact feature mapping at this level.

- **FRH (5)** predicted that Arabic L2ers with high levels of L2 proficiency could distinguish between the present perfect and simple past in English by reassembling features associated with [temporal unboundedness] and [continuative] to their corresponding morphological forms in L2 English (present perfect form). In the recent past contexts, they may allow some kind of optionality between present perfect and simple past in these contexts similar to the English native speakers.

These predictions, resulting from the bottom-up approach to the FRH, exhibit differences when compared to the predictions made through the conventional approach demonstrated by previous studies conducted by Al-Thubaiti (2010), Taha (2013) and Alruwaili (2014). These

studies specifically examined the tense and aspect acquisition process among Arabic learners of L2 English. Following Fassi-Fehri (2004), AI-Thubaiti (2010), Taha (2013), and Alruwaili (2014) assumed that the [perfect] feature in Arabic can convey the meanings of the English present perfect and simple past in English. Based on Lardiere's proposal (2012), Alruwaili (2014, p.263) argued in an investigation of the acquisition of L2 English tense and aspect that:

> "Saudi Arabic speakers do not need to select the feature [perfect] since it is already selected in their L1, but they do need to identify that [perfect] is encoded morphosyntactically in English, and reassemble the particular feature into the have+v-en construction and in principle, there is nothing ultimately preventing Saudi Arabic speakers from achieving this goal."

Nevertheless, Alruwaili (2014) pointed out that the findings of his investigations suggest a contrary trend, indicating that the inclusion of the [perfect] feature presents a continuous challenge. In the present thesis, we presented new implications for L1 transfer predictions for acquiring the English present perfect by Arabic L2ers of English. This inductive approach assumes that the challenges Arabic L2ers of English encountered in mapping the present perfect feature are not just attributable to disparities in syntactic and morphological aspects but also semantic features such as the telicity of the predicate and the CR type of present perfect contexts (continuative, experiential, resultative, and recent past). The results of Study 2 (feature-mapping in L1 Arabic) revealed that aspectual distinctions, telicity of the predicate, and CR type have a main effect in the L1 Arabic feature-mapping, and it is predicted that they could make the acquisition of the English present perfect features more challenging for Arabic L2ers of English. It suggests that the aspectual distinctions, which primarily mark aspectual information related to the telicity of the predicate, CR type of the present perfect contexts, and the completion or result of an event could cause the acquisition challenge in terms of the feature reassembly. In this case, Arabic speakers may still encounter difficulties in acquiring the English present perfect due to differences in how aspectual information is encoded in the two languages. In accordance with Cho and Slabakova's (2014) conclusion, this study maintains the importance of investigating the L2 acquisition of semantic features in addition to the relevant functional morphology.

One advantage of the bottom-up approach used in the present investigation is that it allows for defining the target as a range, which takes into account the variability in the English native speakers' performance in Study 1. This can be particularly useful when dealing with the present perfect features such as the optionality between present perfect and simple past in recent past contexts. This approach acknowledges the variability in the use of the present perfect in L1 English in the CR contexts (continuative, experiential, resultative, and recent past), which provides a more accurate understanding of the use of the present perfect in L1 English. Similarly, in L1 Arabic. the conventional approach assumes a monolithic target, suggesting that the [perfect] feature in L1 Arabic can convey the meanings of the present perfect and simple past, our approach allows for some level of variability in the target in the performance of L1 Arabic NS, where the choice of verb form varies according to the type of CR and telicity of the predicate.

We tested the derived FRH predictions from Studies 1 and 2 in Study 3 (feature reassembly in L2 English). We conducted a contextualised MC task to investigate how Arabic L2ers can acquire the L2 English present perfect feature mapping at different proficiency levels. We predicted that telicity may influence the mapping of present perfect features by Arabic L2 speakers with low English proficiency. As we predicted, Arabic L2ers of English could not acquire the present perfect feature mapping successfully. In [+continuative], [+telic] contexts, features transferred to present tense marking by L2ers at low L2 English proficiency and there was no preference for the past in [−temporally bounded] contexts at any proficiency level. The results of Study 3 also revealed that there was a significantly high possibility of choosing the target present perfect in temporally unbounded contexts and the target past form in temporally bounded contexts as the L2 proficiency levels increased. The accuracy of using the target present perfect was higher by the advanced L2ers compared with the L2ers with low English proficiency. As exposure to the L2 increases, learners are able to add new features not present in their L1, discard L1 features not encoded in the L2, and reassemble these features based on input from the L2 (Shimanskaya and Slabakova, 2017). The accuracy of the use of the target present perfect by the high-proficient L2ers may result from greater exposure to the English present perfect configurations.

However, the high-proficient L2ers performed better when using the target simple past than when using the target present perfect. The straightforward mapping between L1 and L2 to

assign the past in [+past] [+temporally bounded] context makes it easier for L2 speakers to use the target simple past than the present perfect. According to Slabakova (2009, p.321), when there is a mismatch between L1 and L2 realisations of grammatical features, it is more difficult to reassemble these features during L2 acquisition compared to situations where no reassembly is necessary. Compared to highly proficient L2 speakers, low-proficient L2 speakers demonstrated no effect of temporal boundedness on mapping present perfect features.

The findings of Study 3 revealed that the continuative provided the most favourable context for high-level L2 speakers to employ the present perfect (in line with the findings of Liszka, 2002; Terán, 2014; Uno, 2014). This finding parallels the data results in Study 1, where the continuative contexts have the most robust relation to the choice of the present perfect by the English native speakers. The continuative perfect, with its inherent imperfective meaning, revealed greater rates of L2 acquisition among highly proficient L2 speakers for both telic and atelic predicates. This study also provided empirical evidence of how telicity influences the likelihood of employing the present perfect, where the suppliance of the target present perfect significantly increased when the predicate is telic. This finding is consistent with the predictions of the aspect hypothesis (AH) and the prototype account (Andersen and Shirai, 1994, p.1996), which suggested that L2 speakers tended to link perfective markers with telic predicates. In contrast, they tended to associate imperfective markers with atelic predicates as prototypical structures.

The results of Study 3 revealed that temporal boundedness triggers the use of the target present perfect. Limited insights regarding the interaction between telicity and CR type have been provided from Study 3. Study 3 investigated the possibility of using the present perfect in a context constraining CR and temporal boundedness. Additional research is necessary to gain a deeper understanding of how the semantic feature, specifically telicity and relevance type, may influence the use of the present perfect tense by L2ers in the absence of constraining contexts. Therefore, in the present thesis, we conducted Study 4; a semantic study to probe the participants' interpretation of the English present perfect. In an inference task, we investigate the type of CR interpretation (continuative vs. recent past) associated with the present perfect. The participants were asked to judge whether a particular interpretation (continuative or recent past inference) is correct depending on the telicity of the predicate. We looked at the effect of

telicity (expected to be low in English native speakers and strong in Arabic L2ers of English, especially at low proficiency levels). Study 4 also included an inference baseline.

The general conclusion from Study 4 is that the acceptance rates of participants on the inference task appear consistent with the prototype account in that they accept the recent past interpretation with telic predicates and deny the continuative interpretation with telic predicates. However, the effect of telicity on their acceptance rates of the continuative vs. recent past inference differs according to nativeness (native speakers vs. non-native speakers) and proficiency. Telicity of the predicate affects the acceptance rates of the English native speakers in the recent past interpretation, where there is a high probability of accepting the recent past with telic predicates. On the other hand, the influence of telicity appeared more in the continuative, where the continuative interference started to be significantly rejected more and more as L2 English proficiency increased. By contrast, the telicity did not affect their acceptance rates of the (continuative vs. recent past) interpretations in the inference task for the L2ers with low English proficiency. At low proficiency levels, the association between CR and telicity is not strong, contrary to the expectations of the prototype account.

This inference task conducted in Study 4 has enhanced our understanding of how telicity interacts with the functions of the present perfect (continuative and recent past). This is the first study testing the type of CR that the participants associated with the present perfect contexts in the absence of constraining contexts. This extends our knowledge of how semantic features such as CR type and telicity influence the interpretation of the English present perfect contexts from a semantic-pragmatic perspective. Some limitations of the present research project and suggestions for future research will be presented in the next section.

8.1 Limitations and Future Research Directions

First, there are some limitations in methodological elements of this study. In the inference task employed in Study 4, the focus on *correct* judgement may obstruct the judgements of English native speakers. Participants were instructed to judge whether the CR inference is correct by choosing yes or no, and then to choose their level of certainty. The rating of *correct* may have been deemed too strong. This could have been interpreted as obligatory by native speakers. Another limitation lies in the design of the inference task which did not involve a comparison of tense/aspect forms; all the experimental items were only in the present perfect tense since

the present perfect was the focus of this present investigation. In future research, it may be possible to compare the simple past form with the present perfect in this type of inference task in order to gain a further understanding of how these combinations (telic with recent past and atelic with continuative) are associated with the present perfect tense compared with simple past. Further research might also investigate how telicity interacts with the other CR types, including experiential and resultative present perfect contexts. An equivalent inference task is suggested to be conducted in L1 Arabic in future research, to understand better how telicity affects the interpretation of the present perfect meanings in L1 Arabic without constraining contexts and adverbial clues. This kind of additional research in L1 Arabic will provide deeper understanding of whether the effect of the prototypical combinations of [atelic] + [continuative] and [telic] + [recent past] is primarily based on L1 Arabic transfer or on innate tendency. Such a tendency would result in the construction of natural prototypes of the grammatical and lexical aspect that are simpler to acquire due to semantic similarity (Bickerton, 1984), such as for the prototypical associations tested in the present investigation which are [atelic] + [continuative] and [telic] + [recent past].

Second, we used in the present investigation an online experimental design to overcome some of the limitations posed by COVID-19 restrictions in the period 2020 and 2021, which made it impossible to collect the data in labs under the researcher's supervision. We used effective online tools for the data collection in the present research project such as the PsychoPy3, Pavlovia, and Prolific platforms. The online experiment design has advantages for the data collection for our research project such as increased accessibility in that period of time, and the ability to reach a larger and more diverse sample. The online experimental design has imposed limits to conduct processing tasks such as self-paced reading or eye-moment tracking tasks to test the identified predictions for the acquisition of the English present perfect in language processing and acquisition.

Online experiments may not have the same level of control as lab settings, when it comes to online processing tasks such as self-paced reading or eye-movement tracking. This research project contributes to the current literature on SLA with implications for L1 transfer predictions for acquiring the English present perfect by Arabic L2 English speakers using the FRH (Lardiere, 2012). These FRH predictions identified in the present thesis are suggested to be investigated in further research in an online processing task to understand how the feature

reassembly of the English present perfect takes place in L2 English processing. A topic for future research involves the comparison of performance on offline tasks and online tasks to investigate the extent to which Arabic L2ers can access their knowledge of L2 English tense-aspect distinctions in real-time processing. This type of comparison can reveal whether Arabic L2 English speakers who appear to successfully acquire the English present perfect feature mapping in the contextualised multiple-choice task will have implicit knowledge of the features associated with the English present perfect in L2 online-processing tasks. The administration of online-processing task such as self-paced reading task can reveal both the linguistic features which could facilitate or inhibit the acquisition of the English present perfect by L2ers at different proficiency levels. This self-paced reading (SPR) approach allows access to processing at the sentence level, to investigate how L2ers process sentences containing the present perfect in real time, providing insights into their comprehension abilities and processing difficulties. This is due to the fact an SPR approach can measure slowed processing due to a linguistic feature (like slower reading times of sentences containing the present perfect with a definite adverbial phrase).

Third, it would also be worth investigating the manipulation of the CR type of the present perfect context (continuative, experiential, resultative, and recent past) and its interaction with the telicity of the predicate, to examine the extent to which this manipulation affects the processing and the acquisition of the English present perfect. This may provide an understanding of how the association of these factors functions in the processing of L2 English present perfect acquisition. The study presented in this thesis is one of a limited number of empirical studies undertaken within the domain of SLA, which investigates the developmental acquisition of the English present perfect in relation to the lexical aspect of the predicate (telicity) by L2ers with L1 Arabic as previously stated in Chapter 3, the majority of studies in the field of SLA examined the predictions of the prototype account primarily through the acquisition of past and progressive morphology. The research on the acquisition of the English present perfect has received limited attention in studies related to the prototype account, with only some notable studies conducted by Liszka (2002), Terán (2014), Uno (2014), and Karpava (2017). Therefore, in this thesis, we tested the influence of telicity in relation to the use of the present perfect contexts in L1 English, L1 Arabic, L2 English, and in an inference task in Study 4.

The findings from Study 1 indicate that the telicity of the predicate did not yield a statistically significant impact, so showing that it does not constitute a component of the feature matrix associated with the present perfect in L1 English. In contrast, in Study 2, the selection of verb form among L1 Arabic native speakers was found to be more significantly influenced by the telicity of the predicate, where the past/perfective verb form was preferred to be chosen in all contexts, expect in the continuative contexts where the present/imperfective was selected, particularly with telic predicates. The data from Study 3 also presented empirical evidence about the impact of telicity on the probability of using the present perfect tense by Arabic L2ers of English. The findings indicated a significant increase in the use of the target present perfect when the predicate is telic. However, the findings of Study 3 provided limited insights regarding the interaction between telicity (telic vs atelic) and CR type (continuative vs recent past), which was further investigated from a semantic-pragmatic perspective in an inference task in Study 4. Overall, the findings from Study 4 indicate that telicity has an impact on the acceptance rates of participants. Specifically, when the predicate is telic, participants exhibit a much higher tendency to accept the recent past interpretation compared to the continuative interpretation. Nevertheless, the influence of telicity differs between native and non-native English speakers. English native speakers exhibit a bias towards telicity in their acceptance rates of the recent past interpretation, while high-proficient Arabic L2ers of English have a bias towards telicity in their acceptance rates of the continuative interpretation. Despite the above-mentioned contributions of these studies to the current thesis and its valuable insights into how telicity manifests in present perfect contexts, there is a need for a processing study on the same issue to provide further evidence about how these combinations the CR type of the present perfect context (continuative, experiential, resultative, and recent past) and the telicity of the predicate affect the online processing of L2 English tense and aspect distinctions by L2ers. The effect of lexical aspect (telicity) in the acquisition of the L2 English present perfect functions (continuative, experiential, resultative, and recent past) has not investigated in L2 processing yet. In the present investigation, we argue that the lexical aspect of the predicate (telicity) has an impact on the acquisition of English present perfect, and that this effect is also observed at the advanced level of L2ers in the inference task in Study 4. However, further suggested research of the effect in relation to the acquisition of each type of the present perfect contexts (continuative, experiential, resultative, and recent past) in L2 English processing could provide more understanding of this issue in the field of SLA.

Finally, in this thesis, we selected CR and TB as primary features due to their prominence in the existing literature on the English present perfect. The findings of Study 3 suggest further research is needed to investigate the reassembly of other feature in the acquisition of L2 English present perfect. Due to the imperfective connotation of the present perfect contexts, low-proficient Arabic L2 English speakers overused the present verb form in contexts of the English present perfect in Study 3. Similarly, the Arabic L2 learners in Farina's investigation had higher nativelike continuability ratings of the present perfect contexts than the Chinese group. These findings suggest the need for further research to determine to what extent imperfective value is a relevant feature of the present perfect, which is proposed to be assembled or reassembled from the L1 in the L2 acquisition. In contrast to the perfective meaning of the past, which denotes situations that occurred without connection to the present, the present perfect denotes situations that occurred in the past but persist in the present or are related to the present. According to this perspective, the present perfect may exhibit an imperfective atelic feature. Consequently, it should be predicted that the imperfective value is a pertinent feature of the present perfect, which is assumed to be assembled or reassembled from the L1 during the L2 acquisition. Taking into account the type of the CR of the present perfect that was the focus of the present investigation, namely the continuative and recent past, it is assumed that the continuative perfect will be the most favourable context for the selection of the present perfect due to its imperfective atelic value. The recent past context will follow. Using an inductive approach of the FRH, these hypotheses can be investigated in future research.

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APPENDIX (A) Experimental Items

1. Experimental items in the Contextualised Multiple-Choice task

(Continuative perfect) (Telic; accomplishment)	
(+PP)	**(–PP)**
Amal ------ (improve) her skills in English since she came to the UK. She will soon be able to pass her exam.	Amal ------- (improve) her skills in English last year. She was able to pass her exam.
John and his supervisor ----------- (not, organise) their first meeting yet. They plan to meet soon this month.	John and his supervisor ------(not, organise) their first meeting last month. They were so busy with a lot of work.
Mary-------(not,write) a novel since 2009. She hopes to start one soon.	Mary-------(not write) a novel when she lived in Peru. But she always thought she would.
Ahmad -------(not, smoke) a full cigarette yet. He is only halfway through the one I gave him.	Ahmad ------- (not, smoke) a full cigarette last week. He cannot pretend he is not a smoker.
James-------(not, finish) his homework yet. He is still working on it.	James-------(not,finish) his homework yesterday. The teacher was not impressed.
John-----(not, pay) his bills yet. He is on the minimal wage.	John-------(not, pay) his bills last week. He is on the minimal wage.

(Continuative perfect) (Telic; achievement)	
(+PP)	**(–PP)**
Alice -------- (not read) the recommended book yet. She still has two chapters to read.	Alice -------- (not read) the recommended book yesterday. Now it is too late to get it from the library.
Jack ------- (meet) his new friends since starting his new job. He is hoping to meet some more.	Jack------ (meet) his new friends at the party last Friday. But they do not want to see him again.
Henry -------- (achieve) great results in maths since the start of the course. He is committed to maintaining these good scores.	Henry --------- (achieve) great results in maths last year. But this year, he has totally lost interest.
The company ---------- (invested) $30 million to date. Things are likely to get better.	The company --------- (invested) $30 million in 2016. That was an excellent mode.
Susan --------- (not, master) Japanese yet. She will have to keep studying hard.	Susan------- (not, master) Japanese last summer. She has missed her chance for a bursary.
Susan--------- (not, earn) any money yet. But she will keep trying.	Susan ------ (not, earn) any money last summer. But she did not try very hard.

(Continuative perfect) (Atelic; activity)	
(+PP)	**(–PP)**
Alice------(run) for two hours. She would like to continue but has to go back home.	Alice-------(run) a long way yesterday. Afterwards, she was very tired.
Leaves --------(fall) since 23rd September. They will continue falling for some weeks.	Leaves --------(fall) on 23rd September last year. This year, they are still all on the trees in November.

Mike----(run) for two hours. He does not want to stop running	Mike------(run) for two hours yesterday. He was very proud of himself.
Sylvia and Mary -------(remain) friends for all these years. They still write to each other regularly.	Sylvia and Mary ----(remain) friends until 2010. Then Sylvia moved to Australia.
Jiro ----- (travel) around Canada for one week already. His holiday will last another three weeks.	Jiro----- (travel) around Canada in 2011. The trip was not long enough for him to visit much.
The cat ------(not, eat) anything for two weeks. John is trying to give it some cooked fish.	The cat------(not, eat) anything last week. No one came to feed it.

(Continuative perfect) (Atelic; state)	
(+PP)	**(–PP)**
Tom ------(feel) pain in his knee for the past three days. He cannot even go to work.	Tom ------(feel) pain in his knee three days ago. He had to miss a day of work.
Nora------(be) blind since birth. No operation can fix that.	Nora------(be) blind three years ago. But an operation changed that.
Matt ------(be) a very famous singer since his adolescence. His fame keeps growing every year.	Matt ------(be) a very famous singer years ago. Now, he is totally unknown.
Ahmad---------- (live) in Leeds since 1990. He likes this city and is still living there now.	Ahmad---------- (live) in Leeds in 1990. He hopes to revisit it one day.
People ------- (be addicted) to their phones since the creation of social media. This is unlikely to change in the near future.	People ------- (be addicted) to their phones before 2035. The creation of the virtual friend changed everything.

John----(consider) studying abroad since his first year. He needs to make up his mind.	John----(consider) studying abroad before he found out about the scheme. But he was really put off and gave up the idea.

(Experiential perfect) (Telic; accomplishment)	
(+PP)	**(–PP)**
Ali------(publish) books twice in his life. He hopes to publish more in the near future.	Ali----(publish) two books last year. He spent several years working on these books.
Doctors-------(cure) many deadly diseases. Scientific progress will help them find more new vaccines.	Doctors-------(cure) many deadly diseases in the 20th century. But, antibiotic resistance reintroduced many of them.
Alex-------(make) three cakes already for the party. But we need many more.	Alex-------(make) three cakes last night for the party. They were delicious.
Anna ------(help) many animals to recover since last year. Now, everyone asks her for advice about their pet.	Anna ------(help) many animals to recover last year. But she still was made redundant from the zoo.
The army -------(attack) Baghdad five times already. Everyone dreads further attacks.	The army-------(attack) Baghdad in 2003. It was the first of a long series of attacks.
James -------(paint) this picture three times already. However, he is still not happy with it and will start again.	James -------(paint) this picture last week. Now, he is not happy with it and wants to start it again.

(Experiential perfect) (Telic; achievement)	
(+PP)	**(−PP)**
Sarah and Mike ------ (adopt) several little kittens already. Now they want to adopt a dog too.	Sarah and Mike ------- (adopt) several little kittens last summer. But the kittens ran away.
Alice -------(lose) her keys several times. She needs a better system so it does not happen again.	Alice -------(lose) her keys several times last month. Her parents were upset about that.
John and his friends -------- (encounter) many problems already while working on this project. There are likely to be many more.	John and his friends--------(encounter) many problems while working on this project last year. It was a bad experience for them.
Mike --------(crash) his car four times. He now pays a lot for his insurance in case he crashes again	Mike --------(crash) his car in May. He paid a lot of money to repair it.
Salman's new car ------(break down) three times already. He fears it might happen again.	Salman's new car ------(break down) three times last winter. So, he gave it up and now uses public transport.
Asma-----(discover) many scientific resources already for her project. She hopes to discover more.	Asma-----(discover) many scientific resources for her project last week. Now, she needs to plan her experiment.

(Experiential perfect) (Atelic; activity)	
(+PP)	**(−PP)**
Asma------(travel) by bus several times. She thinks it is an excellent mode of transport.	Asma------(travel) by bus yesterday. Her car was in the garage.

Mary ------(work) abroad a couple of times already. She hopes to have more opportunities in the future.	Mary ------(work) abroad last year. It helped her get a new job.
Mary and Susan ---------(walk) a lot recently. They like walking together.	Mary and Susan ---------(walk) a lot during their last trip. They were exhausted by the end.
Kate-----(study) every single day so far. She has one week to go before the exam.	Kate-----(study) every single day during the exam period. But that did not help her achieve good results.
Mike-----(travel) many times in his life. He likes travelling and plans to visit all the countries in the world.	Mike-----(travel) a lot last year. He enjoyed going to many countries around the world.
John and Tom ------- (collaborate) together many times. They hope there will be more opportunities in the future.	John and Tom------- (collaborate) together last year. But it was a disaster.

(Experiential perfect) (Atelic; state)	
(+PP)	**(−PP)**
Jerry ------(dream) of starting a business several times. He needs to come up with a viable plan.	Jerry ------(dream) of starting a business when he was 18. His gap year made him change his mind.
Huda-----(want) to visit New York since she was 15. She hopes her dream will come true.	Huda-----(want) to visit New York when she was little. But that dream never came true.
John ----- (wonder) many times how to become invisible. He hopes that one day, he will succeed.	John----- (wonder) last night how to become invisible. He is such a dreamer.
John ---- (love) the weather since the beginning of spring. He hopes it will remain good for the summer.	John ----(love) the weather last summer. But then he hated the winter.

Jude ------(think) about joining the army many times. But he cannot make up his mind.	Jude-----(think) about joining the army years ago. He gave up on this idea and found a more suitable job.
Mary ---(enjoy) eating out every night this week. She does not want to stop.	Mary ---(enjoy) eating out every night last summer. She found it hard to come home.

(Resultative perfect) (Telic; accomplishment)	
(+PP)	**(–PP)**
Susan ----------(water) the plants this morning. They do not need any more water.	Susan ----------(water) the plants last week. They have grown a lot.
Mike-----(paint) the house white this morning. Now, the house is bright and beautiful.	Mike-----(paint) the house white two weeks ago. His friends liked the colour.
John ------(poison) his wife this morning. Now she is very ill.	John ------(poison) his wife last week. The fish he cooked had salmonella
Susan------(break) her arm this morning. She cannot ride her bike.	Susan------(break) her arm yesterday. Her husband took her to the hospital.
Mary ------ (organise) many amazing parties. As a result, she has many friends.	Mary ------ (organise) many amazing parties last semester. She loved meeting new people.
Andreas ------(improve) his swimming technique already after two lessons. He might be able to win the competition.	Andreas ------(improve) his swimming technique last summer. He did well in the competition.

(Resultative perfect) (Telic; achievement)	
(+PP)	**(–PP)**
Jack--------(lose) a lot of weight this month. He will soon need a new set of clothes.	Jack--------(lose) a lot of weight last year. He was on a diet and went to the gym regularly.
Huda ----(kill) the ants this afternoon. Now, all the ants are dead.	Huda ----(kill) the ants two weeks ago. It made her feel better.
John ----(leave) the hall already. Now, his friends cannot find him.	John--(leave) the hall at midnight. No one could find him after that.
Mike-------(catch) malaria recently. He is feeling very weak.	Mike-----(catch) malaria last year. But the treatment was very effective.
Adam -----(buy) an expensive car this morning. His friends are very impressed.	Adam -----(buy) an expensive car in 2012. But he crashed it soon after.
All the flowers in the garden-------(die) now. The garden looks sad and depressing.	All the flowers in the garden-------(die) last week. There was a heatwave when Mary was away.

(Resultative perfect) (Atelic; activity)	
(+PP)	**(–PP)**
Mike---------- (play) in the park for an hour. Now, he's too tired to do anything.	Mike---------- (play) in the park yesterday. He had a great time.
John ------(travel) abroad a lot recently. He is now much more relaxed and tolerant.	John ------(travel) abroad a while ago. But he's a homeboy and prefers to stay in the UK.
John--------(watch) detective movies many times already. He will soon be a real expert.	John--------(watch) detective movies last weekend. It was so boring.

Prices -----(increase) a lot recently. Most people feel they cannot afford a holiday.	Prices------(increase) a lot last year. The government had to bring in new measures to restore consumer confidence.
Barbara -----(spend) too much money already this afternoon. She will not be able to buy a new coat.	Barbara -----(spend) too much money at Christmas. Her credit card bill was enormous.
John-----(stay) only in London so far. He is quite ignorant about the rest of the country.	John----(stay) in London in 1990. He ended up knowing the city quite well.

(Resultative perfect) (Atelic; state)	
(+PP)	**(–PP)**
Sandra ----- (consider) leaving her job recently. Her boss never treats her well.	Sandra ----- (consider) leaving her job last year. But then her boss started to treat her well.
Mike-----(believe) in ghosts since watching that movie. Now, he is scared of the dark.	Mike ----(believe) in ghosts years ago. But then he grew out of it.
Nora------(be ill) recently. She is now behind in her work.	Nora------(be ill) last week. She was not able to come to work.
People----(feel) unhappy recently. The productivity of the company is down.	People----(feel) unhappy last week. But the director improved their work conditions, so all is now back to normal.
John------(hope) to study medicine for a while. Because of that, he is now his teacher's favourite.	John------(hope) to study medicine in 2010. Because of that, he worked very hard. But he didn't succeed.
The band -------(be) popular among women so far. They hope to increase their fan base further.	The band ------ (be) popular among women in 2018. They sold a million records.

(Recent past) (Telic; accomplishment)	
(+PP)	**(−PP)**
James -----(clean) the windows just now. Finally, you can see through them again.	James -----(clean) the windows last year. That's enough for a lifetime.
Our company ------(hire) a few additional workers recently. All of them are satisfied with their new job.	Our company ------(hire) a few additional workers last spring. But they didn't stay for long because of low pay.
Ahmad ---------(write) his novel already. He's a very fast writer.	Ahmad finally ------(write) his novel last summer. He had been dreaming of finishing it for ages.
Amal's son -------(learn) to read recently. He struggled to learn, but now he is an excellent reader.	Amal's son -------(learn) to read two years ago. He learned quickly.
Amal --------(pass) her exams recently. She still knows everything by heart.	Amal-------(pass) her exams this afternoon. After that, she burned all her books.
Alice------(finish) this novel just now. She enjoyed reading it.	Alice------(finish) this novel yesterday. She enjoyed reading it.

(Recent past) (Telic; achievement)	
(+PP)	**(−PP)**
The school hockey team -----(win) all the games recently. They improved significantly over a short period of time.	The school hockey team -----(win) all the games in 2018. Their performance improved significantly over a short period of time.
Mary --------(buy) a table from IKEA just now. She needs help to put it together.	Mary --------(buy) a table from IKEA last week. She is happy with it.

Mike------(reach) the summit just now. He is pleased about it.	Mike------(reach) the summit hours before the others. He was such a fast climber.
Nora----(find) a dress just now. It took her forever to choose one.	Nora----(find) a dress yesterday. She never thought she would.
John-------(arrive) at the party just now. All the guests are waiting for him.	John-------(arrive) at the party late yesterday. His car broke down halfway.
Mike ---- (find) the solution just now. He might finish the exam on time after all.	Mike ---- (find) the solution last night. But it was too late to include in his essay.

(Recent past) (Atelic; activity)	
(+PP)	**(–PP)**
Huda -------(sing) as an amateur recently. He is proud of his newly discovered talent.	Huda --------(sing) as an amateur last year. She is now popular everywhere.
Zelda ----- (dance) with the famous Moreno this very minute. That's her dream come true.	Zelda ----- (dance) with the famous Moreno just before he died. That was her dream come true.
Asma ----- (work) at the bank recently. She isn't sure she likes it.	Asma ----- (work) at the bank yesterday. It was a bad experience.
James-------(draw) in the hall recently. The light was much better there.	James-------(draw) in the hall on Monday. The light was much better there.
John --------(walk) in bare feet just now. His father had forbidden him to do so.	John --------(walk) in bare feet this morning. His father had forbidden him to do so.
The nightingales ---- (fly) near my window this very instant. I love seeing them up close.	The nightingales ---- (fly) near my window last night. It was a very moving experience.

(Recent past) (Atelic; state)	
(+PP)	**(–PP)**
Emma ------(love) her healthy lifestyle lately. She eats healthy food and goes to the gym every day.	Emma -----(love) her healthy lifestyle four years ago. Now, she overeats fast food.
John-----(dream) about fish a lot recently. He is obsessed with his new hobby.	John-----(dream) about fish a lot when he was little. His mum has lots of fish pictures he drew as a child.
Mike-------(hate) salmon lately. It used to be his favourite food.	Mike-------(hate) salmon two years ago. Now, he likes it.
John ------(think) just about the exams. It is about time he starts revising seriously.	John ------(think) only once about the exams. It is unlikely he will pass.
My parents -----(like) to use social media recently. But they might get put off soon.	My parents -----(like) to use social media yesterday. But they were quickly put off.
Marry ----(hate) going outside at night recently. She is too scared to leave the house.	Marry ------- (hate) going outside at night two years ago. She was too scared to leave the house.

2. **Distractor items included in the Contextualised Multiple-Choice task**

(Present; Habitual contexts)
Paula ---- (jumps) down the stairs every morning. That always wakes up her neighbours.
The restaurant-----(open) at 21.30 every night. Jack and his friends plan to meet there.

Mary ------(develop) her Japanese skills every single day. Her dream is to speak that language fluently.
Mary's holiday-----(start) on 26th March every year. Mary plans to visit the Maldives in her coming holiday.
Angela ----(get) to work by bus every day. She does not like to use her car.
Sara----(eat) vegetables daily. She is vegetarian.
James -----(drink) tea every day, especially with breakfast. He prefers it without sugar.
Children------(look) at television regularly. They do not like playing. They prefer to watch TV.
Huda------- (come) late every morning. So she cannot finish her work on time.
Kids----(smile) at their mother every morning. Mothers are happy about that.
John-----(listen) to the news daily. He likes to know what happens around the world.
Mike -------(sleep) at 7 PM every day. So, he gets up early in the morning every day.
Amal----(enjoy) reading novels every morning. She prefers to start her day with this habit.
John-------(forgive) Mike this time. He mustn't do that again.
John----(demand) a refund on that TV that broke down today. The company will pay him back.
Ali -----(prefer) to drink black coffee. He usually starts his morning with a cup of black coffee.

(Future contexts)
Mary -----(not, do) her housework herself tomorrow. She is feeling too sick.
Ahmad ------(skate) this weekend. His father has promised him there will be snow.
Mike-----(start) his new business tomorrow morning. He feels so happy about that.
Mary and Susan ----(see) each other at the restaurant next weekend. They have not seen each other for months.
Amal ----(join) a yoga class tomorrow morning. So she cannot meet her friends.
The school term----(begin) next week. The students enjoyed their holiday and are now ready for school.
Mary's mother -----(reach) to England tomorrow. Mary has not seen her for two years. She is so excited to see her.
Nora-----(send) the e-mail to her teacher after lunch. She is so busy now.
Sam -----(bring) the documents over to his boss tomorrow. He is so late.
Marry----(visit) her friends next week. She has a lot of work to complete this week.
Jack and his wife-----(get) a new big house in the next New Year. Their house is very small.
Ahmad ----(leave) Los Angeles next year. He wants to go back to Dubai.
Turner ------(plan) to hire a car when he lands at the airport. He will not take the train.
Amal------(choose) a new laptop at the end of this month. Her laptop is not working now.
John -----(give) Tom a book as a gift on his next birthday. He has already bought it from the library.
Tom ----(borrow) the book that his teacher recommended to read from the library next week. He is busy with his exams this week.

(Conditional contexts)
Lisa ---- (be rich) forever if she marries the prince. But she wants to be free.
John and his wife-----(need) an extra bedroom if they had a new baby this year. They think that their house is small and there are no enough rooms.
James ------(change) the social security system at universities this year if he was appointed. However, the chances of that are slim.
Tom and his friends -----(cancel) their trip to the beach tomorrow if it were to rain. But they hope to go there and enjoy their time.
Huda------(communicate) with people in English easily if she understood English well. But, she is trying now to develop her English-speaking skills.
John----(have) no money if he bought a Ferrari this year. He should spend his money wisely.
Mary -----(pass) her exams this year if she studied hard. But, she will do her best.
Children ------(get) fatter nowadays if they ate too much fast food. Parents should take care of what their children eat.
The school------(keep) clean if all students arranged their classrooms every day after school. The teachers should direct them to do that.
Ahmad---(commute) by train everywhere if he still worked in Brighton. But he has left Brighton for two years.
Mike ------(teach) us kick-boxing if he had more time this week. He has much work to finish.

John and his friends-----(visit) that new restaurant if they got up early. But, they would probably be too late as usual.
Alice------(get) high exam results if she dedicated most of her time studying daily. But, she usually spends her time watching movies.
John------(take) a cruise if he had money. But, as he does not have it, he can only dream.
Mike -----(take) his new boots if he decided to ski next winter. But, he probably will not decide to ski.
Asma -------(see) the British Museum if she went to London this week. She is so excited to go but has much work to do.

3. **Experimental items included in the Inference task**

Relevance type	Telicity	Sara says	John concludes
Continuative	Atelic (state)	Sylvia and Mary have been friends.	Sylvia and Mary are still friends now.
Recent past	Atelic (state)	Sylvia and Mary have been friends.	Sylvia and Mary were friends until recently.
Continuative	Atelic (state)	Sandra has thought of leaving her job.	Sandra is still thinking of leaving her job now.
Recent past	Atelic (state)	Sandra has thought of leaving her job.	Sandra thought of leaving her job until recently.

Continuative	Atelic (state)	Mary has hated going outside at night.	Mary still hates going outside at night now.
Recent past	Atelic (state)	Mary has hated going outside at night.	Mary hated going outside at night until recently.
Continuative	Atelic (state)	Emma has loved having a healthy lifestyle.	Emma still loves having a healthy lifestyle now.
Recent past	Atelic (state)	Emma has loved having a healthy lifestyle.	Emma loved having a healthy lifestyle until recently.
Continuative	Atelic (state)	Jerry has dreamed of starting a business.	Jerry still dreams of starting a business now.
Recent past	Atelic (state)	Jerry has dreamed of starting a business.	Jerry dreamed of starting a business until recently.
Continuative	Atelic (activity)	Asma has worked in a bank.	Asma is still working in a bank now.
Recent past	Atelic (activity)	Asma has worked in a bank.	Asma worked in a bank until recently.
Continuative	Atelic (activity)	Barbara has spent too much money.	Barbara is still spending too much money now.
Recent past	Atelic (activity)	Barbara has spent too much money.	Barbara is still spending too much money now.
Continuative	Atelic (activity)	John has stayed in London.	John is still staying in London now.

Recent past	Atelic (activity)	John has stayed in London.	John stayed in London until recently.
Continuative	Atelic (activity)	Prices have increased a lot.	Prices are still increasing now.
Recent past	Atelic (activity)	Prices have increased a lot.	Prices increased until recently.
Continuative	Atelic (activity)	John and Tom have collaborated together.	John and Tom still collaborate together now.
Recent past	Atelic (activity)	John and Tom have collaborated together.	John and Tom collaborated together until recently.
Continuative	Telic (achievement)	The company has invested a lot of money.	The company is still investing money now.
Recent past	Telic (achievement)	The company has invested a lot of money.	The company invested a lot of money recently.
Continuative	Telic (achievement)	Jack has lost a lot of weight.	Jack is still losing weight now.
Recent past	Telic (achievement)	Jack has lost a lot of weight.	Jack lost a lot of weight recently.
Continuative	Telic (achievement)	Jack has met new friends.	Jack is still meeting new friends now.

Recent past	Telic (achievement)	Jack has met new friends.	Jack met new friends recently.
Continuative	Telic (achievement)	Henry has achieved good results in maths.	Henry still achieves good results in maths now.
Recent past	Telic (achievement)	Henry has achieved good results in maths.	Henry achieved good results in maths recently.
Continuative	Telic (achievement)	Mike has reached the summit.	Mike is still reaching the summit now.
Recent past	Telic (achievement)	Mike has reached the summit.	Mike reached the summit recently.
Continuative	Telic (accomplishment)	Amal has improved her computer skills.	Amal is still improving her computer skills now.
Recent past	Telic (accomplishment)	Amal has improved her computer skills.	Amal improved her computer skills recently.
Continuative	Telic (accomplishment)	Susan has watered the plants.	Susan is still watering the plants now.
Recent past	Telic (accomplishment)	Susan has watered the plants.	Susan watered the plants recently.
Continuative	Telic (accomplishment)	Ali has published two books.	Ali is still publishing two books now.

Recent past	Telic (accomplishment)	Ali has published two books.	Ali published the two books recently.
Continuative	Telic (accomplishment)	James has cleaned the windows.	James is still cleaning the windows now.
Recent past	Telic (accomplishment)	James has cleaned the windows.	James cleaned the windows recently.
Continuative	Telic (accomplishment)	Sylvia has made an apple pie.	Sylvia is still making an apple pie now.
Recent past	Telic (accomplishment)	Sylvia has made an apple pie.	Sylvia made the apple pie recently.

4. The distractor items included in the Inference task (Inference baseline)

Sara says	John concludes	Expected response
The detective almost found the suspect.	The detective didn't find the suspect.	Yes
Tom almost painted the whole house.	Some of the house was not painted by Tom.	Yes
Marc repaired some of the windows.	Marc did not repair all the windows.	Yes
John gave some of his books to his neighbour.	John did not give all his books to his neighbour.	Yes
Paul dropped most of the pencils.	Paul dropped more than half of the pencils.	Yes
Lucy ate most of the fruit.	Lucy ate less than half of the fruit.	No
Paul met some of his colleagues in the morning.	Paul met more than half of his colleagues in the morning.	No
Asma almost finished her painting.	Asma's painting is complete.	No
Mike cancelled all his meetings last week.	Mike had at least one meeting last week.	No
The train went all the way to the station.	The train broke down before the station.	No
Sophie did not keep the strange parcel.	Sophie had received a strange parcel.	Yes
Henry didn't tidy up his bedroom.	Henry's bedroom was messy.	Yes
Zelda got burned because she had no sun cream on.	Zelda was burned by the sun.	Yes

Zoe is wet because she forgot her umbrella.	Zoe got wet because of the rain.	Yes
Michael opened the door to his bedroom.	Michael's bedroom door was shut.	Yes
Mary's children are very noisy.	Mary doesn't have any children.	No
Asifa only sees her brother on Christmas day.	Asifa sees her brother three times per year.	No
Mike did not manage to give up smoking.	Mike did not try to give up smoking.	No
Susan forgot the way to the beach.	Susan never knew the way to the beach.	No
Julia had to close her business during the pandemic.	Julia did not have a business before the pandemic.	No

5. **The Standardized Oxford Proficiency test**

Please complete the sentences by choosing the best answer from the three available answers:

1) Water _____ at a temperature of 100° C.

- is to boil

- is boiling

- boils

2) In some countries _____ very hot all the time.

- there is

- is

- it is

3) In cold countries people wear thick clothes _____ warm.

- for keeping

- to keep

- for to keep

4) In England, people are always talking about _____.

- a weather

- the weather

- weather

5) In some places _____ almost every day.

- it rains

- there rains

- it raining

6) In deserts, there isn't _____ grass.

- the

- some

- any

7) Places near the Equator have _____ weather even in the cold season.

- a warm

- the warm

- warm

8) In England _____ time of year is usually from December to February.

- coldest

- the coldest

- colder

9) _____ people don't know what it's like in other countries.

- The most

- Most of

- Most

10) Very _____ people can travel abroad.

- less

- little

- few

11) Mohammed Ali _____ his first world title fight in 1960.

- has won

- won

- is winning

12) After he _____ an Olympic gold medal, he became a professional boxer.

- had won

- have won

- was winning

13) His religious beliefs _____ change his name when he became a champion.

- have made him

- made him to

- made him

14) If he _____ lost his first fight with Sonny Liston, no one would have been surprised.

- has

- would have

- had

15) He has travelled a lot _____ as a boxer and as a world-famous personality.

- both

- and

- or

16) He is very well known _____ the world.

- all in

- all over

- in all

17) Many people _____ he was the greatest boxer of all time.

- is believing

- are believing

- believe

18) To be the best _____ the world is not easy.

- from

- in

- of

19) Like any top sportsman, Ali _____ train very hard.

- had to

- must

- should

20) Even though he has now lost his title, people _____ always remember him as a champion.

- would

- will

- did

21) The history of _____ is

- aeroplane

- the aeroplane

- an aeroplane

22) _____ short one. For many centuries men

- quite a

- a quite

- quite

23) _____ to fly, but with

- are trying

- try

- had tried

24) _____ success. In the 19th century, a few people

- little

- few

- a little

25) succeeded _____ in balloons. But it wasn't until

- to fly

- in flying

- into flying

26) the beginning of _____ century that anybody

- this

- next

- that

27) _____ able to fly in a machine

- were

- is

- was

28) _____ was heavier than air; in other words, in

- who

- which

- what

29) _____ we now call a 'plane'. The first people to achieve

- who

- which

- what

30) 'powered flight' were the Wright brothers. _____ was the machine which was the

- His

- Their

- Theirs

31) forerunner of the Jumbo jets and supersonic airliners that are _____ common

- such

- such a

- so

32) sight today. They _____ hardly have imagined that in 1969,

- could

- should

- couldn't

33) _____ more than half a century later,

- not much

- not many

- no much

34) a man _____ landed on the moon.

- will be

- had been

- would have

35) Already _____ is taking the first steps towards the stars.

- a man

- man

- the man

36) Although space satellites have existed _____ less

- since

- during

- for

37) than forty years, we are now dependent _____ them for all

- from

- of

- on

38) kinds of _____. Not only

- informations

- information

- an information

39) _____ being used for scientific research in

- are they

- they are

- there are

40) space, but also to see what kind of weather _____.

- is coming

- comes

- coming

APPENDIX (B) Participant Information Sheet

1. Information Sheet for Study 1

Introduction and purpose

You are invited to participate in a research study by Gadah Almishwat, a researcher in the Linguistics Program at the University of Leeds. This study aims to investigate how English native speakers interpret sentences in context. Please read the information below to help you decide whether you agree to participate.

What you will be asked to do

You will be presented with pairs of sentences. In each pair, a verb will be missing from one of the sentences. You will be asked to choose from a set of 4 options which ones you think can be used to fill the gap. There may be more than one possible choice, and you will need to decide which one (s) you could use in the context provided based on your intuition.

Benefits and risks

There are no risks involved. By taking part in this study, you will have the chance to be involved in scientific research.

Withdrawal from study

You are free to withdraw from the experiment at any point without prejudice and without needing to give a reason. It is also possible (but highly unlikely) that the investigators will terminate the study.

Confidentiality

Your identity will be kept anonymous. Participants will only be identifiable through a unique code, and any links between your identity and the code will be stored in secure servers and/or hard disks secured by the University of Leeds network security procedures for a limited amount of time (and then destroyed). The anonymised data will inform conference presentations and publications in scientific journals. All information provided by you will be kept confidential at all times.

If you have any further questions, please ask me.

Contact

For further information contact Gadah Almishwat (ml16gama@leeds.ac.uk)

2. Information Sheet for Study2 in Arabic

<div dir="rtl">

معلومات عن الدراسة وطريقة التجربة

أنت مدعو للمشاركة في دراسة بحثية تجريها غادة علي، وهي باحثة في برنامج اللغويات في جامعة ليدز. الغرض من هذه الدراسة هو استكشاف كيفية تفسير وفهم متحدثين اللغة العربية للجمل في السياق ومقارنة قدراتهم العقلية في فهم وإدراك هذه الجمل. لمساعدتك في تحديد ما إذا كنت توافق على المشاركة في هذه الدراسة، يرجى قراءة المعلومات التالية:

ما سوف يطلب منك القيام به في هذا الاختبار

</div>

سوف تشاهد في هذا الاختبار العديد من الجمل، في كل جمله سيكون الفعل فيها مفقودًا في بداية الجملة ف سيُطلب منك اختيار الفعل المناسب لإكمال الجملة من 4 خيارات، بناءً على حدسك. قد يكون هناك أكثر من فعل واحد مناسب للبدء بالجملة، تستطيع ان تختار الفعل الذي تراه مناسب للتعبير عن الجملة بطريقة صحيحه.

الفوائد والمخاطر

لا توجد مخاطر معينه من خلال المشاركة في هذه الدراسة بالعكس سيكون لديك فرصة للمشاركة والاضافة في البحث العلمي

الانسحاب من الدراسة

لديك الحرية الكاملة في ان تنسحب من التجربة في اي وقت بدون الحاجة لإعطاء إي أسباب وبدون إي ضرر.

السرية والخصوصية

هويتك سوف تبقى مجهولة، حيث انه سيتم تعريف كل مشترك برمز معين والرمز سوف تبقى محفوظة في اقراص صلبة محفوظة بواسطة شبكة الحماية في جامعة ليدز بالنسبة للبيانات التي سوف تجمع من هذه الدراسة سوف يكون لدى الباحثة والمشرفة القدرة على الدخول اليها ومن الممكن استخدامها في البحوث العملية المنشورة والمؤتمرات ولكن هويتك سوف تبقى مجهولة في كل حال.

إذا كان لديك أي أسئلة أخرى تستطيع التواصل معي غادة آل مشوط

(ml16gama@leeds.ac.uk)

3. **Information Sheet for the L2 acquisition study (Study3)**

Introduction and purpose

You are invited to participate in a research study by Gadah Almishwat, a researcher in the Linguistics Program at the University of Leeds. This study aims to investigate how Arabic users of L2 English interpret sentences in context in L2 English. Please read the information below to help you decide whether you agree to participate.

What you will be asked to do

You will be presented with pairs of sentences. In each pair, a verb will be missing from one of the sentences. You will be asked to choose from a set of 4 options which ones you think can be used to fill the gap. There may be more than one possible choice, and you will need to decide which one (s) you could use in the context provided based on your intuition.

Benefits and risks

There are no risks involved. By taking part in this study, you will have the chance to be involved in scientific research.

Withdrawal from study

You are free to withdraw from the experiment at any point without prejudice and without needing to give a reason. It is also possible (but highly unlikely) that the investigators will terminate the study.

Confidentiality

Your identity will be kept anonymous. Participants will only be identifiable through a unique code, and any links between your identity and the code will be stored in secure servers and/or hard disks secured by the University of Leeds network security procedures for a limited amount of time (and then destroyed). The anonymised data will inform conference presentations and publications in scientific journals. All information provided by you will be kept confidential at all times.

If you have any further questions, please ask me.

Contact

For further information contact Gadah Almishwat (ml16gama@leeds.ac.uk)

4. **Information Sheet for Study 4**

For the English native speakers

Truth-Conclusion task (15 minutes) (Sentences interpretation task)

This task is only for English native speakers whose first language is English. Your data will be excluded from this study if your first language is not English.

The purpose of this study is to investigate how native speakers of English interpret sentences in context. Please read the information below to help you decide whether you agree to participate.

In the first part of this online task, you will see pairs of sentences associated with two persons (Sara and John). Sara says the first and second sentences show how John interpreted that sentence.

You will be asked to judge whether John interpreted Sara's sentence correctly by choosing Yes/No. After that, you will be asked to indicate to what extent you are certain of your response

by indicating your level of certainty from a 4-point scale (Not certain at all /Not very certain/ certain/ Quiet certain /Completely certain)

To choose an option, click it to highlight it. When you have finished choosing options, click the OK button. You will start with two training examples to see how the task will run, and then you will complete the rest of the task.

There are no risks involved. By taking part in this study, you will have the chance to be involved in scientific research.

This task consists of two parts. In this message, you will complete the first part of the task. Each part of this task will take approximately 15 minutes of your time. You will be rewarded with £2.00 for completing each part. It would be appreciated if you help me and participate in this research project.

If you agree to take part in this study, please enter the link for this task and click the OK button to start doing the experiment

https://run.pavlovia.org/ml16gama/truth-task/?g=1&participant={{%PROLIFIC_PID%}}

For the Arabic L2ers

Introduction and purpose

You are invited to participate in a research study by Gadah Almishwat, a researcher in the Linguistics Program at the University of Leeds. This study aims to investigate how Arabic users of L2 English interpret sentences in context in L2 English. Please read the information below to help you decide whether you agree to participate.

What you will be asked to do

In the first part of this online task, you will see pairs of sentences associated with two persons (Sara and John). Sara says the first and second sentences show how John interpreted that sentence. You will be asked to judge whether John interpreted Sara's sentence correctly by choosing Yes/No. After that, you will be asked to indicate to what extent you are certain of your response by indicating your level of certainty from a 4-point scale (Not certain at all /Not very certain/ Quite certain /Completely certain). To choose an option, click it to highlight it. When you have finished choosing options, click the OK button. You will start with two training examples to see how the task will run, and then you will complete the rest of the task.

Benefits and risks

There are no risks involved. By taking part in this study, you will have the chance to be involved in scientific research.

Withdrawal from study

You are free to withdraw from the experiment at any point without prejudice and without needing to give a reason. It is also possible (but highly unlikely) that the investigators will terminate the study.

Confidentiality

Your identity will be kept anonymous. Participants will only be identifiable through a unique code, and any links between your identity and the code will be stored in secure servers and/or hard disks secured by the University of Leeds network security procedures for a limited amount of time (and then destroyed). The anonymised data will inform conference presentations and publications in scientific journals. All information provided by you will be kept confidential at all times.

If you have any further questions, please ask me.

Contact

For further information contact Gadah Almishwat (ml16gama@leeds.ac.uk)

Appendix (C) Consent Form

1. **Consent form for Study 1**

Study title: Using verb forms in context: a norming study in English.

Investigator: Gadah Almishwat.

Thank you very much for your interest in our research. This form aims to ensure that you have been given a complete and clear explanation of what is involved in the study, that you meet specific criteria, and that you are happy to participate.

Please tick '**Yes** if you agree or **No** if you disagree with the following statements:

I confirm that I have read and understood the information sheet explaining the above research project and have had the opportunity to ask questions about the project.

- Yes

- No

I understand that my participation is voluntary and that I can withdraw at any time without giving any reason or negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.

- Yes

- No

I agree to take part in the above research project.

- Yes

- No

2. Consent form for Study 2 in Arabic

<div dir="rtl">

عنوان الدراسة: فهم متحدثي اللغة العربية للجمل في السياق.

الباحثة: غادة آل مشوط.

شكرا جزيلا على اهتمامك في هذه الدراسة. الغرض من هذا النموذج هو التأكد من حصولك على شرح كامل وواضح عن هذه الدراسة، وأنك تفي بمعايير معينة، وأنك سعيد بالمشاركة فيها.

يُرجى اختيار "نعم" إذا كنت توافق أو "لا" إذا كنت لا توافق على العبارات التالية:

أؤكد أنني قد قرأت وفهمت المعلومات التي تشرح مشروع البحث المذكور أعلاه.

نعم

لا

أنا افهم بان مشاركتي في البحث تطوعية وانه يحق لي الانسحاب من المشاركة في اي وقت بدون اعطاء اي سبب او مبرر وبدون ان يكون هناك اي عواقب سلبية.

نعم

لا

</div>

موافق على المشاركة في هذه الدراسة.

نعم

لا

3. **Consent form for Study 3 & Study 4 in Psychopy3 platform**

Thank you very much for your interest in our research

Please confirm that you have read and understood

the information explaining the research project

and consent to take part in

this study by pressing Ok button.

Ok

APPENDIX (D) Language Background Questionnaire

1. **Language Background Questionnaire for Study1& Study 4 (For the English native speakers)**

Which sex are you?

- Male

- Female

How old are you?

- Under 16 years

- 16-25 years

- 26-46 years

- 50-65 years

- Over 65 years

Is English your first language (the one you have learned from birth)?

- Yes

- No

Do you speak another language(s)?

- Yes

- No

Which other language(s) do you spea

--.

If you speak another language, how often do you use that language?

- Daily, most of the day

- Daily, some of the day

- Several times a week

- Several times a month

- Very rarely

How proficient are you in that other language? Please rate your proficiency as a % compared to your proficiency in English (where 100% would indicate that you are as proficient in my other language as you are in English).

-------------------------------------.

2. **Language Background Questionnaire for Study 2 in Arabic.**

Which sex are you? هل أنت

- ذكر Male

- انثى Female

How old are you? كم عمرك

- 11-20 years old. سنه ٢٠ إلى ١١ من

- 21-30 years old سنه ٣٠ إلى٢١ من .

- 31-40 years old. سنه ٤٠ إلى ٣١ من

- 41-50 years old. سنه ٥٠ إلى٤١ من

- 51-60 years old سنه ٦٠ إلى ٥١ من .

Is Arabic your first language (which you acquired first as a child)? لغتك هي العربية اللغة هل الأولى (اللغة التي تعلمتها منذ الولادة)؟

- Yes نعم

- No لا

Which variety of Arabic do you speak? تتحدث؟ العربية اللغة من لهجه اي

- Bishi   البيشيه

- Egyptian   المصرية العربية

- Hejazi   الحجازية

- Najdi   النجدية

- Northern   الشمالية

- Other   اخرى

- Southern   الجنوبية

How often to you use that variety of Arabic? من اللهجة هذه فيها تستخدم التي تقريبا المرات عدد كم اللغة العربية؟

- Daily, most of the day يومياً معظم اليوم

- Daily, some of the day يومياً بعض اليوم

- Several times a week. عدة مرات في الأسبوع

- Several times a month. عدة مرات في الشهر

- Very rarely. نادراً جداً

هل تتحدث لغة أخرى غير العربية؟ Do you speak any other language(s)?

- No لا

- Yes. نعم

إذا كنت تتحدث لغة أخرى، فكم مرة تستخدم هذه اللغة؟ How often to you use that L2 language?

- Daily, most of the day يومياً معظم اليوم

- Daily, some of the day يومياً بعض اليوم

- Several times a week. عدة مرات في الأسبوع

- Several times a month. عدة مرات في الشهر

- Very rarely. نادراً جداً

3. **Language Background Questionnaire for Study3& Study 4 (For Arabic L2ers of English)**

Please answer the following questions:

How old are you?

- Under 16 years

- 16-25 years

- 26-46 years

- 50-65 years

Highest level of formal education:

- Less than high school

- High school

- Some college

- College (B.A, B.S)

- Some graduate school

- Master's degree (M.A. or M.S.)

- Doctorate (M.D. or PhD)

- Other, please specify---------

Is Arabic your first language (which you acquired first as a child)?

- Yes

- No

Select second languages that you know or have studied

- English

- Chinese

- French

- German

- Hindi

- Indonesian

- Japanese

- Korean

- Portuguese

- Punjabi

- Russian

- Spanish

- Turkish

- Vietnamese

- Other, please specify---------

Have you learned or acquired English in an English-speaking country (e.g. UK, USA, Canada, Australia …… etc)?

- Yes

- No

Have you lived in an English-speaking country? If so, for how many months or years?

- Yes

- No

Your exposure to English

Please rate to what extent you are currently exposed to <u>English</u> in the following contexts or to what extent you use English in the following situations:

Interacting with friends

- Never

- Almost never

- Half of the time

- Always

Interacting with family

- Never

- Almost never

- Half of the time

- Most of the time

- Always

Watching TV

- Never

- Almost never

- Half of the time

- Most of the time

- Always

Listening to radio/music

- Never

- Almost never

- Half of the time

- Most of the time

- Always

Reading

- Never

- Almost never

- Half of the time

- Most of the time

- Always

Your proficiency in English

On a scale from zero to ten, please <u>select your level of English proficiency</u> in speaking, understanding, and reading

Speaking

- None

- Very low

- Low

- Fair

- Slightly less than adequate

- Adequate

- Slightly more than adequate

- Good

- Very good

- Excellent

- perfect

Understanding spoken language

- None

- Very low

- Low

- Fair

- Slightly less than adequate

- Adequate

- Slightly more than adequate

- Good

- Very good

- Excellent

- perfect

Reading

- None

- Very low

- Low

- Fair

- Slightly less than adequate

- Adequate

- Slightly more than adequate

- Good

- Very good

- Excellent

- perfect

Appendix (E) Experimental instruction

1. **Experimental instruction for the contextualised-Multiple choice task**

Welcome to the experiment!

On the screen, you will see pairs of sentences. In each pair, a verb will be missing from one of the sentences.

You will be asked to choose from a set of 4 options which one(s) you think can be used to fill the gap (in some cases, you may want to choose more than one).

Let the context guide you to decide using your intuition.

To choose an option, click it to highlight it. You can click again to remove the highlight if you change your mind.

When you have finished choosing options, click the OK button.

Click anywhere on this screen to begin the experiment.

2. Experimental instruction for the Inference task

Welcome to the experiment!

On the screen, you will see pairs of sentences associated with two persons (Sara and John). Sara says the first sentence and the second one says how John interpreted that sentence.

You will be asked to judge whether John interpreted the sentence from Sara correctly by choosing Yes/No. After that, you will be asked to indicate to what extent you are certain of your response.

To choose an option, click it to highlight it. When you have finished choosing options, click the OK button. You will start with two training examples to see how the experiment will run. Click OK to begin.

You have completed the training examples.

Now,

Please, click OK on this screen to do the rest of the task.