JESLA | Journal of the European Second Language Association

COLLECTION: VOCABULARY STUDIES AND THE PSYCHOLOGY OF LANGUAGE LEARNING: TOWARDS GREATER INTERDISCIPLINARY COLLABORATION

RESEARCH

Emotional Valence, Personal Investment and Initial Lexical Acquisition

TAGHREED QAHL

CRAIG LAMBERT

*Author affiliations can be found in the back matter of this article

WHITE ROSE UNIVERSITY PRESS
Universities of Leeds, Sheffield & York

ABSTRACT

Emotion plays a critical role in language acquisition. Learners' emotional responses can be either positively or negatively valenced. The present study examines the effect of positive and negative emotional valence on learners' lexical acquisition in terms of initial form-to-meaning mapping, as well as the moderating effect of personal investment on this relationship. A total of 144 Saudi female undergraduate English learners discussed 20 novel English adjectives (10 positive and 10 negative) representing personality traits, counterbalanced across four referential conditions. They were then tested on their ability to recall the meaning of each item as well as the conditions under which it was processed. Multilevel modelling using a Generalized Linear Mixed Model revealed that the effects of emotional valence on item memory were dependent on learners' personal investment during the initial processing of the lexical items. Memory was better for negative words than for positive ones when words were processed in reference to the self and intimate others compared with when they were processed in reference to familiar information or related words. For source memory, emotional valence influenced performance only in reference to intimate others. The findings provide insight into the role of emotion in additional language acquisition, as well as the role of personal investment as a catalyst for the effects of emotion on memory.

CORRESPONDING AUTHOR:
Taghreed Qahl
Independent Researcher, Jeddah, Saudi Arabia
Taghreedqahl@hotmail.com

KEYWORDS:
Emotion; valence; investment; self-reference effect; vocabulary acquisition

TO CITE THIS ARTICLE:
Qahl, T., & Lambert, C. (2026). Emotional Valence, Personal Investment and Initial Lexical Acquisition. *Journal of the European Second Language Association*, 10(1), 181–197. DOI: https://doi.org/10.22599/jesla.156

DOI: 10.22599/jesla.156

1. INTRODUCTION

There is general agreement that emotions influence learners' cognitive processing during the learning process (e.g., Dörnyei, 2005; Frenzel et al., 2007; Shao et al., 2019). One important way in which emotion influences cognitive processing is through attentional and memory biases toward emotionally valenced information. Researchers have typically contrasted the role of emotion in terms of positive and negative biases. A positive bias refers to the tendency to process and remember positive words more quickly than negative ones (Dodds et al., 2015; Pavlenko, 2008). In contrast, a negative bias reflects the greater attentional capture of negative stimuli, often resulting in slower processing (Estes & Verges, 2008). Negative bias has been found in categorization tasks (e.g., Nasrallah & Carmel, 2009; Hofmann et al., 2009) and facial expressions (e.g., Fox et al., 2001; Horstmann & Bauland, 2006; Ohman & Mineka, 2001; Pinkham et al., 2010). While these studies explore the effects of emotional words on memory, previous research has tended to ignore the role of the learner in processing emotional words. It is possible, for example, that when both positive and negative emotional words are processed with relationship to the self, they are processed and remembered differently than when they are processed with relationship to general world knowledge (Lambert, 2023a; Qahl & Lambert, 2025, 2026). The present study thus examines the moderating effect of personal investment on memory for positive and negative words to better understand the role of learner psychology in additional language acquisition and vocabulary acquisition specifically. The following section discusses the differential effects of positive and negative emotion on memory, how personal investment relates to memory, drawing on research into self-reference effects on item and source memory. Following this, initial research on interactions between valence and personal investment and potential implications for initial lexical acquisition as measured in the present study is outlined.

2. LITERATURE REVIEW

2.1. EMOTIONAL PROCESSING

Learning an additional language is related to learners' emotional dispositions during the learning process (Dewaele & Li, 2020; Ellis et al., 2020; Lambert & Aubrey, 2025). Recent research on the role of the learner in task performance suggests that learners' affective responses during learning tasks directly affect information processing and are subsequently stored in memory for future retrieval (Holland & Kensinger, 2013; Lambert, 2023b, 2025; Slotnick, 2017). Research in affective neuroscience demonstrates that emotional information activates specialized neural networks, including the amygdala and hippocampus (Hermans et al., 2014; Squire & Kandel, 2009). These neurological mechanisms enhance memory retention for processed information (Kensinger, 2009). Research also indicates that emotional stimuli generate notable amygdala activity during the encoding phase, thereby increasing recall (Cahill et al., 1996; Hamann, 2001; Kensinger, 2009; Phelps, 2004).

Although both positive and negative stimuli appear to activate the amygdala and orbitofrontal cortex, they may be encoded differently in the brain (Kensinger, 2009; LaBar & Cabeza, 2006). Negative information has been found to elicit stronger activation in regions such as the middle occipital gyrus, which may contribute to more detailed sensory encoding, whereas positive stimuli have been associated with weaker amygdala connectivity and less item-specific processing (Kensinger et al., 2011; Steinmetz et al., 2010). Consequently, negative stimuli may be more likely to be remembered with vivid sensory detail (Kensinger & Choi, 2009; Sakaki et al., 2011).

Recent research further suggests that emotional context plays an important role in vocabulary learning. For instance, using an artificial vocabulary learning task in which novel words were presented in positive, negative, or neutral sentences, Dong et al. (2025) found that emotional (both positive and negative) contexts enhanced immediate word learning compared with neutral contexts. Moreover, words learned in negative contexts showed better delayed retention, highlighting the role of emotional valence in both encoding and retention processes during second language (L2) vocabulary learning. Together, these findings suggest that emotional stimuli can shape attentional and memory processes during L2 vocabulary learning, although the mechanisms underlying these effects are not well understood.

DOI: 10.22599/jesla.156

2.2. PERSONAL INVESTMENT

While investment in SLA is commonly conceptualized from a sociocultural perspective (Darvin & Norton, 2015), the present study adopts a motivational perspective on investment as it relates to cognitive processing during language use. Personal Investment Theory, proposed by Maehr (1984), provides a framework for understanding the conative dimension of learning, particularly the motivational processes that drive learners' efforts in completing educational tasks. Building on Personal Investment Theory, Lambert (2002) argues that when learners perceive a task as meaningful, often because it aligns with their current experience or interests, they are more likely to invest effort into completing it as well as they can and to persist in achieving successful task outcomes. Lambert (2023b) further argues that personally relevant prior knowledge influences learners' ability to establish initial form-to-meaning connections in L2 lexical acquisition. Recent research on both incidental and intentional additional language learning supports these claims, demonstrating that personal investment has consistently shown positive effects on intentional learning of lexical items (Lambert, Gong, & Zhang, 2023; Qahl & Lambert, 2025) as well as memory of discourse-level language used on tasks (Lambert & Aubrey, 2025).

One cognitive mechanism that may explain the beneficial effects of personal investment on memory is the self-reference effect (SRE). A large body of research in cognitive psychology has demonstrated that individuals tend to remember information better when they process it in relation to their personal experiences or with reference to their identity than when they process similar information in relationship to general world knowledge (Hamami et al., 2011; Leshikar et al., 2015; Symons & Johnson, 1997). Early research conducted by Rogers (1977) on the SRE indicated that trait adjectives processed with reference to the self (e.g., *How well does this word describe you?*) were recalled better than those processed with respect to general world knowledge in terms of familiar others and known words. These findings suggest that processing new information in ways that bear on one's identity might be a critical factor in enhancing memory.

One limitation with early research on the SRE, however, was the lack of discrimination between references to intimate others and familiar others (Symons & Johnson, 1997). This yielded mixed findings and resulted in less empirical attention on the SRE in cognitive psychology research. Based on an extensive meta-analytic review of SRE research, however, Symons and Johnson were able to explain these mixed findings by categorizing references to intimate others (e.g., How well does this word describe your mother?), with self-reference (e.g., How well does this word describe you?), and, conversely, categorizing references to a familiar other (e.g., How well does this word describe [a celebrity]?) with semantic references (e.g., How well does this word describe another word?). The argument is that personal references, whether to the self or to intimate others, activate self-schemata, which are organized cognitive structures that facilitate the elaboration and integration of new information. In contrast, non-personal references (familiar others or semantic) engage less structured semantic networks. Thus, when learners encode new information in relation to themselves or intimate others, they leverage a robust mnemonic framework that enhances retention and contextual recall. These findings are consistent with previous research on personal investment in SLA, as well as theories of motivated attention in cognitive neuroscience (see Lambert, 2023b, for an overview of both). Such theories include Lang's (2000) motivated attention model, which suggests that emotional stimuli increase learners' attention, perception, and processing and can potentially explain the positive impact of personal investment in the form of instructional activities that draw on learners' personal experiences of learning and performance (e.g., Lambert et al., 2017; Lambert & Zhang, 2019; MacIntyre & Wang, 2021; Truong & Lambert, 2025).

Recent research has further highlighted the positive effect of self-reference on learners' memory (e.g., He et al., 2021; Lambert, Aubrey & Bui 2023; Leshikar et al., 2015; Qahl & Lambert, 2025, 2026; Sweatman et al., 2022). In pedagogical contexts, studies have engaged participants in learning stimuli that incorporate their personal experiences and identity, such as personal pronouns (Mayer et al., 2004), individual names (Sinatra et al., 2016), and ownership games (Cunningham et al., 2018). These benefits have also been demonstrated across domains, including mathematics (d'Ailly et al., 1997; Ku & Sullivan, 2002), literature (Kucirkova et al., 2014), and learning novel lexical items (Axelsson et al., 2018; Li et al., 2021; Sinatra et al., 2016; Turk et al., 2008).

DOI: 10.22599/jesla.156

2.3. THE SELF AS A MODERATOR OF MEMORY

One way in which the benefits of self-reference outlined above have been examined is through the distinction between semantic and episodic memory. Research suggests that the SRE influences both semantic memory (knowledge of word meanings) and episodic memory (memory of specific events and their contextual details) during the encoding of word forms and meanings (Tulving, 1986). Episodic memory retrieval involves recalling not only the target stimulus but also its source, that is, the conditions under which it was encountered (Johnson et al., 1993; Tringali & Huff, 2025). Within this framework, item memory refers to the ability to recall the meaning of a target lexical item, for example its translation in the first language (L1) (Kim et al., 2022; Qahl & Lambert, 2025), whereas source memory refers to the ability to recall the encoding condition under which the item was processed, such as whether it was encountered in the self referential, intimate other, familiar other, or semantic condition (Durbin et al., 2017; Pereira et al., 2021; Qahl & Lambert, 2025; Sweatman et al., 2022; Yin et al., 2019).

Emotional valence is not a completely objective characteristic of stimuli such as lexical items but may also be partially dependent on learners (Lambert, Gong & Zhang, 2023). Positive or negative value might be something that individuals associate with a stimulus to some degree (Ponari et al., 2020). The research suggests that individuals may be more likely to retain positive information than negative information when processing information with respect to the self (Durbin et al., 2017; Symons & Johnson, 1997). This may be related to motivation for self-protection. Individuals tend to protect their self-image from potential threats (D'Argembeau & Van der Linden, 2008; Sedikides & Green, 2009). This is particularly true for source memory. Durbin et al. (2017) found that self-reference improved item memory for all stimulus types (positive, negative, and neutral), but source memory only for positively valenced stimuli. These findings suggest that positive information may produce more elaborative processing when self-referenced than negative information. One explanation is that individuals are more motivated to integrate positive information into their self-schemas. Interestingly, Serbun et al. (2011) also found that participants had better source memory for positive items encoded in relation to themselves than for positive items encoded in relation to others.

Although substantial evidence suggests that self-reference enhances learning and memory, considerably less is known about how these effects interact with emotional valence during L2 lexical acquisition. Both stimulus-related factors (e.g., emotional valence) and learner-related factors (e.g., personal investment) appear to influence attention, encoding, and memory. However, whether these factors interact during the initial acquisition of L2 vocabulary remains unclear. More research is therefore needed on the interaction between personal investment and emotional valence, particularly in the field of Second Language Acquisition (SLA), where, to date, no studies have examined these factors together.

The present study addresses this gap by examining how the four self-referential processing conditions (self, intimate other, familiar other, and semantic), as identified by Symons and Johnson (1997), interact with emotional valence during the acquisition of initial form-to-meaning mappings, an essential stage of L2 lexical acquisition (Schmitt, 2008; Webb, 2007). Specifically, it investigates the moderating effect of personal investment on memory for positively and negatively valenced lexical items.

2.4. INITIAL LEXICAL ACQUISITION

Vocabulary knowledge is fundamental to all language skills (Adolphs & Schmitt, 2003; Nation, 2022), because it involves a gradual accumulation of knowledge of form, meaning, and word use (Nation, 2022; Schmitt, 2008). Consistent with Nation's (2022) and Schmitt's (2010) conceptualizations of vocabulary knowledge, the present study focuses specifically on the acquisition of meaning knowledge during the earliest stages of lexical learning rather than on later aspects of vocabulary mastery, such as grammatical use or collocational knowledge.

Research demonstrates that the initial stages of vocabulary acquisition begin when form-meaning connections are established (Deconinck et al., 2017; Ortega, 2009; Schmitt, 2008; Webb, 2007). The association between form and meaning enables learners to create a memory trace that facilitates receptive retrieval of the meaning of a new word they have seen or heard, as well as productive retrieval when they wish to express the meaning (Deconinck et al., 2017; Webb, 2020). Consequently, factors that influence attention, encoding, and episodic memory are also likely to influence the earliest stages of lexical acquisition.

DOI: 10.22599/jesla.156

As discussed in the previous section, item and source memory represent two distinct but complementary aspects of episodic memory. Accordingly, the present study operationalizes the form-to-meaning mapping stage of lexical acquisition through these two complementary memory measures (item and source). Although source memory is not itself a component of vocabulary knowledge in Nation's framework, it provides insight into the episodic encoding processes that support the formation and retention of new lexical representations.

Item memory reflects successful retention of word meaning, whereas source memory reflects memory for the contextual details associated with encoding. Together, these complementary measures provide insight into both successful lexical learning and the episodic processes through which form–meaning mappings are established. Item memory alone can confirm successful recognition or recall of lexical meaning but does not provide strong evidence of the SRE (Kahan & Johnson, 1992). Self-referential encoding is theorized to engage episodic memory more broadly, integrating new information into autobiographical memory (Durbin et al., 2017; Serbun et al., 2011). In the present study, source memory is operationalized as the encoding condition under which each item was processed (self referential, intimate other, familiar other, or semantic). It is hoped that measuring source memory in this way will provide additional insight into how personal investment and emotional valence influence the encoding and retrieval of learned lexical items. Taken together, the complementary roles of item and source memory suggest that examining both provides a more comprehensive account of how emotional valence and personal investment influence the earliest stages of L2 lexical acquisition.

2.5. PRESENT STUDY

The present study investigates the effects of emotional valence (positive, negative), processing condition (self, intimate, familiar, semantic), and their interaction on initial L2 lexical acquisition. It addresses the following six research questions:

1. Does emotional valence impact learners' item memory?
2. Do different processing conditions impact learners' item memory?
3. Do emotional valence and processing conditions interact with learners' item memory?
4. Does emotional valence impact learners' source memory?
5. Do different processing conditions impact learners' source memory?
6. Do emotional valence and processing conditions interact with learners' source memory?

3. METHODS

3.1. DESIGN

The independent variables in the study were emotional valence at two levels (positive, negative) and processing condition at four levels (self, intimate other, familiar other, semantic). The dependent variables were item memory (learners' recall of target lexical item meaning in L1 translation) and source memory (learners' recall of the condition under which items were processed).

3.2. PARTICIPANTS

Participants in the study were 144 Saudi female EFL students in their second and third years of study for an English major at Jazan University in Saudi Arabia. All were native Arabic speakers who had formally studied English as a school subject but had limited or no exposure to the language in their daily lives. Participants' proficiency level was determined based on institutional placements and course levels. Although participants were enrolled as English majors, their proficiency corresponded to that of basic users (A2 level in the Common European Framework of Reference for Languages; Council of Europe, 2001). All materials were provided in Arabic to ensure participants could complete the tasks required for the study. Only the target lexical items were presented in English.

DOI: 10.22599/jesla.156

3.3. MATERIALS AND PROCEDURES

3.3.1. Target words

We selected 20 archaic two-syllable English adjectives for the study. The word set contained 10 positive and 10 negative personality traits (see Appendix A). An independent samples *t* test was conducted to compare positive and negative words in terms of frequency. Word frequency was measured as frequency per million based on the British National Corpus. The results showed no significant difference between positive words (M = 0.42, SD = 0.22) and negative words (M = 0.38, SD = 0.26), t (18) = 0.32, p = .757, indicating that the word sets were comparable in terms of frequency. The study focused on comparing positive and negative emotional valence; therefore, a neutral condition was not included, allowing for a more direct comparison between the two emotional categories. The number of target words was chosen to control the length of the treatment session and minimize the risk of learner fatigue. All the words were chosen from an online archive (https://phrontistery.info/index.html) and the archaic section of Webster's Online Dictionary (https://www.merriam-webster.com) to control for prior lexical knowledge. The words are typically unknown to most native English speakers. Although these words were unlikely to be familiar to CEFR A2-level Saudis, a post-performance questionnaire (as described below) was used to confirm whether they had prior knowledge of any of the target lexical items.

3.3.2. Practice session

Written informed consent was obtained from all the participants before they participated in the study. Ethical approval for the study was obtained from the relevant ethics committees at Curtin University and Jazan University. The participants completed the experiment individually with the first author in a meeting room on campus. The students completed four practice items, each with a three-slide processing task (as described below). This training activity was implemented to ensure that participants were familiar with experimental tasks before the formal treatment phase began.

3.3.3. Treatment

The processing task was performed on a laptop using PowerPoint slides to expose the participants to the target words across the four treatment conditions in the participants' L1 (Arabic) (Appendix B). These slides were carefully designed to control the processing time and counterbalance the presentation of the lexical items across conditions. The 20 target words (10 positive and 10 negative) were distributed across the four conditions such that each participant processed five words per condition. Within each condition, positive and negative words were represented equally (i.e., 2–3 items per valence category). The task consisted of three slides related to each experimental condition as follows:

The first slide presented one of the following four prompts for five seconds.

1. Please consider to what extent the following word describes you.
2. Please consider to what extent the following word describes your mother.
3. Please consider to what extent the following word describes Ameera Al-Taweel.[1]
4. Please consider to what extent the following word means the same as [a known word].

The second slide presented the target word together with its Arabic translation for one minute. During this time, participants heard each English word pronounced twice. While the target word remained visible on the screen, the researcher orally asked, in Arabic, the processing question that appeared on the subsequent slide (e.g., "How well does this word describe you?"), followed by two additional prompts asking participants to explain their response and provide an example (see Appendix B). These prompt questions were used to verify that participants processed each item as instructed (i.e., in relation to themselves, their mother, a celebrity, or a known word).

The third slide presented the question matched to the prompt on Slide 1 for 10 seconds. Participants were then asked to respond to the question using a four-point scale, from 1 (*not well at all*) to 4 (*extremely well*). The four questions were:

1 Ameera Al-Taweel is a well-known Saudi celebrity who was familiar to all participants.

DOI: 10.22599/jesla.156

1. How well does [target word] describe you?
2. How well does [target word] describe your mother?
3. How well does [target word] describe Ameera Al-Taweel?
4. How similar is the meaning of [target word] to [known word]?

Following the presentation and processing of all 20 words, participants were then given the source and item memory tests. The order of tests was chosen to limit any additional exposure to the meaning of target words during the item memory test and ensure that exposure to the meaning of the target words was limited to the treatment on both tests.

3.3.4. Source memory test

The source memory test employed a multiple-choice format (Appendix C). Each of the 20 target words from the treatment was presented in randomized order for 10 seconds. Participants were instructed to identify the condition under which the target word was processed by choosing from four options that were translated into Arabic: *self*, *mother*, *celebrity*, and *semantic*.

3.3.5. Item memory test

The item memory test also employed a multiple-choice format (Appendix D). Each target adjective was presented in random order for 10 seconds. Participants were asked to choose the Arabic word with the equivalent meaning from four options. Each item was presented with three distractors selected from the treatment set, with distractors matched as closely as possible in emotional valence and lexical characteristics.

3.3.6. Exit questionnaire

Following the memory tests, participants completed an exit questionnaire that asked whether they had ever heard or learned any of the 20 target words before the project. They manually selected "Yes" or "No" (Appendix E) for each word to assess whether they were familiar with any of the target words presented in the study before the treatment. The entire procedure took approximately 40 minutes for each participant.

4. ANALYSIS

Data were analyzed using a Generalized Linear Mixed Model (GLMM) in SPSS (Version 29). Separate models were fitted for item memory and source memory. The dependent variable was a binary memory score (0 = incorrect, 1 = correct), which was modelled using a binomial distribution with a logit link function. GLMM was selected because it is appropriate for binary outcome data and accounts for the non-independence of repeated observations through the inclusion of random effects (Bolker et al., 2009). Participants and items were included as random intercepts to account for repeated measures. Statistical significance was evaluated at $\alpha = .05$. Post hoc pairwise comparisons with Bonferroni adjustment were conducted following significant main or interaction effects to examine the direction of the observed differences.

4.1. METHODOLOGICAL REFLEXIVITY

The researchers acknowledge that their backgrounds in SLA, learner psychology, and task-based language teaching may have influenced aspects of the research process and interpretation of the findings. To enhance transparency and minimise the influence of researcher perspectives, the study employed standardised procedures, controlled experimental conditions, and objective statistical analyses using a GLMM. These measures were implemented to ensure that the interpretation of the findings remained grounded in the data and aligned with the methodological aims of the study. This approach is consistent with recommendations for reflexive and transparent research practice (Berger, 2015).

5. RESULTS

Table 1 presents the descriptive statistics for item and source memory performance across processing conditions and emotional valence. Inferential analyses based on the GLMMs are presented in the following sections.

PROCESSING CONDITION	VALENCE	ITEM-TEST		SOURCE-TEST	
		CORRECT	VALID RESPONSES	CORRECT	VALID RESPONSES
Self	Positive	172 (53.6%)	321	158 (44.0%)	359
	Negative	260 (65.8%)	395	162 (44.4%)	365
Intimate	Positive	163 (46.7%)	349	134 (38.4%)	349
	Negative	219 (58.9%)	372	190 (51.1%)	372
Familiar	Positive	91 (25.4%)	358	83 (24.1%)	345
	Negative	96 (26.1%)	368	88 (24.9%)	353
Semantic	Positive	105 (29.4%)	357	73 (20.5%)	356
	Negative	94 (26.0%)	361	71 (19.5%)	365

Table 1 Memory for Emotional Valence Items Across Conditions.

Note. Values represent the number and percentage of correct responses based on the number of valid responses within each condition. The number of valid responses varies across conditions because each condition contained either two or three target words from each valence category. Responses to target words reported as previously known in the exit questionnaire were also excluded from the analyses.

5.1. ITEM MEMORY

A GLMM revealed a significant main effect of emotional valence on item memory, F (1, 2873) = 7.319, p = .007. A significant main effect of processing condition was also observed, F (3, 2873) = 85.999, p < .001. Furthermore, a significant interaction was found between processing condition and emotional valence, F (3,2873) = 4.369, p = .004 (see Table 2).

SOURCE	*F*	*df1*	*df2*	*p*
Valence	7.319	1	2873	.007
Processing Conditions	85.999	3	2873	< .001
Conditions × Valence	4.369	3	2873	.004

Table 2 Fixed Effects of the GLMM for Item Memory.

5.1.1. Emotional valence

Pairwise comparisons revealed a significant difference between positive and negative valence conditions (p = .007, OR = 0.948) (see Table 3). Items with negative emotional valence were associated with higher odds of correct memory performance than items with positive emotional valence. These findings indicate that negative emotional valence significantly influenced item memory performance.

EMOTIONAL VALENCE	ESTIMATE	*SE*	*df*	*p*	*OR**	95% CONFIDENCE INTERVAL FOR DIFFERENCE	
						LOWER	UPPER
Positive–Negative	−0.053	0.019	2873	.007	0.948	−0.091	−0.015

Table 3 Emotional Valence and Item Memory.

Note. OR = Odds Ratio. OR values were calculated as e^(Estimate).

5.1.2. Processing conditions

Pairwise comparisons demonstrated significant differences between processing conditions (see Table 4).

PROCESSING CONDITIONS	ESTIMATE	*SE*	*df*	*p*	*OR**	95% CONFIDENCE INTERVAL FOR DIFFERENCE	
						LOWER	UPPER
Self-Familiar	0.345	0.025	2873	< .001	1.412	0.280	0.410
Self-Semantic	0.325	0.025	2873	< .001	1.384	0.261	0.390
Intimate-Familiar	0.273	0.025	2873	< .001	1.314	0.211	0.335
Intimate-Semantic	0.253	0.025	2873	< .001	1.288	0.193	0.314
Self-Intimate	0.072	0.026	2873	.013	1.075	0.013	0.131
Semantic-Familiar	0.020	0.023	2873	.392	1.020	−0.026	0.066

Table 4 Processing Condition and Item Memory.

Note. OR = Odds Ratio. OR values were calculated as e^(Estimate).

DOI: 10.22599/jesla.156

Memory performance for self-referenced words was significantly higher than for familiar-other-referenced words ($p < .001$, $OR = 1.412$), semantically related words ($p < .001$, $OR = 1.384$), and intimate-other-referenced words ($p = .013$, $OR = 1.075$). In addition, memory performance differed significantly between the intimate-other and familiar-other conditions ($p < .001$, $OR = 1.314$), as well as between the intimate-other and semantic conditions ($p < .001$, $OR = 1.288$). No significant difference was found between the familiar and semantic conditions ($p = .392$, $OR = 1.020$). Overall, these findings suggest a clear distinction between the personal investment conditions (self and intimate) and the non-personal investment conditions (familiar and semantic). Figure 1 illustrates these differences.

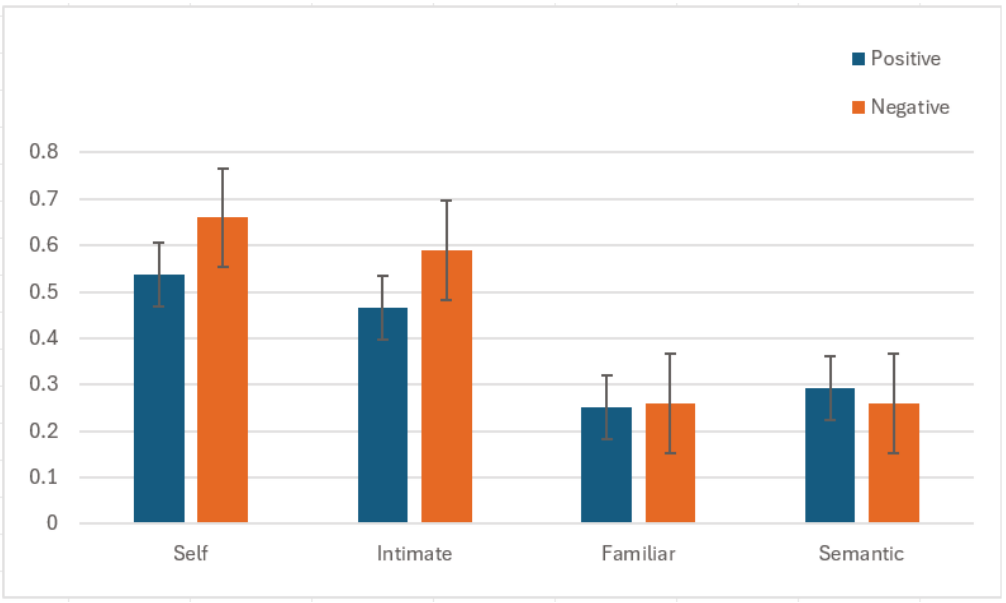


Figure 1 Emotional valence and processing conditions on item memory.

Note: Error bars represent 95% confidence intervals.

5.1.3. Emotional valence × processing condition

Follow-up post-hoc pairwise comparisons with Bonferroni adjustment were conducted to examine the effect of emotional valence within each processing condition. Negative-valence words showed higher item memory than positive-valence words in the personal investment conditions (self-reference, $p = .001$, $OR = 0.885$; intimate other-reference, $p = .001$, $OR = 0.885$) than in the non-personal investment conditions (familiar other-reference, $p = .821$, $OR = 0.993$; semantic reference, $p = .315$, $OR = 1.035$).

The impact of negative emotional valence on item memory differed considerably depending on the processing conditions (see Table 5 and Figure 1). This suggests that the effects of emotional valence were more pronounced in the personal investment conditions than in the non-personal investment conditions. Personal investment, thus, seems to have a substantial role in influencing the recall of emotionally valenced words. Overall, it seems clear that emotional valence is a key factor in establishing initial form-to-meaning connections, as well as promoting the effect of personal investment.

PROCESSING CONDITION	EMOTIONAL VALENCE	ESTIMATE	*SE*	*OR*	*p*	95% CONFIDENCE INTERVAL FOR DIFFERENCE	
						LOWER	UPPER
Self	Positive – Negative	−0.122	0.037	0.885	0.001	−0.194	−0.050
Intimate	Positive – Negative	−0.122	0.037	0.885	0.001	−0.195	−0.049
Familiar	Positive – Negative	−0.007	0.032	0.993	0.821	−0.071	0.056
Semantic	Positive – Negative	0.034	0.033	1.035	0.315	−0.032	0.099

Table 5 Emotional Valence × Processing Condition on Item Memory.

Note. OR = Odds Ratio. OR values were calculated as e^(Estimate).

5.2. SOURCE MEMORY

A GLMM revealed no significant main effect of emotional valence on source memory, F (1, 2856) = 2.453, $p = .117$. In contrast, a significant main effect of processing condition was observed, F (3, 2856) = 53.256, $p < .001$ and a significant interaction between processing condition and emotional valence was found, F (3, 2856) = 2.680, $p = .045$ (see Table 6).

DOI: 10.22599/jesla.156

SOURCE	*F*	*df1*	*df2*	*p*
Valence	2.453	1	2856	.117
Processing Conditions	53.256	3	2856	< .001
Conditions × Valence	2.680	3	2856	.045

Table 6 Fixed Effects of the GLMM for Source Memory.

5.2.1. Processing conditions

A pairwise comparison revealed significant differences in self-reference over both familiar reference ($p < .001$, $OR = 1.224$) and semantic reference ($p < .001$, $OR = 1.279$). Furthermore, a significant difference was observed between intimate and familiar references ($p < .001$, $OR = 1.228$) and between intimate and semantic references ($p < .001$, $OR = 1.283$). No significant differences were found between the self and intimate conditions ($p = .913$, $OR = 0.997$) or between the familiar and semantic conditions ($p = .090$, $OR = 0.957$). This result clearly shows variation between personal investment and non-personal investment conditions, as illustrated in Table 7 and Figure 2.

PROCESSING CONDITIONS	ESTIMATE	*SE*	*df*	*p*	*OR**	95% CONFIDENCE INTERVAL FOR DIFFERENCE	
						LOWER	UPPER
Self-Familiar	0.202	0.025	2856	< .001	1.224	0.143	0.262
Self-Semantic	0.264	0.024	2856	< .001	1.279	0.183	0.310
Intimate-Familiar	0.205	0.025	2856	< .001	1.228	0.143	0.267
Intimate-Semantic	0.249	0.024	2856	< .001	1.283	0.187	0.311
Self-Intimate	−0.003	0.027	2856	.913	0.997	−0.055	0.049
Semantic-Familiar	−0.044	0.022	2856	.090	0.957	−0.093	0.005

Table 7 Processing Condition and Source Memory.

Note. OR = Odds Ratio. OR values were calculated as e^(Estimate).

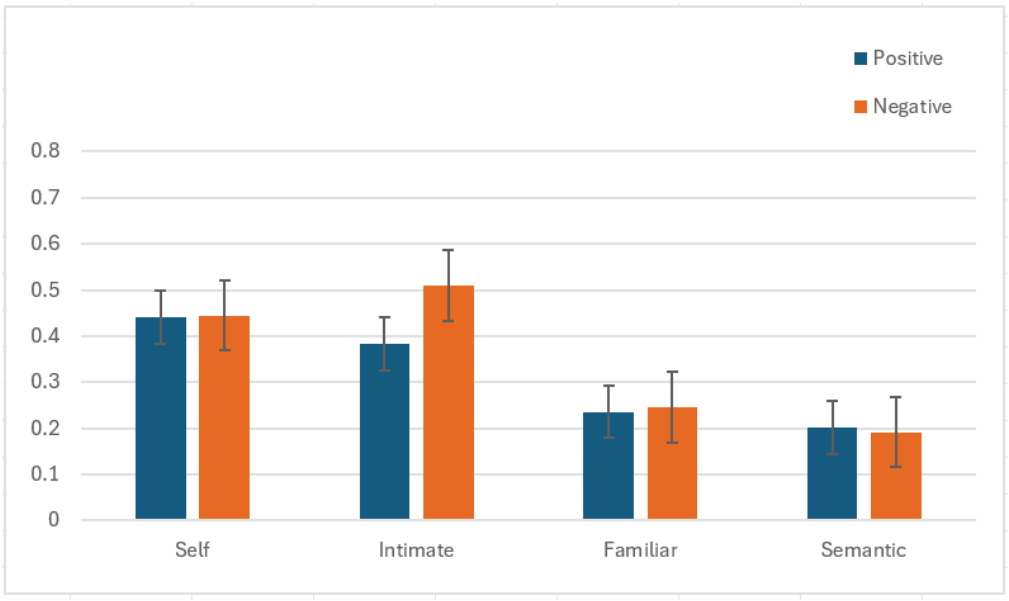


Figure 2 Emotional valence and processing conditions on source memory.

5.2.2. Emotional valence × processing condition

Follow-up Bonferroni-adjusted pairwise comparisons were conducted to examine the effect of emotional valence within each processing condition (Table 8 and Figure 2). The results indicated a significant difference between positive and negative words only in the intimate condition ($p = .001$, $OR = 0.881$). No significant differences between positive and negative words were observed in the self-reference ($p = .895$, $OR = 0.995$), familiar other ($p = .780$, $OR = 0.991$), or semantic ($p = .749$, $OR = 1.009$) conditions.

Figure 2 indicates that the difference between positive and negative emotional valence and its effect on source memory was minimal overall. However, the effect was most apparent for words processed in relation to an intimate other, where negative words processed with respect to one's mother were remembered slightly better than positive words. The impact

DOI: 10.22599/jesla.156

of emotional valence on source memory varied across processing conditions. As illustrated in Figure 2, differences between positive and negative words were generally small overall. These findings suggest that the influence of emotional valence on source memory depended on the processing condition, with the effect being most evident in the intimate condition.

Table 8 Emotional Valence × Processing Condition on Source Memory.

PROCESSING CONDITION	EMOTIONAL VALENCE	ESTIMATE	*SE*	*OR*	*p*	95% CONFIDENCE INTERVAL FOR DIFFERENCE	
						LOWER	UPPER
Self	Positive – Negative	−0.005	0.037	0.995	.895	−0.078	0.068
Intimate	Positive – Negative	−0.127	0.037	0.881	.001	−0.200	−0.054
Familiar	Positive – Negative	−0.009	0.032	0.991	.780	−0.073	0.055
Semantic	Positive – Negative	0.009	0.030	1.009	.749	−0.049	0.068

Note. OR = Odds Ratio. OR values were calculated as e^(Estimate).

6. DISCUSSION

The present study examined the impact of emotional valence on item and source memory in four different processing conditions. Results suggest that positive and negative valence differentially influenced memory for novel lexical items, but only when learners processed words with respect to themselves or an intimate other. Participants also tended to have better recall for negative words referenced to themselves and their mothers compared to positive words referenced to themselves and their mothers. However, recall was similar for positive and negative words referenced to a familiar other or a related word.

The first research question concerned whether item memory would differ between positive and negative words. Results revealed a significant main effect of emotional valence on item memory. However, this effect was qualified by a significant interaction with processing condition, indicating that the influence of emotional valence depended on how words were processed (see Table 5). These results are generally consistent with fMRI research, which suggests both positive and negative stimuli activate the amygdala and orbitofrontal cortex during processing and are encoded differently in the brain (Kensinger, 2009; LaBar & Cabeza, 2006; Slotnick, 2017). However, negative information elicits stronger activation in regions such as the middle occipital gyrus, resulting in more detailed sensory encoding (Steinmetz et al., 2010; Kensinger et al., 2011), whereas positive stimuli are associated with weaker amygdala connectivity and a lower degree of item-specific sensory processing (Steinmetz et al., 2010). Consequently, negative stimuli are more likely to be remembered with vivid sensory detail (Kensinger & Choi, 2009; Sakaki et al., 2011). The present study suggests that these effects might be moderated by condition, with personally relevant information being processed differently than information processed non-personally, and with the type of processing impacting whether emotional stimuli influence what is attended to and how new information is encoded and consolidated in memory (Holland & Kensinger, 2013; Lambert, 2023b). Further fMRI research is needed to identify possible neural correlates of personal investment.

The second research question related to whether the type of processing would impact item memory. Results indicated that participants recalled the meaning of novel trait adjectives when they were processed in the personal investment conditions (self, intimate) better than in the non-personal investment conditions (familiar, semantic) (see Table 4). This result aligns with the Motivated Attention Model, which posits that personally salient stimuli might increase individuals' attention, perception, and processing (Lang, 2000) as well as previous research findings of the self-referential effect on memory for personality traits (Kim et al., 2022; Qahl & Lambert, 2025, 2026) and the effect of personal investment in the form of learner-generated content on memory for lexical items (Lambert, Gong & Zhang, 2023) and discourse (Lambert & Aubrey, 2025) in additional languages.

The third research question addressed whether the effects of emotional valence and processing conditions on item memory would interact. Results indicated that the effects of emotional valence were moderated by processing conditions. Negative emotional valence was associated with better item memory within personal investment conditions (self, intimate), as opposed to non-personal investment conditions (familiar, semantic) (see Table 5 and Figure 1). These results are consistent with recent neuroscience research on brain activation during the encoding

DOI: 10.22599/jesla.156

of positive and negative information discussed in relation to Research Question 1 (Kensinger, 2009; LaBar & Cabeza, 2006; Slotnick, 2017). However, they are inconsistent with arguments in previous educational research (Durbin et al., 2017; Symons & Johnson, 1997) which hypothesized that individuals will retain positive information better than negative information when processing information with reference to the self. This inconsistency suggests that emotional valence effects on memory may be more context-dependent than previously assumed.

A possible explanation for the observed impact of negative emotional valence is that negative words capture learners' attention more than positive words (Fox et al., 2001; Ohman & Mineka, 2001). This is in line with the recent argument that exposure to emotionally salient stimuli during task performance can influence information processing, encoding, and memory consolidation for future retrieval (Holland & Kensinger, 2013; Lambert, 2023b). Another explanation is that negative information may undergo a form of suppression (Erdelyi, 1974), indicating that the impact of a negative experience is unforgettable. This process is often referred to as motivational processing of information, suggesting that affective processing modulates domain-general sensory and mnemonic processes (Holland & Kensinger, 2013). Thus, these findings suggest that learners' affective states and responses to emotional stimuli and task conditions can meaningfully influence the L2 learning process.

Research questions 4–6 examined whether emotional valence and processing condition impact source memory and whether there are potential interactions between these factors. Emotional valence had no significant effects on source memory overall, suggesting that the emotional content of learned words may play a more limited role in remembering the contextual details associated with their encoding. However, processing condition significantly impacted source memory (see Table 7). Participants showed better source memory when lexical items were processed with personal investment (i.e., referenced to self and an intimate other) than when they were processed with no personal investment (i.e., referenced to familiar others or related words). This finding extends previous research on the mnemonic benefits of self-referential and personally relevant encoding by demonstrating that personal investment also facilitates memory for the contextual characteristics of L2 lexical items.

A significant interaction between emotional valence and processing condition indicated that the effect of emotional valence varied across processing conditions. Post-hoc comparisons revealed that negative words produced significantly better source memory than positive words only in the intimate-other condition, whereas no significant valence differences were observed in the self, familiar-other, or semantic conditions (see Figure 2 and Table 8). This pattern was less consistent than that observed for item memory. The interaction was driven by a valence difference that was significant in the intimate-other condition, whereas no corresponding differences were found in the self, familiar-other, or semantic conditions, suggesting that the influence of emotional valence on source memory is not universal but depends on the nature of the encoding context.

One possible explanation for this condition-specific effect of emotional valence on source memory is that remembering source information may require more elaborate encoding and retrieval processes than remembering the lexical item itself, making source memory less consistently influenced by emotional valence. The finding that emotional valence influenced source memory only in the intimate-other condition, therefore, indicates that personal investment may play a stronger and more reliable role than emotional valence in supporting source memory during the earliest stages of L2 lexical acquisition. However, the mechanisms underlying this interaction remain unclear. Further research is needed to investigate the neural correlates of personal investment during the processing of positive and negative information and how these mechanisms influence source memory during the earliest stages of L2 lexical acquisition.

7. PEDAGOGIC IMPLICATIONS

This study suggests that the relationship between affective responses and memory is likely to at least partially depend on learners' personal investment in the content of instructional tasks. The results suggest that linking emotionally salient stimuli to learners' personal experiences may influence attention and memory for new lexical items. Designing pedagogical tasks that enhance personal investment might improve memory retention for novel L2 lexical items – at least under intentional learning conditions. Instructional designs should thus consider both

DOI: 10.22599/jesla.156

cognitive and affective processes in developing and implementing materials, as these elements are closely interconnected in facilitating effective L2 learning. Some practical approaches involve designing tasks that foster personal investment by allowing learners to supply content that is meaningful to them. This might involve personally meaningful photographs (Lambert, Gong, & Zhang, 2023; MacIntyre & Wang, 2021), personal narratives (Lambert et al., 2017), personal recommendations (Lambert & Aubrey, 2025), or personal values (Lambert & Zhang, 2019). Furthermore, designing tasks that enhance learners' perceptions of task value, by providing choice, autonomy, achievable challenges, and opportunities for interaction, can promote positive emotions, engagement, and confidence (Hiver & Dao, 2025; Phung, 2017; Soongpankhao et al., 2023). By combining emotional valence with personal investment in task design, educators may be able to support both L2 lexical acquisition and learner motivation.

8. LIMITATIONS AND FUTURE RESEARCH

The present study is limited to establishing the influence of the stimulus on affective response during the intentional learning condition (for recent examples, see Hiver & Dao, 2025; Lambert & Aubrey, 2025). Future research should examine the impact of emotional valence during incidental learning tasks. It would also be interesting to consider these effects longitudinally.

A further limitation of the present study is the absence of a delayed post-test. Consequently, the findings are limited to the earliest stages of vocabulary acquisition and do not indicate whether the observed effects would be maintained over longer retention intervals. Future research should therefore include delayed measures to examine the long-term retention of learned lexical items.

In addition, the present study assessed vocabulary learning solely through meaning recall. Although meaning knowledge represents a fundamental component of the earliest stages of lexical acquisition (Nation, 2022; Schmitt, 2010), the study did not examine learners' retention of lexical form or the development of other aspects of vocabulary knowledge. Future research should therefore investigate whether emotional valence and personal investment similarly influence the acquisition and retention of word form and other dimensions of lexical knowledge.

Another avenue for future research may involve monitoring learners' psychophysiological responses, such as in processing positive and negative words as well as words in personal investment and non-personal investment conditions (Lambert, 2023b). In addition, our study was conducted with a homogeneous sample of Saudi female learners who were of a similar age, had similar educational backgrounds, and had relatively low levels of foreign language proficiency (CEFR A2). Further research is needed to determine whether the findings reported in this article generalize to more diverse populations and to learners with higher proficiency levels. The absence of a neutral baseline may also limit the ability to compare emotional effects with those of non-emotional stimuli. A further limitation of the present study is the relatively small number of target items. With only two or three items per valence category within each condition, statistical power at the item level is limited. Consequently, future research should include a larger set of lexical items.

Finally, although the target words were matched for syllable length and showed no significant differences in frequency across valence conditions, other lexical properties such as concreteness were not systematically controlled. Consequently, it cannot be fully determined whether the observed effects are attributable solely to emotional valence or whether they may partly reflect inherent differences among the lexical items. Future research should therefore ensure that stimuli are matched across a broader range of lexical variables to isolate the effects of emotional valence with greater precision.

9. CONCLUSION

The present study highlights the importance of personal investment in understanding how emotional valence shapes the early stages of L2 lexical acquisition. The findings suggest that the advantage associated with emotional valence is not consistent across processing conditions but depends on the personal relevance of the context in which new lexical items are encoded. In particular, the stronger recall of negative words under conditions involving the self and an intimate other suggests that emotional information may receive enhanced processing when

connected to personally meaningful representations. This pattern extends our understanding of emotional word processing in an L2 by demonstrating that emotional valence and personal investment interact in shaping lexical memory. From a pedagogical perspective, the findings suggest potential value in designing vocabulary-learning activities that connect new lexical items to personally meaningful contexts while taking into account their emotional valence. More broadly, the study highlights the need to consider the interplay between emotional and personally relevant processing when explaining how new words are encoded and remembered in an additional language.

ADDITIONAL FILE

The additional file for this article can be found as follows:

- **Appendices.** Appendix A to E. DOI: https://doi.org/10.22599/jesla.156.s1

AUTHOR AFFILIATIONS

Taghreed Qahl orcid.org/0009-0005-0438-8617
Independent Researcher, Jeddah, Saudi Arabia
Craig Lambert orcid.org/0000-0001-6017-1336
Associate Professor of Applied Linguistics and TESOL, School of Education, Curtin University, Australia

REFERENCES

Adolphs, S., & **Schmitt, N.** (2003). Lexical coverage of spoken discourse. *Applied linguistics*, *24*(4), 425–438. https://doi.org/10.1093/applin/24.4.425

Axelsson, E. L., Dawson, R. L., Yim, S. Y., & **Quddus, T.** (2018). Mine, mine, mine: Self-reference and children's retention of novel words. *Frontiers in Psychology*, *9*, 958. https://doi.org/10.3389/fpsyg.2018.00958

Bolker, B. M., Brooks, M. E., Clark, C. J., Geange, S. W., Poulsen, J. R., Stevens, M. H. H., & **White, J. S. S.** (2009). Generalized linear mixed models: A practical guide for ecology and evolution. *Trends in Ecology & Evolution*, *24*(3), 127–135 https://doi.org/10.1016/j.tree.2008.10.008

Cahill, L., Haier, R. J., Fallon, J., Alkire, M. T., Tang, C., Keator, D., Wu, J., & **McGaugh, J. L.** (1996). Amygdala activity at encoding correlated with long-term, free recall of emotional information. *Proceedings of the National Academy of Sciences*, *93*(15), 8016–8021. https://doi.org/10.1073/pnas.93.15.8016

Council of Europe. (2001). *The Common European framework of reference for languages: Learning, teaching and assessment*. Cambridge University Press.

Cunningham, S. J., Scott, L., Hutchison, J., Ross, J., & **Martin, D.** (2018). Applying self-processing biases in education: Improving learning through ownership. *Journal of Applied Research in Memory and Cognition*, *7*(3), 342–351. https://doi.org/10.1016/j.jarmac.2018.04.004

d'Ailly, H. H., Simpson, J., & **MacKinnon, G.** (1997). Where should "you" go in a math compare problem? *Journal of Educational Psychology*, *89*(3), 562–567. https://doi.org/10.1037/0022-0663.89.3.562

D'Argembeau, A., & **Van der Linden, M.** (2008). Remembering pride and shame: self-enhancement and the phenomenology of autobiographical memory. *Memory (Hove)*, *16*(5), 538–547. https://doi.org/10.1080/09658210802010463

Darvin, R., & **Norton, B.** (2015). Identity and a model of investment in applied linguistics. *Annual review of applied linguistics*, *35*, 36–56. https://doi.org/10.1017/S0267190514000191

Deconinck, J., Boers, F., & **Eyckmans, J.** (2017). 'Does the form of this word fit its meaning?' The effect of learner-generated mapping elaborations on L2 word recall. *Language Teaching Research*, *21*(1), 31–53. https://doi.org/10.1177/1362168815614048

Dewaele, J.-M., & **Li, C.** (2020). Emotions in second language acquisition: a critical review and research agenda. *Foreign Language World*, *196*(1), 34–49. https://eprints.bbk.ac.uk/id/eprint/3279

Dodds, P. S., Clark, E. M., Desu, S., Frank, M. R., Reagan, A. J., Williams, J. R., Mitchell, L., Harris, K. D., Kloumann, I. M., Bagrow, J. P., Megerdoomian, K., McMahon, M. T., Tivnan, B. F., & **Danforth, C. M.** (2015). Human language reveals a universal positivity bias. *Proceedings of the National Academy of Sciences*, *112*(8), 2389–2394. https://doi.org/10.1073/pnas.1411678112

Dong, Y., Mak, M. H., Hepach, R., & **Nation, K.** (2025). Learning new words via reading: The influence of emotional narrative context on learning novel adjectives. *Quarterly Journal of Experimental Psychology*, *78*(10), 2167–2180. https://doi.org/10.1177/17470218241308221

Dörnyei, Z. (2005). Individual Differences in Second Language Acquisition. *AILA Review*, *19*, 42–68. https://doi.org/10.1075/aila.19.05dor.

Durbin, K. A., Mitchell, K. J., & **Johnson, M. K.** (2017). Source memory that encoding was self-referential: the influence of stimulus characteristics. *Memory*, *25*(9), 1191–1200. https://doi.org/10.1080/09658211.2017.1282517

Ellis, R., Skehan, P., Li, S., Shintani, N., & **Lambert, C.** (2020). *Task-based language teaching: Theory and practice*. Cambridge University Press. https://doi.org/10.1017/9781108643689

Erdelyi, M. H. (1974). A new look at the new look: Perceptual defense and vigilance. *Psychological Review*, *81*(1), 1–25. https://doi.org/10.1037/h0035852

Estes, Z., & **Verges, M.** (2008). Freeze or flee? Negative stimuli elicit selective responding. *Cognition*, *108*(2), 557–565. https://doi.org/10.1016/j.cognition.2008.03.003

Fox, E., Russo, R., Bowles, R., & **Dutton, K.** (2001). Do threatening stimuli draw or hold visual attention in subclinical anxiety? *Journal of Experimental Psychology. General*, *130*(4), 681–700. https://doi.org/10.1037/0096-3445.130.4.681

Frenzel, A. C., Thrash, T. M., Pekrun, R., & **Goetz, T.** (2007). Achievement emotions in Germany and China: a cross-cultural validation of the academic emotions questionnaire—mathematics. *Journal of cross-cultural psychology*, *38*(3), 302–309. https://doi.org/10.1177/0022022107300276

Hamami, A., Serbun, S. J., & **Gutchess, A. H.** (2011). Self-referencing enhances memory specificity with age. *Psychology and Aging*, *26*(3), 636–646. https://doi.org/10.1037/a0022626

Hamann, S. (2001). Cognitive and neural mechanisms of emotional memory. *Trends in cognitive sciences*, *5*(9), 394–400. https://doi.org/10.1016/S1364-6613(00)01707-1

He, L., Han, W., & **Shi, Z.** (2021). Self-reference effect induced by self-cues presented during retrieval. *Frontiers in Psychology*, *12*, 562359. https://doi.org/10.3389/fpsyg.2021.562359

Hermans, E. J., Battaglia, F. P., Atsak, P., de Voogd, L. D., Fernández, G., & **Roozendaal, B.** (2014). How the amygdala affects emotional memory by altering brain network properties. *Neurobiology of learning and memory*, *112*, 2–16.https://doi.org/10.1016/j.nlm.2014.02.005

Hiver, P., & **Dao, P.** (2025). From task motivation to L2 learning: Understanding links through learners' task engagement. *TESOL Quarterly*, *59*, S24–S59. https://doi.org/10.1002/tesq.3410

Hofmann, M. J., Kuchinke, L., Tamm, S., Võ, M. L.-H., & **Jacobs, A. M.** (2009). Affective processing within 1/10th of a second: High arousal is necessary for early facilitative processing of negative but not positive words. *Cognitive, Affective & Behavioral Neuroscience*, *9*(4), 389–397. https://doi.org/10.3758/CABN.9.4.389

Holland, A., & **Kensinger, E.** (2013). Emotion in episodic memory: the effects of emotional content, emotional state and motivational goals. In J. Armony & P. Vuilleumier (Eds), *The Cambridge handbook of human affective neuroscience* (pp. 465–488). Cambridge University Press. https://doi.org/10.1017/CBO9780511843716.025

Horstmann, G., & **Bauland, A.** (2006). Search asymmetries with real faces: Testing the anger-superiority effect. *Emotion*, *6*(2), 193–207. https://doi.org/10.1037/1528-3542.6.2.193

Johnson, M. K., Hashtroudi, S., & **Lindsay, D. S.** (1993). Source monitoring. *Psychological Bulletin*, *114*(1), 3–28. https://doi.org/10.1037/0033-2909.114.1.3

Kahan, T. L., & **Johnson, M. K.** (1992). Self effects in memory for personal information. *Social Cognition*, *10*(1), 30–50. https://doi.org/10.1521/soco.1992.10.1.30

Kensinger, E. A. (2009). Remembering the details: effects of emotion. *Emotion review*, *1*(2), 99–113. https://doi.org/10.1177/1754073908100432

Kensinger, E. A., Addis, D. R., & **Atapattu, R. K.** (2011). Amygdala activity at encoding corresponds with memory vividness and with memory for select episodic details. *Neuropsychologia*, *49*(4), 663–673. https://doi.org/10.1016/j.neuropsychologia.2011.01.017

Kensinger, E. A., & **Choi, E. S.** (2009). When side matters: Hemispheric processing and the visual specificity of emotional memories. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *35*(1), 247. https://doi.org/10.1037/a0013414

Kim, K., Banquer, A. M., Resnik, S. N., Johnson, J. D., & **Fernandez, L.** (2022). Self-reference and cognitive effort: source memory for affectively neutral information is impaired following negative compared to positive self-referential processing. *Journal of cognitive psychology*, *34*(7), 833–845. https://doi.org/10.1080/20445911.2022.2067553

Ku, H.-Y., & **Sullivan, H. J.** (2002). Student performance and attitudes using personalized mathematics instruction. *Educational Technology Research and Development*, *50*(1), 21–34. https://doi.org/10.1007/BF02504959

Kucirkova, N., Messer, D., & **Sheehy, K.** (2014). The effects of personalisation on young children's spontaneous speech during shared book reading. *Journal of Pragmatics*, *71*, 45–55. https://doi.org/10.1016/j.pragma.2014.07.007

LaBar, K. S., & **Cabeza, R.** (2006). Cognitive neuroscience of emotional memory. *Nature Reviews Neuroscience*, *7*(1), 54–64. https://doi.org/10.1038/nrn1825

Lambert, C. (2002). Task sequencing and affective performance variables. *Kitakyushu University Faculty of Foreign Studies Bulletin*, *103*, 97–175.

Lambert, C. (2023a). Personal investment. In C. Lambert, S. Aubrey, & G. Bui, (Eds.), *The role of the learner in task-based language teaching: Theory and research methods*. Routledge. https://doi.org/10.4324/9781003227267

Lambert, C. (2023b). Psychophysiological methods. In C. Lambert, S. Aubrey, & G. Bui, (Eds.), *The role of the learner in task-based language teaching: Theory and research methods* (pp. 156–176). Routledge. https://doi.org/10.4324/9781003227267-13

Lambert, C. (2025). Neural correlates of task-specific willingness to communicate: Expanding the research agenda. *TESOL Quarterly*, *59*, S150–S160. https://doi.org/10.1002/tesq.3395

Lambert, C., & **Aubrey, S.** (2025). Learner-generated content, task engagement, affective response, and memory on technology-mediated interactive tasks. *Studies in Second Language Learning and Teaching*, *15*(3), 479–500. https://doi.org/10.14746/ssllt.42079

Lambert, C., Aubrey, S. & **Bui, G.** (2023). *The role of the learner in task-based language teaching: Theory and research methods*. Routledge. https://doi.org/10.4324/9781003227267

Lambert, C., Gong, Q., & **Zhang, G.** (2023). Learner-generated content and the lexical recall of beginning-level learners of Chinese as a foreign language. *Language Teaching Research*, *27*(4), 800–819. https://doi.org/10.1177/1362168820981407

Lambert, C., Philp, J., & **Nakamura, S.** (2017). Learner-generated content and engagement in second language task performance. *Language Teaching Research*, *21*(6), 665–680. https://doi.org/10.1177/1362168816683559

Lambert, C., & **Zhang, G.** (2019). Engagement in the use of English and Chinese as foreign languages: The role of learner-generated content in instructional task design. *The Modern Language Journal*, *103*(2), 391–411. https://doi.org/10.1111/modl.12560

Lang, P. J. (2000). Emotion and motivation: Attention, perception, and action. *Journal of Sport and Exercise Psychology*, *22*(s1), S122–S140. https://doi.org/10.1123/jsep.22.s1.s122

Leshikar, E. D., Park, J. M., & **Gutchess, A. H.** (2015). Similarity to the self affects memory for impressions of others in younger and older adults. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *70*(5), 737–742. https://doi.org/10.1093/geronb/gbt132

Li, E., Xiao, F., Zou, T., & **Guo, J.** (2021). Positive emotion of self-referential contexts could facilitate adult's novel word learning: An fNIRS study. *Brain and Language*, *221*, 104994. https://doi.org/10.1016/j.bandl.2021.104994

MacIntyre, P. D., & **Wang, L.** (2021). Willingness to communicate in the L2 about meaningful photos: Application of the pyramid model of WTC. *Language Teaching Research*, *25*(6), 878–898. https://doi.org/10.1177/13621688211004645

Maehr, M. L. (1984). Meaning and motivation: Toward a theory of personal investment. In C. Ames & R. Ames (Eds.), *Research on motivation in education: Vol. 1. Student motivation* (pp. 115–144). Academic Press.

Mayer, R. E., Fennell, S., Farmer, L., & **Campbell, J.** (2004). A personalization effect in multimedia learning: students learn better when words are in conversational style rather than formal style. *Journal of Educational Psychology*, *96*(2), 389–395. https://psycnet.apa.org/doi/10.1037/0022-0663.96.2.389

Nasrallah, M., & **Carmel, D.** (2009). Murder, she wrote: Enhanced sensitivity to negative word valence. *Emotion*, *9*(5), 609–618. https://doi.org/10.1037/a0016305

Nation, I. S. P. (2022). *Learning Vocabulary in Another Language*. Cambridge University Press. https://doi.org/10.1017/9781009093873

Ohman, A., & **Mineka, S.** (2001). Fears, phobias, and preparedness: toward an evolved module of fear and fear learning. *Psychological review*, *108*(3), 483. https://doi.org/10.1037//0033-295X.108.3.483

Ortega, L. (2009). *Understanding Second Language Acquisition*. Routledge. https://doi.org/10.4324/9780203777282

Pavlenko, A. (2008). Structural and conceptual equivalence in the acquisition and use of emotion words in a second language. *The Mental Lexicon*, *3*(1), 92–121. https://doi.org/10.1075/ml.3.1.07pav

Pereira, D. R., Sampaio, A., & **Pinheiro, A. P.** (2021). Interactions of emotion and self-reference in source memory: An ERP study. *Cognitive, Affective, and Behavioral Neuroscience*, *21*(1), 172–190. https://doi.org/10.3758/s13415-020-00858-6

Phelps, E. A. (2004). Human emotion and memory: interactions of the amygdala and hippocampal complex. *Current opinion in neurobiology*, *14*(2), 198–202. https://doi.org/10.1016/j.conb.2004.03.015

Phung, L. (2017). Task preference, affective response, and engagement in L2 use in a US university context. *Language Teaching Research*, *21*(6), 751–766. https://doi.org/10.1177/1362168816683561

Pinkham, A. E., Griffin, M., Baron, R., Sasson, N. J., & **Gur, R. C.** (2010). The face in the crowd effect: Anger superiority when using real faces and multiple identities. *Emotion*, *10*(2), 141–146. https://doi.org/10.1037/a0017387

Ponari, M., Norbury, C. F., & **Vigliocco, G.** (2020). The role of emotional valence in learning novel abstract concepts. *Developmental Psychology*, *56*(10), 1855. https://doi.org/10.1037/dev0001091

Qahl, T., & **Lambert, C.** (2025). Personal investment in language processing: The role of self-reference in initial lexical acquisition. *TESOL Quarterly*, *59*, S60–S87. https://doi.org/10.1002/tesq.3402

Qahl, T., & **Lambert, C.** (2026). State self-esteem, personal investment and initial L2 lexical acquisition. *Language Teaching Research*, online first. https://doi.org/10.1177/13621688261479331

Rogers, T. B. (1977). Self-reference in memory: Recognition of personality items. *Journal of Research in Personality*, *11*(3), 295–305. https://doi.org/10.1016/0092-6566(77)90038-1

Sakaki, M., Gorlick, M. A., & **Mather, M.** (2011). Differential interference effects of negative emotional states on subsequent semantic and perceptual processing. *Emotion*, *11*(6), 1263. https://psycnet.apa.org/doi/10.1037/a0026329

Schmitt, N. (2008). Instructed second language vocabulary learning. *Language Teaching Research*, *12*(3), 329–363. https://doi.org/10.1177/1362168808089921

Schmitt, N. (2010). *Researching vocabulary: A Vocabulary Research Manual*. Palgrave Macmillan. https://doi.org/10.1057/9780230293977

Sedikides, C., & **Green, J. D.** (2009). Memory as a Self-Protective Mechanism. *Social And Personality Psychology Compass*, *3*(6), 1055–1068. https://doi.org/10.1111/j.1751-9004.2009.00220.x

Serbun, S. J., Shih, J. Y., & **Gutchess, A. H.** (2011). Memory for details with self-referencing. *Memory*, *19*(8), 1004–1014. https://doi.org/10.1080/09658211.2011.626429

Shao, K., Pekrun, R., & **Nicholson, L. J.** (2019). Emotions in classroom language learning: What can we learn from achievement emotion research? *System*, *86*, 102121. https://doi.org/10.1016/j.system.2019.102121

Sinatra, A. M., Sottilare, R. A., & **Sims, V. K.** (2016). The effects of self-reference and context personalization on task performance during adaptive instruction. *Proceedings of the Human Factors and Ergonomics Society*, *60*(1), 398–402. https://doi.org/10.1177/1541931213601090

Slotnick, S. D. (2017). Cluster success: fMRI inferences for spatial extent have acceptable false-positive rates. *Cognitive Neuroscience*, *8*(3), 150–155. https://doi.org/10.1080/17588928.2017.1319350

Soongpankhao, W., Aubrey, S., & **Lambert, C.** (2023). The impact of goal-tracking on engagement in language use in an online TBLT module for Thai university students. *System*, *119*, first view. https://doi.org/10.1016/j.system.2023.103184

Squire, L. R., & **Kandel, E. R.** (2009). *Memory: From mind to molecules* (2nd ed.). Roberts and Company Publishers.

Steinmetz, P. R. H., Urbach, R., Posnien, N., Eriksson, J., Kostyuchenko, R. P., Brena, C., Guy, K., Akam, M., Bucher, G., & **Arendt, D.** (2010). Six3 demarcates the anterior-most developing brain region in bilaterian animals. *EvoDevo*, *1*, Article 14. https://doi.org/10.1186/2041-9139-1-14

Sweatman, H., Lawrence, R., & **Chai, X. J.** (2022). Development of self-referential effect on memory recollection. *Child Development*, *93*(6), 1848–1859. https://doi.org/10.1111/cdev.13826

Symons, C. S., & **Johnson, B. T.** (1997). The self-reference effect in memory: a meta-analysis. *Psychological Bulletin*, *121*(3), 371–394. https://doi.org/10.1037/0033-2909.121.3.371

Tringali, A. E., & **Huff, M. J.** (2025). Critical lure source details are "correctly" attributed to both directly related and mediated lists. *Frontiers in Psychology*, *16*, 1529070. https://doi.org/10.3389/fpsyg.2025.1529070

Truong, T., & **Lambert, C.** (2025). Learner-generated content and teachers collaborative planning on using memes in English as a Foreign language instruction. *TESOL Quarterly*, *59*(S2), S161–S172. https://doi.org/10.1002/tesq.3398

Tulving, E. (1986). Episodic and semantic memory: Where should we go from here? The *Behavioral and Brain Sciences*, *9*(3), 573–577. https://doi.org/10.1017/S0140525X00047257

Turk, D. J., Cunningham, S. J., & **Macrae, C. N.** (2008). Self-memory biases in explicit and incidental encoding of trait adjectives. *Consciousness and Cognition*, *17*(3), 1040–1045. https://doi.org/10.1016/j.concog.2008.02.004

Webb, S. (2007). Learning word pairs and glossed sentences: the effects of a single context on vocabulary knowledge. *Language Teaching Research*, *11*(1), 63–81. https://doi.org/10.1177/1362168806072463

Webb, S. (Ed.). (2020). *The Routledge handbook of vocabulary studies*. Routledge. https://doi.org/10.4324/9780429291586

Yin, X., Ma, Y., Xu, X., & **Yang, H.** (2019). The effect of self-referencing on memory for different kinds of source information. *Memory*, *27*(4), 519–527. https://doi.org/10.1080/09658211.2018.1532009

TO CITE THIS ARTICLE:
Qahl, T., & Lambert, C. (2026). Emotional Valence, Personal Investment and Initial Lexical Acquisition. *Journal of the European Second Language Association*, 10(1), 181–197. DOI: https://doi.org/10.22599/jesla.156

Submitted: 03 November 2025
Accepted: 14 September 2026
Published: 13 November 2026

COPYRIGHT:
© 2026 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See https://creativecommons.org/licenses/by/4.0/.

Journal of the European Second Language Association, is a peer-reviewed open access journal published by White Rose University Press.

WHITE ROSE UNIVERSITY PRESS
Universities of Leeds, Sheffield & York