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RESEARCH TIMELINE

Language learning and emotion

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Language learning can be very emotional, as anyone who has ever tried to learn or use another language (L2) will attest. The range of emotions[1] varies widely in both type and intensity, from the thrill of successfully articulating yourself, for example, to the anxiety of navigating a high-stakes encounter in an L2. It is not surprising, therefore, that there is a longstanding tradition of research on emotion in the context of L2 learning (e.g., Horwitz et al., 1986). In fact, more than 40 years ago, Scovel (1978)[2] reviewed the accumulated evidence on the role of just one emotion: Anxiety.

In the decades since Scovel's (1978) review, interest in anxiety and other emotions has expanded and advanced in many respects. Evidence of such advances can be observed quite prominently in any one of the many reviews that have sought to synthesize and/or catalyze different facets of this domain. Horwitz's (2010) timeline provided a particularly useful vantage on the theoretical and empirical trajectory of work on anxiety in the context of L2 learning (For more cumulative and quantitatively oriented angles on this body of work, see Botes et al., 2020; Teimouri et al., 2019*; Zhang, 2019). In one respect, the timeline we present in this paper picks up where Horwitz left off; each entry appears after 2010.

That we have chosen such an abbreviated span of time to focus on speaks to the accelerated nature of activities of late in this domain. However, we have also taken on a scope that is broader than that of Horwitz (2010), focusing not only on anxiety but also on the full spectrum[3] of emotions investigated in relation to L2 development. This choice should likewise be taken as telling in terms of where this domain has been headed and the recent trajectory we seek to chronicle in this paper.[4]

One such direction—perhaps the most visible in this timeline—has been the introduction and expansion into what is widely known as 'positive psychology' (e.g., Budzińska & Majchrzak, 2021;

[1]Like many other constructs central to the field, there is no single or agreed-upon definition of emotion in applied linguistics. We have found to be useful and, therefore, present here a slightly adapted version of the working definition put forth by Mulligan and Scherer (2012, p. 346), which holds that emotions (a) are comprised of affective episodes, (b) possess intentionality and can be directed, (c) contain 'a perceptual or intellectual episode… which has the property of intentionality', and (d) are both triggered and guided by at least one appraisal. Although we find this definition to be compelling on theoretical grounds, we welcome and encourage others to consider how it may or may not take root in different subdomains of applied linguistics, through counter-proposals, expansions, and refinements.

[2]As a point of reference, this is two years prior to the founding of the journal *Applied Linguistics* and only one year after the founding of the American Association for Applied Linguistics (AAAL).

*Indicates full reference appears in the subsequent timeline.

[3]We would like to note that the intentional use of the term 'spectrum' here is not limited to a single continuum from negative to positive but, rather, to a wide range of emotions that vary in their qualities, valences, functions, and quantities in any given L2 learner or user. We thank a thoughtful but anonymous reviewer for reminding us of this view.

[4]The narrow scope we apply meant, unfortunately, having to exclude certain adjacent domains such as emotions among language teachers (e.g., MacIntyre et al., 2020; Mercer & Gregersen, 2020; Sudina et al., 2021) and the processing and storage of emotional language in the bilingual lexicon (e.g., Pavlenko, 2008, 2012) among others. Despite the constraints we imposed on our scope of interest, we did not limit our search to any particular subdomains of applied linguistics; that is, any events or works that focused on emotion and L2 learning were eligible for inclusion. Likewise, no methodological constraints were imposed either.

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Gkonou et al., 2016; MacIntyre & Gregersen, 2012*; MacIntyre et al., 2016, 2019; Wang et al., 2021). The embracing of positive psychology within applied linguistics represents not only a shift from the otherwise almost exclusive interest in anxiety, viewed by some as the 'fraternal twin of depression'—that is, a generally negative emotion. The current era has also undergone a massive expansion in the range of emotions under investigation. These include joy, love, and pride among many others. We should also note that the expansion of theoretical and conceptual territory, though largely positive, has also seen the introduction of less pleasant—at least for some—emotions as well such as shame, guilt, and boredom. Entries in our timeline that indicate a particular or novel focus on THEORY, whether empirical or purely conceptual in nature, are marked with **Th**; **PP** will be used for those that include one or more constructs associated with POSITIVE PSYCHOLOGY.

Accompanying and complementary to the field's expansion in the realm of theory and the introduction of many new constructs is an increased interest in the methodological issues. In many ways, this development is reflective of a broader move taking place throughout applied linguistics (see Gass et al., 2021; Marsden & Plonsky, 2018; Plonsky, 2021). However, a number of advances particular to the domain of emotion and individual differences can also be observed. One such change is an acute interest in developing new scales and in assessing the psychometric properties thereof. Although some early works did concern themselves with different facets of validity (e.g., Daly & Miller, 1975) and measurement quality more generally, the field has taken great strides in recent years as exhibited, for example, in the use of several more advanced quantitative techniques that often involve latent variable modeling such as structural equation modeling (SEM). Greater sophistication is not always necessary and carries with it a number of potential drawbacks such as interpretability. However, considering the largely latent (not directly observable) nature of emotional variables and the quantitative approach undertaken by most studies in this domain, we view this move as a sign of progress. At the same time, as demonstrated quite compellingly in Sudina's (2021) methodological synthesis, there is still a lot of room for improvement in terms of methods, measurement, and transparency/reporting in this domain. Entries in our timeline that exemplify or illustrate advances in METHODS AND MEASUREMENT are marked with **MM**.

In a similar but distinct vein, emotion researchers have also begun to engage with OPEN SCIENCE practices such as making their data and/or instruments publicly available. Simple steps such as these facilitate re-analysis, replication, and researcher training. They can also help build trust in study-level inferences (Marsden & Plonsky, 2018). We recognize examples of individual and collective efforts to practice open science by marking them with **OS** in the timeline below.

In addition to theoretical and methodological advances, research on emotion has ventured into new territory on at least two other fronts. The first concerns the role of emotion or, seen from another point of view, the goal of the research on emotion. Research in this domain has historically examined emotion in relation to or as a predictor/correlate of L2 achievement or some aspect of performance. A number of recent studies, however, have begun to employ experimental manipulations to induce learner emotions and/or to shed light on the effects of emotion on learning. Evidence in this line of inquiry, though tentative, appears promising in its ability to contribute to theoretical as well as more practical realms.[5] Furthermore, looking toward a future of greater exploration of emotional-causal relations, MacIntyre et al. (2019) remind us that the effects of interest may lie beyond the linguistic domain—touching social/interpersonal relations, for example—and even beyond the learners themselves. Entries in our timeline with interventionist designs, goals, or immediate implications for PRACTICE are marked with **Pr**.[6]

Another new frontier for research on emotion pertains to the contexts and populations of interest in this domain. Amidst recent and ongoing concerns about restricted sampling practices in applied linguistics (e.g., Andringa & Godfroid, 2020; Plonsky, 2017), we would like to highlight the fact

[5]See http://www.eltandhappiness.com/ for a set of ready-made (though not necessarily empirically tested) activities for fostering more positive emotion in the L2 classroom. We thank MacIntyre et al. (2019) for drawing our attention to this website.

[6]That such studies are given prominence in this timeline may also indicate a preference toward certain types of research and away from others, as noted by an anonymous but insightful reviewer. We recognize the potentially limited view afforded by our respective backgrounds and the lenses we wore when preparing this article, and we encourage others to take up the topic and add to our discussion by offering differing and complementary points of view.

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that a number of studies in the last decade have pushed the contextual and demographic boundaries of research on emotion and language learning. Such studies, exploring emotion in a wide range of target languages, settings (e.g., study abroad, technology-mediated environments), and populations (e.g., heritage learners; Xiao & Wong, 2014) are marked in our timeline with an **S/C** (for SAMPLE/CONTEXT).

Looking across the entries in this timeline, we are struck by how far the field has come. The range of tools, designs, and constructs under investigation has advanced and specialized in nuanced and impressive ways. At the same time, however, we are utterly confident in the dynamism inherent to this body of work and the researchers that are part of it.

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Year	Full citation	Annotation	Themes
2011	Baralt, M., & Gurzynski-Weiss, L. (2011). Comparing learners' state anxiety during task-based interaction in computer-mediated and face-to-face communication. *Language Teaching Research*, *15*(2), 201–229.	This study tested the proposition that computer-mediated communication (CMC) might attenuate the negative effects of anxiety on L2 performance. Baked into the design of the study is, therefore, a hypothesized causal link between anxiety and L2 ability. Counter to expectation, learners' state anxiety, measured partway through an interaction task using a scale with high internal consistency, was almost identical in the CMC and face-to-face conditions ($N = 15$).	**Pr, S/C, Th**
2011	Rai, M. K., Loschky, L. C., Harris, R. J., Peck, N. R., & Cook, L. G. (2011). Effects of stress and working memory capacity on foreign language readers' inferential processing during comprehension. *Language Learning*, *61*(1), 187–218.	Drawing on attentional control theory, this stress manipulation study investigated Spanish Foreign Language (FL) university students' ($N = 55$) working memory capacity, anxiety (reading, trait, and state), and performance on the reading comprehension task by accounting for different types of inference questions (factual/non-inference control, bridging inference, and pragmatic inference). The results indicated that participants with higher working memory (WM) capacity had better L2 reading comprehension for all three types of inferences, while stress (and the anxiety it caused) negatively affected reading comprehension for all three types of inferences.	**MM, Pr, Th**
2012	Hewitt, E., & Stephenson, J. (2012). Foreign language anxiety and oral exam performance: A replication of Phillips's *MLJ* study. *Modern Language Journal*, *96*(2), 170–189.	This replication study examined Spanish-speaking university students' ($N = 40$) anxiety during an English as a Foreign Language (EFL) oral exam. **Hewitt & Stephenson** replicated Phillips' *MLJ* study, except for the target language (TL) (English vs. French in the original study), participants' first language (L1) (Spanish vs. English), the addition of a validated proficiency test to measure participants' oral skills, and the duration of the course (1 academic year vs. 2 in the original study). All instruments were checked for internal consistency reliability, which was regarded as an improvement on the original study. Despite some differences, most findings fell in line with those of the original study (e.g., anxiety correlated moderately and negatively with oral exam grades).	**MM, Pr**
2012	MacIntyre, P., & Gregersen, T. (2012). Emotions that facilitate language learning: The positive-broadening power of the imagination. *Studies in Second Language Learning and Teaching*, *2*(2), 193–213.	By drawing on various theoretical perspectives on emotions in mainstream psychology, **MacIntyre & Gregersen** discussed the differential functions of positive and negative emotions in L2 learning (see also Oxford, 2015). They maintained that positive emotions have a facilitative function in L2 learning by broadening L2 learners' perspective, whereas negative emotions harm L2 learning by restricting their attentional and cognitive resources. Of significance, the authors emphasized the motivational power of one's imagination in inducing emotions. As such, they detailed several motivational and cognitive strategies to enhance the L2 learners' positive emotions in L2 learning via activating their imagined future self-states.	**Th**

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2013	Huang, H.-T. D., & Hung, S.-T. A. (2013). Comparing the effects of test anxiety on independent and integrated speaking test performance. *TESOL Quarterly*, *47*(2), 244–269.	This study employed path analysis to investigate the relationship between Taiwanese EFL university students' ($N = 352$) performance on integrated vs. independent speaking tasks and their test (i.e., state) anxiety. The results demonstrated that test anxiety negatively affected speaking performance regardless of the speaking task type (integrated vs. independent). Thus, the researchers' hypothesis that learners performing integrated speaking tasks would be less prone to test anxiety had to be rejected.	**MM, Pr, Th**
2013	Pae, T.-I. (2013). Skill-based L2 anxieties revisited: Their intra-relations and the inter-relations with general foreign language anxiety. *Applied Linguistics*, *34*(2), 232–252.	In a sample of 229 Korean EFL university students, **Pae** explored the relationships between skill-specific anxieties (see also Cheng, 2017) and Horwitz et al.'s (1986) FLCAS. The results indicated that based on the results of exploratory and confirmatory factor analysis (by examining convergent and discriminant validity and performing chi-square difference tests), speaking, listening, reading, and writing scales were targeting four distinct constructs. The factor structure of the FLCAS was not examined, but each of the skill-specific anxiety measures emerged as predictors of FLCAS, explaining a total of 71% of the variance ($R^2 = .71$).	**MM, OS**
2013	Shao, K., Yu, W., & Ji, Z. (2013). An exploration of Chinese EFL students' emotional intelligence and foreign language anxiety. *Modern Language Journal*, *97*(4), 917–929.	This study's focus was on Chinese EFL university students' ($N = 510$) L2 anxiety and emotional intelligence (EI). The former was operationalized by scores on Horwitz et al.'s (1986) FLCAS, whereas the latter was measured by the Trait Emotional Intelligence Questionnaire. In addition to correlational analysis, the researchers performed a series of mediation analyses (see also Lou & Noels, 2019), which revealed that L2 anxiety partially mediated the relationship between (a) EI and L2 achievement and (b) between EI and self-perceived proficiency. In both cases, the effect of EI was reduced due to L2 anxiety.	**MM, Th**
2013	Sparks, R. L., & Patton, J. (2013). Relationship of L1 Skills and L2 Aptitude to L2 Anxiety on the Foreign Language Classroom Anxiety Scale. *Language Learning*, *63*(4), 870–895.	This study challenges on theoretical and empirical grounds the status quo in L2 anxiety research. Specifically, the authors argue that the Foreign Language Classroom Anxiety Scale (FLCAS) may not be tapping anxiety as has long-since been assumed. The results of a series of path analyses and hierarchical regression analyses, using longitudinal data from participants tracked from first to tenth grade, demonstrate that the FLCAS may actually be measuring related but unique constructs such as first-language skills, language learning aptitude, and/or self-assessed proficiency. Despite additional evidence from Sparks and colleagues in the preceding and subsequent years (e.g., Sparks & Ganschow, 2007; Sparks Luebbers et al., 2018), few studies have followed up on this work to likewise question the dominance of the FLCAS or the more general notion of considering anxiety in an exclusively language-domain-specific manner. Not to put too fine a point on the matter, but this line of work has been largely and, in our view, conspicuously omitted from many reviews including Horwitz's (2010) timeline in *Language Teaching*.	**MM, S/C, Th**

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2013	Swain, M. (2013). The inseparability of cognition and emotion in second language learning. *Language Teaching*, *46*(2), 195–207.	In this 'plenary' article, **Swain** argues that much of L2 research has overlooked the role of emotion, focusing instead on cognition. Among many other points argued, compelling throughout the paper is that emotion merits consideration not only on its own but also in relation to cognitive and otherwise learner-internal mechanisms (see also Teimouri*, 2018). Swain also situates an understanding of emotions not as a strictly intra-individual phenomenon but, rather, as events that are 'socially and culturally derived' (p. 196). The theoretical positioning of this paper is clearly linked to Vygotsky and sociocultural theory (see also Lantolf & Swain, 2019). The arguments being made and their implications for future research, however, can be applied across a range of orientations.	**Th**
2013	Zhang, X. (2013). Foreign language listening anxiety and listening performance: Conceptualizations and causal relationships. *System*, *41*(1), 164–177.	Is there a causal relationship between foreign language listening anxiety and performance (operationalized as scores on the IELTS listening test)? To investigate this question, **Zhang** conducted a longitudinal study and utilized a variety of advanced statistical techniques such as Rasch analysis and confirmatory factor analysis for instrument validation (see also Cheng, 2017), and structural equation modeling to examine the nature of relationships among the variables. The results indicated that anxiety negatively affected university students' performance on the listening test, but not the other way around. The findings were interpreted in light of the situation-specific conceptualization of foreign language listening anxiety.	**MM**
2014	Cheng, L., Klinger, D., Fox, J., Doe, C., Jin, Y., & Wu, J. (2014). Motivation and test anxiety in test performance across three testing contexts: The CAEL, CET, and GEPT. *TESOL Quarterly*, *48*(2), 300–330.	This large-scale study investigated test anxiety (see also Huang & Hung, 2013) and motivation in a sample of 1,281 L2 English learners across three different countries (Canada, China, and Taiwan) corresponding to three testing contexts (the Canadian Academic English Language Assessment, the College English Test, and the General English Proficiency Test, respectively). In contrast to many of the other measurement-oriented studies described in this paper, the focus was on examining *consequential* validity by considering both cognitive and social dimensions of test-taking that may account for construct-irrelevant variance and, consequently, compromise test-takers' performance on a high-stakes test. The findings revealed statistically significant differences in test-takers' anxiety levels depending on gender and test type; not surprisingly, skill anxiety emerged as a negative predictor of test performance in each of the three tests.	**MM, S/C**
2014	Dewaele, J.-M., & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in Second Language Learning and Teaching*, *4*(2), 237–274.	Most likely the first to comprehensively study Foreign Language Enjoyment (FLE) in the L2 context, this seminal paper provides a nuanced picture of how positive and negative emotions are differentially related to	**PP, S/C, Th**

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		students' features and learning experiences. The findings of the study (N = 1,746) revealed that the L2 learners reported significantly more enjoyment than anxiety in their L2 classes, overall. Moreover, knowing more languages led to an increase in FLE and a decrease in anxiety; the age of participants was associated positively with FLE and negatively with anxiety, and the female participants scored higher on both FLE and FLCA.	
2014	Gregersen, T., MacIntyre, P. D., & Meza, M. D. (2014). The motion of emotion: Idiodynamic case studies of learners' foreign language anxiety. *Modern Language Journal*, *98*(2), 574–588.	This study represents a turning point in research on L2 anxiety due to its focus on moment-by-moment fluctuations in anxiety levels. Having adopted an idiodynamic method, the researchers investigated a group of L2 Spanish learners (N = 6) who were giving short oral presentations in the target language during class. The data were analyzed both qualitatively and quantitatively. The study provides a compelling example of triangulating several sources of data by combining participants' (a) self-reported FLCAS scores, (b) idiodynamic anxiety ratings, (c) responses to stimulated recall interview questions, and (d) physiological reactions (heart rate).	**MM, Th**
2014	Thompson, A., & Lee, J. (2014). The impact of experience abroad and language proficiency on language learning anxiety. *TESOL Quarterly*, *48*(2), 252–274.	The presence of positive and negative emotions among language learners while studying abroad is perhaps expected both as a practical matter and as an object of empirical inquiry. Perhaps less obvious are the effects of time spent abroad on learners' anxiety following a study abroad experience, which was the focus of this study. More concretely, the authors examined four subtypes of anxiety, measured by the FLCAS, as a function of both (a) time spent abroad and (b) L2 proficiency. Regression analyses showed experience abroad to be a significant and substantial predictor of anxiety, with measures of the former explaining 21% of the variance in the latter. More specifically, more experience abroad was associated with less anxiety—a relationship that held up across the four different types of anxiety under investigation.	**S/C, Th**
2014	Founding and first official conference of the International Association for the Psychology of Language Learning, Graz, Austria. (https://www.iapll.com/), 29-31 of May 2014.	This organization serves to facilitate and promote psychologically-oriented research on language learning. This broad remit covers quite prominently emotion as well other closely-related constructs. The IAPLL's conference is held biannually. The inaugural event was held in Graz, Austria. Subsequent conferences were hosted in Jyväskylä, Finland (2016) and Tokyo, Japan (2018). The 2022 event (PLL4) will be held in Cape Breton, Canada. The organization has also launched the *Journal for the Psychology of Language Learning* (JPLL.org), which is completely open access and which publishes a range of theoretical and empirical papers including special issues.	**OS**
2015	De Costa, P. (2015). Reenvisioning language anxiety in the globalized classroom through a social imaginary lens. *Language Learning*, *65*(3), 504–532.	In contrast with so much of the large-sample, survey-based research on emotion, this article presents the findings of an ethnographic case study focusing on one particular student in a group of five focal 15–16 year-olds	**MM, Th, S/C**

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		at an English-medium secondary school in Singapore. **De Costa** employed a rich set of analytical techniques drawing on both microethnographic discourse analysis, when working with spoken data from interviews and interaction framework, as well as the notions of intertextuality and entextualization (see Blommaert, 2005) for his analysis of written data. These techniques allow the author to reveal an intimate and fascinating web of emotion in the life of the focal participant. Equally if not more importantly, however, is the study's application of the 'social imaginary', which proves to be an incredibly fitting and useful lens for understanding 'what emotions do' (Pavlenko, 2013, p. 18). All the while, De Costa also displays an intimate understanding of the relative contributions from more traditional work on emotion. (It is rare to find comparable awareness of qualitative methods and conceptual insights among researchers working in more psychology-based traditions and theoretical frameworks.) De Costa impressively models the kind of epistemological and theoretical open-mindedness that he advocates for throughout the piece.	
2016	Dolean, D. D. (2016). The effects of teaching songs during foreign language classes on students' foreign language anxiety. *Language Teaching Research*, *20*(5), 638–653.	This 5-week intervention study was conducted with two experimental and two control groups of middle school students ($N = 106$) of L2 French in Romania to examine the role of music as an anxiety-alleviating strategy in a FL classroom. The results suggested that teaching songs reduced students' anxiety in the high-anxiety group but not in the low-anxiety group.	**MM, Pr, S/C**
2016	Ross, A. S., & Stracke, E. (2016). Learner perceptions and experiences of pride in second language education. *Australian Review of Applied Linguistics*, *39*(3), 272–291.	In line with research on positive emotions in second language acquisition (SLA) (see also Dewaele & MacIntyre, 2014), the authors focused on the students' emotional experiences of pride—both inside and outside the classroom. In-depth interviews with 12 English as a Second Language (ESL) learners in Australia showed that the students felt pride in the class's learning environment as well as the social settings outside the class. In the class context, the participants reported episodes of pride in response to high grades and praise from others. Outside the class, they reported experiencing pride whenever they successfully communicated an intended message with others.	**PP, S/C**
2016	Trebits, A. (2016). Sources of individual differences in L2 narrative production: The contribution of input, processing, and output anxiety. *Applied Linguistics*, *37*(2), 155–174.	This is the only study in the sample that focused on anxiety at three different stages of L2 production: input, processing, and output. The goal of this correlational study was to investigate the relationship between L2 anxiety and cognitive performance in both oral and written narrative tasks. Among other results, the findings revealed that output anxiety was more pronounced in oral than in written performance and only in the	**Pr, Th**

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		case of a more cognitively demanding story narration task as opposed to a less challenging cartoon description task.	
2017	Cheng, Y.-S. (2017). Development and preliminary validation of four brief measures of L2 language-skill-specific anxiety. *System*, *68*, 15–25.	Conducted in an EFL context with 523 university students in Taiwan, this scale development and validation study provides evidence for validity and reliability of four short skill-specific anxiety measures (speaking, listening, reading, and writing; three factors: cognitive, somatic, and behavioral; nine items per scale). The following aspects of scale validity were examined: construct (internal structural validity via EFA and confirmatory factor analysis (CFA)) and criterion (i.e., convergent and divergent validity via correlational analysis).	**MM**
2017	Teimouri, Y. (2017). L2 selves, emotions, and motivated behaviors. *Studies in Second Language Acquisition*, *39*(4), 681–709.	In this study ($N = 524$), **Teimouri** examined the links between the students' emotional reactions and their future L2 selves. In addition, the author proposed and tested an extension of the notions of L2 selves—two main components of the L2 Motivational Self System (Dörnyei, 2009). Factorial analysis revealed a trichotomous model of L2 selves (ideal L2 self/own, ought-to L2 self/own, ought-to L2 self/others). Regression analyses showed that while the ideal L2 self predicted joy, both ought-to L2 selves (own and others) predicted L2 anxiety; moreover, all L2 selves predicted shame reactions with ought-to L2 self/others having the strongest effect.	**MM, OS, PP, Th**
2018	Boudreau, C., MacIntyre, P., & Dewaele, J.-M. (2018). Enjoyment and anxiety in second language communication: An idiodynamic approach. *Studies in Second Language Learning and Teaching*, *8*(1), 149–170.	By adopting an idiodynamic approach (see Gregersen, MacIntyre, & Meza, 2014) to explore the dynamics of emotions, in this intriguing study, the authors investigated the moment-to-moment relationship between enjoyment and anxiety during L2 communicative tasks. Ten university students first performed two L2 tasks (oral interview and story-telling). After completing the tasks, the students were asked to watch video recordings of their task performance and rate their per-second emotional experiences during each task. The results revealed that enjoyment and anxiety interact continuously in complex, dynamic ways during an L2 task. That is, the nature of relationships between the two emotions changed from negative to positive to no-correlation at different moments while completing the task.	**MM, PP**

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2018	Dewaele, J.-M., Whitney, J., Saito, K., & Dewaele, L. (2018). Foreign language enjoyment and anxiety: The effect of teacher and learner variables. *Language Teaching Research*, *22*(6), 676–697.	Teachers constitute perhaps one of—if not THE—greatest external forces on learners' emotions. This influence can be positive, negative, or both. The current study is unique in its attempt to shed light on teacher behaviors as well as other learner-internal mechanisms and their potential associated with both ends of the emotional spectrum. Not surprisingly, FL enjoyment was linked to students' (189 foreign language learners in British high schools) attitude toward their teachers. However, among many other findings of interest, anxiety was not found to be associated with attitudes toward the teacher. The implication drawn by the authors is deceptively simple in that it is not necessarily intuitive: Teachers should focus more on attempting to make FL classes more enjoyable than on making them less anxiety-inducing, especially because the latter does not appear to be attributable in large part to teacher behaviors.	**PP, Pr, Th**
2018	Dewey, D. B., Belnap, R. K., & Steffen, P. (2018). Anxiety: Stress, foreign language classroom anxiety, and enjoyment during study abroad in Amman, Jordan. *Annual Review of Applied Linguistics*, *38*, 140–161.	Several features of the present study stand out as noteworthy: First, the design is longitudinal, looking at change in anxiety and enjoyment over a period of 14 weeks. Second is the study's setting, a study abroad program taking place in Jordan (see THOMPSON & LEE, 2014). Third, and perhaps most unique, is the study's use of hair cortisol levels to measure anxiety among participants in addition to more traditional tools such as the FLCAS, the FLE Scale, and the ACTFL oral proficiency interview as a measure of proficiency. Interestingly, the correlation between FLCAS scores and cortisol levels was small and negative, suggesting that these two indicators are not likely measuring the same construct.	**MM, PP, S/C**
2018	Khajavy, G. H., MacIntyre, P. D., & Barabadi, E. (2018). Role of the emotions and classroom environment in willingness to communicate: Applying doubly latent multilevel analysis in second language acquisition research. *Studies in Second Language Acquisition*, *40*(3), 605–624.	The study targeted the interaction between L2 classroom environment, L2 anxiety, L2 enjoyment, and L2 WTC at both individual and classroom levels by running doubly latent multilevel analysis. This large-scale survey showed when the students experience a positive classroom environment, their L2 WTC and L2 enjoyment increase and their L2 anxiety decreases. In addition, L2 enjoyment was found to boost the students' L2 WTC at both individual and class levels, whereas L2 anxiety reduced it at the individual level.	**MM, PP**
2018	Pavelescu, L. M., & Petrić, B. (2018). Love and enjoyment in context: Four case studies of adolescent EFL learners. Studies in *Second Language Learning and Teaching*, *8*(1), 73–101.	Is it sufficient to simply enjoy learning a foreign language or does one need to experience a much stronger positive emotion—love—to succeed? To answer this empirical question, **Pavelescu & Petrić** conducted a qualitative study with four Romanian high school learners of English and their teachers. The results suggested that love was superior to enjoyment in helping students overcome setbacks during the foreign language learning process.	**PP, S/C**

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2018	Saito, K., Dewaele, J.-M., Abe, M., & In'nami, Y. (2018). Motivation, emotion, learning experience, and second language comprehensibility development in classroom settings: A cross-sectional and longitudinal study. *Language Learning, 68*(3), 709–743.	As we might expect given the combination of backgrounds among the authors of this article, the study it describes merges work on L2 pronunciation and emotion as well as other individual differences. Specifically, the authors use a longitudinal design to track learners' change over time in comprehensibility as a function of both positive and negative emotions as well as exposure to and usage of the target language. This work builds, if somewhat indirectly, on previous studies such Thompson & Lee (2014), which are concerned with the intersection between emotion, learner experience, and L2 development.	**MM, OS, PP**
2018	Teimouri, Y. (2018). Differential roles of shame and guilt in L2 learning: How bad is bad? *Modern Language Journal*, *102*(4), 632–652.	In a mixed-method study, **Teimouri** introduced the notions of shame-proneness and guilt-proneness in SLA, validated their psychometric measurement, and examined their effects on L2 learners' motivational behaviors and language achievements. In Study 1 ($N = 592$), a scenario-based questionnaire—the Second Language Test of Shame and Guilt Affect (L2-TOSGA)— was developed and validated at three stages to measure L2 learners' individual differences in proneness to shame and proneness to guilt. The results of Study 2 ($N = 174$) revealed that shame-proneness was strongly but negatively related to students' effort, second language willingness to communicate (L2 WTC), attention, and language achievement (see also Teimouri, 2017). Guilt-proneness was found to be positively associated with all the students' motivational behaviors and language achievement.	**MM, OS, Th**
2018	Zheng, Y., & Cheng, L. (2018). How does anxiety influence language performance? From the perspectives of foreign language classroom anxiety and cognitive test anxiety. *Language Testing in Asia*, *8*(13), 1–19.	This large-scale study focused on the relationships between FL classroom anxiety, cognitive test anxiety, and FL achievement by surveying Chinese EFL university students ($N = 921$) and conducting follow-up interviews with selected participants ($N = 12$). All anxiety items were subjected to EFA, and the obtained factor scores were used in a regression analysis with students' FL achievement scores as a dependent variable. The results demonstrated the emergence of cognitive test anxiety as a negative predictor of students' FL achievement, while the interview data revealed that speaking anxiety in a FL classroom was also of concern to some students.	**MM, OS**
2019	Lou, N. M., & Noels, K. A. (2019). Sensitivity to language-based rejection in intercultural communication: The role of language mindsets and implications for migrants' cross-cultural adaptation. *Applied Linguistics*, *40*(4), 478–505.	In a series of two studies, **Lou & Noels** examined underexplored types of anxiety, including language-based rejection sensitivity and (anticipated) intergroup anxiety in ESL learners in Canada ($N_1 = 176$; $N_2 = 116$). The results of path analysis in Study 1 (see early use of this technique in Huang & Hung, 2013) demonstrated that participants with stronger entity mindsets had higher sensitivity to rejection by native speakers and, consequently, higher intergroup anxiety. Study 2 adopted an experimental design (language mindsets were subjected to manipulation), and path analysis revealed that rejection sensitivity	**MM, Pr**

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		mediated the role of entity mindsets on both expected intergroup anxiety and cultural adjustment expectancy. The most noteworthy features of this article are (a) the focus on fairly unique aspects of anxiety along with (b) a thorough implementation of advanced statistical techniques such as path analysis and mediation (see also Shao et al., 2013).	
2019	Kutuk, G., Putwain, D. W., Kaye, L., & Garrett, B. (2020). Development and validation of a new multidimensional language class anxiety scale. *Journal of Psychoeducational Assessment*, *38*(5), 649–658.	Building on Cheng (2017), this study conducted with EFL university students in Turkey ($N_1 = 323$; $N_2 = 701$) provides preliminary evidence for validity and reliability of a Multidimensional Language Class Anxiety Scale (MLCAS; 30 items). The new measure was designed in response to concerns raised about Horwitz et al.'s (1986) FLCAS, which focuses predominantly on speaking skills. The psychometric properties of the MLCAS were assessed using CFA by comparing the fit of five hypothesized models. A bifactor model with L2 class anxiety as a superordinate factor and four skill-specific activity anxieties (i.e., listening, speaking, reading, and writing) as well as classroom testing anxiety as subordinate factors showed the best fit to the data. In other words, evidence for skill-specific anxieties was observed.	**MM, OS**
2019	Li, C., & Xu, J. (2019). Trait emotional intelligence and classroom emotions: A positive psychology investigation and intervention among Chinese EFL learners. *Frontiers in Psychology*, *10*, 2453.	Building on Shao, Yu, and Ji (2013), in two independent studies, **Li & Xu** explored the links between EI on the one hand and FLE and Foreign Language Anxiety (FLA) on the other. In the first correlational study ($N = 1{,}718$), the authors found that FLE positively and FLA negatively related to EI. In the second experimental study ($N = 52$), the authors investigated the impact of a six-week Positive Psychology-based treatment on the students' EI. The results showed that the treatment successfully increased EI of the students and created a more positive class environment.	**PP, Pr, Th**
2019	Lead article plus commentaries: Prior, M. T. (2019). Elephants in the room: An 'affective turn,' or just feeling our way? *Modern Language Journal*, *103*(2), 516–527.	Much of the work on emotion can feel detached or impersonal. We might also critique this line of inquiry for a lack of theoretical maturity or for an overemphasis on anxiety. This series of essays, which appeared together following an introductory editorial by Martha Bigelow and an expansive 'anchor' piece by Matt **Prior**, is the antidote to those critiques (while also landing some of its own). Additional contributors (Lantolf & Swain; Benesch; Dewaele; Schumann; Kong), who pick up on many of Prior's threads and who add many more along the way, bring further depth and breadth to the discussion recalling at times Swain (2013). Among many other topics, these authors address sociopolitical concerns, teacher emotion, the emotion-identity interface, the responsibility of emotional labor, definitional conflict, and the subjectivity of labeling emotions as	**PP, Th**

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		such. Of course, the medium- to long-term impact of this set of essays is yet to be seen, but there can be no doubt about the fertility and range of ideas for further inquiry as presented by the authors. Anyone who is interested in emotion but finds much of the research to be lacking dimension (as well as those who don't!) should read this set of essays.	
2019	Teimouri, Y., Goetze, J., & Plonsky, L. (2019). Second language anxiety and achievement: A meta-analysis. *Studies in Second Language Acquisition*, *41*(2), 363–387.	This comprehensive meta-analysis examined the relationship between anxiety and L2 achievement by consolidating findings of previous research regarding both directionality (positive vs. negative) and magnitude of the relationship between anxiety and language achievement, and exploring the roles of a number of contextual and language-related factors as potential moderators. A sample of 88 research reports with a total of 96 independent samples (N = 18,278) from 21 countries was meta-analyzed (data available on IRIS). In the aggregate, the 204 effect sizes (i.e., correlations) reported in the primary studies yielded a mean of r = –.36 for the relationship between L2 anxiety and language achievement. The effect sizes varied across different types of language achievement measures, target languages, and anxiety types.	**MM, OS**
2019	Xiao-Desai, Y. (2019). The effects of online writing heritage language anxiety: A Bayesian analysis. In F. Yuan & S. Li (Eds.), *Classroom research on Chinese as a second language* (pp. 128–151). Routledge.	The study pushes the boundaries of research at the intersection of language and emotion in several respects. Drawing on previous investigations of the potential role of technology in reducing learner anxiety (e.g., Baralt & Gurzynski-Weiss, 2011), **Xiao-Desai** examined the role of different writing tasks on heritage Chinese learners' anxiety. Throughout, the author demonstrates a clear and strong concern for methodological rigor at the field-wide level but also in designing and carrying out the present study. One particularly noteworthy aspect of the study's methods is the case argued for and the execution of Bayesian data analysis, one of the first such instances in this domain of research. The results of both frequentist and Bayesian analyses reveal fairly compelling evidence that an asynchronous task such as blogging can reduce learners' anxiety and related behaviors such as avoidance.	**MM, Pr, S/C**
2020	Miller, Z. F., & Godfroid, A. (2020). Emotions in incidental learning: An individual differences approach. *Studies in Second Language Acquisition*, *42*(1), 115–141.	The prototypical study of emotion, if one exists, estimates the association between (a) learners' naturally occurring emotions and (b) language development or performance. By contrast, the present study experimentally manipulated participants' mood by exposing them to video clips and images associated with positive, negative, or neutral emotional states. Following this 'mood induction' exercise, participants were exposed to a semi-artificial language and then completed a grammaticality judgment task to measure their knowledge of the language's syntax. Scores across the groups were very similar, but they varied somewhat in the extent to which they drew on implicit vs. explicit knowledge when responding. A battery of scales including anxiety, emotional intelligence,	**Pr, OS, S/C**

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		and other personality features were also examined as independent and interacting predictors (with induced moods) of posttest scores.	
2020	Pawlak, M., Zawodniak, J., & Kruk, M. (2020). *Boredom in the foreign language classroom: A micro-perspective*. Springer.	The appearance of this book represents the recent surge in theoretical but especially empirical attention to boredom in the context of L2 teaching and learning. That is, to state the obvious, language teachers and learners have long been aware of the presence of this emotion and its detrimental effects on L2 development. It is only recently that a systematic line of inquiry has developed. This concise text addresses relevant theory and previous research in the first two chapters. Chapters 3 and 4 present the methods and results of a focused investigation of advanced learners' individual trajectories of boredom and any identifiable factors associated with changes taking place over time. Subsequent studies by the authors of this book and many others have and will surely continue to draw on this work to advance future empirical, theoretical, and practical knowledge on the role of boredom in L2 development.	**Pr, Th**
2020	Wei, R., Liu, H., & Wang, S. (2020). Exploring L2 grit in the Chinese EFL context. *System*, *93*, 102295.	In line with the positive psychology movement in SLA and contributing to the fast-expanding literature on the role of grit in L2 learning (see also Sudina & Plonsky, 2021; Teimouri, Sudina & Plonsky, 2021; Teimouri, Plonsky, & Tabandeh, 2020), the study examined the interrelationships between 462 EFL Chinese students' L2 grit level and their language proficiency and several other socio-biographical variables. The findings, overall, identified L2 joy as an important predictor of the students' grittiness during L2 learning.	**MM, PP**
2021	Driver, M. (in press). Emotion-laden texts and words: The influence of emotion on vocabulary learning for heritage and foreign language learners. *Studies in Second Language Acquisition*. https://doi.org/10.1017/S0272263121000851	Are positively (or negatively, or neutrally) charged words easier to learn? Is the emotionality of a text associated with the extent to which novel vocabulary words are learned? This study, based on **Driver**'s doctoral dissertation, addressed these questions by examining the learning of emotion-laden pseudowords embedded into emotion-laden texts. Notably, the participants were both heritage- (see Xiao-Desai, 2019) and L2 users of Spanish, and three different types of vocabulary tests were administered: form recognition, translation, and multiple choice. Less emotional (neutrally-charged) words were learned best, as were the words in both neutral and negatively charged texts. Open-ended questionnaire data were also used to examine participants' perceptions of and emotional reactions to the texts.	**MM, Pr, S/C**

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2021	Elahi Shirvan, M., Taherian, T., & Yazdanmehr, E. (2021). Foreign language enjoyment: A longitudinal confirmatory factor analysis–curve of factors model. *Journal of Multilingual and Multicultural Development*, 1–19.	In this intriguing study ($N = 437$), **Elahi Shirvan, Taherian, & Yazdanmehr** examined the developing and temporal dimensions of FLE over time by running a rarely used statistical analysis in SLA, a longitudinal confirmatory factor analysis. The results exhibited individual differences regarding the growth of FLE and its rate. For instance, the initial level of FLE may not influence the positive emotions that students may experience later during their course of L2 learning. The teacher's role, such as choosing exciting topics and creating positive class atmospheres, was also found as an essential contributor to the students' FLE (see also Dewaele et al., 2018).	**MM, PP**
2021	Li, C., Dewaele, J.-M., & Hu, Y. (in press). Foreign language learning boredom: Conceptualization and measurement. *Applied Linguistics Review*.	Drawing on control-value theory, this large-scale study of EFL university students and teachers in China reports on the development and validation of the Foreign Language Learning Boredom Scale (FLLBS; 7 factors; 32 items). In line with an exploratory sequential design, first, students' and teachers' interviews as well as 659 students' responses to an open-ended questionnaire were analyzed qualitatively in Study 1. Based on these findings, the FLLBS was designed. Its psychometric properties, including face, construct, convergent, discriminant, and criterion validity as well as two types of reliability, were investigated in Study 2 ($N_1 = 808$; $N_2 = 2{,}223$). The full scale (in both Chinese and English) is provided in an appendix.	**MM, OS, Th**
2021	Morgan W. J., & Katz, J. (2021). Mindfulness meditation and foreign language classroom anxiety: Findings from a randomized control trial. *Foreign Language Annals*, *54*(2), 389– 409.	A small but growing body of work has sought to reduce anxiety through one or more types of interventions/treatments (e.g., Dolean, 2016; Li & Xu, 2019). This study represents one of the first attempts to explore the role of mindfulness in the L2 classroom. In addition to examining associations (correlations) between mindfulness and anxiety at multiple time points across multiple sections of university-level Spanish classes, the researchers provided mindfulness training. The effects of the intervention were analyzed independently as well as in relation to the learners' anxiety. Although an increase in mindfulness seems to have occurred, the effect of the training on anxiety is less clear but seems to have led to a reduction in variability of anxiety across the sample. In addition, the participants noted a number of less tangible and non-quantified benefits to the training such as getting into the language 'mode.'	**MM, PP, Pr, Th, OS**

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2021	Nakamura, S., Darasawang, P., Reinders, H. (2021). The antecedents of boredom in L2 classroom learning. *System*, *98*(102469).	Unlike other recent studies of boredom, which have been examined in relation to achievement or other emotions and individual differences, this project takes as its focus the conditions that precede and contribute to boredom in the L2 classroom. Picking up on the suggestions of others in this domain to triangulate data sources and to consider individual learners' trajectories (e.g., Papi & Khajavy, in press; Pawlak et al., 2020), **Nakamura, Darasawang, & Reinders** employ a series of interviews over the course of seven weeks in coordination with survey data to gain a rich, longitudinal understanding of different sources of boredom. The nine factors identified as predictors of boredom included unfavorable appraisal of the task, activity mismatch, lack of comprehension, physical fatigue, insufficient L2 ability, task difficulty, negative behaviors of classmates, lack of ideas, and input overload, all of which (except for the last two) were mentioned/confirmed in the interview data. Finally, the current study stands out for its inclusion of Thai learners ($N = 25$), a context/population otherwise largely absent in this line of inquiry.	**MM, Pr, S/C**
2021	Papi, M., & Khajavi, G. H. (2021). Motivational mechanisms underlying second language achievement: A regulatory focus perspective. *Language Learning*, *71*(2), 537–572.	This study stands out for its simultaneous consideration of several emotional constructs (anxiety, enjoyment) in relation to the now well-established L2 motivational self-system (see also Saito et al., 2018; Teimouri, 2017), the notions of eager and vigilant L2 use ('strategic inclinations'), and achievement based on a course exam. **Papi & Khajavi** propose a fairly complex model which they test using a sample of 324 Iranian university learners of English as a foreign language, a population commonly employed in this line of work based on the geographic affiliations of many prominent researchers of emotion and language learning. Among other advanced and rigorous quantitative techniques, the authors tested for three types of measurement invariance (configural, metric, and scalar) among males and females. The results confirmed that both groups perceived the items similarly, providing further validity evidence for the scales. The authors also quite wisely, in our view, recommend triangulating self-report scales in future studies to include observations and interviews as well as measures of L2 proficiency with stronger validity evidence.	**MM, OS, Th**
2021	Sudina, E. (2021). Study and scale quality in second language survey research, 2009–2019: The case of anxiety and motivation. *Language Learning*, *71*(4), 1149–1193.	This methodological synthesis surveyed a range of peer-reviewed articles that employed L2 anxiety and/or motivation scales and were published in five top L2 journals in 2009–2019. A comprehensive coding scheme (84 features; available on IRIS) was designed to extract information pertaining to study and scale quality with a particular emphasis on self-report instruments' validity and reliability. Based on the observed findings, the study provided empirically grounded suggestions for future research in this domain.	**MM, OS**

Note. Authors' names are shown in small capitals when the study referred to appears in this timeline.