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Experiences in writting in English for Research Publication Purposes: A proposed framework on the relationships between metacognition and emotional constructs based on a mixed-method study

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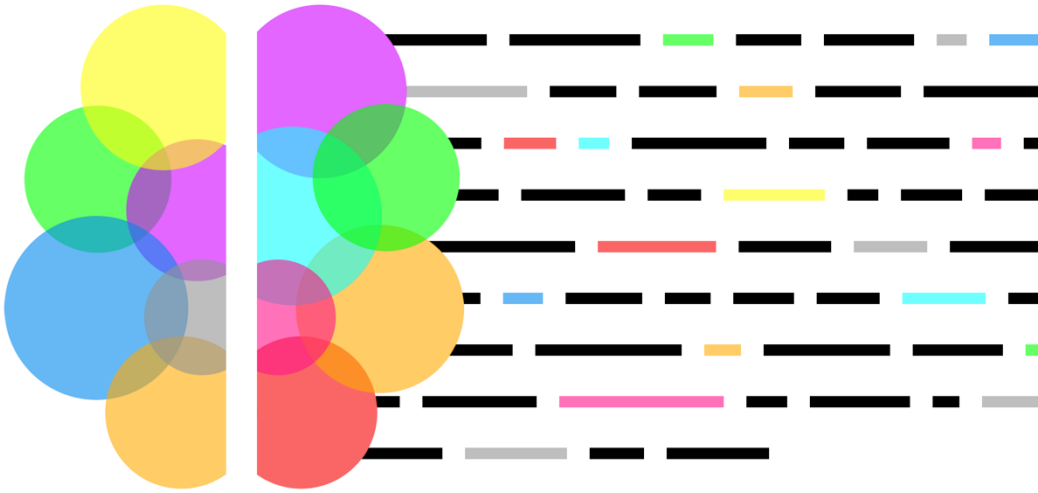

PhD Thesis

Javier Aula-Blasco

Experiences in writing in English for Research Publication Purposes: A proposed framework on the relationships between metacognition and emotional constructs based on a mixed-method study

a PhD thesis by
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Chapter 2. Literature review

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List of abbreviations

In order of appearance:

Second Language Learning (SLL)
Second Language Writing (SLW / L2 writing)
First Language Writing (L1 writing)
English as a Second Language (ESL)
Academic Writing for Research Publication Purposes (AWRPP)
English Writing for Research Publication Purposes (EWRPP)
English as an Additional Language (EAL)
12-Point Affect Circumplex (12-PAC)
Multifactor Leadership Questionnaire (MLQ)
Second Language Writing Anxiety Inventory (SLWAI)
Trait-Meta Mood Scale 24 (TMMS-24)
Achievement Emotions Questionnaire (AEQ)
Second Language Writing Anxiety Inventory (SLWAI)
Trait Meta-Mood Scale (TMMS)
Emotional Constructs and Metacognition Questionnaire (ECMQ)
Emotional Writing score (EMOWRI score)
Writing achievement emotions (AE)
Writing anxiety (AN)
Writing core affect (CA)
Writing critical thinking (CT)
Writing emotional intelligence (EI)
Writing leadership (LE)
Writing motivation (MO)
Writing self-efficacy (SE)
Writing metacognition (MC)
Scatterplot Matrix (SPLOM)
Emotional Writing Framework (EMOWRI Framework)

Chapter 1
Introduction

Highly organized research is guaranteed to produce nothing new.
—Frank Herbert (*Dune*, 1965)

1.1. On Second Language Writing

Becoming a proficient user of a language entails mastering numerous skills and subskills ranging from receptive ones such as understanding gist and recognizing connected speech when listening or skimming and scanning when reading, to productive ones such as pronunciation and intonation in speaking or planning and editing in writing. Granted that individual differences play a major role in the process of learning and acquiring all these competences and that generalizations ought to be avoided as much as possible, knowledge obtained from both research and every-day experience suggests that writing is one of the most puzzling features of Second Language Learning (SLL) (Silva, 1992; Nunan, 1999; Gil, 2002; Hyland, 2003). In spite of how complex and onerous Second Language Writing (L2 writing) might be, it is one of the most imperative skills to master in modern society. The reason for this is that writing has always had a paramount social, cultural and educational prominence since its inception that has escalated recently in the majority of current societies due to the influence of the global digital network (Ong, 1982; Haarmann, 2002; Hyland, 2003; Ferguson, 2007; Biber & Gray, 2012). The field of Academic English has not remained isolated from the importance of written discourse. As Mauranen, Pérez-Llantada and Swales (2010) point out, "the written mode [has been] long privileged by analysts and researchers of academic discourse, as it [has been] by instructors in the applied field of English for Academic Purposes" (p.634). Thus, in the context of academia, the idiosyncrasy of writing has been analyzed in the last decades under the light of numerous theoretical frameworks such as *biliteracy learning* (e.g. Gentil, 2011; Gentil & Seror, 2014), *cognitive models of composing* (e.g. Ericsson & Simon, 1980; Hayes & Flower, 1980; Fitzgerald, 2006), *contrastive rhetoric theory* (e.g. Kaplan, 1966, 1972; Connor, 1996; Grabe & Kaplan, 1996), *critical theory* (e.g. Benesch, 2001; Canagarajah, 2002), *dynamic systems theory* (e.g. Verspoor, Schmid & Xu, 2012; Baba & Nitta, 2014), *genre theory* (e.g. Swales, 1990, 2004; Johns, 1997; Hyland, 2006a), *identity theories* (e.g. Harklau, 2007; Cummins & Early, 2011), *language socialization theory* (e.g. Duff, 2010; Flowerdew, 2000; Kong & Pearson, 2003), and *sociocultural theory* (e.g. Vygotsky, 1978; Moll, 1989, 1990; Donato & McCormick, 1994; Lantolf, 2000; Kinginger, 2002), among others.

Traditionally, the prevailing paradigm when understanding writing and teaching how to write academic texts was the writer-oriented approach, which emerged from Flower and Hayes' (1981) early work. Followers of this paradigm sought to identify the strategies used by proficient L1 writers so that they could be taught to L2 writers. Writing was conceived as a problem-solving task which was characterized for being a

"nonlinear, exploratory, and generative process whereby writers discover and reformulate their ideas as they attempt to approximate meaning" (Zamel, 1983, p.165).

More recently, the literature has widely acknowledged the complexity of L2 writing compared to writing in one's mother tongue (L1 writing) (Gil, 2002; Atkinson, 2003). Hyland (2003, p.31) summarized in his comprehensible and insightful overview of the field of L2 writing the possible differences between these two kinds of writing as follows:

- Different linguistic proficiencies and intuitions about language.
- Different learning experiences and classroom expectations.
- Different sense of audience and writer.
- Different preferences for ways of organizing texts.
- Different writing processes.
- Different understandings of text uses and the social value of different text types.

Frequently, research has deeply focused on these dissimilarities and all the knowledge, competences and strategies needed to overcome the issues emanated from them when engaging in L2 writing practices (see references above). More recently, a relatively small part of the literature has likewise started to consider the impact of feelings and emotions in L2 writing (e.g. Badley, 2009; Yik, Russell & Steiger, 2011; Huerta, Goodson, Beigi & Chlup, 2016; Ho, 2016; Zhang, Smolders, Lakens & IJsselsteijn, 2018; Russell-Pinson & Harris, 2019; see further references in Chapter 2). The blossom of this field of study has added a piece to the complex puzzle of understanding L2 writing that seems paramount since, adopting the metaphor used by American psychologist James A. Russel, "humanity can progress without considering emotion —about as fast as someone running on one leg" (2003, p.145).

Individual differences aside, from the time of the first stages of L2 writing research, writers of English as a Second Language (ESL) have been repeatedly found to have more difficulties in adequately conveying their ideas and to produce less effective, coherent, fluent, and accurate texts than their native users of English counterparts (Purves, 1988; Silva, 1997; Hyland, 2003). Factors such as the differences across cultures, writing practices, communication patterns, estimates of reader knowledge and effort investment, uses of metadiscourse markers, and approaches to idea development, organization and argument have been posed as possible reasons for such difficulties regarding L2 writing (Kaplan, 1966; Bereiter & Scardamalia, 1987; Clyne, 1987; Connor, 1996; Grabe & Kaplan, 1996; Valero-Garcés, 1996; Hinkel, 1999; Hyland, 1999). All the potential problems mentioned above have been said to touch every kind of L2 writing. However, there is one type of L2 writing which, given its fluctuating and sophisticated nature, tends to present additional predicaments for L2 writers. This is, Academic Writing for Research Publication Purposes (AWRPP).

1.2. Academic Writing and Writing for Research Publication Purposes

Until the 1990s, the literature dealing with academic discourse –both written and spoken– was mainly focused on identifying, analyzing, and depicting the main characteristics of such registers (e.g. Biber & Conrad, 1999). Academic Writing for Research Publication Purposes —and, more specifically to the context of this PhD thesis, English Writing for Research Publication Purposes (EWRPP)— was considered to be a crucial practice in the academic community. Research at that time attempted to evaluate how each discipline used general academic linguistic resources such as lexical thickness and impersonality to achieve academic communication in order to typify the underlying rules of academic writing overall (Hyland, 2006b). The research traditions which historically have mainly contributed to the field of AWRPP are *Contrastive / Intercultural Rhetoric* (e.g. Mauranen, 1993; Duszak, 1994; Cmerjkova, 1996; Martín, 2002; Cuenca, 2003; Connor, 2004; Swales, 2004; Mur-Dueñas, 2010; Carrió-Pastor, 2013), *English for Academic Purposes (EAP)* (e.g. Swales, 1990, 2004; Hyland, 2000; Hyland & Hamp-Lyons, 2002; Jordan, 2002; Harwood, 2005a, 2005b; Lorés-Sanz, Mur-Dueñas & Lafuente-Millán, 2010; Swales & Feak, 2012; Pérez-Llantada & Swales, 2017), *New Literacy Studies* (e.g. Belcher & Connor, 2001; Casanave, 2002; Curry & Lillis 2004, 2014; Tardy, 2005; Lillis, 2008, 2012, 2013; Lillis & Curry 2010; Pérez-Llantada, Plo & Ferguson, 2011; Gentil & Séror, 2014), and *Second Language Writing (SLW)* (e.g. Flowerdew, 1999, 2000; Artemeva, 2000; Canagarajah, 2002; Cho, 2004; Tardy, 2005; Flowerdew & Li, 2009; Chang & Kanno, 2010) (for overview, see Lillis & Curry, 2016).

In the last three decades, there has been a progressive development towards a view of AWRPP and EWRPP as the result of a coalescence of practices and policies hatched within unique academic discourse disciplinary communities which may end up being utterly different from one to another (Hyland & Bondi, 2006). This view on academic discourse disciplinary communities was expedited by Swales' (1990, 1998) theories on textography and understood these communities as social groupings which possess an agreed array of shared aims, cooperative tools for intercommunication among the members of those communities, distinguishing genres and lexis, and a minimum number of both novice and expert members. From the 1990s onwards, the literature has been exploring the idiosyncrasies of the academic discourses used by each community (cf. Hyland & Jiang, 2019). This has challenged the previous notion of written texts as autonomous items and has given prominence to the impact of the social and situational context of a written text, exploring the different ways genres are "written, used and responded to by individuals acting as members of social groups" (Hyland, 2006b, p.18-19). Thus, even though every instance of writing is undeniably diacritic and distinctive, writing is currently understood as a social practice, encapsulated within a specific context and community (Berkenkotter & Huckin, 1995; Johns, 1997; Lea & Stierer, 2000; Lillis & Turner, 2001; Lillis & Scott, 2007; Hirvela, Hyland & Manchón, 2016). This community-based approach to academic literacies has resulted in what is known as *discourse communities*, a theory that provides researchers with "a framework for conceptualising the expectations, conventions and practices which influence academic

communication and help determine the life chances of thousands of students and academics around the world" (Hyland, 2006b, p.20; see also Starfield, 2002). Within a discourse community, AWRPP is one of the main channels of engaging junior researchers in a conversation and a teaching-learning process with more established ones (Lonka et al., 2014; Bommarito, 2016).

Despite the fact that dealing with AWRPP does not compulsory imply a focus on EWRPP, English has become, at the present time, the unquestionable lingua franca of both academia and scientific research (Canagarajah, 2002; Swales, 2004; Hyland, 2009; Lillis & Curry, 2010; Ferguson, Pérez-Llantada & Plo, 2011). Similarly, examining EWRPP does not require research in L2 writing given that a considerable number of scholars have English as their mother tongue. Nevertheless, there is an even more substantial number of academics who publish in English as an L2. Consequently, most research on EWRPP has targeted these scholars who publish their research in English as an Additional Language (EAL) (cf. Lillis & Curry, 2016).

1.3. The dominance of English as an academic language and its impact on EAL scholars

The historical hegemonic role of English in academia could be seen as a result of the economic, geographic, and political dominance of English-speaking countries originated from the British empire —which dates back to late sixteenth century— and the multi-branched power boosted during the 20th century of the United States of America (Crystal, 1997; Painter & Jeffrey, 2009). This linguistic domination of English has, as mentioned above, also reached AWRPP. The vast majority of journals included in high status indexes such as the Arts and Humanities Citation Index, the International Scientific Indexing, the Scimago Journal Rank, the Social Science Citation Index and the Journal Citation Report, among others, publish exclusively in English (Bocanegra-Valle, 2014, Lillis & Curry, 2016; Curry & Lillis, 2018). In addition, scientific journals which formerly published research in a language other than English, started publishing an English version or directly switched to English as their only language for publication. Taking the Spanish context, an example of the first type of journals would be the *Revista Española de Medicina Nuclear e Imagen Molecular* (*Spanish Journal of Nuclear Medicine and Molecular Imaging*), which was founded in 1982 and became the first Spanish journal in the field of Medical Imaging with a JCR-awarded impact factor in 2009, and now has an English edition. Something similar happens with journals such as *Revista de Psiquiatría y Salud Mental* (dealing with psychiatry and mental health) —also with an English edition— or with *Revista Española de Cardiología* (on the field of cardiovascular medicine) and *Revista Clínica Española* (dealing with internal medicine applied to clinical practice) —which both accept Spanish and English papers. An example of the second kind of journals would be the *Spanish Journal of Marketing - ESIC* (SJME), which was established in 1996 under the name of *Revista Española de Investigación de Marketing ESIC* but has been publishing fully in English since 2016. Other examples include the *Spanish Journal of*

Agricultural Research (SJAR) —merged from two series founded in 1985 and publishing in English since 2003— and the *Spanish Review of Financial Economics* —created in 2003 under the name of *Revista de Economía Financiera* and publishing in English since 2011. This process of English dominance in AWRPP has been said to be self-perpetuating since "the greater the number of scholars using English, the more research can be disseminated (to researchers who know English), and the more that research is disseminated in English, the more scholars will be encouraged to publish in English" (Flowerdew, 2012, p.319). This shift to English is not exclusive of Spanish journals, but a global issue affecting EAL scholars in most disciplinary communities around the world (cf. Pérez-Llantada, 2012).

As the extensive literature attests, publishing research on an English-speaking academic world presents a series of aftereffects and challenges for those scholars who are not native users of English. In most academic contexts, employment and promotion are closely connected with research publication in high impact-factor, indexed journals (Belcher, 2007; Flowerdew & Li, 2009; Lillis & Curry, 2010; Curry & Lillis, 2014; Pérez-Llantada et al., 2011; Tang, 2012; Buerns & Westmacott, 2018). As mentioned above, this need of publishing a paper in an international, indexed journal generally means publishing in English. As a result of this naturalization of English in academia, scholars around the world are increasingly feeling the pressure to write and publish their research output in English (for the Spanish context, see Curry & Lillis, 2004; Lillis & Curry, 2010; Ferguson et al., 2011; Pérez-Llantada et al., 2011). Even if having a shared language of science is seen, in general, as beneficial and practical, even by EAL users (De Swaan, 2001; Ferguson, 2007; Lillis, Magyar & Robinson-Pant, 2010; Flowerdew, 2012; Pérez-Llantada, 2012, 2018), some concerns have arisen regarding the role of other languages in academia. First, some academics have argued for the possible 'loss' of any research output that is not published in English both internationally and, more disquieting, within its national borders and local academic community (Flowerdew, 2001; Meneghini & Packer, 2007; Flowerdew & Li, 2009; Lillis & Curry, 2010; Flowerdew, 2012). Second, given the growing demand from national and international policies of publishing in indexed journals with impact factor mentioned before, scholars may bring to a halt their contribution to non-indexed, non-English-publishing, local journals (Salager-Meyer, 2008; Moreno, 2010).

Two further potential challenges linked with the situation of non-native users of English scholars which may end up in their papers being rejected by international journals (Curry & Lillis, 2004) are both linguistic and cultural. The former might be the most conspicuous issue since the language proficiency of an EAL writer will more likely not be the same as the one of their English-native peers (Hynninen & Kuteeva, 2017). Even though authors such as Rozycki & Johnson (2013) have found evidence of non-canonical grammar in some awarded engineering papers, linguistic aspects still have. —and should have— a considerable weight in editors and reviewers' decisions. The literature has identified differences between English-native and EAL writers linked with the use of grammar and vocabulary and the construction of sentences (Chan, 2010; Zhou,

2009), the use of cohesive devices (Mu & Carrington, 2007; Nesi & Moreton, 2012), and phraseology (Ädel & Erman, 2012), among others. Furthermore, some researchers have argued that each journal has its own, one-of-a-kind discourse community and scientific 'subsociety' associated with it (Silvia, 2015; D'Angiulli, Gosselin & Blanchette, 2017). As a consequence, to have a manuscript accepted for publication in a journal, an EAL scholar needs to be able to use their written English language to convey the specific "values, approaches, and attitudes toward science of the members of [the journal's] community and the discipline(s) they represent" (D'Angiulli et al., 2017, p.90). Another possible issue for non-English-native researchers is a cultural one. It has been reported that differences between English culture and academic tradition and the ones of an EAL user of EWRPP may pose challenges when assessing and utilizing existing knowledge and producing new one —even committing undeliberate plagiarism (Chandrasoma, Thompson & Pennycook, 2004; Shi, 2004, 2010; Pecorari, 2006; Wang, 2010; Wette, 2010); conveying their authority as researchers (Neff et al., 2003; Hinkel, 2005); and dealing with the idiosyncrasy of the genres specific to their discourse community (Pérez-Llantada et al., 2011; Lewkowicz, 2012).

One last possible challenge for an EAL user of EWRPP can be connected with the variety of communication patterns among languages and cultures around the world. Organization of written —and any kind of— discourse in the Anglophone tradition has been described as direct, practical and, sometimes, rushing (Lewis, 2010; Tang, 2012). This is likely to cause trouble in EAL users of EWRPP if the conventions of their disciplinary academic discourse in English differs from their L1 communication pattern and academic tradition (Burke, 2010). For example, Spanish scholars are settled in a Romance-history context which is characterized by its verbose, eloquent and circumlocutory communication pattern with a heavy use of passive sentences (Pérez-Llantada, 2007; Lewis, 2010). The divergence between the Anglophone pattern expected in most high-status, indexed journals and the one that is familiar and native to some EAL academics such as the ones encompassed in the present study, could end up in manuscripts being rejected because they may be considered "a little bit over the top and too pretentious (. . .) [and] too Latin for a Northwest European'' (anonymous journal reviewer quoted in Lillis & Curry, 2010, p.150).

However, the potential linguistic problems related with EWRPP explained above are just one part of the matter. As noted by Tang (2012), psychological issues also play a major part in all the AWRPP process and may add an additional obstacle for the EAL scholar as well as a complex layer of linguistic research that needs to be explored in detail in order to help in balancing the field of academic writing. In this regard, Curry and Lillis (2004) carried out a longitudinal study based on social practice theories which included sixteen EAL academics. The results indicated that they often feel *unhappy* and *exhausted* due to the arduous and time-consuming work they have to engage to publish in English, and are sometimes *frustrated* with the imperative use of English in academia. Pérez-Llantada et al.'s (2011) cross-sectional study on the perception of senior and junior Spanish academics at the University of Zaragoza on English as an International

Language for academic publication found that scholars mostly feel *resigned* and *passive* towards English dominance, and more *unconfident* with their English writing skills than with the ones in their L1. These thoughts on EWRPP are not a peculiarity of the Spanish academic community, but a shared belief across most EAL scholars (for overview, see Corcoran, Englander & Muresan, 2019). As evidenced by research such as the previously-mentioned Curry and Lillis (2004) and Pérez-Llantada et al. (2011), scholars usually refer to their feelings and emotions —e.g. *unhappiness*, *exhaustion*, *resignation* and *passiveness*— when talking about their academic writing process. These feelings and emotions have been proved to have an impact on the use of metacognitive writing strategies and, as a consequence, on the quality of the written production (Pintrich, 2000, 2002; Wen, 2001; Lavelle & Guarino, 2003; Wolters, 2003; Pajares & Valiante, 2006; Latif, 2007; Bernaus & Gardner, 2008; Jones, 2008; Erkan & Saban, 2011; Martinez, Kock & Cass, 2011; Williams & Takaku, 2011; Woodrow, 2011; Prat-Sala & Redford, 2012; Kirmizi & Kirmizi, 2015; Liu & Ni, 2015; Stewart, Seifert & Rolheiser, 2015; Aula-Blasco, 2016; Ho, 2016; Balta, 2018; Han & Lu, 2018; Stark, Malkmus, Stark, Brünken & Park, 2018). Nonetheless, there is still a gap in the AWRPP literature with regard to how emotional constructs impact the writing process of EAL scholars that the present thesis aims to start filling.

1.4. Aim of the thesis

As explored in previous sections, the literature has widely discussed the difficulties entailed in the process of writing for publication in an additional language. The escalating requirement of publishing in English around the globe does nothing but aggravate the situation encountered by the majority of researchers in the international academic community. Given the prominence of the Spanish language in world history and, as expected, in Spanish scholars' everyday lives, researchers in Spain seem to be, as it has been explained in Section 1.3, in a particularly disadvantaged position. A position which is also shared by other EAL academics (cf. Politzer-Ahles, Holliday, Girolamo, Spychalska & Berkson, 2016). In addition to the problems reported in the academic writing literature, research in the fields of psychology and education have been determining for decades —even centuries— the major impact of emotions in every task carried out by an individual. However, the relevance of emotions and feelings in academia has been traditionally overlooked in the literature (Flowerdew, 2008). Even if part of the literature has recently started to pay attention to such factors, there is still little research on their effect on AWRPP. Thus, a comprehensive psycholinguistics framework encompassing the relationships between emotional constructs, writing metacognition —which has been confirmed to improve written outcomes— and writing experience is still needed nowadays. Founded on the factors stated above, the information presented in previous sections, and some methodological considerations that will be addressed in Chapter 3, the present PhD thesis seeks to answer the following questions:

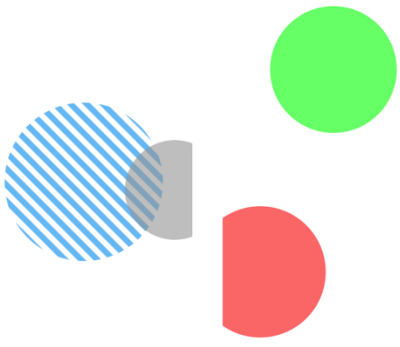
1. To what extent are the constructs of writing anxiety, writing self-efficacy, writing motivation, writing achievement emotions, writing core affect, writing critical thinking, writing emotional intelligence, and writing leadership related to EAL researchers' use of metacognitive writing strategies in EWRPP scenarios?

2. What are the correlations between writing anxiety, writing self-efficacy, writing motivation, writing achievement emotions, writing core affect, writing critical thinking, writing emotional intelligence, and writing leadership, the use of metacognitive writing strategies, and AWRPP experience?

3. To what extent does experience in AWRPP help to increase or decrease EAL researchers' level of writing anxiety, writing self-efficacy, writing motivation, writing achievement emotions, writing core affect, writing critical thinking, writing emotional intelligence, and writing leadership, and writing metacognition?

4. From a methodological perspective, do journey plots retrieve rich and valuable information regarding the influence of emotional constructs and writing metacognition in AWRPP? Is there any difference between data collected using journey plots and data gathered via questionnaires?

Chapter 2
Literature review



And there are people who forget what it's like to be sixteen when they turn seventeen.
— Stephen Chbosky (*The Perks of Being a Wallflower*, 1999)

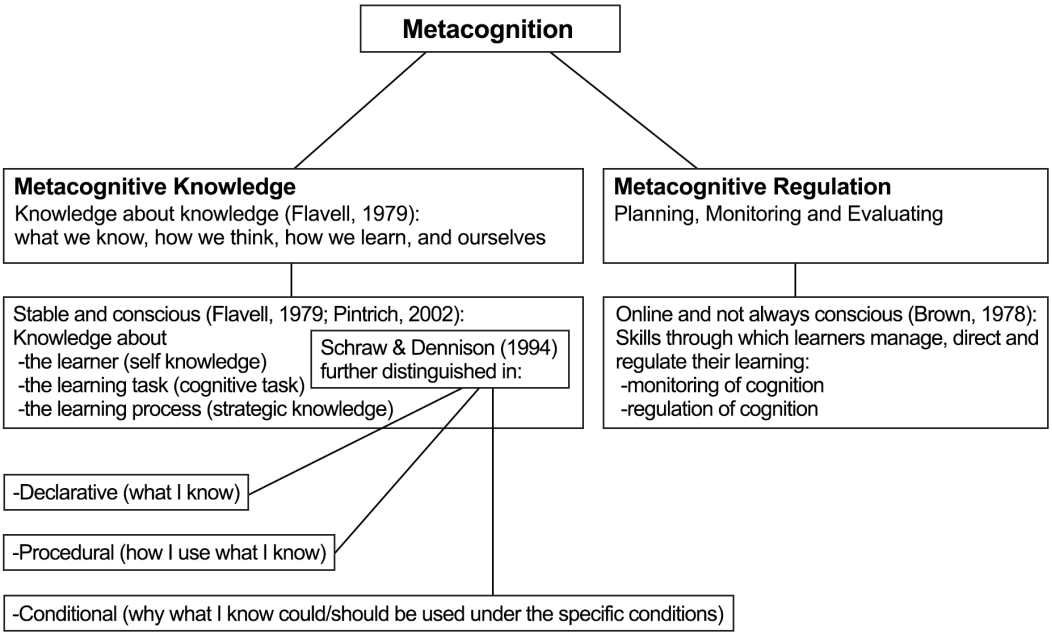
Having set the context for this PhD thesis, this chapter explores the literature entailing writing metacognition, emotional constructs, and the impact of experience in those constructs. Those sections which deal with emotional constructs start with a psychological definition of the construct and gradually move towards a more linguistic approach towards it. Instances connecting the psychological theory behind the constructs with the scope of this study can be found across all sections. A section comprising the relationships between all the constructs encompassed in this PhD thesis studied in the literature can also be found in the present chapter.

2.1. Writing metacognition

The literature on *metacognition* was initiated in the field of developmental psychology by John Hurley Flavell (1979), who also coined the term. As research was determining the paramount role of metacognition in learning, preliminary studies in the field of additional language education started to show interest in the use of metacognitive strategies in every aspect of language learning, including writing (e.g. Nightingale, 1988; Hounsell, 1997). Allen and Armour-Thomas (1993) suggested that writing metacognition in EAL users is not permanent and constant, but adaptive and responsive. Following this finding, there has been a growing interest in determining the possible effects of emotional constructs such as motivation (Pintrich, 2000; Han & Lu, 2018), achievement emotions (e.g. Isen, 2000; Wolters, 2003; Stark et al., 2018), self-efficacy (Jones, 2008; Stewart et al., 2015; Aula-Blasco, 2016; Ho, 2016), and anxiety (e.g. Woodrow, 2011; Stewart et al., 2015; Aula-Blasco, 2016; Balta, 2018), among others, in EAL writers' use of metacognitive writing strategies and their writing quality.

Metacognition refers to "the knowledge and control individuals have over their own cognition and learning experiences" (Allen & Armour-Thomas, 1993, p.203). However, when summarizing the main theories related with metacognition, researchers such as Veenman, Van Hout-Wolters and Afflerbach (2006) and, more recently, in the field of EAP, Negretti and McGrath (2018) highlight the multifaceted nature of the concept, encompassing two main components. First, what is known as *metacognitive knowledge*, that includes the awareness of oneself and the strategies one uses, and the familiarity with the concepts that one may need to use and the task one is dealing with. Schraw and Dennison (1994) additionally differentiate between *declarative knowledge* (i.e. consciousness of what one knowns) *procedural knowledge* (i.e. ability to put into use what one knows), and *conditional knowledge* (i.e. realizing about the relevance of one's

knowledge in a specific learning condition). Second, *metacognitive regulation*, that involves processes such as planning, goal-setting, monitoring, and reviewing (Brown, 1978; Flavell, 1979; Pintrich, 2002; Schraw & Dennison, 1994). Fig. 2.1 summarizes the framework designed by Negretti and McGrath (2018) on metacognition and the facets of the construct.



▲Fig. 2.1. Metacognition framework (Negretti & McGrath, 2018, p.14).

Gombert (1993) highlighted the uniqueness of metacognitive knowledge regarding communication due to the fact that metacognition is described by the nature of its object. This means that metacognitive knowledge of a language involves "the pragmatic aspects of language use as tied to a communicative context or, in the case of writing, to genre" (Negretti & Kuteeva, 2011, p.97).

Three decades ago, Swales (1990) started making indirect associations between genre and metacognition. This author discusses the idea of *rhetorical awareness*, which implied not only being conscious of the distinctive features of a genre (e.g. journal manuscript, abstract, book chapter, etc.), but also being able to fathom how to use such knowledge in one's writing process —a metacognitive strategy itself. In recent years, the idea of writing metacognition has been more explicitly connected with the concept of genre in the existing research (Negretti & Kuteeva, 2011; Yeh, 2015; Negretti, 2017; Negretti & McGrath, 2018). Similarly, Tardy (2009, 2016) highlights the complexity of gaining full insight of a specific genre given its multifaceted nature. This sophistication requires the writer's understanding and integration of different kinds of genre knowledge such as content, textual, procedural, and social, using them to change a genre to suit their desire. This ability to "manipulate and exploit genres for [one's] purposes" (Tardy, 2016, p.142) can be connected to writing metacognitive awareness. Negretti and McGrath (2018) further argue that expert genre knowledge —specific to a unique genre— and advanced genre awareness —related with the concept of genre as a whole— require being able to

judge the validity of the genre manipulations undertaken by oneself as a writer based on one's knowledge about genres, that is, approaching genre writing metacognitively.

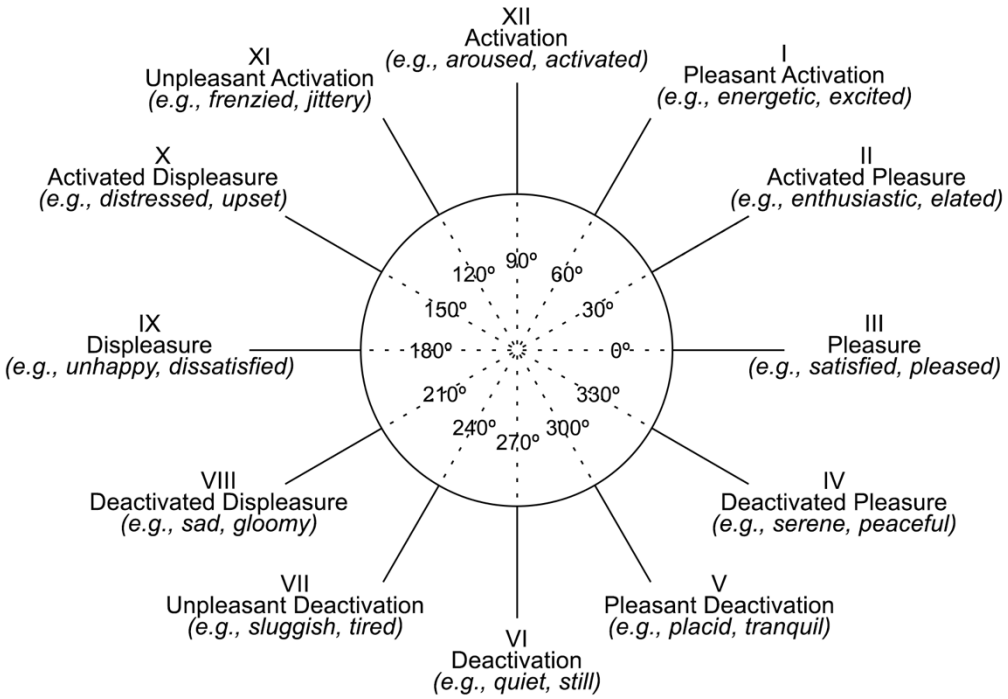
Metacognitive knowledge and the use of metacognitive strategies have been widely associated to better writing outcomes and proficiency at all educational levels –from elementary school to higher education (e.g. Van den Bergh & Rijlaarsdam, 2001; Lavelle & Guarino, 2003; Baker & Boonkit, 2004; Subramaniam, 2004; Hong-Nam & Leavell, 2006; Connor, 2007; Lavelle & Bushrow, 2007; Magno, 2008; Hacker, Keener & Kircher, 2009; Chien, 2010; Maarof & Murat, 2013; Maftoon, Birjandi, & Farahian, 2014; Ong, 2014; Stewart et al., 2015; Karlen, 2017; Farahian & Avarzamani, 2018). Research shows that writers with a deep and broad attitude towards learning to use a wide range of metacognitive writing strategies. As reported, this results in a more effective writing process and a more detailed writing output than the one produced by low users of these strategies (Connor, 2007; Lavelle & Bushrow, 2007; Lavelle & Guarino, 2003; Stewart et al., 2015). It is also argued that this increased use of metacognitive writing strategies has a positive influence in every stage of the writing process —analysis, planning, organization, monitoring, revision— as well as in content, vocabulary and grammar choices (Myhill & Jones, 2007; Hacker et al., 2009; Dülger, 2011). In spite of the acknowledged advantages metacognition has in writing, few studies have to date tackled academic writing (Lv & Chen, 2010; Negretti & Kuteeva, 2011; Mair, 2012; Yeh, 2015; Karlen, 2017; Negretti, 2017; Negretti & McGrath, 2018). Even in these scenarios, research has focused on undergraduates, graduates or doctoral students, overlooking the importance metacognitive writing strategies may have in AWRPP and, as it is the case of this thesis, how can this metacognitive knowledge and awareness be correlated with writing emotional constructs.

2.2. Writing core affect

The term *core affect* was coined by social psychologist James A. Russell (2003) to describe "the heart of emotion" (p.145). Russell states that core affect is a simple —yet complicated— way to refer to "a neurophysiological state that is consciously accessible as a simple, non-reflective feeling that is an integral blend of hedonic (pleasure–displeasure) and arousal (sleepy–activated) values" (p.147). That is to say, the emotional state of feeling good or bad and energized or deactivated, together with any possible blend and degree of arousal of those raw feelings, as explained in the following paragraph. The term core affect refers to a similar concept to the one coined in previous literature as, for example, *affect* (Watson & Tellegen, 1985), *activation* (Thayer, 1989), *mood* (Morris, 1989), *blue-ribbon emotions* (Panksepp, 1998), or *valence dimension* (Davidson, 2000).

Russell (2003) devised a circumplex model in order to facilitate the understanding of the concept that has been visually and informationally enhanced in Yik et al. (2011). This revised version of the diagram is known as the 12-Point Affect Circumplex (12-PAC) (see Fig. 2.2). In it, any conscious emotional experience can be easily placed as a combination

of the two dimensions mentioned above (i.e. hedonic and arousal). The former is represented in the horizontal dimension and stretches from *pleasure* (0º of the circumplex model) to *displeasure* (180º), going through a bystanding point known as *adaptation level* in the middle. The latter is represented in the vertical dimension and ranges from *activation* (90º) to *deactivation* (270º), covering "various stages of alertness to frenetic excitement" (Russell, 2003, p.148). In addition, each quartile of the 12-PAC comprises two additional sub-dimensions that help to locate any given emotional experience. For instance, at a given moment, one may feel purely deactivated (270º) in the 12-PAC, thus feeling *quiet* and *still*. However, one might find different degrees of displeasure in such quietness and stillness, thus feeling either *tired* (unpleasant deactivation) or *gloomy* (deactivated displeasure). As seen in Fig. 2.2, each section includes examples of well-known states that diverge in the extent of core affect they denote. Adapting the example provided by Russell (2003) to the scope of this thesis, a scholar may feel *proud* after having a manuscript accepted for publication. The *pride* they feel can be described as feeling good about one's writing abilities and hard work. The "feeling good" part is pure core affect, while the "about one's writing abilities and hard work" part is a supplementary linguistic element.



▲Fig. 2.2. 12-Point Affect Circumplex (Yik et al., 2011, p.706).

Given that core affect deals with "simple, non-reflective feeling[s]" (Russell, 2003, p.147), it is not possible to reduce it to anything more elementary at a psychological level (Yik et al., 2011). Being so simple and fundamental, core affect is always present within a person. Nonetheless, a person is not continuously aware of it. Usually, if an emotional state is neutral and unchanging, it vanishes from consciousness. Russel (2003) explains that when a feeling is intense or there is a swift shift in core affect, a person is more likely to perceive it more clearly. These consciousness-raising changes in core affect can be

caused by individual psychological differences —such as the strength of emotions, the degree of sensitivity, or emotional volatility (Lykken & Tellegen, 1996); internal biological causes —such as hunger, immune cells stimulation, hormones, or neurological responses (Maier & Watkins, 1998; Rolett, 2017); or external factors —such as medication, alcohol, smells, weather, or social aspects (Russell, 2003). AWRPP is an emotionally-charged determinant with a substantial social and professional effect that might result in pressure to publish and competitiveness (Flowerdew & Li, 2009; Lillis & Curry, 2010; Pérez-Llantada, 2012; Curry & Lillis, 2014; Chen & Flowerdew, 2018), which could have an impact in core affect perception and vice versa.

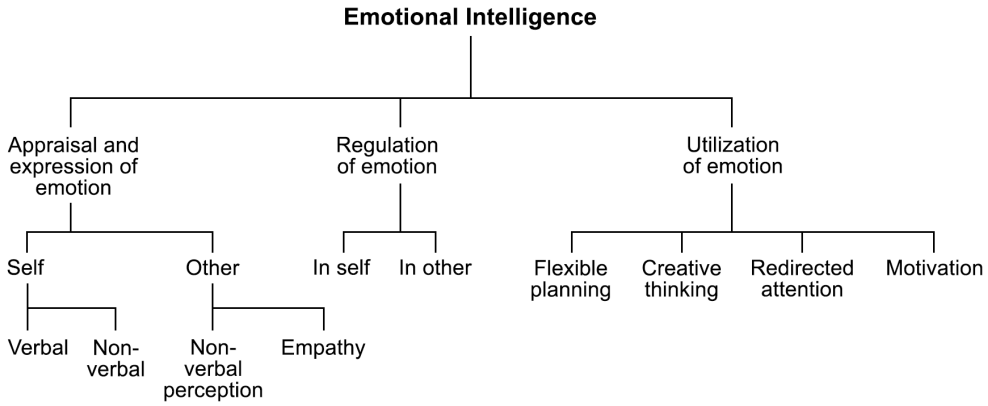
The impact that core affect and its changes have on people has been studied extensively in the psychology literature (for an overview, see Russell, 2003, 2009). Some of the reported effects of core affect that could potentially affect the AWRPP process of EAL scholars are memory retrieval —which is useful when remembering genre-specific conventions, vocabulary and grammar (Blaney, 1986); judgement —convenient for on-going and final revision tasks of the writing process (Forgas, 1995); critical thinking —which will be analyzed in Section 2.5 (Schwarz & Bless, 1991; Park & Banaji, 2000); and learning intake —valuable per se (Bower, 1992). In spite of these possible consequences on AWRPP, research on the psychology of writing processes has only focused on university students (Yik et al., 2011; Zhang et al., 2018). Research on academics' writing along those lines is comparatively scarce. To the best of my knowledge, there is in fact no research on the impact of core affect in writing, AWRPP, or EWRPP neither in an L1 nor in an L2.

2.3. Writing emotional intelligence

The term *emotional intelligence* appeared first in Peter Salovey and John D. Mayer's (1990) work and was used to refer to "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (p. 189). Decades before the coinage of this term, the 'social' part of the definition had already been tackled by researchers such as Thorndike (1920) and Walker and Foley (1973) in what it was known as *social intelligence*. Thorndike defined a *socially intelligent* person as the one who is able to notice and understand the internal states, reasons, and behaviors of another person and act adequately towards them based on such knowledge. Back then, social intelligence was often understood as a negative feature, as it was usually connected with manipulating other people (Weinstein, 1969). Regarding the 'individual' part of the emotional intelligence definition, one of the first references was what Gardner (1983) coined as *personal intelligence*, described as the ability to "access to one's own feeling life —one's range of affects or emotions: the capacity instantly to effect discriminations among these feelings and, eventually, to label them, to enmesh them in symbolic codes, to draw upon them as a means of understanding and guiding one's behavior" (p.239). Mayer and Gaschke (1988) used the term *meta-mood experience* to refer to the ongoing process by which people

are constantly monitoring, assessing and regulating their emotional states. The 'social' and the 'individual' emotional competencies described above were then integrated by Salovey and Mayer (1990) under the emotional intelligence framework described later in this Section. After the surfacing of this model, other frameworks appeared to measure similar aspects such as the ones included in Salovey and Mayer's. For instance, Goleman's (1998) model describes emotional intelligence based on a set of competences (i.e. the abilities necessary to efficiently carry out a specific task) and competencies (i.e. the knowledge, experience and qualities required to efficiently carry out a specific task) which boost work performance. Another example is Bar-On's (2006) model, that depicts a transversal segment of related and interconnected emotional (i.e. personal) and social competencies that increase 'intelligent' behavior. The original emotional intelligence framework (Salovey & Mayer, 1990) has been chosen for this thesis due to its multidimensionality and numerous revision processes undertaken to ensure its reliability and comprehensiveness (Mayer & Salovey, 1993; Salovey, Hsee & Mayer, 1993; Salovey et al., 1995; Mayer & Salovey, 1997; Mayer, Roberts & Barsade, 2008).

Salovey and Mayer (1990) proposed an emotional intelligence framework that includes three main mental processes (see Fig. 2.3): appraisal and expression of emotions, regulation of emotions, and utilization of emotions adaptively. The process of accurately *appraising and expressing emotions* can be done in the self and in others. The former can be expressed verbally (i.e. speaking and/or writing about emotions clearly after performing an introspection process) and/or nonverbally (e.g. facial expression, body language, etc.). The latter encompasses the nonverbal perception of emotion (which ensures suave interpersonal relationships) and empathy, that is, "the ability to comprehend another's feelings and to re-experience them oneself" (Salovey & Mayer, 1990, p.194).



▲Fig. 2.3. Emotional intelligence framework (Salovey & Mayer, 1990, p.190).

Similarly, the process of *regulating emotions* can take place within oneself and in regard to others. Even though most aspects of emotional regulation within oneself happen unintentionally (e.g. an academic does not need to make an intentional decision to feel sadness and disappointment if their manuscript is rejected by their target journal), some emotional meta-experiences are done consciously. By way of illustration, adapting

the examples provided by Salovey and Mayer (1990), if a researcher finds it satisfying to publish in English and receives positive feedback from journal reviewers that makes them feel proud, then the reason for those emotional states —EWRPP— could be repeated in the future in order to feel satisfaction and pride again. In addition, a scholar may regulate their emotions by choosing research peers that help them thrive and whose success and achievements generates pride and motivation rather than envy (Tesser, Millar & Moore, 1988). Concerning the regulation of emotions in others, an emotionally intelligent person is able to regulate and modify some emotional states of others. In the case under study in this thesis, for example, an academic writer with an acceptable degree of emotional intelligence would be able to hold their readers' interest all throughout their manuscript and evoke strong agreement towards the findings they are arguing for in their piece of research.

Finally, the process of *utilizing emotions*, that is, the ability "to harness [one's] own emotions in order to solve problems" (Salovey & Mayer, 1990, p.198), encompasses four principles: flexible planning, creative thinking, mood redirected attention, and motivation. *Flexible planning* implies being able to fluctuate mood in order to be prepared for a wide range of potential future outcomes and thus take advantage of any of those upcoming scenarios. For instance, if a scholar who has sent a paper to a journal is capable of finding pleasant emotions in the future situations of being accepted for publication (the easiest to be pleased with), being asked for revision, or straightforwardly being rejected (the most difficult to be pleased with), it can be hypothesized that they will be prepared for any outcome and their emotional state will stay positive no matter what happens. This would also encourage the researcher to take more risks and generate more opportunities for success in the future (Mayer, 1986). The concept of *mood redirected attention* was used by Salovey and Mayer (1990) to describe the ability "to capitalize on the capacity of emotional processes to refocus attention on the most important stimuli in their environment" (pp.199-200). That is to say, prioritizing emotional resources to more important or more positive events. For example, if a novice researcher has both been granted a scholarship and had their first paper rejected for publication, it would be emotionally intelligent to focus on the scholarship since it is more relevant for their professional career than having a manuscript published on one specific journal. The principles of *creative thinking* and *motivation* are considered to be variables within this thesis, as explained in detail in Section 2.5 and Section 2.6 respectively.

A revised four-branch hierarchical model of this framework was devised by Mayer & Salovey (1997). The most important addition to the original framework was the division between the 'higher' and the 'lower branches' of emotional intelligence. The 'lower branches' (a.k.a. *experiential emotional intelligence*) include the processes of perception of emotions and facilitation of thought. The 'higher branches' (a.k.a. *strategic emotional intelligence*) encompass the processes of understanding and managing emotions and are determined by the 'lower' ones.

The literature on educational psychology has well established a positive correlation between emotional intelligence and both academic and linguistic performance at various

educational levels and learning contexts (MacCann, Fogarty, Zeidner & Roberts, 2010; Perera & DiGiacomo, 2013; Sadeghi & Farzizadeh, 2013; Shao, Yu & Ji, 2013; Hen & Goroshit, 2014; Libbrecht, Lievens, Carette & Côté, 2014; Estaji & Shahmoradi, 2016; Genç, Kuluşakli & Aydin, 2016; Huerta et al., 2016; Ebrahimi, Khoshsima & Zare-Behtash, 2017). However, similar to what happens with core affect, existing research on the relationships between emotional intelligence and academic writing performance mainly focusses on university students writing for their courses (Sadeghi & Farzizadeh, 2013; Shao et al., 2013; Estaji & Shahmoradi, 2016; Genç et al., 2016; Ebrahimi et al., 2017). AWRPP is still an overlooked field of study when it comes to emotional intelligence.

2.4. Writing leadership

Even though the social and collaborative aspects of AWRPP is present in all the emotional constructs under research in this thesis, the construct of writing leadership is the only one which deals entirely with such aspects of writing. This means that writing leadership —at least in the framework of this thesis— is connected with the coauthoring practices, the opportunities and challenges derived from collaborative writing, and the awareness of the social aspect of academic writing experienced by EAL scholars throughout their EWRPP processes in pairs or groups, that is, co-authoring with other academics.

The concept of *leadership* as it is understood nowadays was introduced by James MacGregor Burns (1978) in his analysis of political leaders. Bernard M. Bass (1985) then adapted Burns' (1978) theory to the field of organizational psychology. Burns (1978) established two different types of approaches to leadership: *transactional* and *transforming*. The main difference between those two approaches is that transactional leaders stick to the existing 'culture' within a social or professional organization —understanding organization here as a group of people that share beliefs, norms and goals in any context such as academia— whereas transformational leaders strive for improvement and change. Transformational leadership implies the will and the ability to redesign values, opinions and expectations of other people. It also involves being a moral example for the rest in order to improve the organization, rather than being a leader based on a relationship of contracts and rewards, as it is the case of transactional leaders. Finally, a transformational leader stimulates others to develop and suggest further ways of changing the existing conditions within the organization. By way of illustration, transformational leadership in academic contexts can be manifested in many forms such as helping two or more coauthors reach an agreement when they have different opinions on a topic, or helping peers find meaning in their work, among others. In AWRPP, providing recognition to one's colleagues when they reach their writing goals, adding appealing and simple visual support to the written text, or making one's peers feel good about their writing skills without trying to change their style if it is not really necessary are all, among others, attitudes of a transformational leader. In spite of the fact that Burns (1978) suggested that transactional and transforming leaderships are

mutually exclusive, Bass (1985) stated that both approaches can concurrently appear within the same individual. Indeed, some years later, Avolio, Bass and Jung (1999) theorized that leadership is a continuum, starting from transactional and progressively developing to a high-end transformational leadership.

Bass' (1985) original model comprised seven leadership factors: charisma, inspirational, intellectual stimulation, individualized consideration, contingent reward, management-by-exception, and laissez-faire. In a subsequent review, Bass (1988) pointed out that charisma and inspirational were usually not empirically discernible and reduced his model to a six-factor one. These factors can be divided into those connected with transactional leadership (i.e. contingent reward and management-by-exception), those linked with transformational leadership (i.e. charisma/inspirational, intellectual stimulation, and individualized consideration), and one related with the absence of leadership (i.e. laissez-faire) (Avolio et al., 1999). Subsequent analyses and reviews of Bass' (1985) model (e.g. Bass, 1990; Bass & Avolio, 1990, 1993; Bycio, Hackett & Allen, 1995; Den Hartog, Van Muijen & Koopman, 1997; Avolio et al., 1999) advocated for merging again the six factors mentioned above into *transactional*, *transforming*, and *passive/absent leadership* due to the low discriminant validity between the two kinds of leadership. Furthermore, it has been suggested that the most successful leaders display both transactional and transformational features (Bass & Avolio, 1993). Thus, since the turn of the century, leadership is commonly understood as a continuum (Avolio et al., 1999) that, in some cases, can become a dichotomy —either one has it or not— (Bass, 1985; Bycio et al., 1995).

It has been suggested that the dominant leadership approach in university settings is still mainly transactional (Rhodes, 2001; Christensen, 2013; Harden, 2013). In fact, Rhodes (2001) even claimed that the academic community was experiencing all the social, moral, and economic changes that characterized the third millennium just as "dinosaurs contemplating the looming asteroid at the end of the Cretaceous period" (p.233). These changes confronting higher education involve "issues of adaptation, accessibility, assessment, and accountability [which] call for agile and creative leadership" (Gigliotti, 2017, p.196). Fortunately, research has found that leadership can be taught (Giber, Carter & Goldsmith, 2000; Parks, 2005; Van Velsor, McCauley & Ruderman, 2010). As a consequence, over the past decades there has been an increasing number of programs around the world focused on the importance of communication and the social aspect of academia aimed at boosting transformational leadership in higher education and the academic community (Ruben & Gigliotti, 2016; Ruben, De Lisi & Gigliotti, 2017; Gigliotti, 2017). However, these programs seem to be better established in North American Universities (cf. Gigliotti, 2017) and especially aimed at tenure-tracked scholars. Academic writing courses for junior scholars (see for instance Academic English UZ, 2020; Centre for Academic English ICL, 2020; English Language Institute U-M, 2020) tend to be more focused on other greatly-valuable issues such as analyzing academic genres, creating a research space, reading and writing strategies

—including metacognitive ones, and achieving coherence and accuracy in the writing process rather than on leadership.

Some scholars have expressed concern regarding the idea of becoming leaders since they viewed leadership as a hindrance to creativity and progress (Söderhjelm, Björklund, Sandahl & Bolander-Laksov, 2018). Nonetheless, these claims respond to the idea of purely transactional leadership, not taking into account the creative, transformational part of leadership. Most research and developed programs on academic leadership deal with the construct in all aspects of the academic life in general, both in students and in scholars across disciplines (Berman, 2015; Söderhjelm et al., 2018). Some recent literature has begun to connect writing and leadership (e.g. Thomas & Reinertsen, 2016), but they do so by using writing as a mean to achieve transactional leadership within a training program, rather than exploring possible correlations between them. In the field of EAP, the literature has dealt with aspects of writing leadership regarding coauthoring such as the distribution of writing and revising tasks and the role of the first author (Ferguson et al, 2011; Llantada et al, 2011; Moreno, Rey-Rocha, Burgess, López-Navarro & Sachdev, 2012; Muresan & Pérez-Llantada, 2014). The 'emotional' dimension of writing leadership is still underdeveloped in this field. Since leadership has been argued to enhance creativity (Hemlin, Allwood & Martin, 2008; Heinze, Shapira, Rogers & Senker, 2009), improve the use of both planning and emotional-orientation strategies (Hemlin, 2009), and grow team spirit (Tuckman & Jensen, 1977), it is a potentially valuable construct for the use and development of metacognitive writing strategies in AWRPP.

2.5. Writing critical thinking

The current interest on *critical thinking* started in the 1980s and skyrocketed its influence in psychology and education with Robert H. Ennis' (1996) seminal work on the construct, even though he started publishing about it back in 1956. Ennis (1993) defines critical thinking as "reasonable reflective thinking focused on deciding what to believe or do" (p.180). The idea behind this concept is similar to what McPeck's (1981) named *reflective skepticism* and Paul's (1987) definition of *strong sense*. According to Ennis (1993, 1996, 2011a, 2011b, 2015, 2018, see also Norris & Ennis, 1989), a critical thinker needs to do most or all of the following things:

i. Assess the credibility of sources.
ii. Recognize conclusions, reasons, and assumptions.
iii. Assess the quality of an argument, analyzing the appropriateness of its reasons, assumptions, and provided evidence.
iv. Develop and argue for a position on a given topic.
v. Ask suitable clarifying questions.
vi. Design experiments and assess existing experimental designs.
vii. Define concepts in a convenient way for a given context.
viii. Be open-minded.
ix. Be well informed.
x. Draw conclusions when necessary, but doing it cautiously.

Cottrell (2011) suggests that critical thinking can be learned and acquired by getting used to a set of methods targeted at evaluating evidence in a specific approach (see also Facione, Facione & Sanchez, 1994; Tsui, 2002; Brookfield, 2012; Sahoo & Mohammed, 2018). This set includes attention to detail, identifying trends and patterns, repetition, taking different perspectives, objectivity, and considering implications and distant consequences (Cottrell, 2011, p.5). Regarding potential obstacles to critical thinking, Cottrell highlights the misunderstanding of the idea of criticism, that implies either focusing exclusively on negative aspects or avoiding them at all cost to avoid being considered displeasing and obnoxious; over-estimating one's reasoning abilities, that is, thinking that our own beliefs, reasons and conclusions are the best; being reluctant to criticize experts, that is, the apprehension which appears when one is "critically analyzing texts or other works by people that [they] respect" (p.11); and lacking from appropriate attention to detail when assessing a subject matter.

The literature on AWRPP has paid special attention to the influence of critical thinking on academic writing and vice versa (Tsui, 2002; Facione & Facione, 2008; Badley, 2009; Stacey & Granville, 2009; Whiffin & Hasselder, 2013; Cowen, Kaufman & Schoenherr, 2016; Sahoo & Mohammed, 2018). On the one hand, critical thinking has been said to develop problem solving and creativity and boost objectivity and logic in academic writers, aspects that can be transferred to EWRPP (Tsui, 2002; Facione & Facione, 2008). Furthermore, personal traits such as being open-minded, flexible, and analytical —all associated to critical thinkers— have been connected to scientific soundness (Perkins, Jay & Tishman, 1993). On the other hand, the change from undergraduate academic writing to AWRPP has been suggested to improve critical thinking due to the increased intricacy of the skills entailed in AWRPP (Badley, 2009; Stacey & Granville, 2009). In addition, simulations of EWRPP tasks, case study analyses, project-based learning, reflective writing, and methodologies based on the 'academic literacies model' have been proposed as beneficial for teaching critical thinking to academics (Borglin, 2011; Brookfield, 2012; Naber & Wyatt, 2014). Research on the relationships between critical thinking, other emotional constructs, and metacognition is still underdeveloped.

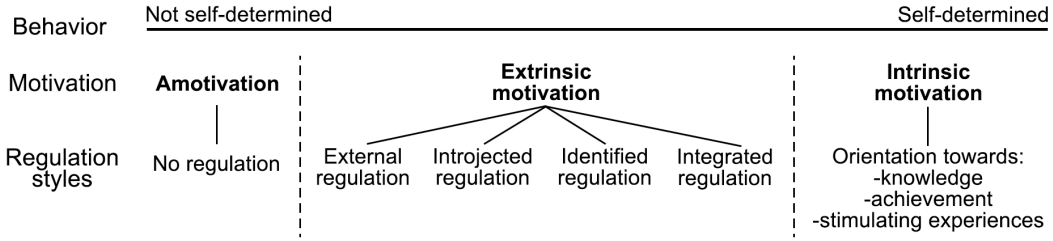
2.6. Writing motivation

The idea of *motivation* has been defined both as a source of action and as the action itself. Richard Johnstone (1999) understood motivation as the catalyst for reaching a goal. Conversely, Edward L. Deci and Richard M. Ryan (1985) saw the construct as the progress and motion one takes in order to do something. In the field of Second Language Learning (SLL), Cook (2000) highlights the importance of motivation when pointing out that SLL entails three main aspects: *i*. age, which could be related with years of expertise in AWRPP but not with EAL writing experience, *ii*. personality, which may be said to include most of the constructs analyzed in this thesis, and *iii*. motivation, which is explained in this section.

Regarding the types of motivation in SLL —thus influencing AWRPP in EAL scholars— Gardner and Lambert (1972) distinguished between two types: integrative and instrumental. Integrative motivation responds to one's "attitudes towards the second language community" (Lightbown & Spada, 2001, p.33). Thus, this kind of motivation is present when an L2 user wants to participate and be accepted —up to a greater or lesser extent— by the community which and the people who use such language. For example, one could hypothesize that if a non-Anglophone scientist wants to be proficient in English for the sake of engaging in a global network of researchers (as claimed by the EAP literature, cf. Plo & Pérez-Llantada, 2015), they are integratively motivated. Instrumental motivation entails a will to use an L2 proficiently in order to obtain a given benefit, usually academic or professional. For instance, an EAL scholar who improves their academic English writing skills so as to get a promotion within their university (as widely reported, again, by the EAP literature, cf. Tang, 2012) would be a case of instrumental motivation. Within the so-called Self-Determination Theory, Ryan and Deci (2000) further differentiate between intrinsic and extrinsic motivation. The former concept applies to the willingness and enthusiasm to carry out specific activities because one believes that they are engaging and pleasant. The latter is connected with the inclination to take part in a task due to reasons that are not related to the activity itself. Examples of these reasons which may apply to AWRPP could be the hope to improve one's number of citations, or the fear to lose financial funding for one's project.

Recent studies have used this existing dichotomy to represent motivation as a continuum that goes through various degrees of self-determination towards an activity which are comprised under eight regulation styles. Fig. 2.4 shows Stover, de la Iglesia, Rial & Fernández's (2012) Self-Determination Continuum, which was in turn created grounded on Deci and Ryan's (1985) and Vallerand, Blais, Briere & Pelletier's (1998) models. The continuum starts with a complete lack of motivation (a.k.a. amotivation) characterized by a lack of regulation. As an instance, a non-Anglophone academic may not be motivated to write manuscripts in English nor to improve their academic English proficiency, so they rely on reviewers, translators, and/or colleagues —what Lillis and Curry (2006) label as *literacy brokers*— and thus just publishes in Spanish. Right after amotivation, there are four regulation styles under the umbrella of extrinsic motivation: *external*, *introjected*, *identified*, and *integrated*. First, *external regulation* is characterized by acting as a consequence of imposed rules so as to avoid being punished or to get a reward. This type of regulation style is linked to instrumental motivation (Gardner & Lambert, 1972). Second, *introjected regulation* implies that behaviors follow a will of boosting one's self-esteem and prevent culpability. Third, in the stage of *identified regulation*, one picks one's activities, but this is done as a result of extrinsic reasons. For example, choosing to write a research paper in English rather than in Spanish because the scientific community values more highly manuscripts published in English-language journals. Fourth, *integrated regulation* takes place when individual desires and principles match those proposed by the community. For instance, believing that having a shared language for science –i.e. English– is convenient and thus using such language as an L2 in one's professional life. Finally, intrinsic motivation is connected with an intrinsic

regulation style and it encompasses three subtypes that do not develop gradually: *orientation towards knowledge*, *orientation towards achievement*, and *orientation towards stimulating experiences*. The first one occurs when an activity is done for the mere pleasure of learning. *Orientation towards achievement* implies finding gratification in overcoming one's limits and reach one's goals. The last one is based on the delight one feels towards intellectual and artistic tasks, and the emotional states drawn from them.



▲Fig. 2.4. Self-Determination Continuum (Stover et al., 2012, p. 72) [Adapted].

Scholarly research reports various benefits of the different kinds of motivation for academic performance across educational levels, overall writing skills, and AWRPP (Pajares, 1996; Cook, 2000; Ryan & Deci, 2000; Lightbown & Spada, 2001; Dörnyei, 2002, 2005, 2009; Mori, 2002; Walker, Greene & Mansell, 2006; Zhang & Guo, 2013; Lin, Cheng & Lin, 2014; Lin, Cheng, Lin & Hsieh, 2015; Han & Lu, 2018). A significant degree of integrative and instrumental motivation (Gardner & Lambert, 1972) has been determined as an advantageous factor towards SLL (Cook, 2000; Lightbown & Spada, 2001) and, as a consequence, an improved writing performance. Intrinsic motivation has been suggested to be more beneficial when trying to achieve a high level of linguistic and written proficiency than extrinsic motivation since intrinsically motivated writers are prone to be more persistent when dealing with complex issues so as to find a solution and learn more from their mistakes to enhance future performance (Ryan & Deci, 2000; Walker et al., 2006). It is also worth noting that the use of metacognitive strategies has also been associated with having a significant level of motivation (Pintrich, 2000). On a questionnaire-based study on two hundred and thirty non-English-major EFL undergraduates, Han and Lu (2018) found that motivation to achieve success is a more significant predictor of metacognitive writing strategies than motivation to avoid failure. One of the few studies that have dealt with EWRPP is Lin et al. (2015), who analyzed the role of motivation in research-article abstract writing in ESL graduate students. Their results show that there is a direct correlation between writing motivation and research-article written performance. To the best of my knowledge, there is no literature available on scholars' EWRPP processes.

2.7. Writing achievement emotions

The theory on *achievement emotions* was first posited by educational psychologist Reinhard Pekrun (1984, 1988) as an expectancy-value model to describe anxiety. Then, the theory was expanded to encompass the impact of self-regulation and engagement

on academic settings (Pekrun, 1992, 2000; Pekrun, Goetz, Titz & Perry, 2002). The latest version of the Control-Value Theory of Achievement Emotions (Pekrun, 2006) blends the expectancy-value models mentioned above with attributional approaches to achievement emotions (e.g. Weiner, 1985), perceived control models of emotions (e.g. Patrick, Skinner & Connell, 1993), and theories regarding the consequences of emotions on academic performance and learning outcomes (e.g. Fredrickson, 2001; Pekrun et al., 2002). Pekrun defines achievement emotions as those "emotions tied directly to achievement activities or achievement outcomes" in learning experiences (2006, p.317). This definition suggests that, when applied to the scope of this thesis, namely, the context of advanced academic writing, achievement emotions not only have an influence on and are influenced by the final written product, but also may play a role in the writing process itself. Furthermore, it is also worth noting that the definition implies that there are two main kinds of achievement emotions: *activity-related achievement emotions* and *outcome-related achievement emotions* (Pekrun et al., 2002; Pekrun, 2006; Pekrun, Elliot & Maier, 2006). The former includes, for example, the possible delight, apathy or irritation that may be derived from academic writing in an L2. On the other hand, *outcome-related achievement emotions* involve states such as anticipatory hope for getting published in a renowned journal, anxiety of prospective failure, and retrospective satisfaction or shame felt after previous feedback on a former draft or publication attempt, among others.

The Control-Value Theory of Achievement Emotions (Pekrun, 2006) postulates that there are two main groups of appraisals that are relevant to the construct. According to the Emotional Appraisal Theory (Scherer, Shorr & Johnstone, 2001), an appraisal is an individual evaluation of an event which causes an emotional reaction that is unique to each person and situation. The sets of appraisals which impact achievement emotions according to Pekrun (2006, p.317) are the *subjective control* over achievement activities and their outcomes, and the *subjective values* of these activities and outcomes. An example of appraisal pertaining to the *subjective control* group would be the belief that hard work and constant practice of EWRPP will eventually result in getting a manuscript accepted for publication in a renowned journal. The perceived significance of getting published in that specific journal (which has been found to be substantial across multiple EAP studies, e.g. Plo & Pérez-Llantada, 2015; Corcoran et al., 2019) would be an instance of the *subjective value* set. Based on these two main groups of appraisals, Pekrun (2006) posits six types of appraisals that influence achievement emotions: *situation-outcome expectancies*, *action-control expectancies*, *action-outcome expectancies*, *total outcome expectancies* (with positive or negative outcomes and in achievement situations), *causal attributions of outcomes*, and *values of actions and outcomes* (values divided in extrinsic and intrinsic). Table 2.1 shows every appraisal together with a brief definition (see Pekrun, 1988 and Pekrun, 2006 for a more exhaustive analysis) and an example —of many possible— that could apply to the population of EAL scholars. The examples provided are based on the realities of EAL academics reported by various ethnographic EAP studies, e.g. Curry & Lillis, 2004; Lillis & Curry, 2010; Ferguson et al., 2011; Pérez-Llantada et al., 2011; Pérez-Llantada, 2012, 2018; Tang, 2012; Muresan & Pérez-Llantada, 2014, 2019; Plo & Pérez-Llantada, 2015; Corcoran et al., 2019).

Appraisal	*Definition*	*Example*
Situation-outcome expectancies	The belief that a situation will produce positive outcomes without any need for self-action, or will produce negative outcomes if no countermeasures are taken (see Bolles, 1972; Heckhausen, 1977).	The assumption that one will never improve their EWRPP if they do not put effort in learning the conventions of the genre.
Action-control expectancies	The belief that an action can be initiated and performed.	The confidence that one will be able to write an appropriate manuscript in EWRPP for it to be published in an indexed journal.
Action-outcome expectancies	The belief that one's own actions will produce a positive outcome, or will prevent, reduce, or terminate a negative outcome.	The prediction that reading papers published in a specific journal and using the same conventions found in them will improve one's chances to get published in such journal.
Total outcome expectancies (positive outcomes)	Used to describe the overall controllability and probability of an achievement outcome. For positive outcomes, the total outcome expectancy is posited to be high when either the situation-outcome expectancy is high, or the expectancy that one can produce the outcome oneself is high, or both.	For high situation-outcome expectancies, the belief that one will get published in a journal no matter their EWRPP skills level because the journal is a Pay to Publish one. For high action-control and action-outcome expectancies, the forecast that after putting effort in an EWRPP course, the feedback from anonymous reviewers in a journal will be more positive.
Total outcome expectancies (negative outcomes)	Used to describe the overall controllability and probability of an achievement outcome. For negative outcomes like failure, the total outcome expectancy is posited to be high when the situation–outcome expectancy is high, and the action-control and/or action-outcome expectancies are low.	For low action-control expectancy, the belief that one will never be able to improve their EWRPP writing skills. For low action-outcome expectancy, the assumption that no matter how hard a non-native user of English researcher works on their EWRPP, there will always be native users of English that will get easily accepted for publication just for their native condition.
Total outcome expectancies (in achievement situations)	Used to describe the overall controllability and probability of an achievement outcome. In achievement situations, a person's efforts are needed to attain success or prevent failure. Therefore, situation-outcome expectancies will typically be low for success, and high for failure.	An EAL academic who has never learned English before but wants to publish in an indexed journal that only accepts English submissions before they retire.
Causal attributions of outcomes	Retrospective appraisals of the causes of success and failure, such as one's own actions, the self, external circumstances, or other persons. *External attributions* are equivalent to situation-outcome expectancies, and *internal attributions* to action-control and action-outcome expectancies.	Reviewing the feedback in a manuscript draft to analyze the main problems and find its causes so as to improve the following draft and future manuscripts.
Values of actions and outcomes (intrinsic values)	The belief that the value of an activity or outcome is that very activity or outcome per se.	The enjoyment of using EWRPP because one finds pleasure in the action of writing in English, regardless of the fact of getting published or not.
Values of actions and outcomes (extrinsic values)	An appraisal related to the instrumental usefulness of actions or outcomes for the attainment of other goals.	The hope that using EWRPP will improve one's number of citations.

▲Table 2.1. Proposed framework for appraisals in achievement emotions (adapted from Pekrun, 2006, p.318-319).

Having described the appraisals that fit the Control-Value Theory of Achievement Emotions, Pekrun (2006) considers the definable emotional outcomes that can be determined by various "appraisal antecedents" (p.319) and classifies the emotions into three groups: *i*. prospective outcome emotions, *ii*. retrospective outcome emotions, and *iii*. activity emotions. In *prospective outcome emotions*, the primary interrogation regarding *control* is "whether success can be attained or failure avoided, and what the impact of available means to these ends will be" (Pekrun, 2006, p.319). As can be seen in Fig. 2.5, a high appraisal of *control* of a positive prospective outcome will result in anticipatory joy, whereas medium and low control will arise in hope and hopelessness respectively. The same applies to negative prospective outcomes. Concerning *retrospective outcome emotions*, the main question on control relates to "whether the outcome was caused by the self, or by other persons and external circumstances" (Pekrun, 2006, p.319). The value appraisals work similarly to those in prospective outcome emotions. Finally, in *activity-related emotions*, appraisals are focused on the action, not on the outcome. Fig. 2.5 summarizes the potential emotions that result from the appraisals explained above. Some of these emotions —e.g. anxiety, sadness, enjoyment, boredom— can be visibly connected with other constructs included in the present PhD thesis, but such connections will be further described in Section 2.10.

	Appraisals		
Object focus	**Value**	**Control**	**Emotion**
Outcome/prospective	Positive (success)	High	Anticipatory joy
		Medium	Hope
		Low	Hopelessness
	Negative (failure)	High	Anticipatory relief
		Medium	Anxiety
		Low	Hopelessness
Outcome/retrospective	Positive (success)	Irrelevant	Joy
		Self	Pride
		Other	Gratitude
	Negative (failure)	Irrelevant	Sadness
		Self	Shame
		Other	Anger
Activity	Positive	High	Enjoyment
	Negative	High	Anger
	Positive/Negative	Low	Frustration
	None	High/Low	Boredom

▲Fig. 2.5. Linkages between appraisals and emotions (Pekrun, 2006, p.320).

The literature on achievement emotions in the fields of psychology and education has well established the benefits of those appraisals which activate positive emotions such as hope, pride or enjoyment (see Fig. 2.5 for a full list) at primary, secondary, and tertiary educational levels (Artino, La Rochelle & Durning, 2010; Raccanello, Brondino & De Bernardi, 2013; Raccanello, 2015; Pekrun et al., 2017; Butz, Stupnisky, Pekrun, Jensen & Harsell, 2016; Stark et al., 2018). Studies have reported a positive correlation between positive achievement emotions and effective learning via affective, cognitive, behavioral

and motivational factors with a subsequent high academic achievement in relation to all skills —including writing— (Pekrun, 2006; Buric & Soric, 2012; Ahmed, van der Werf, Kuyper & Minnaert, 2013; Villavicencio & Bernardo, 2013; Pekrun & Perry, 2014; Jarrell & Lajoie, 2017; Pekrun et al., 2017). Further research has suggested that this relation is bidirectional, meaning that a high academic achievement also increases positive achievement emotions in future situations (Pekrun, Hall, Goetz, & Perry, 2014; Pinxten, Marsh, De Fraine, Noortgate, & Dame, 2014; Pekrun et al., 2017; Putwain, Becker, Symes & Pekrun, 2018). To the best of my knowledge, there has not been any study involving AWRPP, hence, the bidirectionality of achievement emotions and publication achievement is yet to be seen. Furthermore, researchers such as Isen (2000) and Wolters (2003) have suggested that fostering positive achievement emotions boosts the use of creative and flexible learning strategies and facilitate the use of metacognitive strategies. Results of studies undertaken in university contexts have mainly focused on undergraduate students (e.g. Artino et al., 2010; Raccanello, 2015; Butz et al., 2016) and none of them has focused on writing specifically. Research on achievement emotions in AWRPP is therefore in need of development.

2.8. Writing anxiety

Anxiety is, together with self-efficacy, one of the most widely studied constructs in the fields of ESL and psycholinguistics (Cheng, 2004; Ho, 2016). Research on writing anxiety was triggered by John A. Daly and Michael D. Miller's (1975) development of a research tool to measure what was originally known as *writing apprehension* in native users of English. This term was initially used over *writing anxiety* because Daly and Miller's work considered the construct a part of *communicative apprehension* (Phillips, 1968; Wheeless, 1974). However, Daly and Miller (1975) also referred to writing anxiety and this was the term favored by subsequent literature dealing both with native and non-native speakers of English. Phillips (1968) deemed a highly communicative apprehensive person as somebody "for whom anxiety about communication outweighs [their] projection of gain from the situation" (p.40). More recently, writing anxiety has been defined as "an inherent disposition to anxiety" (Woodrow, 2011, p.511) that arises when an individual comes across tasks that involve a writing element. This definition implies that writing anxiety is considered by the literature as a *trait* psychological factor, that is, a built-in, situation-specific construct. Nevertheless, in the context of this PhD thesis, writing anxiety could also take place exclusively when dealing with EWRPP tasks and not in other instances of writing such as writing emails or reports, turning the concept into a *state* psychological factor.

The analysis of communicative apprehension and, subsequently, anxiety begun over sixty years ago in the field of linguistics (e.g. Clevenger, 1959). Since the inception of the field, writing anxiety has been defined as domain specific, detaching it from other types of anxiety such as test anxiety and clinical anxiety (MacIntyre & Gardner, 1988; 1994). As a consequence, the theories that deal with these conceptualizations of anxiety are not

applicable to the present thesis. However, Cheng (2004) claimed that the multidimensional nature of anxiety should not be disregarded when measuring writing anxiety. Symptoms caused by writing anxiety can be divided into somatic (e.g. upset stomach, increased heart rate or excessive sweating), cognitive (e.g. uneasiness, anger or negative expectations), and behavioral (e.g. procrastination, withdrawal or avoidance) (Cheng, 2004, p.318; Martinez et al., 2011; Sanders-Reio, Alexander, Reio Jr., & Newman, 2014; Lew & Tang, 2017). As a consequence, the main aim of research in psycholinguistics regarding L2 writing anxiety has been the development and validation of a reliable instrument to measure the construct in different contexts in order to connect it with other linguistic and discourse aspects such as communication strategy use, language proficiency, or metacognition (e.g. Daly & Miller, 1975; Cheng, 2004; Karakaya & Ülper, 2011).

The literature has well established the negative correlation between writing anxiety and writing performance across different language proficiency levels in English-native and EAL undergraduate students (Hassan, 2001; Cheng, 2002; Lee & Krashen, 2002; Atay & Kurt, 2007; Latif, 2007; Sanders-Reio et al., 2014; Jebreil, Azizifar, Gowharya & Jamalinesari, 2014; Kirmizi & Kirmizi, 2015; Liu & Ni, 2015; Stewart et al., 2015), English-native and EAL graduate students (Onwugubzie, 1997; Huwari & Aziz, 2011; Ho, 2016; Huerta et al., 2016), English-native doctoral students (Sosin & Thomas, 2014; Casanave, 2016; Russell-Pinson & Harris, 2019), EAL doctoral students (Badenhorst, 2010; Rungruangthum, 2011; Ho, 2016; Russell-Pinson & Harris, 2019), and other educational settings (Cheng, 2004; Jebreil et al., 2015; Aula-Blasco, 2016; Balta, 2018). In contrast with most of the other emotional constructs considered in this PhD study, writing anxiety has been well analyzed in academic writing genres such as thesis dissertations (Badenhorst, 2010; Sosin & Thomas, 2014; Casanave, 2016; Ho, 2016; Russell-Pinson & Harris, 2019), but only occasionally in AWRPP settings (Boice & Johnson, 1984). On a study of ESL doctoral writers —i.e. novice researchers— at a United States university, Russell-Pinson and Harris (2019) noted that the main sources of writing anxiety were L2 text production issues, perfectionism, balancing academic writing with other priorities, inadequate time and project management skills, and insufficient cognitive habits. However, research has also suggested that writing anxiety tends to decrease in PhD writers the larger the experience they have in academic writing (Ho, 2016). Given that the genre literature has not addressed writing anxiety in AWRPP scenarios, the impact of this construct on the writing process of more experienced researchers is yet to be seen.

2.9. Writing self-efficacy

The term *self-efficacy* applied to behavioral change was first used in the field of social cognitive analysis by psychologist Albert Bandura (1977). Bandura understood self-efficacy as the expectations one has as to whether they are able to perform a given task in an efficient and adequate manner. The strength of such expectations has an influence on a person's predisposition to deal with different kinds of tasks. Unfamiliar and

intimidating situations which are thought to require skills that go beyond one's skills are generally feared, procrastinated, and even avoided. On the other hand, if one considers having sufficient skills to cope with a given task, they will be much more likely to engage in and successfully perform such task. Self-efficacy beliefs also impact the coping efforts an individual will make and their persistence when facing obstacles once the task has started (Bandura, 1977, 1995). Before Bandura's theorizations, other models had dealt with a similar concept to the one depicted by self-efficacy. For example, White (1959) used the term *effectance motive* to refer to an intrinsic drive for completing an activity that grows via an accruing acquisition of knowledge and abilities that result from recurrently dealing with such activity or similar ones. Similarly, Rotter's (1966) Theory of Personality suggested that behavior and expectancies fluctuate based on both external factors and previous personal experiences. Even though Bandura's (1977) Social Cognitive Theory is the most widely used in the area of current psycholinguistic research in which this PhD thesis may be included (e.g. Stewart et al., 2015; Ho, 2016; Ragula, 2017; Kilis & Yildirim, 2018), further theories apart from Bandura's have also dealt with the connection between self-beliefs —i.e. self-efficacy— and academic performance. These theories are Rotter's (1982) Social Learning Theory, Deci and Ryan's (1987) Autonomy Theory; Skinner, Zimmer-Gembeck and Connell's (1998) Perceived Control Theory; and Peterson, Maier and Seligman (1993) Learned Helplessness Theory, among others.

Bandura's (1977) theory states that personal efficacy expectations —i.e. self-efficacy— differ in *magnitude*, *generality* and *strength*, which heavily impact performance. The *magnitude* dimension implies that when an individual arranges tasks according to its expected degree of complexity and skills required to carry them out, the self-efficacy level of the individual might be restricted to the most uncomplicated tasks, encompass the most complex ones, or sit somewhere in the moderate range. For example, an EAL academic may feel confident enough to write handouts in English to use in their English-medium classes, but struggle when producing an abstract in English for a conference, as the latter activity involves more demanding genre and register knowledge and skills. The *generality* dimension of self-efficacy relates to the idea that certain experiences impact self-efficacy in a more restricted area or set of skills, whereas other may create a more generalized self-efficacy belief. For instance, an EAL scholar who has been able to successfully use a play-on-words when writing an e-mail to an English-speaking peer will probably only increase their self-efficacy for that specific situation, whereas being accepted for publication in a Q1 English journal is likely to boost self-efficacy not only in article writing but also in conference abstract writing, poster writing, and handout writing, among others. Finally, the *strength* dimension deals with the fact that weak self-efficacy expectations tend to vanish easier than strong expectations when coming across challenging situations. This suggests that the writing self-efficacy strength level of an EAL researcher might influence some of the problem-solving skills encompassed in metacognition and some other emotional constructs (see Section 2.10 for a detailed discussion).

According to Bandura (1977), one's self-efficacy level can be established using four main sources of information: *enactive*, *vicarious*, *exhortative*, and *emotive*. Bandura's theory adds various modes of induction to each source; however, such level of detail goes beyond the scope of this PhD thesis. Table 2.2 includes a definition of these sources together with its main characteristics.

Source	*Definition*	*Singularities*
Performance accomplishments (enactive)	Altering efficacy expectations based on personal mastery experiences.	- The most influential of all sources. - Personal successes raise self-efficacy and repeated personal failures lower it. - After strong efficacy expectations are developed through repeated success, the negative impact of occasional failures is likely to be reduced. - Occasional failures that are later overcome by determined effort can strengthen self-efficacy.
Vicarious experience	Altering efficacy expectations based on the experience of other people in the same or a similar situation, i.e. social comparison.	- A less dependable source of information about one's capabilities. - Seeing others perform threatening activities without adverse consequences can generate expectations in observers that they too will improve if they intensify and persist in their efforts. - The efficacy expectations induced by this source are likely to be weak and vulnerable to change.
Verbal persuasion (exhortative)	Using words to lead people into believing they can cope successfully with what has overwhelmed them in the past.	- An easily and readily available source. - The efficacy expectations induced by this source are likely to be weak and vulnerable to change because they do not provide an authentic experiential base for them.
Emotional arousal (emotive)	Altering efficacy expectations based on emotional arousals.	- Generally derived from stressful and taxing situations. - A constituent source of information that can affect perceived self-efficacy in coping with future threatening situations –i.e. with a high magnitude dimension.

▲Table 2.2. Sources of self-efficacy expectations (based on Bandura, 1977, pp.195-200).

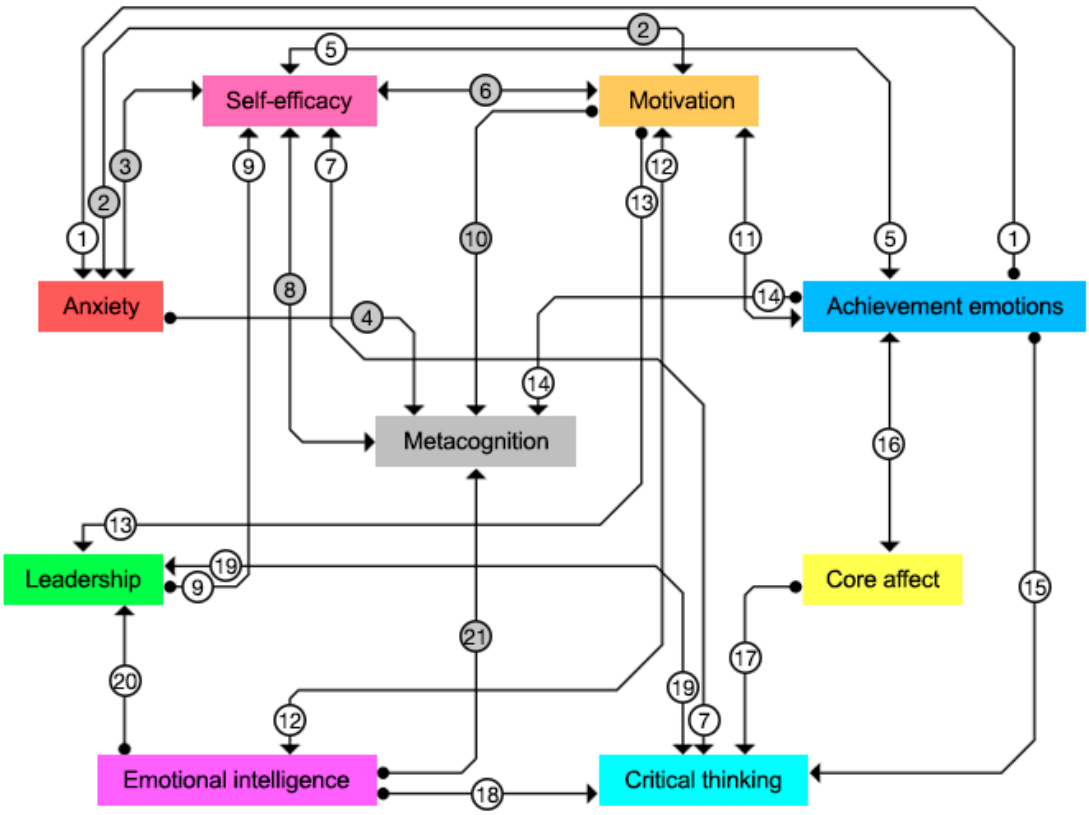
Finally, Bandura (1977) explains that the effect experiences and information have in self-efficacy levels "will depend on how [they are] cognitively appraised" (p.200). This cognitive processing depends on social, situational, and temporal factors, meaning that a successful experience may not boost self-efficacy if the context does not help to trigger an emotional appraisal. The same applies to unsuccessful experiences lowering self-efficacy levels.

Similar to the case of writing anxiety, there has been an extensive body of research analyzing the impact of self-efficacy on metacognition and/or academic and writing performance, reporting a positive correlation among these factors in English-native university students (Pajares & Valiante, 2006; Jones, 2008; Prat-Sala & Redford, 2010; Sanders-Reio et al., 2014; Hanley, Palejwala, Hanley, Canto & Garland, 2015; Stewart et al., 2015; Huerta et al., 2016; Drago, Rheinheimer & Detweiler, 2018), in English-native doctoral students (Forester, Kahn, & Hesson-McInnis, 2004), in EAL university students

(Jones, 2008; Erkan & Saban, 2011; Williams & Takaku, 2011; Woodrow, 2011; Ashrafi-Rizi, Najafi, Kazempour & Taheri, 2015; Khojasteh, Shokrpour & Afrasiabi, 2016; Kilis & Yildirim, 2018; Lichtinger, 2018; Ruegg, 2018; You, 2018), in EAL doctoral students (Ho, 2016), and in other educational settings (Bruning, Dempsey, Kauffman, McKim & Zumbrunn, 2013; Aula-Blasco, 2016; Han & Hiver, 2018). The existing literature accounts for a high and wide use of writing strategies (including metacognitive ones); an increased level of persistence, hard work, goal setting (both at intermediate and long-term scenarios) and productivity; a tendency to take on unusual challenges; and an ease to diagnose the need for help and to look for that help in those individuals with a high level of writing self-efficacy (Lam & Kirby, 2002; Zeidner, Matthews & Roberts, 2004; Jones, 2008; Prat-Sala & Redford, 2010; Williams & Takaku, 2011; Aula-Blasco, 2016; Huerta et al., 2016). Several studies carried out in diverse university contexts suggest that the previously mentioned benefits of writing self-efficacy can also be applied to undergraduate and graduate students (Jones, 2008; Prat-Sala & Redford, 2010; Williams & Takaku, 2011; Woodrow, 2011; Sanders-Reio et al., 2014; Ashrafi-Rizi et al. 2015; Stewart et al., 2015; Huerta et al., 2016; You, 2018). Paltridge and Starfield (2007) suggest that anxiety in ESL doctoral students —i.e. novice researchers— can result from a fear of potential failure or from excessive perfectionism. In a mixed-method study involving EAL doctoral writers, Ho (2016) found that there might be a gradual development of academic and research writing self-efficacy as experience is gained. However, it is yet to be seen if this development continues during the academic career and if it applies to AWRPP scenarios.

2.10. Relationships between constructs in the literature

Each one of the previous sections (from Section 2.1 to Section 2.9) has dealt with a single emotional construct in isolation. However, emotions are not independent from one another and they affect —and are affected by— other emotions. The literature (mainly in the field of psychology but also in the field of psycholinguistics) has well established and analyzed some of these relationships (see Fig. 2.6 for further explanation and references). Part of the existing research, to date very limited, has also examined the existing connections between some emotional constructs and metacognition. Fig. 2.6 summarizes the known relationships between the constructs encompassed in this PhD work based on the literature review. The connection —or connections— represented by each number is explained following Fig. 2.6. Connections which are grayed-out in Fig. 2.6 and double-underlined underneath are relationships that have been suggested or confirmed by literature on the psycholinguistics field, not only in the psychology field.



▲Fig. 2.6. Known relationships between constructs based on the literature review.

Legend: The lines connecting two constructs can either start with a dot and end with an arrow, which means that the relationship is unidirectional (in the sense of the arrow), or start and finish with an arrow, which means that the relationship is bidirectional. Each line is numbered with one number only —sometimes placed twice in the flux diagram if the line is long to avoid potential confusion. Lines do not make a 90-degree turn when they overlap with another line. This means that when two lines are perpendicular, no turns are made, and lines just continue straight. The same applies to 45-degree intersections: lines continue straight.

1. In the Control-Value Theory of Achievement Emotions, when defining the emotional outcomes that might occur after certain *appraisal antecedents*, Pekrun (2006) states that a prospective outcome emotion with a negative value and a medium degree of control will result in anxiety. If the level of control is low, the emotion aroused will be hopelessness, which can relate to a high level of anxiety in some cases —and with low self-efficacy in others (see Point 5).

2. Some studies carried out on non-native users of English at university level such as Latif (2007) and Erkan and Saban (2011) have found that, in most situations, writing anxiety is negatively correlated with motivation. Nonetheless, it has been suggested that some individuals can benefit from their anxiety by using it "to motivate them[selves] to prepare more thoroughly and attain more exacting standards" (Salovey & Mayer, 1990, p.200; see also Alpert & Haber, 1960).

3. The relationship between writing anxiety and writing self-efficacy is one of the most widely studied in the psycholinguistics field. Research has shown that both

constructs are negatively correlated, and that writing anxiety also correlates negatively with writing performance –which, in turn, directly correlates with writing self-efficacy (McCarthy, Meier & Rinderer, 1985; Pajares & Valiante, 2006; Woodrow, 2011; Stewart et al., 2015; Aula-Blasco, 2016; Huerta et al., 2016; Han & Hiver, 2018). Furthermore, in Woodrow's (2011) study on high-education students of English at four universities in China, results suggest that writing self-efficacy acts as a mediator in the relationship between writing anxiety and writing performance. This is supported by Han and Hiver's (2018) argument that, in some scenarios, high levels of writing anxiety can constructively coexist with an adequate writing performance as long as there is also a high level of writing self-efficacy.

4. The literature on writing anxiety has well established the negative impact of this emotional construct on the awareness and use of writing strategies —including metacognitive ones— in all educational levels (Latif, 2007; Erkan & Saban, 2011; Woodrow, 2011; Stewart et al., 2015; Aula-Blasco, 2016; Balta, 2018). However, some studies have pointed out that the effect writing anxiety has on writing metacognition and writing performance might not be as strong as other constructs', especially in higher levels of proficiency (Woodrow, 2011; Sander-Reio et al., 2014; Aula-Blasco, 2016; Ho, 2016).

5. In the Control-Value Theory of Achievement Emotions, Pekrun (2006) explains that a prospective outcome emotion with a positive value and a medium level of control will derive in hope. Likewise, if the degree of control is low (in positive and negative values alike), the resulting prospective outcome emotion will be hopelessness. Both hope and hopelessness on one's personal abilities to carry out a given task relate to a high and a low level of self-efficacy respectively. Furthermore, what Pekrun (2006) coins as action-control expectancies (see Section 2.7) matches the most basic notion behind Bandura's (1977) self-efficacy theory, which, as expected, delves much deeper into the emotional construct (see Section 2.9). In addition, several studies show that self-efficacy is directly correlated with positive achievement emotions (Lent et al., 2003; McCarthy & Goffin, 2004; Raccanello, 2008; Weinstein, Healy & Ender, 2002; Raccanello, 2015).

6. Pursuant to the Social Cognitive Theory and Bandura's (1977) work, self-efficacy is a core motivational factor. This close connection has been well established by the existing literature. Writing self-efficacy has been positively correlated with motivational aspects such as intrinsic and extrinsic goal establishment, the amount of effort and endurance when facing challenges, the perceived value of writing, and the tendency to engage in or avoid writing tasks (Bandura, 1977; Bouffard-Bouchard, Parent & Larivèe, 1991; Zimmerman & Bandura, 1994; Pajares & Johnson, 1996; Pajares & Valiente, 1997; Torrano & González, 2004; Gore, 2006; Gil, Bernaras, Elizalde & Arrieta, 2009; Méndez & Peña, 2013; Surastina & Dedi, 2018). Conversely, it has also been found that intrinsic motivational profiles have a more beneficial impact in those aspects of self-efficacy related to self-regulation than extrinsic ones (Zimmerman, Bandura & Marténez-Pons, 1992; Gil et al., 2009; Han & Hiver, 2018; cf. Schunk & Miller, 2002, for a review).

7. Bandura (1977) included 'verbal persuasion' (see Section 2.9) as one of the four main sources for one's self-efficacy beliefs. This idea of feeling more —or less— capable of dealing with a complex task that resulted overwhelming in the past based on other people's words can be connected with one of the main characteristics of a critical thinker, that is, understanding and dealing with criticism —both constructive and destructive— coming from others (Cottrell, 2011).

8. Research has found a direct correlation between writing self-efficacy, the use of metacognitive writing strategies, and writing performance (Pintrich, 2002; Lavelle & Guarino, 2003; Pajares & Valiante, 2006; Jones, 2008; Williams & Takaku, 2011; Prat-Sala & Redford, 2012; Stewart et al., 2015; Aula-Blasco, 2016; Ho, 2016). Pintrich (2002) further advocates considering self-efficacy beliefs as a kind of metacognitive knowledge.

9. Being proactive implies being able to handle appropriately unpredictable events and to respond rapidly and actively to one's environment to keep possible complications from happening (Frese & Fay, 2001; Parker & Collins, 2010). Having a proactive personality should be a deep-rooted skill in any transformational leader (Burns, 1978). In a longitudinal study on undergraduate Taiwanese students, Lin et al. (2014) found that proactive personalities predict an increase in academic self-efficacy. This relationship is deemed to be unidirectional since a high level of self-efficacy cannot predict a development of proactive personalities.

10. Motivation has been associated with metacognition in several studies at different educational levels —especially university contexts (Oxford & Nyikos, 1989; Pintrich, 2000; Wen, 2001; Bernaus & Gardner, 2008; Han & Lu, 2018). Following the ideas of Hayes (1996) and Zimmerman and Risemberg (1997), Karlen (2017) states that academic writing is "a self-planned, self-initiated, self-regulated, metacognitive process" (p.62). Oxford and Nyikos' (1989) study on EAL students proposes that the most influential factor affecting the use of language learning strategies —including metacognitive writing strategies— is motivation. Recent research such as Han and Lu (2018) specifies that only motivation to achieve success positively and significantly correlates with the use of metacognitive strategies. On the other hand, these authors also suggest that those types of motivation focused on avoiding failure —e.g. the external and introjected regulation styles of extrinsic motivation (Ryan & Deci, 2000; Stover et al., 2012) or some types of instrumental motivation (Gardner & Lambert, 1972)— seem to be negatively but not significantly correlated.

11. A series of conceptual likenesses have been found between the Control-Value Theory of Achievement Emotions (Pekrun, 2006) and the Self-Determination Theory of motivation (Deci & Ryan, 1985; Vallerand et al., 1998; Ryan & Deci, 2000). *Activity-related achievement emotions*, one of the two main types of achievement emotions, refers to the same idea of finding enjoyment in the process of learning per se as the *orientation towards knowledge* kind of intrinsic motivation. Furthermore, the appraisals of *intrinsic* and *extrinsic values of actions and outcomes*, both of them determining achievement emotions (Pekrun, 2006), could also be connected with *intrinsic* and *extrinsic* types of motivation.

12. Based on the emotional intelligence framework (Salovey & Mayer, 1990; Mayer & Salovey, 1997) some authors such as Majeski, Stover, Valais & Ronch (2017) have suggested that being able to emotionally manage oneself involves the ability to regulate motivation as it relates to learning. Similarly, Zimmerman et al. (1992) stated that the type of motivation an individual has also plays a part in the self-regulation process of emotions —i.e. emotional intelligence.

13. In several theoretical analyses it is proposed that competent *transformational* leaders (see Section 2.4) are called for being able to be self-motivated and to motivate others (Burns, 1978; Bass, 1997; Majeski et al., 2017). Some scholars such as Bryman (2007) have claimed that leadership might have little room in the academia since academics have a high degree of professionalism and intrinsic motivation, even suggesting that leadership may turn out to be damaging in some scenarios. Nevertheless, such claim has been criticized by the literature (see e.g. Hollingsworth, 2003; Söderhjelm et al., 2018) since it seems to be grounded on the long-established concept of purely transactional leadership, failing to consider the creative, transformational part of leadership.

14 & 15. It has been argued that pleasant achievement emotions promote the use of flexible, creative learning strategies (Isen, 2000; Pekrun, 2006), which are a defining characteristic of a skilled critical thinker (Cottrell, 2011). This positive effect of achievement emotions on learning strategies has also been found to apply to metacognitive strategies (Wolters, 2003; Stark et al., 2018).

16. Some of the emotions represented in Yik et al.'s (2011) 12-Point Affect Circumplex (12-PAC), which was mainly based on Russell's (2003) theory of core affect, are equivalent to some of the emotions Pekrun (2006) devised as predictable from various kinds of achievement emotions appraisals. Retrospective outcome emotions with a positive value and an irrelevant degree of control will result in joy, whereas if the control appraises within the self it will result in pride. These emotions lie within the *pleasure* (0^{o}) and *activated pleasure* (30^{o}) axes of the 12-PAC. Correspondingly, retrospective outcome emotions with a negative value will result in sadness and shame if the appraisal of control is irrelevant or in the self, respectively. These emotions can be found within the *displeasure* (180^{o}) and *deactivated displeasure* (210^{o}) axes of the 12-PAC.

17. The literature suggests that negative core affect —i.e. emotions closer to the *displeasure* endpoint of the pleasure-displeasure axis of Yik et al.'s (2011) 12-PAC— usually incites more intricate critical thinking, whereas positive core affect —i.e. emotions closer to the *pleasure* endpoint— prompts more divergent and heuristic thinking (Schwarz & Bless, 1991; Park & Banaji, 2000; Russell, 2003).

18. On her renowned analysis of critical thinking skills, Cottrell (2011) states that emotional self-management —i.e. emotional intelligence— plays an important role in critical thinking. This role seems to be even more important in the academic world since it "traditionally likes to consider itself as logical and immune to emotions, so if feelings do emerge, this can be especially difficult" (p.5). If the degree of emotional intelligence

is not adequate, critical thinking might be impaired when facing points of view or evidence that clashes with our own opinions and beliefs.

19. The existing literature suggests that there might be a bidirectional theoretical relationship between critical thinking and leadership. Being able to produce *constructive criticism* towards others —which is a part of critical thinking according to Cottrell (2011)— is a characteristic of effective leaders. In turn, having a *transformational* style of leadership —the desirable type of leadership according to Burns (1978)— implies having, among other things, a high degree of critical thinking.

20. Various theoretical models and subsequent research have indicated that emotional intelligence could have a deep influence in effective leadership (Mayer & Salovey, 1997; Ghosh, Shuck & Petrosko, 2012; Batool, 2013; Grant, Kinman & Alexander, 2014; Trejo, 2016; Majeski at al., 2017). These authors indicate that effective leaders are required to regulate their own emotions when dealing with challenges or conflicting ideas. Likewise, persuasive leaders need to provide judgements regarding another people's work that helps them thrive rather than withdraw.

21. EAP studies such as Negretti and Kuteeva (2011) and Negretti (2012) propose that being metacognitively aware of the rhetorical aspects of a written task may be linked with the use of self-regulatory strategies that can be encompassed within emotional intelligence.

2.11. The impact of experience on AWRPP and emotional constructs in the literature

The problems encountered when writing in EAL mentioned in Chapter 1 might even be more punishing for emerging scholars than to experienced ones (Strauss, 2012; Phakiti, Hirsh & Woodrow, 2013; Chen & Flowerdew, 2018; Peng, 2018). Novice researchers —especially those in the process of writing their PhD thesis— have been reported to have problems with acquiring the specific writing conventions of their disciplines (Evans & Green, 2007; Phakiti & Li, 2011), understanding the singularities of the PhD thesis genre (Bitchener & Baskurkmen, 2006; Jeyaraj, 2018), and using their critical thinking skills (Cadman, 2000; Ravichandran, Kretovics, Kirby & Ghosh, 2017), among other issues not related with writing such as maintaining a suitable level of rapport with their supervisors (Winchester-Seeto et al., 2014) or possessing satisfactory oral communication skills (Kim, 2011).

Based on surveys of recently published papers, researchers such as Hyland (2006b; 2016) and Swales (2004) argue that academic expertise may be a more influential factor towards the difficulty of publishing research than linguistic proficiency. The disparagement of the idea of EAL linguistic injustice has been supported by one part of the literature, which suggests that the native and non-native antagonism does not apply to EWRPP since genres idiosyncrasies have to be mastered by every scholar no matter their mother tongue (Tribble, 2017). Nonetheless, as Pérez-Llantada (2012) points out,

such viewpoint of academic English could "reduce —or at least diminish to some extent— the reported conflicts between cultural values and blur the current excessively focused interest in core/periphery dichotomies and dominant/minority positions" (p.208).

In spite of the thoughtful analysis of the role of experience in AWRPP, to the best of my knowledge, there is still a gap in the literature concerning how metacognition and emotional constructs fluctuate as publishing experience is gained. It has been suggested, however, that in order to promote the development of a personal and authoritative attitude towards writing academic papers, novice researchers should boost their metacognitive awareness "of rhetorical and genre-relevant aspects such as appropriateness of topic, purpose of the text, audience expectations and effectiveness of argumentation" (Negretti & Kuteeva, 2011, p.97; see also Negretti, 2009). In addition, there is a part of the literature in the field of psychology which addresses the possible effects of experience in emotional constructs, but this still needs to be determined in AWRPP scenarios. Research undertaken on participants ranging from kindergarten to university students show that as students grow, their level of positive achievement emotions decreases (Pekrun & Stephens, 2012; Raccanello et al., 2013; Raccanello, 2015). Nonetheless, is it yet to be seen if this is also true once individuals reach their adulthood as it is the case of novice and experienced researchers. Regarding motivation, Ryan and Deci (2000) note that, in spite of the importance of intrinsic motivation, intrinsic goals generally dwindle as individuals enter adulthood. To the best of my knowledge, it is still unknown if, once reached adulthood, experience in a specific field or aspect —EWRPP in the case of this study— boosts or weakens such dwindling. Finally, some studies on the writing process of EAL doctoral students have suggested that young researchers tend to show a higher level of writing anxiety and a lower degree of writing self-efficacy than their older doctoral peers (Huwari & Aziz, 2011; Ho, 2016). Further evidence is deemed necessary to understand if this progression of writing anxiety and writing self-efficacy continues all throughout the academic career or if it halts around a given point.

Chapter 3
Methods

You know my method. It is founded upon the observance of trifles.
—Arthur Conan Doyle (*The Boscombe Valley Mystery*, 1891)

This Chapter provides an account of all the methodological considerations that were undertaken in the design of the present PhD study. The decisions made —and the reasoning behind them— regarding sampling and the two research instruments used in this study can be found in this Chapter. Information on the quantitative and qualitative treatment of the data obtained via questionnaire and journey plots is also provided.

3.1. Participants

In the first stage of the study, 224 academics, all of them EAL users of EWRPP, reported on their own perception of their use of metacognitive writing strategies and their degree of writing core affect, writing emotional intelligence, writing leadership, writing critical thinking, writing motivation, writing achievement emotions, writing anxiety, and writing self-efficacy by filling out a questionnaire (see Section 3.2). Participants were researchers in numerous fields of study that could be divided into four major groups: *i. Agriculture, food technology and veterinary*, *ii. Biomedical and health sciences*, *iii. Experimental sciences and mathematics* (including physics, chemistry, natural resources, and paleontology, among others), and *iv. Technologies* (including all kinds of information and communication technologies and production technologies). Concerning sampling, a mailing list was created with the email addresses of all the Principal Investigators of all the consolidated groups within the four major disciplinary groups mentioned above of three Spanish universities (University of Zaragoza, University of Cádiz, and University of Santiago de Compostela). These three universities were chosen to increase sample representativeness as they are all medium-sized universities with a similar number of academics. The Principal Investigators —a total of 308— were then contacted by means of a personalized email asking them to complete the questionnaire and to forward the message to all the EAL scholars within their research group. From all the participants who completed the questionnaire, 182 of them were all members of consolidated research groups of the University of Zaragoza, 32 carried out their research within a consolidated research group of the University of Cádiz, and 10 were part of a consolidated research group of the University of Santiago de Compostela. The substantial difference in the number of participants and in the response rate might have been due to lack of proximity —perhaps lack of confidence in responding a questionnaire from an 'outsider' from the university community.

Once the first stage was completed, the cohort was divided into four groups according to their self-reported years of AWRPP experience —i.e. the number of years

they have been publishing research within their disciplinary community. Participants were thus distributed in four quartiles defined after considering the smallest amount of years of experience as the minimum for the interval and the biggest amount of years of experience as the maximum for the interval —i.e. from 1 year of AWRPP experience to 44 years. By calculating the quartiles based on the 1 to 44 range instead of dividing participants into same-sized groups, two potential risks were avoided: *1.* having two groups with a similar average number of years of experience due to the response rates across this variable, and *2.* randomly having to allocate two or more participants with the same amount of years of experience between two groups to keep them even. The resulting quartiles were *i.* from 1 year of AWRPP experience to 11 years of experience (109 participants), *ii.* from 12 to 22 years of experience (54 participants), *iii.* from 23 to 33 years of experience (48 participants), *iv.* from 34 to 44 years of experience (13 participants).

For the second phase of the study, six participants who had previously accepted to take part in this stage were requested to fill in a journey plot (see Section 3.3) in order to reflect on their emotional highs and lows during the period of writing a research paper in English with the aim of publishing it in a journal. Participants could fill in their journey plots at the same time they were writing their research papers —a.k.a. *online* responses (Igoa, 2019)— retrospectively, and/or prospectively. The information regarding each of the participants of the second stage is the following:

- ***Participant 1.*** Two years of EWRPP experience, research area included in Biomedical and health sciences, EMOWRI score of 3.1 (Please note that EMOWRI scores range from 1 to 5. The calculation of the EMOWRI score is explained in Section 3.4), data includes *online* and prospective (from point 8) responses.
- ***Participant 2.*** Seven years of EWRPP experience, research area included in Technologies, EMOWRI score of 4.43, data includes retrospective (until point 3) and *online* responses.
- ***Participant 3.*** Ten years of EWRPP experience, research area included in Experimental sciences and mathematics, EMOWRI score of 3.74, data includes retrospective (until point 4), *online*, and prospective (point 20) responses.
- ***Participant 4.*** Fifteen years of EWRPP experience, research area included in Experimental sciences and mathematics, EMOWRI score of 2.42, data includes retrospective (until point 3) and *online* responses.
- ***Participant 5.*** Thirty-five years of EWRPP experience, research area included in Biomedical and health sciences, EMOWRI score of 4.03, data includes retrospective responses only.
- ***Participant 6.*** Forty years of EWRPP experience, research area included in Experimental sciences and mathematics, EMOWRI score of 3.79, data includes retrospective responses only.

In order to comply with the General Data Protection Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (Council of the European Union & European Parliament, 2016), participants were informed of the aim of the study and

how their data and responses were going to be confidentially treated before filling in the questionnaire of the first stage. The participants who took part in the second stage of the study were provided with a detailed Privacy and Data Protection Policy document and they signed an Informed Consent Statement. These two documents can be found in Appendix 1 [in Spanish].

3.2. Instruments and procedures: questionnaire

For the first step of the study, a questionnaire was designed based on the existing literature so as to gather data from participants' self-perceptions of their writing emotional constructs. The questionnaire that participants filled out aimed to measure academics' use of metacognitive writing strategies while writing in L2 academic English in connection with writing achievement emotions, writing anxiety, writing core affect, writing critical thinking, writing emotional intelligence, writing leadership, writing motivation, and writing self-efficacy. The questionnaire included a list of 53 statements distributed into nine scales: writing metacognition (6 items), writing achievement emotions (8 items), writing anxiety (6 items), writing core affect (4 items), writing critical thinking (6 items), writing emotional intelligence (5 items), writing leadership (7 items), writing motivation (4 items), and writing self-efficacy (7 items). The participants self-assessed these items according to a 5-point Likert scale (1-5), in which 1 meant *Never or almost never true of me* (the subject), 2 meant *Usually not true of me*, 3 meant *Somewhat true of me*, 4 meant *Usually true of me*, and 5 meant *Always or almost always true of me*.

A major issue faced in the design of this data collection instrument was finding a balance between the number of statements and the relevance and detail of the data collected. A range between 50 and 55 items was considered appropriate since it would not take more than 30 minutes to complete it and would not look very long for the potential subject of study; guidelines that, according to Dörnyei and Taguchi (2003), help to boost a questionnaire's effectiveness. This range of items meant that most of the constructs could have up to six statements each. Accordingly, three constructs have that number of items. Nevertheless, some constructs such as writing core affect and writing motivation only have four items due to the simplicity of the definition of the construct itself —regardless of how deep and complex the theories on the construct may end up being. Given that these two constructs had two less statements than the number originally assigned to them, more intricate constructs such as writing achievement emotions, writing leadership, and writing self-efficacy could have additional statements to explore them in more detail. A final sum of 53 items was deemed suitable.

In order to increase response rate without sacrificing its reliability and relevance, certain statements that were separated in the original lists to measure constructs in isolation were grouped in the final version of the instrument used in this study. The groupings were made only when the original items were proved to have a strong positive correlation between them in the original study. For example, the Multifactor Leadership Questionnaire (MLQ) created by Avolio & Bass (2004) encompassed the

statements "*I let others know how I think they are doing*" and "*I provide recognition/rewards when others reach their goals*." Since those two items were positively correlated in Rowold's (2005) validation of the German version of the MLQ and it was revealed that those subjects who told their peers how they thought they were doing also praised their equals when they met their aims, they were brought together in the questionnaire of the present study: "LE5. *I let others know how I think they are doing and provide recognition when they reach their academic English writing goals*."

In the case of those items which had been evidenced to be negatively correlated, one of the items was either omitted or was added as a negative counterpart to the other item. For instance, in the Second Language Writing Anxiety Inventory (SLWAI) designed by Cheng (2004), the statements "*When I write in English, my ideas and words usually flow smoothly*" and "*My mind often goes blank when I start to work on an English composition*" are separated. Given that this author points out that the first statement should be reverse scored and that previous research using the SLWAI shows that there is an indirect correlation between those two items (Cheng, 2004; Aula-Blasco, 2016), the former was not included in the final version of the questionnaire. Thus, the latter statement, which was included in the instrument used in the present study (AN3. *My mind often goes blank when I start to write in academic English*), was expected to be the source of information regarding the subjects' flow —or lack of flow— of ideas when writing in academic English.

Regarding the formulation of the statements in the questionnaire, it is important to highlight that most of the original inventories of items were not created for the specific population and setting of this study. Some were not even designed to measure emotional constructs in writing. In order to follow a common pattern within all the sections of the instrument, all the statements were written in a first-person basis so as they felt more personal and immersive, something that has been previously done in other studies (Salovey & Mayer, 1990; Petric & Czarl, 2003; Avolio & Bass, 2004; Cheng, 2004; Jones, 2008; Pekrun, Goetz, Frenzel, Barchfeld & Perry, 2011; Ho, 2016). In addition, when it was deemed necessary, a reference to English writing skills, academic writing or research-related vocabulary was made. For example, an item in Salovey & Mayer's (1990) Trait-Meta Mood Scale 24 (TMMS-24) stated "*I let my feelings influence my thoughts* (*Dejo que mis sentimientos afecten a mis pensamientos* in the original scale in Spanish)". However, when transferred to the final version of the questionnaire used in this study, the item read "EI2. *I let my feelings influence my thoughts and my academic English writing skills*." The whole questionnaire was made bilingual —that is to say, both in English and Spanish— but administered in Spanish following Dörnyei and Taguchi's (2010) belief that "the quality of the obtained data increases if the questionnaire is presented in the respondents' own mother tongue" (p.49).

The scale of the questionnaire designed to measure metacognitive writing strategies used items adapted from a previous study in a non-academic context (Aula-Blasco, 2016). The questionnaire on metacognitive writing strategies scored a Pearson's correlation coefficient of 0.78 when associated with the concurrent think-aloud protocol

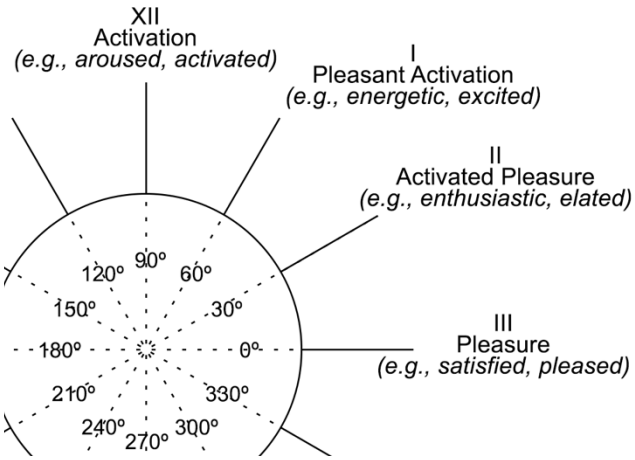
used in such study —a research method that has been widely shown to measure metacognition accurately (Hayes & Flower, 1983; Raimes, 1985; Guan, Lee, Cuddihy & Ramey, 2006; Gu, 2014). The list of items used in Aula-Blasco (2016) was created based both on a study on Canadian undergraduate students' use of writing metacognition carried out by Stewart et al.'s (2015) and from the inventory of metacognitive strategies developed by O'Neil and Abedi's (1996). Reported Cronbach's alpha coefficients were 0.78 in the former study and 0.8 in the latter. However, because O'Neil and Abedi's (1996) catalog of academic metacognitive strategies comprised metacognition when doing a general test, those items which made no reference to academic writing or could not be connected with it such as "*I asked myself how the test questions related to what I already knew,*" "*I made sure I understood just what had to be done and how to do it*" or "*I tried to understand the test questions before I attempted to solve them*" were omitted in the final version of the questionnaire.

The point of departure of the scale which examined writing achievement emotions in this PhD was Pekrun et al.'s (2011) Achievement Emotions Questionnaire (AEQ). The original instrument, which was devised as a guide to be adapted for future research, included 24 items divided in three scales. Pekrun et al. (2011) tested the AEQ in a study using a sample of university students, reporting reliabilities above $\alpha = 0.75$ for all scales and over $\alpha = 0.85$ for 15 of the 24 items. Since the original AEQ was designed for students, it included scales to measure achievement emotions during class, while studying, and when taking tests and exams. Considering the population of the present study, such division in three scales was discarded since a researcher does not attend classes nor take exams on AWRPP and only their founding elements were used. The AEQ measures anger, anxiety, boredom, enjoyment, hope, hopelessness, pride, relief, and shame in the three situations mentioned above. As a consequence, the items designed to examine achievement emotions used in the present study comprised most of those emotions. A statement for anxiety was not added since there was a whole scale of the questionnaire dealing with it. The multiplicity of this emotional construct was expected to serve to triangulate the answers of other parts of the questionnaire. For instance, the item dealing with pride (AE3. *I am proud of my capacity and of how well I master academic writing in English*) could be connected with other emotional constructs encompassed in this study such as self-efficacy. This may explain why the achievement emotions scale is the one with more items (8) in the whole questionnaire.

The six statements in the writing anxiety scale were borrowed from the Second Language Writing Anxiety Inventory (SLWAI) developed by Cheng (2004). The validation of such inventory reported a reliability coefficient of $\alpha = 0.94$ for the whole instrument. Since the SLWAI originally sought to examine writing anxiety in isolation in college students enrolled in EFL courses, some items were very specific and were either removed —due to the different situation of the subjects— or gathered —due to the similarity between them— in the final version of the scale used in the present study. For example, the original statements "*I would do my best to excuse myself if asked to write English compositions*" and "*I usually do my best to avoid writing English compositions*" were

both closely related with "*I do my best to avoid situations in which I have to write in English*." Therefore, this last item was the only one added to the scale (AN1. *I do my best to avoid situations in which I have to write in academic English*).

Regarding the scale to evaluate writing core affect, the selected items, a total of 4, were designed based on existing literature on the emotional construct (Russell & Barrett, 1999; Russell, 2003; Yik et al., 2011). As explained in Section 2.2, core affect can be expressed as the different subjective experiences on the dimensions of valence —pleasure versus displeasure— and arousal —activation versus deactivation— (Russell & Barrett, 1999). However, more recent models represent core affect as a 12-Point circumplex (Russell, 2003; Yik et al., 2011). The four statements included in the questionnaire dealing with core affect cover eight of those 12 points in groups of two —i.e. each quartile of the circumplex is represented in one item. For instance, as can be seen in Fig. 3.1, the quartile between activation and pleasure has two segments in the middle —pleasant activation and activated pleasure. Those two segments were the foundation for the statement dealing with such quartile: CA1. *I write better and more efficiently in academic English when I feel energetic, enthusiastic and happy*. The last adjective —happy— was taken from Russell (2003). The decision of using the eight points within the four quartiles and not using the four main points of the circumplex —i.e. pleasure, deactivation, displeasure, and activation— was taken in the present PhD study under the belief that the feelings encompassed in the eight points within the four quartiles led to more accurate statements that would be easier to understand and self-assess for the participants than the feelings in the four main points. Furthermore, this choice prevented repetitions with other items of the questionnaire —as opposed to the four main points that did. Despite the fact that repetitions could have been used as confirmatory answers, they were avoided due to the questionnaire's length and time restrictions mentioned above. Even though it could be agreed that by gathering two segments of the circumplex in one item of the questionnaire accuracy in the data collected may be lost, the Likert scale used in the questionnaire works as a gradation tool itself, helping to place the subjects accurately in the circumplex and analyze their responses in consequence. The Cronbach's alpha reliability estimate for this scale of the questionnaire can be found in Section 4.1.



▲ Fig. 3.1. Detail of the 12-PAC (Yik et al., 2011, p.706).

The six items of the questionnaire designed to appraise writing critical thinking were inspired from Ennis' (1991) theory of critical thinking. This theory incorporated 12 critical thinking dispositions, which were the starting point for the scale used in the present study. Eight of those dispositions were used in the design of the instrument. The dispositions that were not used were discarded due to the nature of this study. Since the aim of this PhD thesis was to examine and understand academic writing processes, critical thinking dispositions such as "*To withhold judgment when the evidence and reasons are insufficient*" or "*To take into account the total situation*" did not seem fitting in the scale because they were related with other aspects of language use such as receiving information —rather than producing it in a written form— or metacognition —a concept that was being evaluated in depth in another part of the questionnaire. Ennis (1991) also added in his theory a set of critical thinking abilities, being one of them (*To be sensitive to the feelings, level of knowledge, and degree of sophistication of others*) the grounding of a statement included in the final version of the scale (CT4. *I am sensitive to the feelings and level of knowledge of the potential reader of my text*). In the absence of previous studies, the part regarding the "*degree of sophistication*" was discarded on the assumption that the savoir faire and savoir vivre of the potential reader of an academic text does not have an impact on their potential understanding and, thus, should not be taken into account when writing it. The Cronbach's alpha reliability estimate for this scale of the questionnaire can be found in Section 4.1.

Concerning the scale of the questionnaire designed to assess writing emotional intelligence, the five items were adapted from the Trait Meta-Mood Scale (TMMS) developed by Salovey et al. (1995). The validation of the TMMS in that study on the general public reported a reliability coefficient of α = 0.87 for the whole instrument. Given that this scale had a more recent Spanish translation (the TMMS-24) with Cronbach's alpha reliability estimates of over 0.83 across domains (Espinoza-Venegas, Sanhueza-Alvarado, Ramírez-Elizondo & Sáez-Carrillo, 2015; Valdivia-Vázquez, Rubio-Sosa & French, 2015), such translation was the one used to create the Spanish version of the scale used in the present study. Similar to what happened with most of the instruments to measure other emotional constructs, the TMMS was not designed with academic writing for publication in mind but for the general public. Consequently, some original statements were not included in the scale used for this study. As an example, "*The variety of human feelings makes life more interesting*" and "*I believe in acting from the heart*" in Salovey et al. (1995) original TMMS are targeted to an individual's approach to life rather than AWRPP.

In order to examine the participants' writing leadership, a scale was created based on Avolio & Bass's (2004) Multifactor Leadership Questionnaire (MLQ). Rowold's (2005) tests of MLQ's reliability in seven heterogeneous samples ranging from students to government agency workers and from a convenience sample to random samples reported a Cronbach's alpha coefficient of over 0.75 for the whole instrument in all samples. Parallel to the scale designed to assess writing emotional intelligence commented above, the MLQ comprised some items that were not suitable for the present

study since they were not applicable to AWRPP, for example, *I give personal attention to others who seem rejected*, which deals more with the potential compassionate nature of the participant in everyday scenarios than when writing. However, even those items of the MLQ which at first were deemed complicated to adapt were finally included in the final version of the questionnaire so as not to lose depth in the construct data collection. For instance, the statement "*I provide appealing images about what we can do*," included in the MLQ and initially discarded, was adjusted to make it suitable for the present instrument while keeping the core idea of the original item. As a result, the statement "LE4. *I add appealing and simple visual support (e.g. images, tables, graphs, etc.) to my academic English texts to make them easier to understand*" was incorporated.

The scale of the questionnaire designed to appraise writing motivation was based on the integrative, instrumental, intrinsic, and extrinsic types of motivation (Gardner & Lambert, 1972; Ryan & Deci, 2000). The four statements included in the present scale covered these four types of motivation. Therefore, the item "MO1. *The possibility of becoming part of a worldwide academic community motivates me to write in English*" dealt with integrative motivation and the item "MO2. *I write in English because it is required to advance in my professional career, if not, I would write in my mother tongue*" followed instrumental and extrinsic motivations. Similarly, intrinsic motivation was the point of departure of the statement "MO3. *Failure to write well in English just makes me try harder*" since, as mentioned in Section 2.6, a person who has this type of motivation is prone to continue with their task in spite of complications and gain knowledge from their errors and mistakes (Walker et al., 2006). Finally, an item dealing with the inability to identify any kind of motivation within themselves was added for inclusiveness and reliability reasons: "MO4. *I have problems to find actual motivation to write in English*." The Cronbach's alpha reliability estimate for this scale of the questionnaire can be found in Section 4.1.

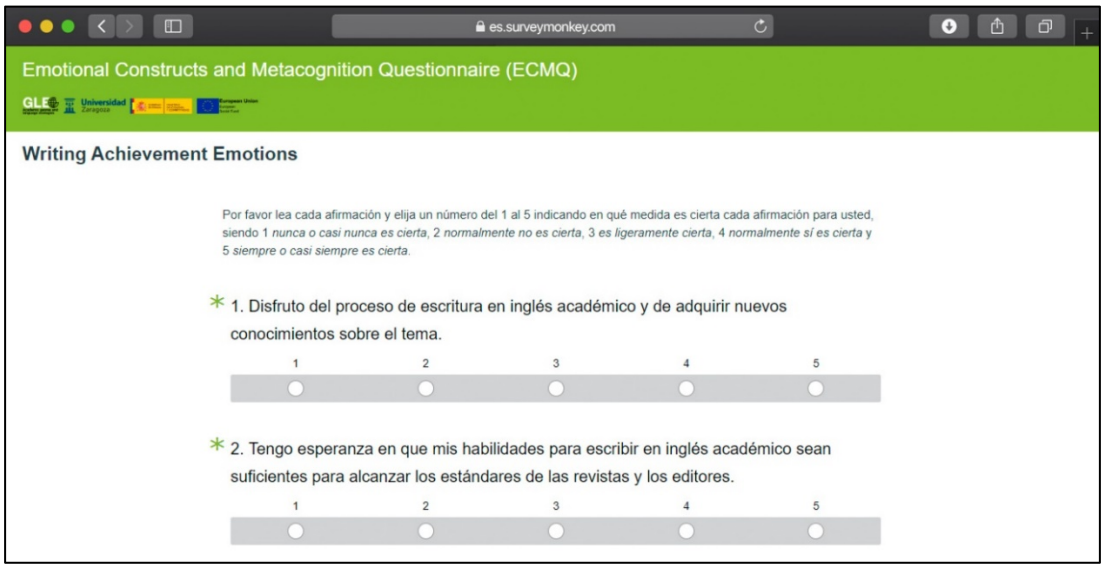
Lastly, the seven statements encompassed within the scale developed to measure writing self-efficacy were adapted from Jones (2008) and from Ho (2016). Jones' (2008) scales reported a reliability coefficient of $\alpha = 0.85$ and were adapted from a previous study carried out by Ferrari and Parker (1992) on high school students. Given this original population of study and the fact that Jones (2008) studied self-efficacy in college students, the whole *Writing tasks* subscale developed by Jones (2008) —which dealt with general writing in a classroom context— did not provide any source of items for the instrument used in the present study. On the other hand, the items included in Jones' (2008) *Writing behaviors* and *Writing skills* subscales were one part of the foundation for the items in the present questionnaire. Another part that nourished the instrument used in the present study was Ho's (2016) Research Writing Self-Efficacy Index (RWSI), which scored a Cronbach's alpha estimate of 0.93. The RWSI was specifically conceived for academic writing with research purposes, so no changes were made to the core ideas of the items, only to the way of formulating them.

In spite of the fact that most of the sources for the scales of the questionnaire used in the present study had been previously —and relatively recently— validated and their reliability estimates were considered satisfactory, the complete version of the

questionnaire was piloted by two senior and one junior researchers of English linguistics, and three senior and three junior researchers in the same situation as that of the participants —i.e. EAL users of EWRPP. The piloting process was carried out to correct minor spelling mistakes and, in general, the catalog of items was deemed suitable. During the piloting procedure, four of the researchers —both senior and junior— reported issues when dealing with the statements in the writing core affect scale. The original version of the items had the feelings first and the reference to writing second —e.g. "*When I feel energetic, enthusiastic and happy I write better and more efficiently in academic English*"— since it was believed that, in that way, the change in the feelings from item to item were highlighted over the unaltered part of the statement which referred to academic English writing. However, those researchers indicated that swapping the order of the statements would make them easier to understand and that feelings would receive a more significant role in the sentence. This suggestion was considered convenient and beneficial for the instrument. For that reason, the four items of the writing core affect scale were finally modified. For instance, the item stated above ended reading "CA1. *I write better and more efficiently in academic English when I feel energetic, enthusiastic and happy*." Similarly, the original items "*When I feel serene and calm I write better and more efficiently in English,*" "*When I feel tired, gloomy and sad I write better and more efficiently in English*," and "*When I feel upset and jittery I write better and more efficiently in English*" were changed to "CA2. *I write better and more efficiently in academic English when I feel serene and calm*," "CA3. *I write better and more efficiently in academic English when I feel tired, gloomy and sad*," and "CA4. *I write better and more efficiently in academic English when I feel upset and jittery*."

The final version of the questionnaire, named Emotional Constructs and Metacognition Questionnaire (ECMQ) (see Appendix 2), was administered to the participants via online. The platform used for the design of the final questionnaire participants responded was SurveyMonkey. The layout of the questionnaire consisted of 10 short pages. The first page included basic information about the present study and how to fill out the questionnaire and it also encompassed four items that helped to retrieve information about the participant —i.e. field of knowledge (not relevant for this PhD thesis but for further research), years of experience as a researcher (approximately), participant's email (optional), and a polar question to know if the participant was interested in taking part on the second stage of the study. The remaining pages included the nine scales for the eight emotional constructs and metacognition. In order to keep the sense of progress and put each page of the questionnaire into perspective, a progress bar was added at the end of each page, right before the "next page" button. At the top of each page, the name of the questionnaire and the logos of the Genres and Language Ecologies (GLE) research group, the University of Zaragoza, the Spanish Ministry of Economy and Competitiveness, and the European Social Fund were added. In each of the pages comprising a scale of the ECMQ, the title of each scale —e.g. *Writing Achievement Emotions*— preceded a short reminder on how to complete the 5-point Likert scales of the upcoming items. The reminder was "Please read each statement and choose a number from 1 to 5 indicating how true the statement is for you, being 1 *never or almost*

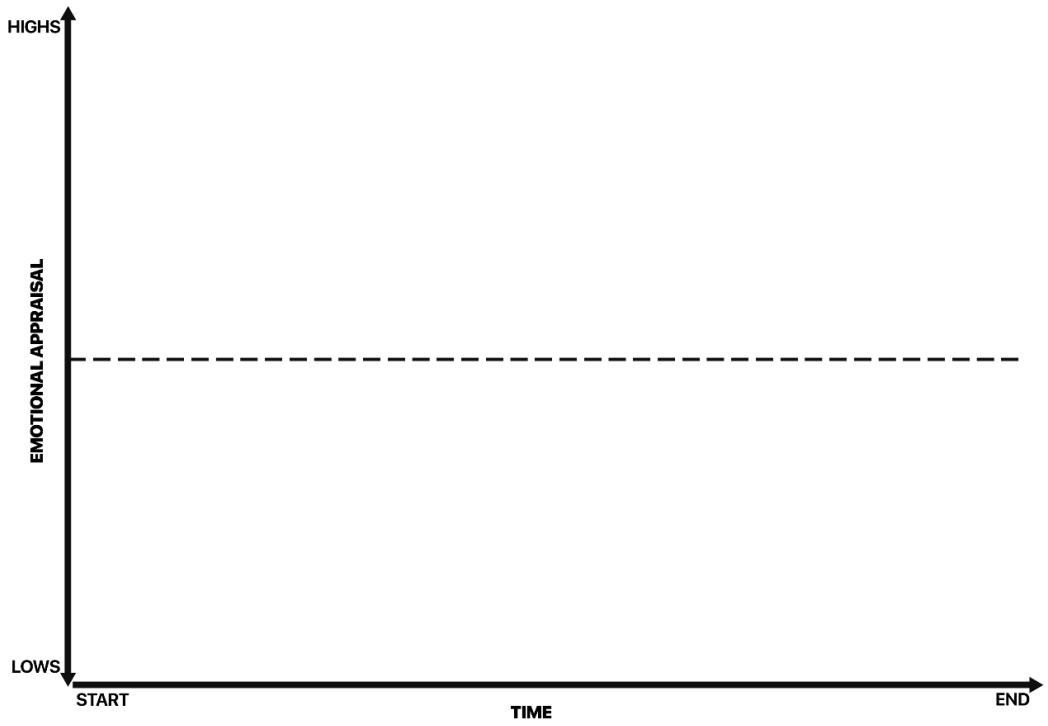
never true, 2 *generally not true*, 3 *slightly true*, 4 *generally true*, and 5 *always or almost always true for you*." All the text included in the online version of the ECMQ used Helvetica, a realist, sans serif typeface, in various font sizes ranging from 15px for the page description —or reminder— mentioned above to 24px for the questionnaire title. The 5-point Likert scales were displayed on the horizontal axis. Adaptative versions of the questionnaire for different computer, cellphone and tablet display sizes were automatically created by SurveyMonkey. Fig. 3.2 presents the layout of the beginning of page two of the administered questionnaire on a computer screen.



▲ Fig. 3.2. Part of the ECMQ displayed on a computer screen.

3.3. Instruments and procedures: journey plots

In order to triangulate questionnaire-retrieved data, a second phase using journey plots was carried out for the present study. Journey plots consist of a set grid with emotional appraisal in the vertical axis and time on the horizontal axis (see Fig. 3.3). Making use of the grid, participants were requested to draw a line depicting their experience while writing a research paper in English with the aim of publishing it in a journal. Participants were also asked to highlight the main emotional turning points and comment on them in order to understand the reasons behind the highs and lows.



▲ Fig. 3.3. Journey plot grid.

One major advantage of journey plots is that it helps to "identify important aspects such as milestones and events, uncover the emotions, intensity, complexity, impact and meaning involved, and promote self-awareness and problem solving" (Turner, 2015, p.87). Journey plots have been adopted in the literature to evaluate various long-lasting processes such as undergraduate students writing a research paper (Shaw, Holbrook, Scevak & Bourke, 2008), PhD students writing their thesis (Sala-Bubaré & Castelló, 2015), and early career academics supervising a PhD thesis for the first time (Turner, 2015; Petric, 2017). However, these studies have used journey plots as a retrospective tool during an interview and have overlooked potential limitations of this use. There are certain drawbacks that could be associated with this use of journey plots: *1.* the information retrieved tends to be, in general, vague, due to factors such as the time elapsed between the event and the report or the potential feeling of rush existing in an interview, and 2. the fact that emotional appraisals' intensity tends to be diminished as time passes, which could result in less accurate data.

In order to explore ways of avoiding these problems, participants in the present study were asked to fill in their journey plots *online*, that is, at the same time their EWRPP process was taking place. Nevertheless, considering that some participants could have already started their research and/or their writing process briefly before they were contacted, they were given the chance of filling in part of the journey plot retrospectively. Furthermore, it was also considered that some participants might not be planning on starting any research paper in the coming months. As a consequence, they were also given the chance to complete their whole journey plots retrospectively. In addition to the fact that this array of options was originally devised only to increase participation

and facilitate participants' responses, it ended up retrieving interesting aspects regarding the use of journey plots as a synchronic and a retrospective research method that will be stated and discussed in Chapters 3 and 4.

Screening participants for the second stage followed a two-phase approach due to the hefty number of potential candidates —as recommended by Yin (2014). From the 159 participants of the first stage who agreed to take part in the second stage, 91 provided a contact email address while filling out the questionnaire. The first phase of the screening implied that, out of those 91 participants in the questionnaire stage, three from each EWRPP experience quartile were contacted. Attention was paid to ensure that, from each of those sets of three participants, one had a low average score on their questionnaire responses (see Section 3.4 for treatment of questionnaire responses, average levels, and the EMOWRI score), one was close to average scores, and one had a high score. Other than that consideration, selection was random. After reaching the first wave participants and receiving —or not receiving— their response to the request of filling in the journey plot, only two agreed to take part in the second phase. As a consequence, another wave of participants was randomly picked and contacted following the same concerns mentioned above. Even though the initially devised scenario would have been to count with the journey plots of two participants with low EMOWRI scores, two with high EMOWRI scores, and two near to the 3.32±0.39 average score of all the ECMQ respondents, only eight participants agreed to fill in their journey plots after the second wave of contacts. The original number of agreements was then reduced to six because two participants did not reply to further emails and did not send their journey plots back. Given that Yin (2014) suggests a dozen participants as the most optimal scenario in a case-study-only research design, having six participants was considered suitable for a triangulation scenario as the one of the present study. The profile of these six participants was then screened in the second phase of the two-phase approach attending to their questionnaire responses, years of EWRPP experience, and EMOWRI scores. In the absence of previous studies, candidates' profiles were deemed appropriate since, as stated in Section 3.1, they own a wide range of EWRPP experience that goes from 2 to 40 years, they come from three out of the four major fields of study included in the present study, and their EMOWRI scores range from a mid-low 2.63 to a high 3.93.

3.4. Treatment of questionnaire responses

The participants' responses to the ECMQ were coded according to the following guidelines:

1. Responses to items which did not require reverse-coding due to its desirability —grounded on the literature (see Chapter 2)— were coded with values exact to the 5-point Likert scale. For instance, a response of 2 (*Usually not true of me*) to this kind of items in the questionnaire was coded with a value of 2. The same applies to the other four Likert scale options.

2. Responses to reverse-coded items were coded with opposite values to the 5-point Likert scale. This means that a response of 2 (*Usually not true of me*) to this type of items in the questionnaire was coded with a value of 4. The same applies to the rest of the Likert scale options but 3, which was also coded as 3 since it is the middle option of the scale.

3. Responses to items included in the writing core affect scale were all coded in the same way as those items illustrated by guideline *1* above because, as mentioned in Section 2.2, there is, to the best of my knowledge, no research on the impact of core affect in AWRPP. Due to this lack of research-grounded evidence regarding the desirability of any core affect emotion in the writing process, the data coming from the items comprised in this scale will be examined in a different section of the Results —i.e. Chapter 4— than the rest of the constructs (see Section 4.3 and 4.6).

On completion of the coding process, each participant's responses to every item in every scale —except writing core affect— was averaged in order to get each participant's EMOtional WRIting (EMOWRI) score. That is, the mean of the already-coded responses to the ECMQ so as to calculate a score to quantify each participant from 1 to 5, being 1 the less desirable score and 5 the most desirable one.

Data collected from the ECMQ were analyzed using the software Microsoft Excel 19 and IBM SPSS Statistics 26. The former helped to gain insight into individual scores, ranks, means, and standard deviations. The latter was useful to explore reliability, correlations between constructs, and significances. The results of these analyses can be found in Chapter 4.

3.5. Treatment of journey plot responses

Participants' journey plots were coded and analyzed using the software ATLAS.ti 8. Each description and value for each point in each journey plot was examined and then coded in case that it referred to any of the constructs entailed in this thesis. Therefore, the possible codes were AE (writing achievement emotions), AN (writing anxiety), CA (writing core affect), CT (writing critical thinking), EI (writing emotional intelligence), LE (writing leadership), MO (writing motivation), SE (writing self-efficacy), and MC (writing metacognition). Coding was done following the theoretical framework for each construct —see Chapter 2— and took into consideration Friese's (2014) guidelines for adequate coding.

The analysis of the data was done manually for qualitative information and using ATLAS.ti 8 built-in tools such as the code co-occurrence tool and the code-document table for the quantitative part. In addition to this analysis of the descriptions included in each of the six journey plots, a visual analysis similar to the one used in Turner (2015) was undertaken considering each journey plot rhythm, tempo, and intensity. Using Turner's descriptions:

> *Rhythm, observed from the various highs and lows over time, denotes how constant or changeable the experience appeared. Tempo, construed from the gradient of the plot, concerns how quickly the experience seemed to change. Intensity, associated with the relative height or depth of each high and low, concerns how extreme the experience seemed* (p. 89).

The results of these analyses can be found in the upcoming Chapter 4.

Chapter 4
Results

The plural of anecdote is data.
—Raymond Wolfinger (rejoinder during a lecture at Stanford, 1969-70)

This Chapter presents and describes data obtained by means of the two research instruments used in the present thesis. The outcomes resulting from the quantitative analyses using Cronbach's alphas, means, standard deviations, Pearson's correlations, and significances are provided in this Chapter. A summary of data derived from descriptive statistics is also included. The results obtained following content and framework analyses of the qualitative data is likewise encompassed in this Chapter.

4.1. Reliability validation of the questionnaire

Validation of the ECMQ and of each of its sections dealing with writing achievement emotions, writing anxiety, writing core affect, writing critical thinking, writing emotional intelligence, writing leadership, writing motivation, writing self-efficacy, and writing metacognition reported the following Cronbach's alphas.

ECMQ	AE	AN	CA	CT	EI	LE	MO	SE	MC
.858	.741	.768	.542	.668	.465	.726	.573	.870	.752

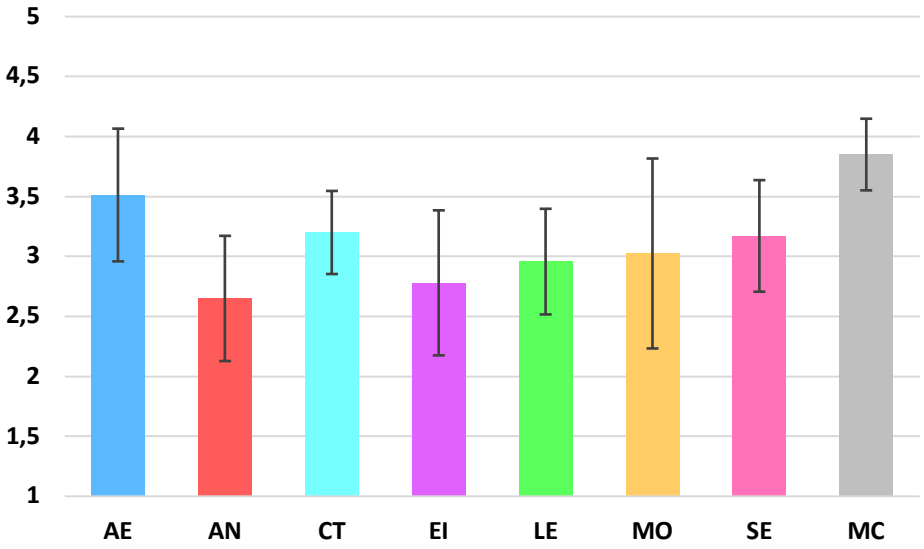
▲Table 4.1. Cronbach's alphas for the ECMQ and each of its sections.

It can be seen from the data in Table 4.1 that the Cronbach's alpha reliability estimates of isolated sections of the ECMQ are, in general, suitable for a questionnaire dealing with emotional constructs with the space limitations of the ECMQ. Given that Nunnally (1978) proposed a minimum of $\alpha = 0.7$ in Cronbach's alpha coefficients for social sciences to be considered acceptable, the possible reasons behind the more moderate coefficients —i.e. writing motivation ($\alpha = 0.573$), writing core affect ($\alpha = 0.542$), and writing emotional intelligence ($\alpha = 0.465$)— will be addressed in Chapter 5. The overall Cronbach's alpha of the ECMQ is $\alpha = 0.857$.

4.2. Overall means of questionnaire responses

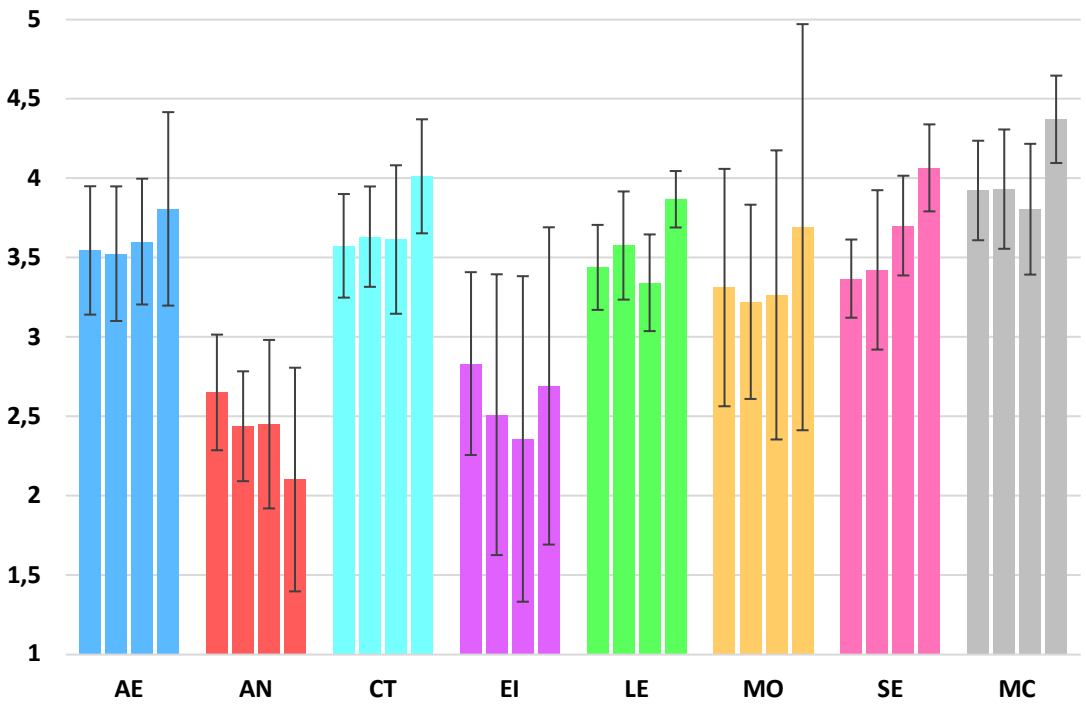
The means ($\bar{x}$) and standard deviations (σ) of participants' responses to each of the scales of the ECMQ are included in Fig. 4.1. As illustrated, participants reported, on average, a medium to medium-high level of writing metacognition ($\bar{x} = 3.93$, $\sigma = 0.33$), writing critical thinking ($\bar{x} = 3.62$, $\sigma = 0.34$), writing achievement emotions ($\bar{x} = 3.57$, $\sigma = 0.4$), writing self-efficacy ($\bar{x} = 3.49$, $\sigma = 0.31$), writing leadership ($\bar{x} = 3.47$, $\sigma = 0.27$), and writing motivation ($\bar{x} = 3.3$, $\sigma = 0.77$). Medium-low levels were reported in the scales

dealing with writing emotional intelligence ($\bar{x}$ = 2.65, σ = 0.77) and writing anxiety ($\bar{x}$ = 2.53, σ = 0.4).



▲Fig. 4.1. Mean and SD for each construct but core affect.

Participants reported dissimilar levels on each of the scales of the ECMQ according to the academic expertise quartiles they belonged to (see Section 3.1 for an explanation of the division). Fig. 4.2 and Table 4.2 include the means and standard deviations of participants' responses to each of the scales of the ECMQ divided into participants quartiles (from left to right in each construct: Q1, Q2, Q3, and Q4). As can be seen, there is an increase in the average level of all the constructs except emotional intelligence if participants with less experience (Q1) are compared with those with more experience (Q4). It can be observed that writing anxiety levels decrease when those two groups (Q1 and Q4) are compared, this can be corresponded to an 'increase' in the desirable low level of writing anxiety. Participants in Q2 and Q3 have, in general, responses that do not match a gradual increase as experience grows —except in writing self-efficacy which does report a gradual development. Self-reported levels of writing emotional intelligence seem to drop progressively from Q1 to Q3 but end up escalating in Q4 — without reaching Q1 levels. Standard deviations are comparatively higher in the responses for the writing emotional intelligence and writing motivation scales. This is in line with being two of the three scales with the lowest Cronbach's alpha estimates of the ECMQ (see Section 4.1).



▲Fig. 4.2. Mean and SD for each construct but core affect divided in participants quartiles.

		AE	AN	CT	EI	LE	MO	SE	MC
Q1	Mean	3.55	2.65	3.57	2.83	3.44	3.31	3.37	3.92
	SD	0.40	0.36	0.33	0.58	0.27	0.75	0.25	0.31
Q2	Mean	3.53	2.44	3.63	2.51	3.58	3.22	3.42	3.93
	SD	0.42	0.35	0.32	0.88	0.34	0.61	0.50	0.38
Q3	Mean	3.60	2.45	3.61	2.36	3.34	3.27	3.70	3.81
	SD	0.40	0.53	0.47	1.03	0.30	0.91	0.31	0.41
Q4	Mean	3.81	2.10	4.01	2.69	3.87	3.69	4.07	4.37
	SD	0.61	0.70	0.36	1.00	0.18	1.28	0.27	0.28

▲Table 4.2. Mean and SD for each construct but core affect divided in participants quartiles.

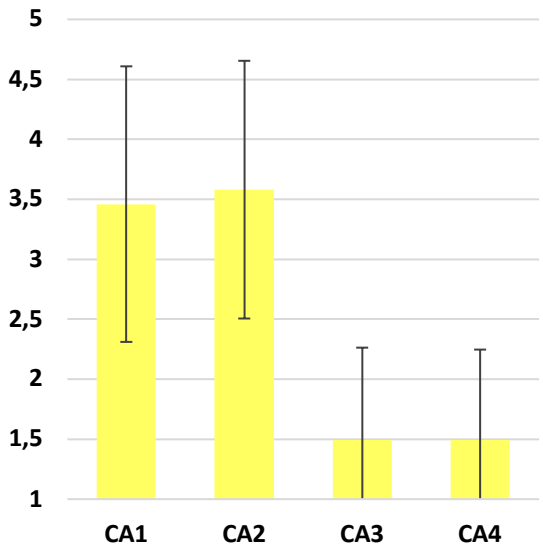
Turning to the general deviation noted in Q2 and Q3 responses, Table 4.3 shows Q1 and Q4 data compared this time with the means and standard deviations of Q2 and Q3 participants combined. As reflected by the triangle colors (green for an increase —decrease in the case of writing anxiety due to its 'undesirability'— and red for a decrease), if Q2 and Q3 responses are combined, only writing emotional intelligence, writing motivation, and writing metacognition divert from a gradual drive towards desirable scores.

		AE	AN	CT	EI	LE	MO	SE	MC
Q1	Mean	3.55	2.65	3.57	2.83	3.44	3.31	3.37	3.92
	SD	0.40	0.36	0.33	0.58	0.27	0.75	0.25	0.31
Q2+Q3	Mean	▲3.56	▼2.44	▲3.62	▼2.43	▲3.46	▼3.24	▲3.56	▼3.87
	SD	0.40	0.43	0.38	0.95	0.32	0.75	0.41	0.38
Q4	Mean	▲3.81	▼2.10	▲4.01	▲2.69	▲3.87	▲3.69	▲4.07	▲4.37
	SD	0.61	0.70	0.36	1.00	0.18	1.28	0.27	0.28

▲Table 4.3. Mean and SD for each construct but core affect divided in participants quartiles with Q2 and Q3 combined.

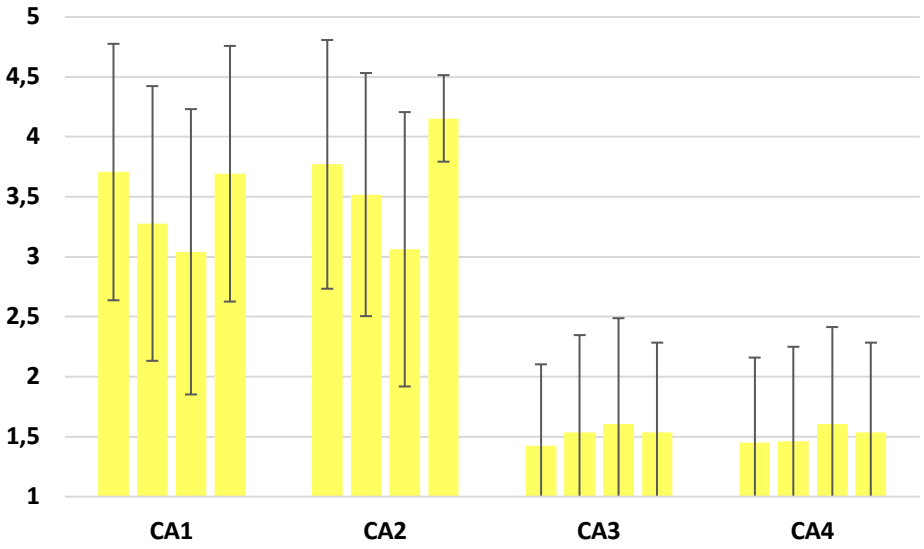
4.3. Overall means of questionnaire responses: the case of core affect

As explained in Section 3.4, responses to the writing core affect section of the ECMQ were considered differently to the rest of the items in the questionnaire due to the idiosyncrasy of core affect. Fig. 4.3 presents the means and standard deviations of participants' responses to each of the items included in the writing core affect scale. On average, participants reported a medium level in item CA1. *I write better and more efficiently in academic English when I feel energetic, enthusiastic and happy* ($\bar{x}$ = 3.46, σ =1.15) and item CA2. *I write better and more efficiently in academic English when I feel serene and calm* ($\bar{x}$ = 3.58, σ = 1.07). On the other hand, a low level was reported in items CA3. *I write better and more efficiently in academic English when I feel tired, gloomy and sad* ($\bar{x}$ = 1.5, σ = 0.77) and CA4. *I write better and more efficiently in academic English when I feel upset and jittery* ($\bar{x}$ = 1.49, σ = 0.76). The relatively high standard deviations suggest that participants actually range from medium-low to high levels in items CA1 and CA2 and from low to medium-low levels in items CA3 and CA4.



▲Fig. 4.3. Mean and SD for each core affect item.

Fig. 4.4 and Table 4.4 show the means and standard deviations of participants' responses to each of the items in the writing core affect scale of the ECMQ divided in participants quartiles (from left to right in each construct: Q1, Q2, Q3, and Q4). As can be seen from the data, average values in CA1 and CA2 follow a gradual decreasing trend from Q1 to Q3 before growing back in Q4 to Q1 levels in the case of CA1 and surpassing them in CA2. Participants within Q4 reported a high level in the item CA2 that is even more significant due to the relatively low standard deviation. Average scores in CA3 and CA4 reflect low levels across all participants quartiles.



▲Fig. 4.4. Mean and SD for each core affect item divided in participants quartiles.

		CA1	CA2	CA3	CA4
Q1	Mean	3.71	3.77	1.42	1.45
	SD	1.07	1.04	0.68	0.71
Q2	Mean	3.28	3.52	1.54	1.46
	SD	1.15	1.01	0.81	0.79
Q3	Mean	3.04	3.06	1.60	1.60
	SD	1.19	1.14	0.88	0.81
Q4	Mean	3.69	4.15	1.54	1.54
	SD	1.07	0.36	0.75	0.75

▲Table 4.4. Mean and SD for each core affect item divided in participants quartiles.

4.4. Ranking of responses to individual items

All the means and standard deviations of each individual item are sorted from largest to smallest mean in Table 4.5 (on pages 57 and 58). As seen in this table, four of the six items with an average equal or over 4 points are part of the writing metacognition scale. This goes in line with the findings reported in Fig. 4.2, which suggested that participants reported a higher level of writing metacognition than of any other construct. What is interesting about these four highly-scored writing metacognition items is that they are

the ones which explicitly refer to the different stages of writing —i.e. planning, while-writing, and revision. The other two items on the writing metacognition scale, which refer to being aware of the thinking processes and being able to adjust writing strategies, this is, the purest form of metacognition, only present mid-tier averages (MC3$\bar{x}$ = 3.49, σ = 1.22; MC5$\bar{x}$ = 3.47, σ = 1.06). Concerning writing critical thinking, the results suggest that items can be categorized into two groups: the items which report a high average —close to $\bar{x}$ = 4.0— and those which report a medium average score —between $\bar{x}$ = 3.0 and $\bar{x}$ = 3.5. The former group relates to participants being open to suggestions, precise, and able to deal with unexpected difficulties. The latter encompasses items referring to staying focused and writing clearly and to the eagerness to find learning opportunities. Average responses for items dealing with writing motivation suggest that participants are motivated by the possibility of becoming part of a worldwide academic community (MO1$\bar{x}$ = 3.79, σ = 1.26) and that they do not have problems to find actual motivation to write in academic English (MO4$\bar{x}$ = 1.98, σ = 1.18). However, participants report that they would rather write in their mother tongue if English was not a requirement in current academia (MO2$\bar{x}$ = 3.97, σ = 1.26). Data on writing self-efficacy items indicate that participants have, in general, a positive view of their EWRPP skills. Nonetheless, the most striking result to emerge from writing self-efficacy data is that participants' biggest issue concerning this construct is connected with procrastination of writing tasks (SE2$\bar{x}$ = 3.13, σ = 1.06; SE3$\bar{x}$ = 2.95, σ = 1.07). The results obtained from the writing leadership scale report mid-tier averages ranging from LE6$\bar{x}$ = 3.18±1.19 to LE1$\bar{x}$ = 3.6±0.91 on those items referring to direct leadership with their close colleagues. The item LE4, which deals with adding appealing and simple visual support to texts in order to make them more understandable for potential readers, is the third highest ranked item in the list, reporting a high-tier average of $\bar{x}$ = 4.06±1.07.

Regarding the items on the lower end of the table, nine out of the fourteen items with means equal or under $\bar{x}$ = 2.5 are reverse coded items (see Section 3.4), which means that having them in this position is desirable. These scores go in line with the results reported in Fig. 4.2, which highlighted participants' medium-low average level of writing anxiety. Table 4.5 also shows that all the items from the writing achievement emotions scale with low-tier averages are reverse coded. This adds to the medium to medium-high averages of the rest of the items within such scale. Interestingly, the score of item AE3 ($\bar{x}$ = 2.88, σ = 1.10) reveals that some participants are not particularly proud of their capacity and of how well they master EWRPP. One of the most remarkable findings are the averages of items dealing with writing emotional intelligence, which range from mid-low scores (EI5$\bar{x}$ = 2.67, σ = 1.29) to very low ones (EI1$\bar{x}$ = 1.92, σ = 1.04). The only writing emotional intelligence item which shows adequate levels is EI2. *I let my feelings influence my thoughts and my academic English writing skills* since it reports an average of $\bar{x}$ = 1.92±0.91 being a reverse coded item. This result is somewhat counterintuitive because, as it can be seen in the table and as it was mentioned in Section 4.3, the participants reported that they write better and more efficiently in academic English when they feel energetic, enthusiastic, happy, serene and calm than when they are tired, gloomy, sad, upset and jittery.

Code	Item description †	Mean	SD
MC6	I see revision as part of the writing process in academic English.	4.37	0.83
MC1	I consider the purpose of the text and think about the audience for whom I am writing before I start writing.	4.12	0.89
LE4	I add appealing and simple visual support (e.g. images, tables, graphs, etc.) to my academic English texts to make them easier to understand.	4.06	1.07
MC2	I am aware of the need to plan my writing process in academic English, selecting and organizing relevant information before writing.	4.06	0.88
MC4	I check my work and correct my errors while I am writing in academic English.	4.05	0.90
CT5	I seek as much precision as possible; changing my academic English writing preconceptions when the evidence and reasons are sufficient to do so.	4.00	0.91
CT3	I am open-minded; considering seriously other points of view than my own and being reflectively aware of my own basic beliefs regarding writing in academic English.	3.99	0.80
MO2	I write in English because it is required to advance in my professional career, if not, I would write in my mother tongue.	3.97	1.26
CT2	I am able to look for alternatives when I face a problem when writing in academic English.	3.82	0.86
SE5	I can write a well-organized research paper in English with a concise abstract, a suitable introduction, a clear methodology, a handy results section, a comprehensive discussion, and a pertinent conclusion.	3.80	1.14
MO1	The possibility of becoming part of a worldwide academic community motivates me to write in English.	3.79	1.26
AE2	I have great hope that my academic English writing skills are sufficient to meet the standards of journals and editors.	3.76	1.06
SE4	When unexpected problems with writing in academic English occur, I handle them appropriately.	3.74	0.92
SE6	I can correctly apply grammar rules, write grammatically correct sentences, use the right punctuation marks, and properly organize a text when writing in academic English.	3.73	1.08
SE7	Even if I may initially make grammar, punctuation, and/or spelling errors, I am sure I can correct them when proofreading.	3.67	1.06
LE1	I make my colleagues feel good about their academic writing skills in English, even when their level is not excellent.	3.60	0.91
CA2	I write better and more efficiently in academic English when I feel serene and calm.	3.58	1.07
LE5	I let others know how I think they are doing and provide recognition when they reach their academic English writing goals.	3.51	1.13
MC3	I am aware of my own thinking when writing in academic English.	3.49	1.22
MC5	I keep track of my progress as an academic writer and, if necessary, I change my techniques and/or strategies.	3.47	1.06
CA1	I write better and more efficiently in academic English when I feel energetic, enthusiastic and happy.	3.46	1.15
SE1	When I make plans to write an academic text in English, I am certain I can make them work within the appropriate timing.	3.44	1.13
CT1	I find it easy to determine and maintain focus on the issue I am writing (in academic English) about and to be clear about the intended meaning of it.	3.44	1.07
CT6	I seek as many learning opportunities as possible to improve my academic English writing skills.	3.43	1.10
LE7	I help my colleagues find meaning in their work, rethink their own ideas, and express everything in a written form in academic English.	3.41	1.02
MO3	Failure to write well in academic English just makes me try harder.	3.37	1.09
AN2	I usually feel comfortable and not nervous at all when writing in academic English.	3.33	1.33
AE1	I enjoy the process of writing in academic English and acquiring new knowledge on the matter.	3.33	1.18
LE3	My colleagues have complete faith in my academic English writing skills.	3.29	1.09

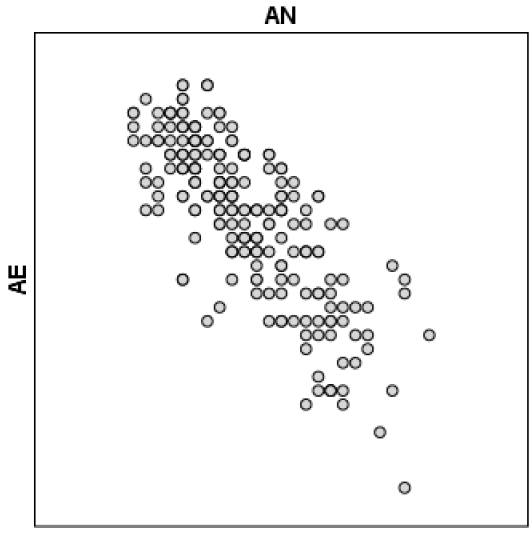
LE2	I help my colleagues develop their writing skills and tell them how to write in academic English if they want to be rewarded for their work.	3.27	1.13
LE6	I am content to let my colleagues continue writing in the same ways always and ask no more of their English writing style than what is absolutely essential.	3.18	1.19
AE7	I feel very relieved when I finish my academic English writing undertaking.	3.17	1.32
AN4	I often worry that I may use expressions and sentence patterns improperly or that the ways I express and organize my ideas do not conform to the norm while writing in academic English. (R)	3.17	1.25
AN6	I do not worry that my academic English writings may be worse than my colleagues'.	3.14	1.32
SE2	When I have a pending written project in English, I go right to work on it.	3.13	1.06
CT4	I am sensitive to the feelings and level of knowledge of the potential reader of my text.	3.05	1.23
SE3	When I have unpleasant written work to do in English, I stick to it until I finish it.	2.95	1.07
AE3	I am proud of my capacity and of how well I master academic writing in English.	2.88	1.10
EI5	If I am angry and I have the feeling that I am complicating things when writing in academic English, I try to calm down and change my mood.	2.67	1.29
AE5	I feel ashamed that my academic English writing skills are not enough to carry out my written work the way I would like. (R)	2.44	1.35
EI3	I am aware of my feelings each time I write in academic English and I can express how I feel without any problem.	2.29	1.23
EI4	If I feel sad and upset when writing in academic English, I try to think of pleasant things and be optimistic.	2.26	1.19
AN5	I often worry about what my colleagues would think of my academic English writings and I am afraid that my English writing skills would be rated as very poor. (R)	2.25	1.18
AE4	When I write in academic English I tend to feel anger and to be fairly annoyed. (R)	2.23	1.25
AN3	My mind often goes blank when I start to write in academic English. (R)	2.22	1.21
AE8	I get very bored when I am writing in academic English. (R)	2.16	1.25
AN1	I do my best to avoid situations in which I have to write in academic English. (R)	2.00	1.27
MO4	I have problems to find actual motivation to write in academic English. (R)	1.98	1.18
EI2	I let my feelings influence my thoughts and my academic English writing skills. (R)	1.92	0.91
EI1	I pay attention to my feelings and I devote time to think about them before, during and after writing in academic English.	1.92	1.04
AE6	I have lost all hope that I have the skills to do well on writing in academic English. (R)	1.76	1.08
CA3	I write better and more efficiently in academic English when I feel tired, gloomy and sad.	1.50	0.77
CA4	I write better and more efficiently in academic English when I feel upset and jittery.	1.49	0.76

▲Table 4.5. Mean and SD for each item in the ECMQ.

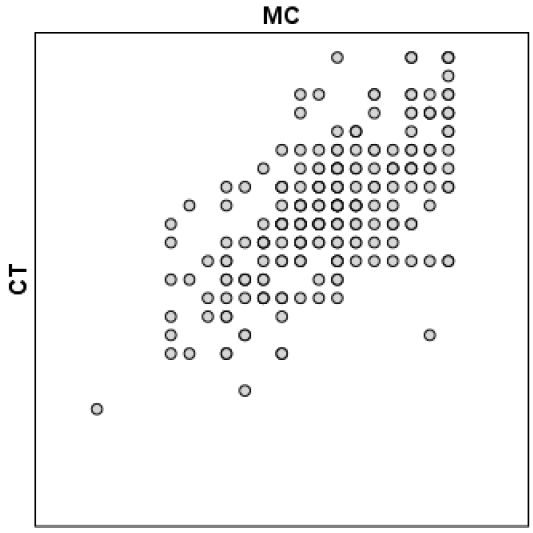
† Items marked with (R) were reverse-coded when construct averages and individual EMOWRI scores were calculated but have not been reverse-coded in this list.

4.5. Correlations between constructs and scores

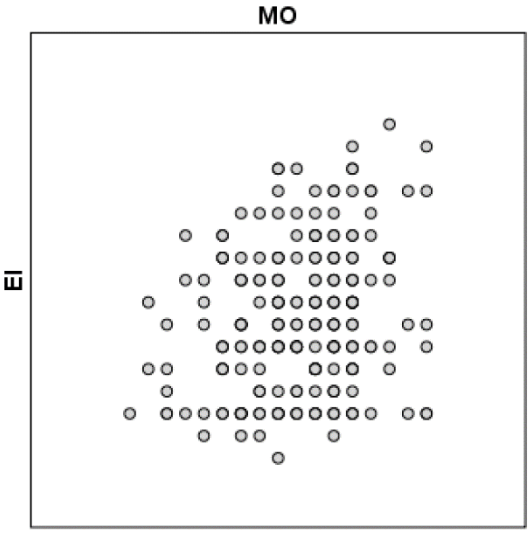
The correlations —and their significance— between the different emotional constructs, writing metacognition, the EMOWRI score, and participant's academic experience derived from the statistical analysis are included in Table 4.6 on page 61 and a Scatterplot Matrix (SPLOM) in Appendix 3. Fig. 4.5 includes the Pearson's correlations, significances, and scatterplots of some of the correlations reporting the most and the less significant coefficients in the present study as a guide to interpret Table 4.6 and the SPLOM.



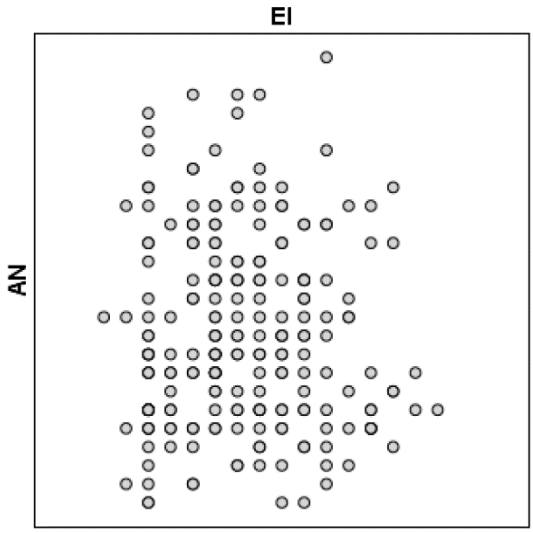
Constructs	AE	AN
Pearson's correlation	-.781**	
Sig. (2-tailed)	.000	
N	224	



Constructs	CT	MC
Pearson's correlation	.654**	
Sig. (2-tailed)	.000	
N	224	



Constructs	EI	MO
Pearson's correlation	.221**	
Sig. (2-tailed)	.001	
N	224	



Constructs	AN	EI
Pearson's correlation	-.029	
Sig. (2-tailed)	.669	
N	224	

▲Fig. 4.5. Selected Pearson's correlations, significances, and scatterplots.

As can be seen in the top-left scatterplot in Fig 4.5, there is a very strong indirect correlation between writing achievement emotions and writing anxiety (r = -0.781). This means that, according to the participants' responses, as writing anxiety levels grow, writing achievement emotions scores decrease —and vice versa. This explains why the points —i.e. participants' responses— within the scatterplot follow a clearly clustered descending line. In the second row of that same correlation, it is shown that the significance analysis reported a p-value under the 0.01 level, which means that it is likely that the Pearson's r of the sample for this study represents the population. The third column (n = 224) refers to the number of participants in the study. The color code for the background of the figures can be found below Table 4.6. Similarly, the top-right scatterplot, which encompasses writing critical thinking and writing metacognition, also shows a statistically significant correlation with a p-value under the 0.01 level. However, this correlation is direct, which means that the higher writing metacognition scores are, the higher writing critical thinking scores get. Furthermore, this correlation is less strong than the previous one (r = 0.654), which means that the direct correlation between constructs is not as strong for as many participants as the one between writing achievement emotions and writing anxiety. This correlation is thus illustrated in a scatterplot with an increasing line with slightly less clustered points. The low-left scatterplot presents a weak direct correlation (r = 0.221) between writing emotional intelligence and writing motivation. This is the reason why the scatterplot still somehow resembles an increasing line but is much less clustered than the two upper ones, indicating that the direct correlation exists in some participants but may be weak in most of the other cases. This low correlation is, however, statistically significant —p-value under the 0.01 level. This means, as explained before, that it is likely that the Pearson's r of the sample represents the population. The final scatterplot found in the low-right corner of Fig 4.5 shows the correlation between writing anxiety and writing emotional intelligence. In this case, the correlation is close to inexistent (r = -0.29) for the sample population. Nevertheless, given that the reported significance is over any statistically acceptable level (p-value = 0.669), it is likely that the conclusions drawn from this correlation do not represent the whole population.

		AE	AN	CT	EI	LE	MO	SE	MC	EMOWRI	EXPER
AE	Pearson's correlation	1	-.781**	.588**	.209**	.417**	.633**	.693**	.497**	.598**	.071
	Sig. (2-tailed)		.000	.000	.002	.000	.000	.000	.000	.000	.293
	N	224	224	224	224	224	224	224	224	224	224
AN	Pearson's correlation		1	-.530**	-.029	-.327**	-.481**	-.659**	-.368**	-.365**	-.170*
	Sig. (2-tailed)			.000	.669	.000	.000	.000	.000	.000	.011
	N		224	224	224	224	224	224	224	224	224
CT	Pearson's correlation			1	.220**	.575**	.570**	.641**	.654**	.731**	.121
	Sig. (2-tailed)				.001	.000	.000	.000	.000	.000	.072
	N			224	224	224	224	224	224	224	224
EI	Pearson's correlation				1	.260**	.221**	.135*	.300**	.427**	-.229**
	Sig. (2-tailed)					.000	.001	.044	.000	.000	.001
	N				224	224	224	224	224	224	224
LE	Pearson's correlation					1	.428**	.359**	.445**	.612**	.066
	Sig. (2-tailed)						.000	.000	.000	.000	.322
	N					224	224	224	224	224	224
MO	Pearson's correlation						1	.590**	.541**	.724**	.054
	Sig. (2-tailed)							.000	.000	.000	.420
	N						224	224	224	224	224
SE	Pearson's correlation							1	.569**	.641**	.235**
	Sig. (2-tailed)								.000	.000	.000
	N							224	224	224	224
MC	Pearson's correlation								1	.672**	.047
	Sig. (2-tailed)									.000	.484
	N								224	224	224
EMOWRI	Pearson's correlation									1	.084
	Sig. (2-tailed)										.212
	N									224	224
EXPER	Pearson's correlation										1
	Sig. (2-tailed)										
	N										224

▲Table 4.6. Correlations and significances between constructs.

Pearson's correlation color code:

- very strong correlation ($x \geq .700$ or $x \leq -.700$)
- strong correlation ($.700 > x \geq .600$ or $-.700 < x \leq -.600$)
- medium correlation ($.600 > x \geq .500$ or $-.600 < x \leq -.500$)
- limited correlation ($.500 > x \geq .300$ or $-.500 < x \leq -.300$)
- very limited correlation ($.300 > x > -.300$)

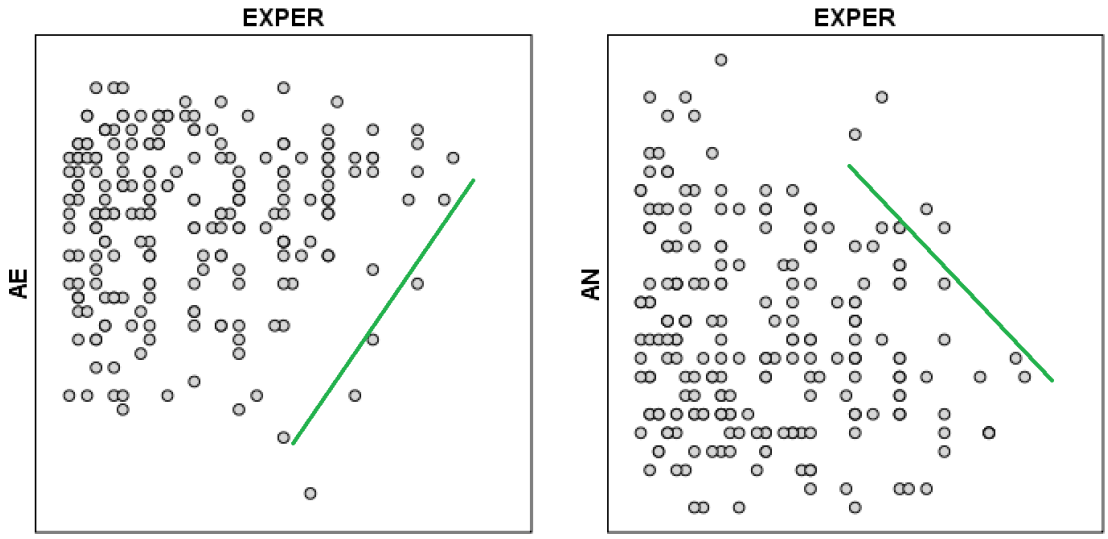
Significance (2-tailed) color code:

- ** correlation is significant at the 0.01 level
- * correlation is significant at the 0.05 level
- correlation is significant over the 0.05 level

Following the previous considerations, the results of the correlational analysis set out in Table 4.6 and the SPLOM in Appendix 3 are the following. First, the high number of statistically significant correlations with *p*-values under the 0.01 and 0.05 levels in the study, which indicates that the results of the present study could be, statistically talking, generalized to the rest of the population. This finding is supported by the high Cronbach's alpha of the ECMQ reported above (α = 0.858). Second, the number of correlations reporting a very strong, strong or medium Pearson's r —19 out of 45. This suggests that the correlations between constructs that this PhD thesis aimed at finding exist.

Third, the data showed a remarkably strong correlation between writing achievement emotions and writing anxiety. Fourth, the data further showed a relatively high correlation between some constructs such as writing critical thinking, writing self-efficacy, writing achievement emotions, writing motivation, writing metacognition, and the EMOWRI score with most of the other constructs included in the present study. Fifth, the results revealed an acutely limited correlation between AWRPP experience and the rest of the constructs analyzed. However, the generalized low statistical significance of these correlations indicate that this finding might not be representative for the whole population. Sixth, there was a remarkably weak correlation of writing emotional intelligence with the other emotional constructs. The statistical significance of these correlations is, in general, high. This means that emotional intelligence may not have such a meaningful influence in the rest of emotional constructs and the use of metacognitive writing strategies as other constructs.

The analysis of the SPLOM in Appendix 3 unveiled an interesting finding regarding AWRPP experience that could not emerge from the data in Table 4.6. Fig. 4.6 shows two instances of scatterplots encompassing the correlation of AWRPP experience with the rest of the analyzed constructs —in these examples, writing achievement emotions and writing anxiety. As can be seen, the point distribution in these scatterplots follow a moderate yet noticeable increasing or decreasing line as the experience axis gets closer to the points representing the participants in Q4 —i.e. those participants with more AWRPP experience. This increasing or decreasing fashion can be found across most of the scatterplots comprising AWRPP experience —especially if potential outliers are omitted. Nonetheless, these trends could be a consequence of the significantly lower number of participants in Q4 compared to other quartiles. Low statistical significances should also be considered.



▲Fig. 4.6. Selected scatterplots with superposed trend lines.

4.6. Correlations between constructs and scores: the case of core affect

Regarding writing core affect correlations, Table 4.7 sets out the Pearson's correlation coefficients and significances reported between the four writing core affect items and the rest of the constructs. The main findings obtained from the analysis of this data are the following. First, there is a limited or very limited correlation between writing core affect items and other constructs, which means that, in general, participants' core affect does not have a major association with the rest of writing constructs. Nevertheless, there is a significantly stronger correlation between items CA1 (which refers to feeling energetic, enthusiastic and happy) and CA2 (which refers to feeling serene and calm) and other constructs when compared to items CA3 (which refers to feeling tired, gloomy and sad) and CA4 (which refers to feeling upset and jittery). This suggests that feeling energetic, enthusiastic, happy, serene and calm has a more positive impact in the EWRPP process than feeling tired, gloomy, sad, upset and jittery —which does not seem to have any kind of effect. Second, the high statistical significance of the majority of correlations encompassing items CA1 and CA2 and the lack of it in the case of CA3 and CA4 indicates that the neutrality of feeling tired, gloomy, sad, upset and jittery may not be true for the whole population. Third, the relatively high correlation —compared to the rest in the Table— between the EMOWRI score and the first two writing core affect items indicates that feeling energetic, enthusiastic, happy, serene and calm might have a meaningful and positive effect in the emotional sphere involved in the EWRPP process and the use of metacognitive writing strategies.

Table 4.8 presents the correlations and significances between the four writing core affect items with each other. It is apparent from this table that there is a very strong, direct correlation between items CA1 and CA2 (r = 0.750) and items CA3 and CA4 (r = 0.942). These two correlations are significant at the 0.01 level. As it can also be seen, the correlations are close to inexistent when CA1 or CA2 are associated with CA3 or CA4.

		AE	AN	CT	EI	LE	MO	SE	MC	EMOWRI	EXPER
CA1	Pearson's correlation	.183**	-.126	.289**	.341**	.240**	.345**	.219**	.273**	.438**	-.132*
	Sig. (2-tailed)	.006	.060	.000	.000	.000	.000	.001	.000	.000	.048
	N	224	224	224	224	224	224	224	224	224	224
CA2	Pearson's correlation	.155*	-.113	.278**	.305**	.246**	.335**	.225**	.280**	.422**	-.101
	Sig. (2-tailed)	.020	.092	.000	.000	.000	.000	.001	.000	.000	.131
	N	224	224	224	224	224	224	224	224	224	224
CA3	Pearson's correlation	.041	-.096	.022	.023	.067	.063	.060	-.024	-.014	.088
	Sig. (2-tailed)	.541	.153	.739	.732	.315	.345	.374	.724	.838	.189
	N	224	224	224	224	224	224	224	224	224	224
CA4	Pearson's correlation	.048	-.083	.014	.038	.056	.065	.049	-.034	.000	.060
	Sig. (2-tailed)	.471	.214	.831	.568	.403	.334	.461	.615	.995	.368
	N	224	224	224	224	224	224	224	224	224	224

▲Table 4.7. Correlations and significances between core affect items and the rest of the constructs.

		CA1	CA2	CA3	CA4
CA1	Pearson's correlation	1	.750**	-.056	-.039
	Sig. (2-tailed)		.000	.405	.562
	N	224	224	224	224
CA2	Pearson's correlation		1	-.089	-.087
	Sig. (2-tailed)			.185	.194
	N		224	224	224
CA3	Pearson's correlation			1	.942**
	Sig. (2-tailed)				.000
	N			224	224
CA4	Pearson's correlation				1
	Sig. (2-tailed)				
	N				224

▲Table 4.8. Correlations and significances between core affect items.

Pearson's correlation color code:
- very strong correlation ($x \geq .700$ or $x \leq -.700$)
- limited correlation ($.500 > x \geq .300$ or $-.500 < x \leq -.300$)
- very limited correlation ($.300 > x > -.300$)

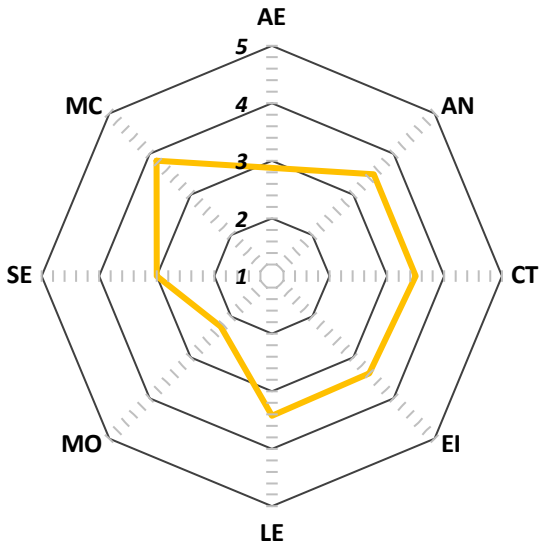
Significance (2-tailed) color code:
- ** correlation is significant at the 0.01 level
- * correlation is significant at the 0.05 level
- correlation is significant over the 0.05 level

However, these correlations are significant over the 0.05 level, so they might not be representative of the whole population. These results, together with the data in Table 4.7, help to determine two clear-cut groups regarding writing core affect scores in the present study. On the one hand, the group encompassing the two items referring to feeling energetic, enthusiastic, happy, serene, and calm, which represent the right half of the 12-Point Affect Circumplex (see Section 2.2). On the other hand, the group comprising the two items dealing with feeling tired, gloomy, sad, upset, and jittery, which represent the left half of the 12-PAC.

4.7. Responses to journey plots

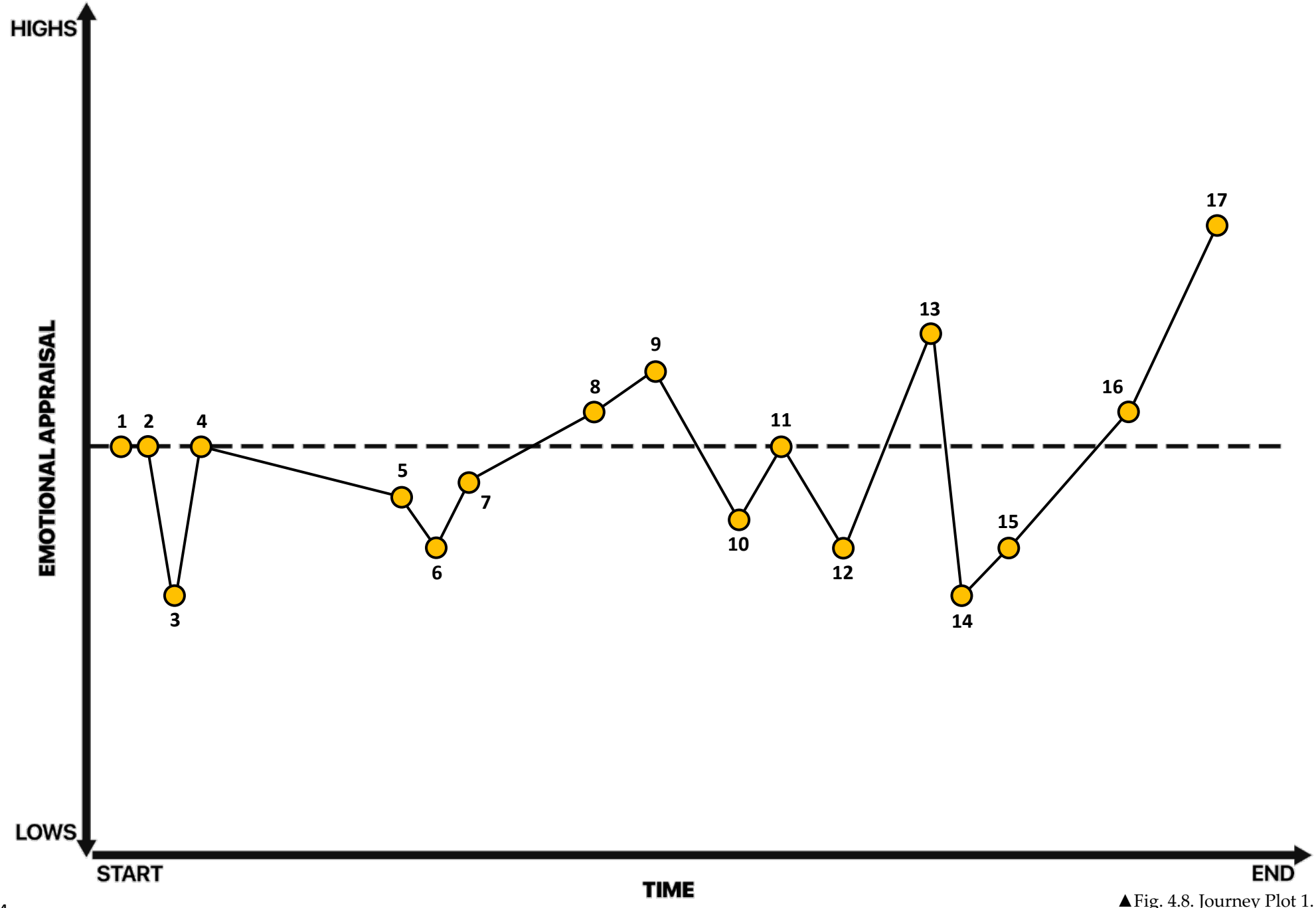
Participant 1

As explained in Section 3.1, Participant 1 had two years of AWRPP experience, and his research area was included within Biomedical and health sciences. The data collected included *online* and prospective (from point 8 onwards) responses. This participant's EMOWRI score was 3.1 and his average scores of the ECMQ are shown in the radar chart in Fig. 4.7. It should be noted that writing anxiety is not a desirable emotional construct, thus a lower score is better.



▲Fig. 4.7. ECMQ averages for Participant 1.

Participant 1's journey plot and its key can be found in Fig. 4.8 and Table 4.9 in the next two pages.



▲Fig. 4.8. Journey Plot 1.

Point	Construct	Description	Value
1		Search in the first database.	0
2		Search in the second database.	0
3	AE, AN, CA, CT, EI², MO, SE	Anger for not knowing how to search in the third and fourth databases (waste of time).	-40
4		Search in the fifth database.	0
5	AE, AN, CA, MO	Three months after point 4. I come back to the article; it's boring and tedious being the whole day in front of the computer.	-15
6	AE, MO, SE	A coauthor insists on deadlines. It is complicated for me to go faster because it is tough for me to understand the literature because it is written in English.	-25
7	AE, CT, EI, MO, SE	One month after point 5. Analyzing the quality of the paper is complicated because the tool is qualitative, and I fail to understand how to evaluate it properly.	-10
8		I will finish both methodology and introduction.	+10
9	AE, MC, MO	I will draft results and discussion. After some weeks writing, I hope it is not too difficult to compare studies in the discussion because I have carefully read them, and I have prepared the tables in detail.	+20
10	AE, AN, CT, EI, MC, MO², SE	Drafting and quantifying the metanalysis will be more complicated because it is a technique that I have never used, it will take me more than expected. In addition, I will not be able to carry out the metanalysis with all the results because there are not enough papers published on some exposition tests. This frustrates me because it diminishes the chances of getting published in a journal with a high impact factor.	-20
11		I will draft the conclusion.	0
12	AE, CT, EI, MO	Coauthors will take long to correct and after they do, I will need to draft again and even redo some analyses, which I could have done right since the beginning, but they refuse to meet before the first draft.	-25
13	AE, CT, MC, MO	I will correct the mistakes and I will submit the paper to a journal.	+25
14	AE, EI	The journal could take more than two months to reply, rejecting the paper.	-40
15	EI	I could add 5 or 6 points more because various journals may reject the paper.	-25
16	AE, CT, EI, MC, MO	Two months after point 8. I will correct some aspects that will be pointed out by journal reviewers.	+10
17	AE, EI, SE	After one year waiting, the paper will be published in a journal with a medium impact factor.	+50
Side note	CA², EI	In certain moments of "low" emotions, physical exercise and music (e.g. the song *A quién le importa* by Alaska and Dinarama) help me to come back to neutral or even "high" emotions and to keep on writing normally.	

▲Table 4.9. Journey Plot 1 key.

As shown in the data provided by Participant 1's journey plot, the subject's reported emotions tended to have a mid-low *intensity*, staying close to the neutral line. *Tempo* did not show any remarkable pattern since there were steep changes like the one from point 13 to 14, and some gentle changes such as the one from point 4 to 5. Consisting the journey plot of 17 points and based on the other participants' responses, the *rhythm* of the changes could be considered average.

Regarding the coding of the journey plot, there was a larger reference to achievement emotions (Gr = 11), emotional intelligence (Gr = 10) and motivation (Gr = 10) than to the rest of the constructs. What was interesting about the achievement emotions codes was that a significant number of quotes —seven out of eleven (63.64%)— could be connected with low and moderate-low action-control expectancies (e.g. points 3, 6, 7, 10 and 16). This suggests that Participant 1 might not believe that he was fully capable of performing all the tasks entailed in the EWRPP process. This could have an impact of the participant's self-efficacy beliefs and may partially explain the medium level of writing self-efficacy he reported in the ECMQ (see Fig. 4.7). Other quotes indicated low extrinsic values of the performed actions and their outcomes (e.g. 3 and 5), meaning that Participant 1 did not seem to think that the process he was going through would help him attain other academic goals. In addition, there were several explicit references to emotions encompassed within Pekrun's (2006) achievement emotions framework in the participant's explanations of his journey plot (see Table 4.9). For instance, there was an explicit reference to *anger* in point 3, an emotion resulting from negative-value, high-control appraisals when dealing with an activity; to *boredom* in point 5, an emotion arising from activity-focused events with no value appraisal; to *hope* in point 9, an emotion linked with positive-value and medium-control appraisals in a prospective outcome event; and to *frustration* in point 10, an emotion that takes place when a low control towards an activity is perceived. There were possible further underlying references to *anger* in points 12 and 14, *frustration* in points 6, 7, 12, 14, and to other emotions such as *hopelessness* in point 10 and potential *sadness* and *shame* in point 14. The overall medium-low level of writing achievement emotions of Participant 1 could partly explain why he valued the publication of his research paper (point 17) with a moderate +50.

The emotional intelligence codes were, in general, related with the values of the journey plot points (see last column in Table 4.9). From the data provided, it could be surmised that there was an inconsistent use of adequate emotional intelligence in different points of the journey plot which suggested a medium level of writing emotional intelligence for Participant 1. This uneven use ranged from points with an adequate use of emotional intelligence to points that displayed a limited degree of the construct. An example of the former was the side note, which showed the participant's experiential emotional intelligence —when noticing a "low" emotional state— and strategic emotional intelligence —regulating his own emotions with sport and music and redirecting his attention to life-long goals like being active and healthy. However, there was evidence of medium writing emotional intelligence levels such as points 14 and 15,

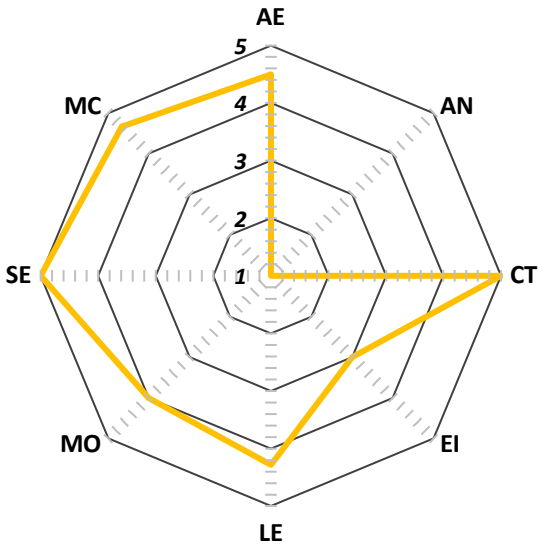
which dealt with having a research paper rejected by a journal. The values of -40 and -25 respectively were not as low as they could get, suggesting that Participant 1 could gradually improve the regulation of his own emotions and be more and more prepared for a wide range of potential future outcomes of his submissions as further rejections come. This implied being aware of the possibility of rejection, thanks to a flexible planning, and using redirected attention to focus more emotional resources in other aspects other than having his paper rejected. Points 14 and 15 were prospective. Therefore, the reported values might not end up being actual values. Finally, there were some instances of a limited degree of writing emotional intelligence such as points 7, 10 and 12. Taking point 12 as an instance, the -25 score suggested that the subject could not fully comprehend the coauthors' choices and feelings and re-experience them himself and could not fully regulate his negative emotions in that scenario.

Participant 1's low level of motivation in his ECMQ responses was also reflected in his journey plot. The results of the journey plot revealed several instances of events that may threaten subject's intrinsic motivation such as points 3 and 10 and subject's integrative motivation such as points 6 and 12. Furthermore, some provided values and quotes in the journey plot indicate that participant's limited level of intrinsic motivation can be found orientated towards stimulating experiences (point 9) and orientated towards knowledge (point 10). Most of the references Participant 1 made to a possible positive motivation can be associated with extrinsic motivation. For example, point 5 denoted a feel of external obligation to work on the paper and could be connected to identified regulation. Similarly, point 7 suggests a connection with identified regulation if the choice of the "tool" was made by the subject, or even with external regulation if the choice was made thinking of the reward of getting published easier than with other tools the subject would have felt more comfortable working with. Other similar instances of extrinsic motivation could be found in points 6 —which dealt with coauthors and the participant's struggle to meet deadlines— and 10 —which was parallel to point 7 but dealing with the technique used for the subject's study meta-analysis.

References to writing metacognition in Participant 1's journey plot were low (Gr = 4) but diverse, confirming the medium-high level of this construct scored by this subject in the ECMQ. These references were associated both with metacognitive regulation and metacognitive knowledge. Regarding metacognitive regulation, the plot revealed the use of planning strategies in point 9, of evaluating strategies in point 13, and of monitoring strategies in point 16. As for metacognitive knowledge, there were references to procedural knowledge in point 9, in which the subject reflected on how to use his data to write a good discussion section, and to declarative knowledge and self-knowledge in point 10, in which the subject analyzed how his gaps of knowledge may be a problem for writing. Points 13 and 16 of the journey plot appeared to be related to procedural knowledge. The subject evaluated how to use his data to correct the problems of a needs-revision journal decision, and/or with cognitive task knowledge, hence suggesting that the subject understood that correcting mistakes is part of the writing process.

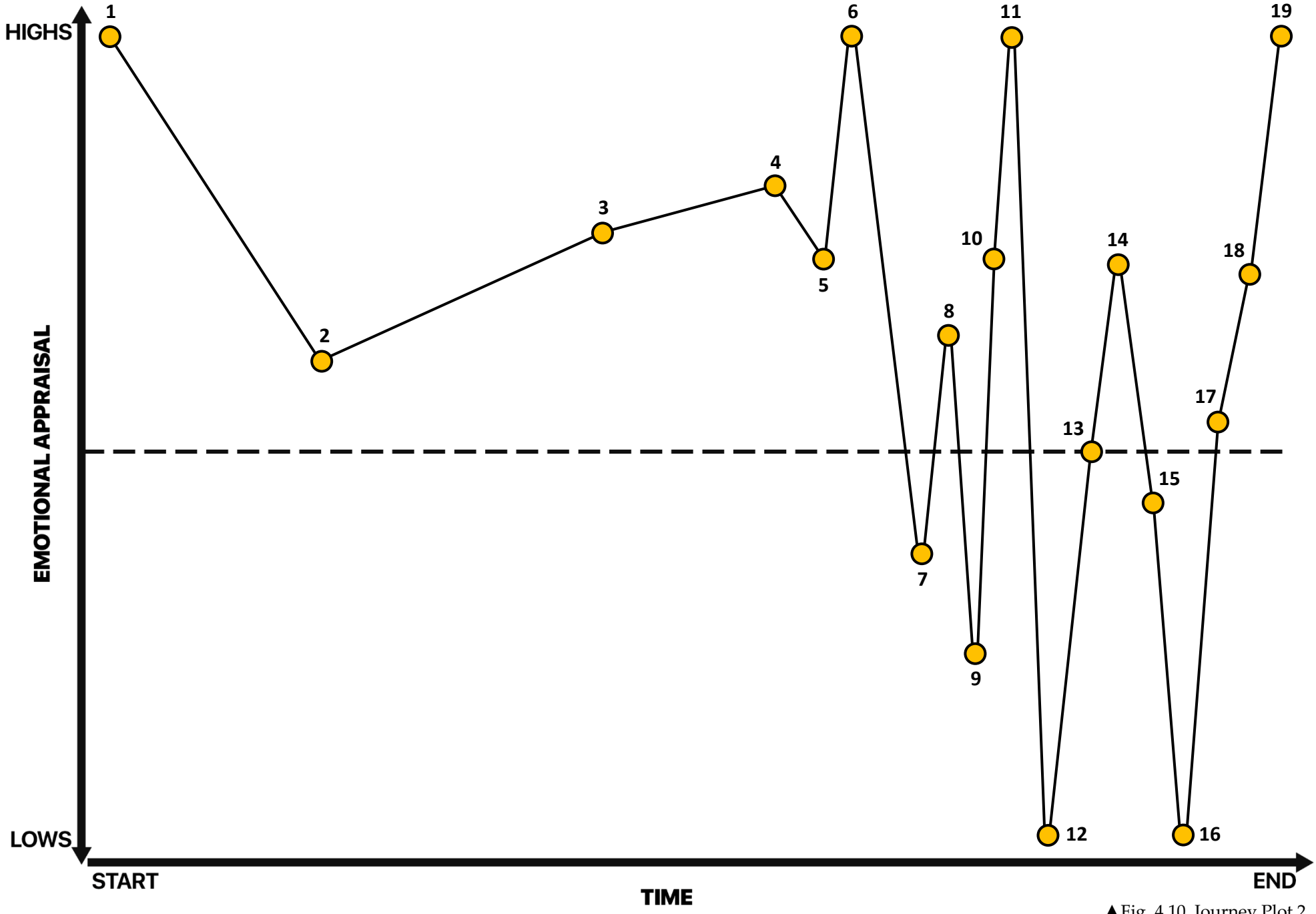
Participant 2

As explained in Section 3.1, Participant 2 had seven years of AWRPP experience, and her research area was included within Technologies. The data collected included retrospective (until point 3) and *online* responses. This participant's EMOWRI score was 4.43 and her average scores of the ECMQ are shown in the radar chart in Fig. 4.9. It should be noted that writing anxiety is not a desirable emotional construct, thus a lower score is better.



▲Fig. 4.9. ECMQ averages for Participant 2.

Participant 2's journey plot and its key can be found in Fig. 4.10 and Table 4.10 in the next two pages.



▲Fig. 4.10. Journey Plot 2.

Point	Construct			Description	Value
1	AE	MO	SE	March 2018. Very good preliminary results that confirm hypothesis.	+100
2	AE	CT	EI	June 2018. Results from second part of the paper are not so good.	+20
	MO				
3				October 2018. Draft finished and shared with co-authors.	+50
4				January 2019. All co-authors reply and agree to submit to journal.	+60
5				February 2019. Paper submission to Journal 1.	+40
6	AE			February 2019. Paper sent to Reviewers 1.	+100
7	AE	CT	EI	March 2019. Review is back. Editor suggests transferring it to another journal (Journal 3).	-25
8	AE	CT	EI	March 2019. Co-authors suggest that we should try first with a better journal.	+25
9	AE	AN	MC	March 2019. Lots of new analyses included due to the reviews.	-50
	MO				
10	LE			April 2019. Paper submitted to Journal 2.	+40
11	AE	EI		April 2019. Paper sent to Reviewers 2.	+100
12	AE	AN	EI	April 2019. Review is back. Rejection and lots of new analyses to be included.	-100
	MC	MO	SE		
13				May 2019. Paper submitted to Journal 3.	0
14	AE	EI		May 2019. Paper sent to Reviewers 3.	+38
15	AE	CT	MC	June 2019. Review is back. Major revision. Lots of new analyses to be included.	-15
	MO				
16	AE	EI	MO	June 2019. Presentation of the paper at a conference. No audience, no questions and uninterested chairperson.	-100
	SE				
17				July 2019. New results included. Paper resubmitted to Journal 3.	+10
18	AE	MO		July 2019. Review is back. Minor revision.	+35
19	AE	MO	SE	August 2019. Accepted!	+100

▲Table 4.10. Journey Plot 2 key.

What stood out in Participant 2's journey plot (Fig. 4.10) was the clear-cut difference in *intensity*, *tempo* and *rhythm* between the retrospective responses (points 1, 2 and 3) and the *online* ones. *Intensity* in the retrospective responses was mid-high, as all the points were placed in the upper part of the neutral line. However, the subject's reported emotions tended to have a more varied *intensity* in *online* responses, with three points reaching the +100 value, five points (points 7, 8, 13, 15 and 17) staying close to the neutral line, and two reaching the -100 value. *Tempo* in the retrospective responses was very subtle, with gentle changes from point to point. On the other hand, *tempo* in the *online* responses was strikingly more conspicuous, with steep changes among all the points. Concerning *rhythm*, this journey plot consisted of 19 points. Consequently, based on the other participants' responses and similar to what happened with Participant 1, the *rhythm* of the changes could be considered average. Nevertheless, the difference between retrospective and *online* responses was also noticeable in this regard. The first three points —i.e. the retrospective ones— encompassed eight months' time from March 2018 to October 2018, whereas the *online* responses added up to sixteen points in the same time frame of eight months from January 2019 to August 2019. Possible implications of this gap between retrospective and *online* responses will be addressed in Chapter 5.

Similar to Participant 1, the coding of the journey plot filled in by Participant 2 reported a larger reference to achievement emotions (Gr = 13), motivation (Gr = 8) and emotional intelligence (Gr = 7) than to the rest of the constructs. What stood out from the achievement emotions codes in the journey plot was that they did not seem to go in line with the subject's results in the ECMQ writing achievement emotions scale (see Fig. 4.9). Participant 2's self-reported high level of writing achievement emotions was not confirmed in her journey plot, as only seven out of thirteen codes —53.85%— referred to medium or high achievement emotions levels. The reason for this discrepancy may be threefold: *i.* it could be a limitation of either of the two research instruments used in the present study, *ii.* it could be a consequence of the subject's personality traits and self-perception, or *iii.* it could be that even though the subject may had encountered threats to her achievement emotions while writing, only positive situations had a significant long-term impact in her achievement emotions level. Further analyses of other journey plots and the connection with ECMQ responses helped to interpret this inconsistency and they can be found in Chapter 5. The two main sources for low writing achievement emotions levels in Participant 2 were *i.* journal reviewers' feedback and *ii.* the need to add new analyses to her paper as in points 7, 9, 12, 15 and 18. These two events implied causal attributions of outcomes with various possible emotional results —all negative— in the subject such as *sadness*, *shame*, *anger*, or a combination of all of them depending on where did the subject place the control appraisal. *Frustration* could also take place if the object was focused in the activity of reviewing her paper rather than the outcome of her journal submission. On the other hand, the main sources for a high degree of achievement emotions (e.g. points 1, 6, 11, 14 and 19) were *i.* obtaining results in her study that confirmed her initial hypothesis, *ii.* every time her paper was sent to journal reviewers, and *iii.* being accepted for publication. The first two events could entail different emotional outcomes such as *anticipatory joy* and/or *hope* if the prospective

positive outcome scenario had a high or a medium control appraisal. Concerning the third event, any retrospective positive outcome emotion (i.e. *joy*, *pride* and/or *gratitude*) could take place in the subject.

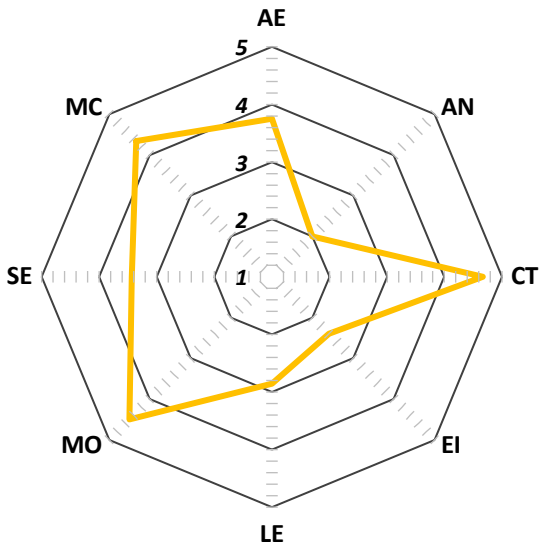
Writing motivation codes revealed that Participant 2 encountered several threats to her motivation levels throughout the paper publication process, including an unsuccessful presentation of the paper at a conference (point 16) which was not part of the writing process itself but could have had an impact in her integrative motivation and her perception of the paper. The event that had a heftier impact in the subject's intrinsic motivation was receiving journal reviewers' feedback that entailed the addition of new analyses to her paper as illustrated in points 9, 12 and 15. This was confirmed by the value provided in point 18, when the subject was notified that she only had to undertake minor revisions to her paper. The +35 positive value contrasted with the negative values provided by the subject every time she had to undertake a major revision of her paper. This pointed out towards a clear unenjoyment of the revision process and suggested a possible lack of orientation towards knowledge intrinsic motivation. In spite of the threats to the subject's motivation mentioned in this paragraph, Participant 2 self-reported a high level of writing motivation in the ECMQ (see Fig. 4.9). This helped to thrive the idea that even if the subject may had encountered threatening situations to her motivation, only positive events had a substantial long-term effect in her writing motivation level. The events that boosted the subject's orientation towards achievement intrinsic motivation were *i.* obtaining results in her study that confirmed her initial hypothesis (points 1 and 2) and *ii.* being accepted for publication (point 19).

Emotional intelligence was the construct with the lowest score in Participant 2's ECMQ (see Fig. 4.9). The subject's medium level of writing emotional intelligence was in line with the data retrieved from the journey plot. There were instances of an adequate level of emotional intelligence such as point 7, in which in spite of having the paper rejected, the subject's emotional value decreased only to -25 instead of dropping to lower values as it happened in the second journal rejection (point 12: -100 value). The reasons for this more moderate lessening could be *i*. an appropriate regulation of emotions in the self and/or *ii*. a suitable utilization of emotions, more specifically, flexible planning —as the subject could have been prepared for a wide range of potential future outcomes of the first submission, including rejection— and/or mood redirected attention —as the subject could have prioritized her emotional resources to other things other than having her paper rejected. On the other hand, there were examples of a more discrete level of emotional intelligence such as point 12 —mentioned above— and point 14. The reason why point 14 was an instance of a lower level of emotional intelligence was the fact that the value for the third journal submission (+38) was less than the first and second ones (point 6: +100 value and point 11: +100 value). This confirmed what could be understood from point 12, this is, that the subject was prepared for a narrower range of potential future outcomes of the second submission —poorer flexible planning— and/or that she then focused more emotional resources to being rejected —poorer mood redirected attention.

Regarding writing metacognition, codes of this construct were scarce (Gr = 3) in Participant 2's journey plot. This was a rather unexpected result given the high level of writing metacognition self-reported by the subject in the ECMQ (see Fig. 4.9). The possible reasons for this discrepancy could be, among others, *i.* a pitfall in the design of one of the two research instruments used in the present study —which will be addressed in Chapter 6— or *ii.* an outcome of the subject's self-perception. In order to reach more generalized conclusions on this matter, other participants' journey plots were deemed to be explored further, therefore this topic will be further addressed in Section 6.3. The metacognition codes in Participant 2's journey plot were exclusively connected with those moments in which the subject had to add new analyses to her paper (points 9, 12, 15). In those points, an underlying reference to evaluating metacognitive regulation could be found. Furthermore, possible references to procedural and cognitive-task metacognitive knowledge could be deduced in the same points as the subject had to reflect on how to use her data to correct the mistakes of her paper and as she had to perceive correcting mistakes as part of the writing process.

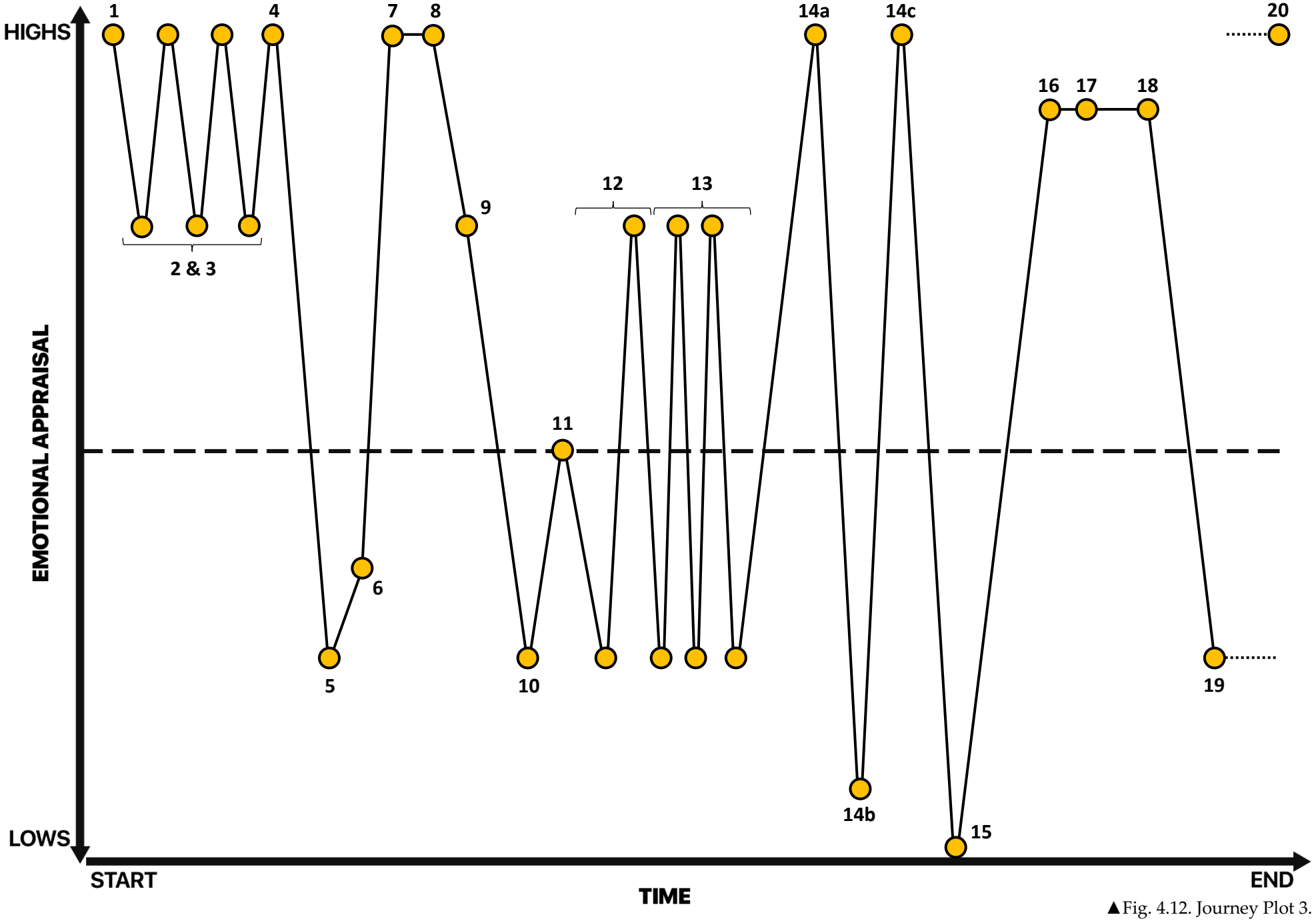
Participant 3

As explained in Section 3.1, Participant 3 had ten years of AWRPP experience, and his research area was included within Experimental sciences and mathematics. The data collected included retrospective (until point 4), *online*, and prospective (point 20) responses. This participant's EMOWRI score was 3.74 and his average scores of the ECMQ are shown in the radar chart in Fig. 4.11. It should be noted that writing anxiety is not a desirable emotional construct, thus a lower score is better.



▲Fig. 4.11. ECMQ averages for Participant 3.

Participant 3's journey plot and its key can be found in Fig. 4.12 and Table 4.11 in the next two pages.



▲Fig. 4.12. Journey Plot 3.

Point	Construct			Description	Value
1	AE	CT	MO²	First conversations about the idea and work design.	+100
	SE				
2				Data gathering process. Uncertainty.	+50 / +100
3	AE	CA	CT	Analysis of preliminary data. Ups and downs depending on how things go. Embroiled in the analysis and processing of data. Learning about new tools. There is no reflection. Feeling up when things go right.	+50 / +100
	MO²				
4	AE	CT	MC	Presentation of preliminary findings in a conference. High morale, results can be seen. It is not a problem presenting in English.	+100
	MO	SE			
5	AE	CT	MO	Devastating first review of main coauthor. Morale drop.	-50
	SE				
6	AE	CT	LE	Review of international coauthors. Low commitment. Uncertain if the paper is wrong or if they just ignore it.	-30
	MO	SE			
7	AE	CA	EI	First submission to *JoE*. Feeling up. Trying to manage expectations.	+100
8	AE	CA	EI	First rejection from *JoE* with the potential of being accepted. Feeling up.	+100
	MO	SE			
9	AE	CA	CT	Feeling lower when analyzing referees' feedback. It will be long and tough… they provide with good contributions though.	+50
	EI	MO			
10	AE	AN	CA	Fixing the text according to referees' feedback. Feeling low, it goes on and on in time due to its complexity and the lack of morale.	-50
	MC	MO			
11	MC	MO		Interactions with coauthors. Not a problem, they understand me perfectly.	0
12	AE	EI	MO	Before second submission. Language problems start. A coauthor sends the paper back with strong criticism to the language. However, morale boosts again when that same coauthor provides very important contributions to notably improve the writing.	-50 / +50
	SE				
13	AE	AN	CA	Analyzing again. From meta-analysis to Mixed method. New stage of the study. Emotional ups and downs. It prolongs in time, which demotivates due to publishing pressure. I am motivated by the statistical analysis though. Learning new things.	-50 / +50
	CT	MO			
14	AE³	CA³	CT²	Second submission to *JoE*. The paper has improved significantly. I feel proud (a). But I deeply hate the system and editors. I hate referees just a bit. Feeling low due to the submission process (b); everything the journal asks for. Language becomes a handicap again: writing to the editor, explaining why the paper is relevant, fixing paper's format to fit the journal, etc. All the submission process (not the revision) feels humiliating. Feeling up when submission is done (c).	a. +100 b. -80 c. +100
	EI	MO			
15	AE	EI	SE	Second and final rejection from *JoE*.	-100
16	AE	CT	MC	Rethinking the discussion. It gets better. Morale boost since the beginning of the rewriting until the end. I never get to feel 100% good though.	+80
	MO	SE			
17	CT²	EI	MO	I ask for help to improve my English. It is tough because the person who helps me does not have scientific knowledge. But I am motivated.	+80
18	AE	CA	EI	Submission to *Ecography*. Feeling up. I am proud of the paper.	+80
19	AE	CA	CT	Rejection from *Ecography*. Feeling down again, but not reaching the very low. It takes time to get back to it again.	-50
	EI	MO			
20	AE	MO	SE	The paper will eventually be accepted.	+100

▲Table 4.11. Journey Plot 3 key.

Interestingly, Participant 3's journey plot (Fig. 4.12) had the most marked *intensity* and *tempo* features of all the journey plots examined in the present study. Similar to Participant 2, *intensity* differed between retrospective and *online* responses. In the retrospective responses (points 1, 2, 3 and 4) it was mid-high since all the points were placed in the upper part of the neutral line. Nonetheless, *intensity* in *online* responses was more wide-ranging, with all the points (except points 6 and 11) being placed over the +50 value or under the -50 value. Regarding *tempo*, this feature was remarkably conspicuous, with very steep changes among most of the points. *Rhythm* in the subject's journey plot could be considered, based on the other participants' responses, average due to the 19 points it consists of.

Coding Participant 3's journey plot unveiled a larger reference to achievement emotions (Gr = 19), motivation (Gr = 18), critical thinking (Gr = 13), and core affect (Gr = 11) than to other constructs. Achievement emotions codes matched Participant 3's mid-high score in this construct scale of the ECMQ (see Fig. 4.11). Higher levels of achievement emotions during the paper-writing process (e.g. points 3, 7, 8, 13, 14, 16, 18 and 20) were sourced from *i.* gathering and analyzing data, *ii.* gaining insights into new things such as tools or findings, *iii.* submitting the paper to a journal, and *iv.* receiving positive feedback from coauthors and reviewers. These events entailed various possible outcome-focused and activity-focused emotional results with a positive value appraisal and a high or medium control appraisal such as *anticipatory joy*, *hope*, *joy*, *pride*, *gratitude* and/or *enjoyment*. There was an explicit reference to *pride* regarding the written outcome in point 18. Contrarily, lower levels of achievement emotions (e.g. points 5, 6, 10, 12, 13, 14, 15 and 19) had their inception in *i.* receiving negative feedback from coauthors and reviewers and *ii.* engaging in time-consuming activities such as revising the paper. These events implied several possible retrospective-outcome-focused and activity-focused emotional outcomes with a negative or no value appraisal and with an irrelevant, self, other or low control appraisal such as *sadness*, *shame*, *anger*, *frustration* and/or *boredom*.

Participant 3's writing motivation score was the second highest of any scale in his ECMQ (see Fig. 4.11). This self-reported high score was echoed in the subject's journey plot. Explicit references to positive levels of motivation (points 13 and 17) or allusions to events that could boost this construct added up to a 66.67% of the motivation codes. The different types of motivation that appeared in the subject's journey plot were integrative motivation (points 4 and 11) and intrinsic motivation. The possible three subtypes of intrinsic motivation were found in the data, this is, orientation towards stimulating experiences (points 1, 13 and 16), orientation towards achievement (points 3, 8 and 20), and orientation towards knowledge (points 3, 8, 9, 12, 13, 16 and 19). The most striking result to emerge from the motivation codes was that the subject reported to be able to keep a high level of motivation even when encountering potential threats to it such as *i.* having his paper rejected by a journal, *ii.* being required to add new analyses to his paper, *iii.* being conscious of publishing pressure, and *iv.* facing problems regarding his English. Furthermore, the subject did not report a drastically low emotional value when receiving negative feedback from coauthors and reviewers and when fixing the text

according to referees' feedback, staying in -50, -30 and -50 in points 5, 6 and 10 respectively.

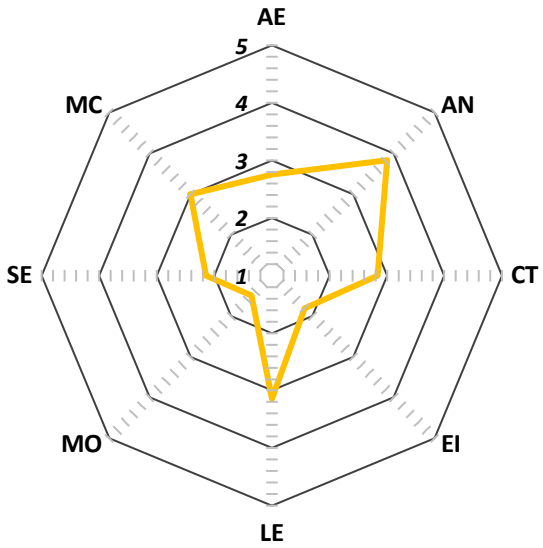
Writing critical thinking was Participant 3's highest score of any scale in his ECMQ (see Fig. 4.11). This score resulted in most of the critical thinking codes in the subject's journey plot —92.31%— making reference to desirable critical thinking skills (see Section 2.5) such as *i.* assessing the credibility of sources (point 17), *ii.* recognizing conclusions, reasons, and assumptions (point 5), *iii.* assessing the quality of an argument (point 16), *iv.* developing and argue for a position on a given topic (point 14), *v.* designing experiments and assessing existing experimental designs (points 1 and 16), *vi.* being open-minded (point 9), *vii.* being well informed (points 3, 13 and 17), and *viii.* drawing conclusions when necessary but doing it cautiously (points 5, 6 and 19). In addition, the subject demonstrated not being reluctant to criticize experts in point 14, overcoming one of the potential obstacles to critical thinking stated by Cottrell (2011) (see Section 2.5).

Every core affect code in Participant 3's journey plot was linked to a "feeling up," to a "feeling down" or to emotional "ups and downs" description. These statements referred to the horizontal axis —a.k.a. the hedonic dimension— of the 12-PAC (Yik et al., 2011). However, it could be hypothesized that these descriptions could be further framed either within the activation-pleasure quartile (90^{o}-0^{o}) of the 12-PAC in the case of "feeling up(s)" or within the displeasure-deactivation quartile (180^{o}-270^{o}) in the case of "feeling down(s)." Out of the eleven core affect codes, five involved "feeling up," four involved "feeling down," and two involved "ups and downs." Interestingly, three out of the four "feeling down" statements (points 9, 14b and 19) ended up with a positive remark. This suggested that in spite of the possible negative situations the subject may have encountered in the writing and publication process, positivity eventually took over.

References to writing metacognition in Participant 3's journey plot were, as in the previous two journey plots, limited (Gr = 4). Similar to Participant 2's case, this result was somewhat unexpected since Participant 3 had also reported a high level of writing metacognition in the ECMQ (see Fig. 4.11). Section 6.3 tackles the possible reasons for this inconsistency in detail. Those points concerning with writing metacognition (points 10 and 16) referred exclusively to the revision stage of the writing process based on journal reviewers' feedback. Situating Participant 3 in this particular context, as it happened with Participant 2, a connection to evaluating metacognitive regulation could be drawn. Moreover, possible references to procedural and cognitive-task metacognitive knowledge could be assumed in the same points as the subject had to reflect on how to use his data to correct his paper and as he had to perceive correcting it as part of the writing process.

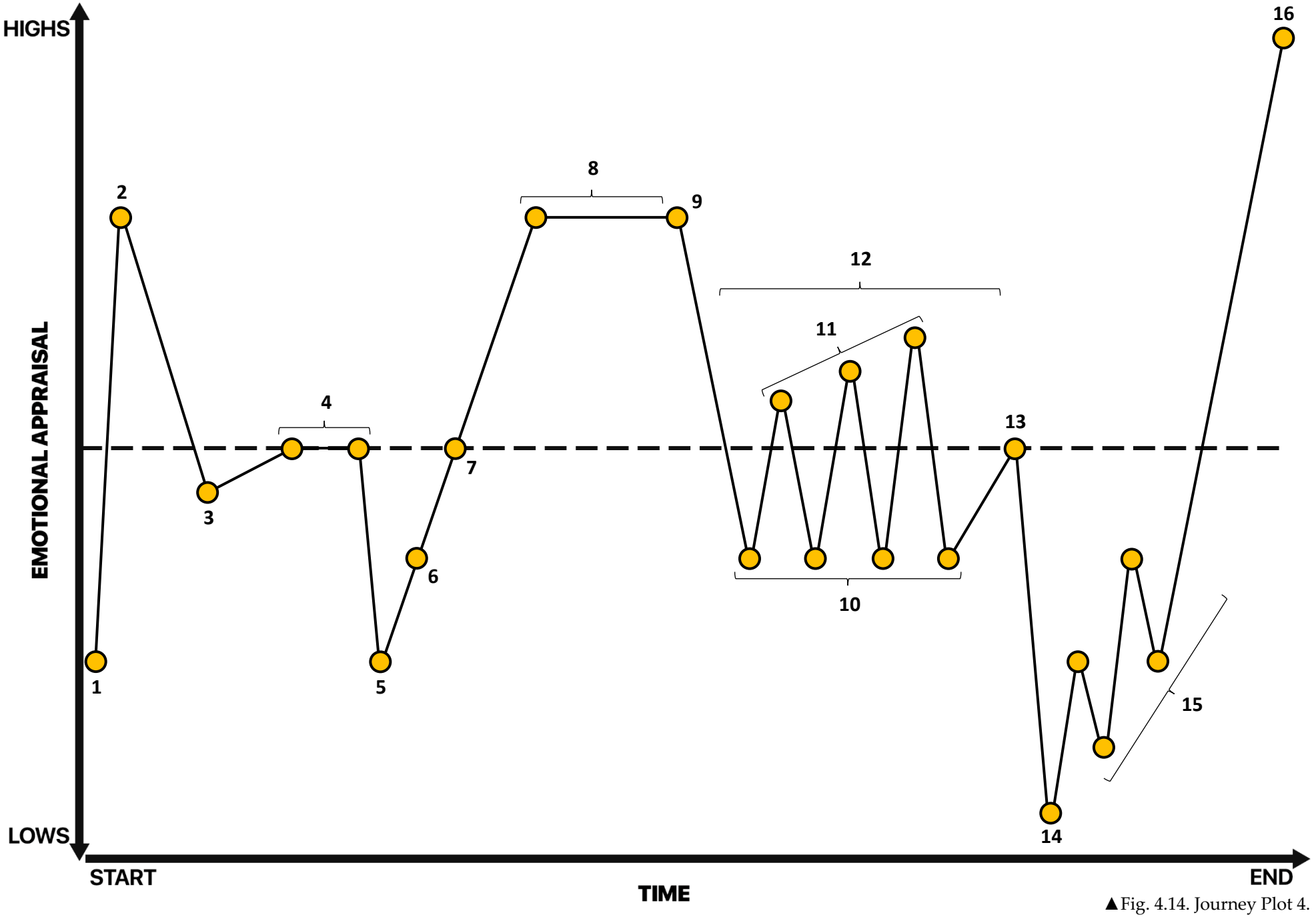
Participant 4

As explained in Section 3.1, Participant 4 had fifteen years of AWRPP experience, and his research area was included within Experimental sciences and mathematics. The data collected included retrospective (until point 3) and *online* responses. This participant's EMOWRI score was 2.42 —the lowest among the six participants in this stage of the study— and his average scores of the ECMQ are shown in the radar chart in Fig. 4.13. It should be noted that writing anxiety is not a desirable emotional construct, thus a lower score is better.



▲Fig. 4.13. ECMQ averages for Participant 4.

Participant 4's journey plot and its key can be found in Fig. 4.14 and Table 4.12 in the next two pages.



▲Fig. 4.14. Journey Plot 4.

Point	Construct	Description	Value
1	CA MO	Initial laziness.	-50
2	AE CA MO SE	Initial energy boost. Let's do it!	+50
3	AE	Facing an empty piece of paper.	-10
4	EI	Paper set apart due to every-day life.	0
5	AE AN EI	Stress! Burden! It needs to be done now!	-50
6	AE AN	I have written something. I have "broken apart" the empty piece of paper.	-25
7		This goes on and on.	0
8	AE MC MO SE	Maintained advance… I keep writing.	+50
9	AE	Finishing… the first draft.	+50
10	AE CT EI MC MO	Revision, adding work to the paper. Generally due to a request of some picky coauthor.	-25
11	AE MO	When results come along and things go right.	+10 ≫ +20
12	AE² AN CA CT EI MO	These ups and downs are mainly me being pissed… They imply more workload and I do not know the purpose.	Note
13		Modifications.	0
14	AE CT EI MO	Paper rejected with reports that denote a lack of interest.	-90
15	EI LE MO SE	We try to cheer each other up several times.	-75 ≫ -25
16	AE MO SE	Accepted!	+100

▲Table 4.12. Journey Plot 4 key.

As can be seen from the data provided by Participant 4's journey plot, the *intensity* of the subject's emotions could be considered medium, as most values —82.35%— were contained within the -50 and +50 range. *Tempo* was high, with steep changes among most of the points. Concerning *rhythm*, this journey plot consisted of 16 points —being one of them a side note. Therefore, based on the other participants' responses, the *rhythm* of the changes could be deemed low-average. No remarkable differences were found between retrospective and *online* responses regarding any journey plot feature.

Coding the journey plot, disclosed a larger reference to achievement emotions (Gr = 12), motivation (Gr = 9) and emotional intelligence (Gr = 6) than to the rest of the constructs. Participant 4's medium-low writing achievement emotions score was reflected in his journey plot. Half of the codes were concerned with negative emotional outcomes. For example, there was *anxiety* entailed in point 5, an emotion linked with negative-value and medium-control appraisals in a prospective outcome event; *anger* and/or *frustration* in points 10 and 12, two emotions resulting from negative-value and high- or low-control —respectively— appraisals when dealing with an activity; and *sadness* and/or *anger* in point 14, two emotions connected with negative-value and irrelevant- or other-control —respectively— appraisals in a retrospective outcome event. Furthermore, there were some instances of events that could have had a more positive emotional outcome but were relatively tamed in the case of this subject. For example, the subject reported a -25 and a 0 value in points 6 and 7 respectively even though he was, at these points, making progresses in his paper-writing process. This shows that the subject did not fully acknowledge his achievements, probably focusing on other less pleasant events. Comparably tamed values —from +10 to +20— were reported in point 11, when the subject reported that "results [were] com[ing] along and things [were] go[ing] right."

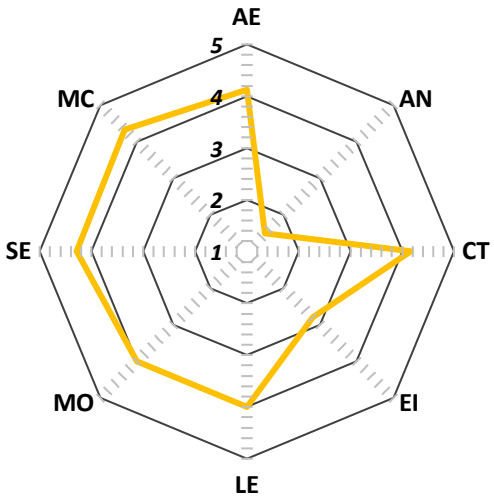
Writing motivation was Participant 4's lowest score of any scale in his ECMQ (see Fig. 4.13). Data from the subject's journey plot also showed such a remarkably low motivational scenario in several descriptions and values. There were instances of a lack of orientation towards knowledge and orientation towards achievement intrinsic motivation in points 10 and 14 respectively, a reference to temporary amotivation in point 1, and a side note (point 12) that referred to not knowing the purpose of additional workload, a potential threat to overall motivation. Furthermore, descriptions in the journey plot that could have suggested higher levels of motivation were not connected to actual positive emotional values. For instance, point 11 could have been a source for orientation towards achievement intrinsic motivation, but the subject reported a modest value range between +10 and +20. Something similar happened in point 2, in which there was an unknown-sourced writing motivation boost —with a +50 value— that was soon interrupted by a drop to a -10 value in point 3. Finally, there was a reference to motivation between peers, that could have been seen as a chance to boost integrative motivation, in point 15 but the subject linked it to a low emotional value range —from -75 to -25.

The construct of writing emotional intelligence was Participant 4's second lowest score of any scale in his ECMQ (see Fig. 4.13). Similar to the constructs mentioned previously, the subject's journey plot was a good illustration of this low emotional intelligence level. Examples of a limited regulation of emotions in the self are associated with various emotions such as anxiety and anger in points 5, 10, 12 and 14. In addition, the reported -25 value in point 10, which deals with paper revision, suggested that the subject could not fully understand some coauthor's feelings and ideas and re-experience them himself. This pointed towards a lack of empathy, which is part of the process of accurately appraising and expressing emotions in others, in that specific scenario. Similar to what was explained in Participant 2, the -90 value in point 14 of Participant 4's journey plot indicated that the subject was not ready for a wide range of potential future outcomes of the journal submission —poor flexible planning— and/or that he might have also focused more emotional resources to being rejected than to other events or future opportunities —poor mood redirected attention.

Parallel to the previous three journey plots, codes entailing writing metacognition in Participant 4's journey plot were meager (Gr = 2). Point 8 could be connected with monitoring metacognitive regulation and point 10 with evaluating metacognitive regulation and procedural and cognitive-task metacognitive knowledge. However, being the references so scarce, no hypotheses could be drawn from the data available.

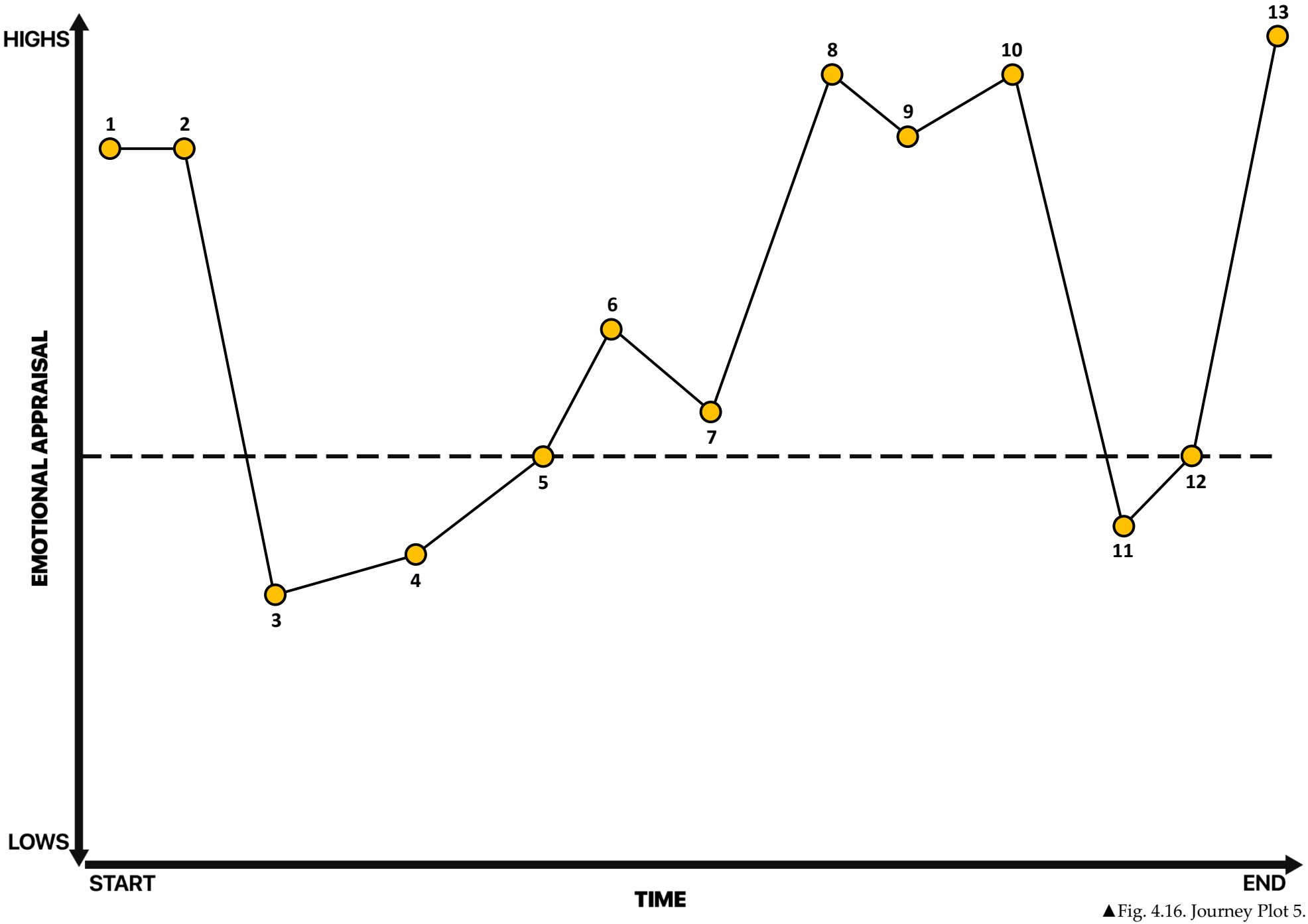
Participant 5

As explained in Section 3.1, Participant 5 had thirty-five years of AWRPP experience, and his research area was included within Biomedical and health sciences. The data collected included retrospective responses only. This participant's EMOWRI score was 4.03 and his average scores of the ECMQ are shown in the radar chart in Fig. 4.15. It should be noted that writing anxiety is not a desirable emotional construct, thus a lower score is better.



▲Fig. 4.15. ECMQ averages for Participant 5.

Participant 5's journey plot and its key can be found in Fig. 4.16 and Table 4.13 in the next two pages.



▲Fig. 4.16. Journey Plot 5.

Point	Construct	Description	Value
1	AE CT MO SE	Design of the study.	+70
2	AE	Beginning of data collection.	+70
3	AE EI	Data collection progress.	-30
4	AE	Almost the end of data collection.	-25
5		Beginning of data analysis.	0
6		First results.	+25
7	CT	Comparison with other studies.	+10
8	AE MO SE	Beginning of writing process.	+90
9	AE MC	Draft modification.	+75
10	AE	Submitting to Editorial.	+90
11	AE CT EI MO	Editorial decision is “needs modification.”	-20
12		Planning the response.	0
13	AE MO SE	Work accepted.	+100

▲Table 4.13. Journey Plot 5 key.

Participant 5's journey plot is quite remarkable in several ways that raised concerns about the suitability of fully-retrospective journey plots. As can be seen, consisting the journey plot of thirteen points, *rhythm* was lower than the previous four mostly-*online* journey plots. In addition, the detail of the descriptions provided for each point was strikingly poor compared to other participants' journey plots. It is possible to speculate that the reason for this might be threefold: *i.* it could be a consequence of the subject's personality traits, *ii.* it could be a result of the way the subject understood or interpreted the task, or *iii.* it could be a possible pitfall of retrospective journey plots. No interview with the subject was held after receiving the journey plot, limiting the possibility of addressing this matter with him. Therefore, further analyses of the upcoming Participant 6's journey plot and the comparison with previously-addressed *online* and prospective journey plots helped to interpret this issue and they can be found in Chapter 5. The *intensity* of the reported emotions could be considered mid-high since only three points —23.08%— were placed under the neutral line and the lowest value was -30. *Tempo* was medium, as the gradient of the emotional changes was neither particularly steep nor gentle.

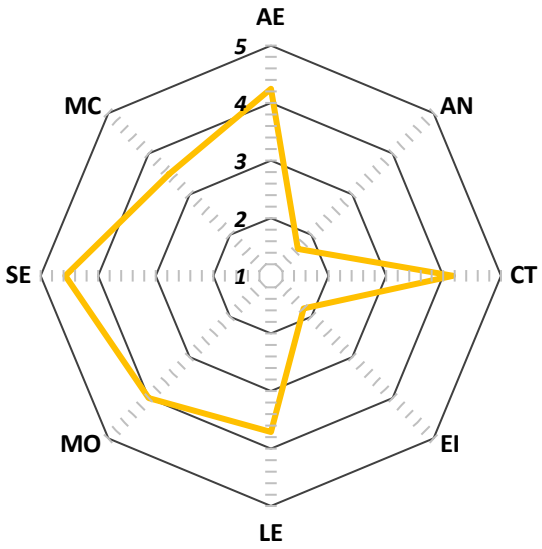
As a consequence of the elementary descriptions supplied by Participant 5, construct codes were, unfortunately, scarce. The single most coded construct was achievement emotions (Gr = 9). Nevertheless, a note of caution is due here since the codes were based mainly on the values of the points rather than the descriptions, making these codes potentially less accurate than the codes included in the previous journey plots. The high writing achievement emotions score reported by the subject's ECMQ responses (see Fig. 4.15) was, nonetheless, reflected in the journey plot. Most of the codes —76.92%— referred to a high level of achievement emotions. By way of illustration, positive prospective outcome emotions such as *anticipatory joy* and/or *hope* could be inferred in points 1 and 10; positive retrospective outcome emotions such as *joy*, *pride* and/or *gratitude* could be guessed in point 13; and positive-value, high-control appraisals regarding an activity –potentially resulting in *enjoyment*– could be seen in points 2 and 8.

Participant 5's medium writing emotional intelligence score in the ECMQ was lower than the rest of the constructs (see Fig. 4.15). Unfortunately, the scant groundedness of the emotional intelligence codes (Gr = 2) in the subject's journey plot did not help to understand the possible reasons for such score. Either way, provided values in points 3 and 11 suggested a limited regulation of emotions in the self, a limited flexible planning and a limited mood redirected attention when facing time-consuming events such as collecting data for the paper, or emotionally challenging events such as having to modify the submitted paper as a consequence of an editorial decision.

Writing metacognition could not be assessed as only one description (point 9) was coded with this construct.

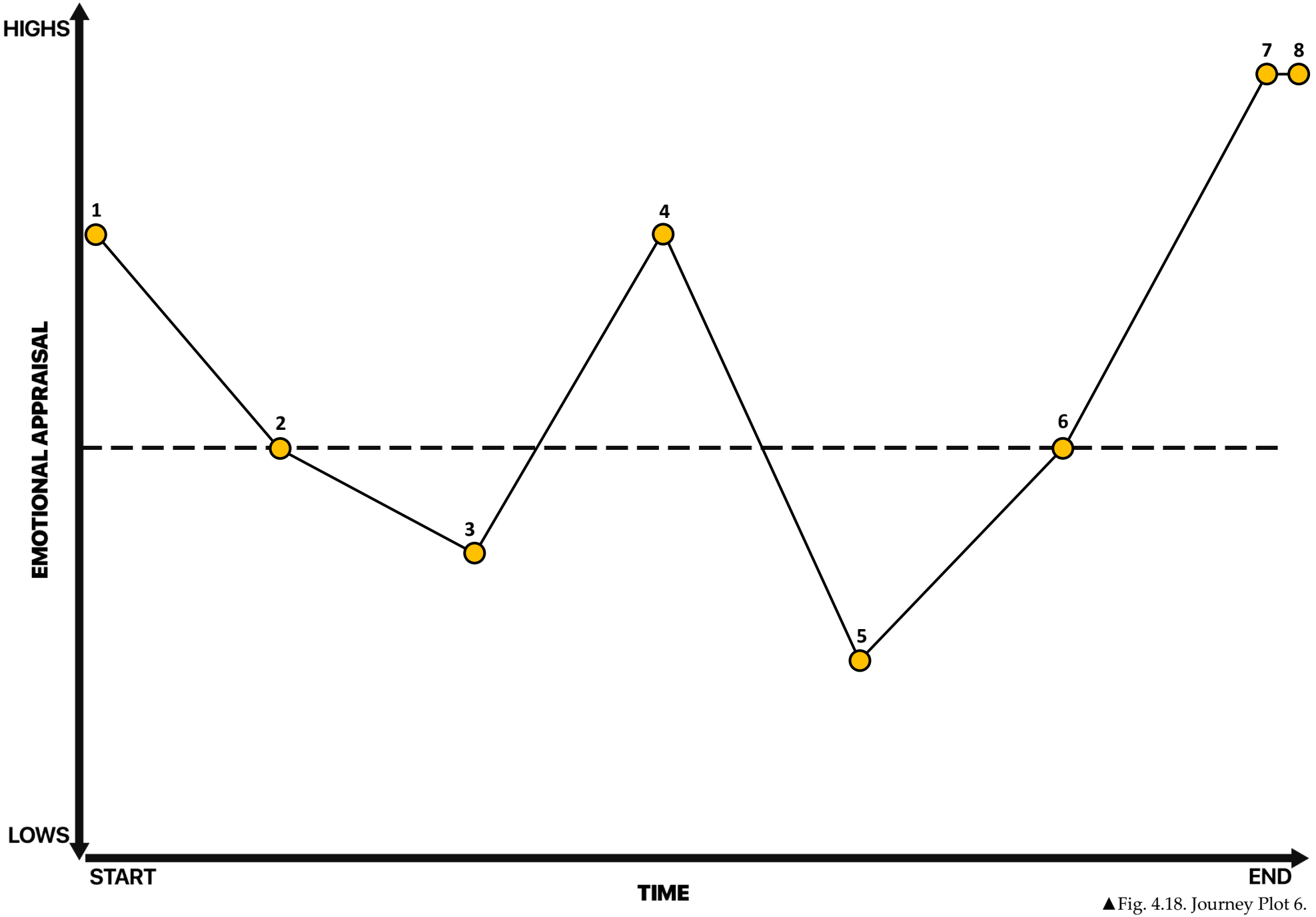
Participant 6

As explained in Section 3.1, Participant 6 had forty years of AWRPP experience, and his research area was included within Experimental sciences and mathematics. The data collected included retrospective responses only. This participant's EMOWRI score was 3.79 and his average scores of the ECMQ are shown in the radar chart in Fig. 4.17. It should be noted that writing anxiety is not a desirable emotional construct, thus a lower score is better.



▲Fig. 4.17. ECMQ averages for Participant 6.

Participant 6's journey plot and its key can be found in Fig. 4.18 and Table 4.14 in the next two pages.



▲Fig. 4.18. Journey Plot 6.

Point	Construct			Description	Value
1	AE	CT	MO	I finally have publishable results.	+50
	SE				
2	CT	EI	MC	Tough work writing the introduction. Not only it is necessary to evaluate precedents but also justify the study. Tough scientific marketing!	0
	MO				
3	AE	AN	CT	How do I display results clearly and understandably?!? Tables, graphs, text!	-25
	MC	MO			
4	CT	MO		Finally, now off to the discussion and to reach new conclusions.	+50
5	AE	AN	CT	Something does not fit. I need new experiments and to repeat others!	-50
	EI	MC	MO		
6				Lab week, no writing.	0
7	AE	CT	MO	Now everything makes sense. Interesting conclusions.	+90
	SE				
8	AE	MO	SE	Accepted for publication!	+100

▲Table 4.14. Journey Plot 6 key.

Participant 6's journey plot shared some features with the other retrospective journey plot —i.e. Participant 5's— that suggested that this kind of journey plots may suffer from limitations regarding the number of points and the richness of the descriptions provided by the subjects. In Participant 6 case, *rhythm* was remarkably low compared to the rest of the participants since the journey plot consisted only of eight points. The detail of the descriptions provided for each point was also very limited. This indicated that, even though subjects' personality traits and interpretation of the task might still have an impact, the idea that retrospective journey plots may gather less information than *online* —or even prospective— journey plots should be considered. Further explanations on this matter can be found in Chapter 5. The subject's reported emotions tended to have a medium *intensity*, with most values —75%— being contained within the -50 and +50 range. *Tempo* was also medium, as the gradient of the emotional changes was neither particularly steep nor gentle.

Similar to Participant 5, due to the very limited number of points and the simple descriptions offered by Participant 6, construct codes were scarce. The possible reasons for this limitation can be found in Chapter 5 and Chapter 6. The interview held with the subject after receiving the journey plot did not provide any further insight. The most coded constructs in the subject's journey plot were motivation (Gr = 7), critical thinking (Gr = 6), and achievement emotions (Gr = 5). The same note of caution stated before in Participant 5's section is due here too. As a consequence of the small number of points and the minimal descriptions, the codes were based mainly on the values of the points, making these codes potentially less accurate than the codes included in other journey plots.

Motivation codes confirmed the Participant 6's reported high writing motivation score in his ECMQ (see Fig. 4.17). Most codes (points 1, 2, 4, 7 and 8) could be connected with a positive level of orientation towards achievement, orientation towards stimulating experiences and/or orientation towards knowledge intrinsic motivation. Values in points 3 and 5 suggested that this intrinsic motivation could have been at risk at some moments. The value in point 2 could be connected with identified regulation or integrated regulation extrinsic motivation instead of intrinsic motivation. However, the description provided by the subject did not help to clarify this issue.

Participant 6's high writing critical thinking score in the ECMQ (see Fig. 4.17) was likewise echoed in his journey plot. All the critical thinking codes referred to desirable critical thinking skills (see Section 2.5) such as *i.* assessing the credibility of sources (point 2), *ii.* assessing the quality of an argument (point 2), *iii.* developing and argue for a position on a given topic (point 2), i*v.* designing experiments and assessing existing experimental designs (points 1, 2 and 5), *v.* defining concepts in a convenient way for a given context (points 2 and 3), *vi.* being open-minded (point 5), *vii.* being well informed (point 2), and *viii.* drawing conclusions when necessary but doing it cautiously (points 4 and 7). Regarding this last critical thinking skill, it was not possible to check if the subject drew the conclusions cautiously. Descriptions of points 1 and 5 suggested that it took the subject some time to find publishable results and that he noticed that something was

wrong with his initial design respectively, which hinted towards a high level of critical thinking.

Concerning achievement emotions, Participant 6's high score reported in the ECMQ (see Fig. 4.17) could not be confirmed with the journey plot codes. On the one hand, three out of five codes could be linked to positive achievement emotions such as *joy*, *pride*, *anticipatory joy* and/or *gratitude* (points 1, 7 and 8). On the other hand, the rest of the codes (points 3 and 5) could be connected with negative achievement emotions such as *frustration*, *boredom*, *sadness*, *shame* and/or *anger*. However, due to the small number of codes, it was not possible to determine if this discrepancy was real or just a consequence of the limited amount of codes.

Participant 6's writing emotional intelligence score in the ECMQ was significantly lower than the rest of the constructs (see Fig. 4.17). As it happened with Participant 5, the scarce groundedness of the emotional intelligence codes (Gr = 2) in the Participant 6's journey plot did not allow to understand the possible reasons for such score. The value reported in point 5 suggested a limited regulation of emotions in the self, a limited flexible planning and a limited mood redirected attention when some experiments had to be repeated. Nevertheless, the description of point 2 pointed out towards an adequate regulation of emotions in others.

Writing metacognition codes were scarce (Gr = 3), and possible explanations for this issue are given in Chapter 5 and Chapter 6. Broadly, the existing codes pointed towards an appropriate use of planning and evaluating metacognitive regulation and of procedural and cognitive-task metacognitive knowledge. However, since the references to metacognition were so scarce, no strong evidence can be drawn from the data available in this journey plot.

4.8. Code-document cross-tabulation report

In addition to the most coded emotional constructs and writing metacognition mentioned for each journey plot in previous section, Table 4.15 encompasses the cross-tabulation report for all the codes and all the journey plots. Even though low grounded codes made the analysis of a construct within a journey plot difficult, some of the information included in the code-document table (Table 4.15) added details to some of the ideas discussed in Chapter 5 in relation to the literature review.

		Journey Plot 1		Journey Plot 2		Journey Plot 3		Journey Plot 4		Journey Plot 5		Journey Plot 6		Totals	
AE	*Gr=69*	11	15.94%	13	18.84%	19	27.54%	12	17.39%	9	13.04%	5	7.25%	**69**	**100%**
		20.75%	4.01%	30.95%	4.74%	22.09%	6.93%	27.91%	4.38%	40.91%	3.28%	17.86%	1.82%	**25.18%**	**25.18%**
AN	*Gr=12*	3	25%	2	16.67%	2	16.67%	3	25%			2	16.67%	**12**	**100%**
		5.66%	1.09%	4.76%	0.73%	2.33%	0.73%	6.98%	1.09%			7.14%	0.73%	**4.38%**	**4.38%**
CA	*Gr=18*	4	22.22%			11	61.11%	3	16.67%					**18**	**100%**
		7.55%	1.46%			12.79%	4.01%	6.98%	1.09%					**6.57%**	**6.57%**
CT	*Gr=35*	6	17.14%	4	11.43%	13	37.14%	3	8.57%	3	8.57%	6	17.14	**35**	**100%**
		11.32%	2.19%	9.52%	1.46%	15.12%	4.74%	6.98%	1.09%	13.64%	1.09%	21.43%	2.19%	**12.77%**	**12.77%**
EI	*Gr=36*	10	27.78%	7	19.44%	9	25%	6	16.67%	2	5.56%	2	5.56%	**36**	**100%**
		18.87%	3.65%	16.67%	2.55%	10.47%	3.28%	13.95%	2.19%	9.09%	0.73%	7.14%	0.73%	**13.14%**	**13.14%**
LE	*Gr=3*			1	33.33%	1	33.33%	1	33.33%					**3**	**100%**
				2.38%	0.36%	1.16%	0.36%	2.33%	0.36%					**1.09%**	**1.09%**
MO	*Gr=56*	10	17.86%	8	14.29%	18	32.14%	9	16.07%	4	7.14%	7	12.5%	**56**	**100%**
		18.87%	3.65%	19.05%	2.92%	20.93%	6.57%	20.93%	3.28%	18.18%	1.46%	25%	2.55%	**20.44%**	**20.44%**
SE	*Gr=28*	5	17.86%	4	14.29%	9	32.14%	4	14.29%	3	10.71%	3	10.71%	**28**	**100%**
		9.43%	1.82%	9.52%	1.46%	10.47%	3.28%	9.3%	1.46%	13.64%	1.09%	10.71%	1.09%	**10.22%**	**10.22%**
MC	*Gr=17*	4	23.53%	3	17.65%	4	23.53%	2	11.76%	1	5.88%	3	17.65%	**17**	**100%**
		7.55%	1.46%	7.14%	1.09%	4.65%	1.46%	4.65%	0.73%	4.55%	0.36%	10.71%	1.09%	**6.2%**	**6.2%**
Totals		**53**	**19.34%**	**42**	**15.33%**	**86**	**31.39%**	**43**	**15.69%**	**22**	**8.03%**	**28**	**10.22%**	**274**	**100%**
		100%	**19.34%**	**100%**	**15.33%**	**100%**	**31.39%**	**100%**	**15.69%**	**100%**	**8.03%**	**100%**	**10.22%**	**100%**	**100%**

▲Table 4.15. Journey plots code-document table.

Information:

Gr	
a	**c.cc%**
b.bb%	**d.dd%**

Groundedness of a code (i.e. number of quotations coded by a code)

a = Absolute frequency
b.bb% = Column-relative frequency (journey plot)
c.cc% = Row-relative frequency (construct)
d.dd% = Table-relative frequency

Frequency color code:

High† frequency (column-relative, row-relative, table-relative, or all of them)
Medium† / Mid-high† frequency (column-relative, row-relative, table-relative, or all of them)

† Frequencies are classified based on column and row maximums. Values ranging from the 50% to the 75% of the maximum are considered Medium / Mid-high. Values over the 75% of the maximum are considered High. Evenly-distributed row-relative frequencies in those constructs with low absolute frequencies (AN, LE, and MC) have not been color coded.

4.9. Code co-occurrence analysis

Table 4.16 encompasses code co-occurrences for the nine constructs analyzed in the six subjects' journey plots. This is, the number of times a construct code shared a journey plot description or value with another construct code. Since co-occurrence counts are dependent on code groundedness, co-occurrence coefficients are also included in Table 4.16 so as to normalize the results. A note of caution is due here given that co-occurrence coefficients are more meaningful with hefty datasets than with a six-subject case study. However, they are "a valuable addition to […] other more qualitative oriented analys[es]" (Atlas.ti, 2014, p.291) such as the ones undertaken in previous sections. Therefore, given the moderate number of subjects, it can be suggested to interpret the co-occurrence coefficients in Table 4.16 relatively to the values obtained in the present study instead of the normalized 0 to 1 range, as the information provided by doing the former can be more telling than normalized values in this study.

		AE	AN	CA	CT	EI	LE	MO	SE	MC
		Gr=69	*Gr=12*	*Gr=18*	*Gr=35*	*Gr=36*	*Gr=3*	*Gr=56*	*Gr=28*	*Gr=17*
AE	*Gr=69*		6 (0.08)	13 (0.18)	22 (0.27)	7 (0.07)	1 (0.01)	38 (0.44)	26 (0.37)	15 (0.21)
AN	*Gr=12*			3 (0.11)	2 (0.04)	5 (0.12)		7 (0.11)	1 (0.03)	
CA	*Gr=18*				1 (0.02)	4 (0.08)		5 (0.07)	3 (0.07)	
CT	*Gr=35*					8 (0.13)	1 (0.03)	22 (0.32)	8 (0.15)	6 (0.13)
EI	*Gr=36*						1 (0.03)	13 (0.16)	3 (0.05)	1 (0.02)
LE	*Gr=3*							2 (0.04)	2 (0.07)	
MO	*Gr=56*								22 (0.35)	12 (0.2)
SE	*Gr=28*									4 (0.1)
MC	*Gr=17*									

Information:

Gr	Groundedness of a code (i.e. number of quotations coded by a code)
n (c)	**n** = Count **c** = Co-occurrence coefficient (ranging from 0 to 1)

Co-occurrence coefficient color code:

c ≥ 0.3
0.3 > c ≥ 0.2
0.2 > c ≥ 0.1
0.1 > c

▲Table 4.16. Journey plots code co-occurrences.

As can be seen, the codes with the relative highest co-occurrence coefficients were achievement emotions with motivation (c = .44), achievement emotions with self-efficacy (c = .37), motivation with self-efficacy (c = .35), and critical thinking with motivation (c = .32). Achievement emotions also reported a relatively mid-high co-occurrence coefficient with critical thinking (c = .27) and writing metacognition (c = .21). In addition, writing metacognition codes also co-occurred with motivation (c = .2), critical thinking (c = .13), and self-efficacy (c = .1). There was a single co-occurrence between metacognition and emotional intelligence (c = .02) that could be considered an outlier.

Code co-occurrence analysis helped to assess the interrelations between constructs in the subjects' writing processes. The data presented in Table 4.16 should be thus considered an aid to the construct correlation analysis reported in Section 4.5 and 4.6 and the discussion of such findings found in the upcoming Chapter 5.

Chapter 5
Discussion

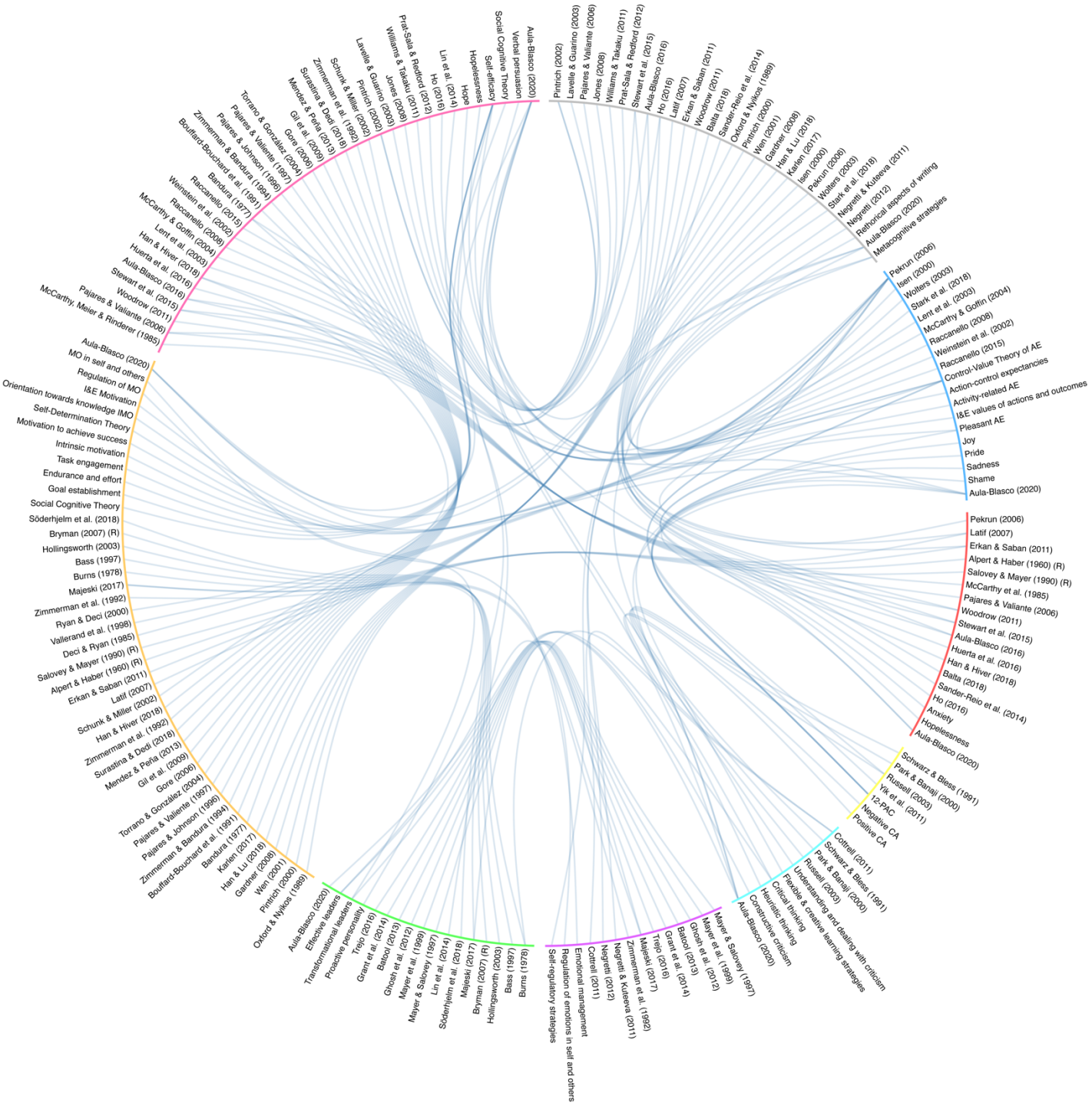
Nothing was your own except the few cubic centimetres inside your skull.
—George Orwell (*1984*, 1949)

This Chapter discusses the results of the present PhD thesis and puts them into context based on the existing literature. A commentary on reliability issues and methodological aspects is also provided.

5.1. On the EMOWRI Framework

Based on the literature review (see Chapter 2) and on the results of the present study (see Chapter 4), the EMOtional WRIting (EMOWRI) Framework was developed. The hierarchical edge bundling in Fig. 5.1 provides a visual representation of the EMOWRI Framework.

The chords in Fig. 5.1 represent the different relationships between the constructs encompassed in the present thesis. Each construct follows the color code that has been established during this whole thesis. This means that, starting from the 12 o'clock position, writing metacognition is gray, writing achievement emotions is blue, writing anxiety is red, writing core affect is yellow, writing critical thinking is cyan, writing emotional intelligence is violet, writing leadership is green, writing motivation is mustard, and writing self-efficacy is pink. There are two types of nodes in the EMOWRI Framework: *i*. bibliographical references, and *ii*. construct concepts. The former implies that a significant correlation between the two constructs connected by the chord was reported by that study or that a theoretical connection —either direct or indirect— exists among or within the references. The latter implies that there is evidence —either practical, theoretical or both— which suggests that two concepts from two different constructs are correlated or similar by definition. The bolder the chords in Fig 5.1 are, the stronger the connection between nodes —or group of nodes— is. A full-sized version of the EMOWRI Framework can be found in Mendeley Data (http://dx.doi.org/10.17632/vrsmb9y367.1).



▲Fig. 5.1. Visual representation of the EMOWRI Framework.

In what follows, a discussion of the most salient aspects deriving from the results of this PhD study in relation to the existing literature is provided. These aspects are represented in the EMOWRI Framework (Fig. 5.1) with the node *Aula-Blasco (2020)*.

5.2. On the reliability of the questionnaire

As mentioned in Section 4.1, most sections of the ECMQ met the Cronbach's alpha score set by Nunnally (1978) as a minimum for social sciences, i.e. $\alpha = 0.7$. Prior studies evaluating emotional constructs had also reported reliability coefficients over that score (Salovey et al., 1995; O'Neil & Abedi, 1996; Cheng, 2004; Rowold, 2005; Jones, 2008; Pekrun et al., 2011; Espinoza-Venegas et al., 2015; Stewart et al., 2015; Valdivia et al., 2015; Aula-Blasco, 2016; Ho, 2016). Among all the ECMQ scales, those entailing writing core affect, writing critical thinking, writing emotional intelligence and writing motivation did not meet Nunnally's (1978) criteria.

With a sample of 224 academics and having set Cronbach's alpha coefficient to 0 in the null hypothesis —as done in most social sciences studies (see references above)— sample size can be discarded as one of the main potential causes (cf. Bujang, Omar & Baharum, 2018). This idea is strengthened by the high reliability estimates reported by other isolated scales of the ECMQ and the ECMQ as a whole.

It is worth noting that the three scales reporting the lowest Cronbach's alpha coefficients —i.e. writing core affect, writing motivation and writing emotional intelligence— were also the three scales with fewer items in the ECMQ; having a sum of four items in the former two and five items in the latter. This is not surprising since Cronbach's alpha is a function that takes into consideration the number of items in a given test. It can thus be suggested that one possible reason for the low reliability estimates obtained by those scales is the short number of items encompassed in them. Even though the decisions made when designing all the questionnaire scales were, as explained in Chapter 3, grounded on the theoretical frameworks and/or previous studies (see references in Section 3.2), the small number of items comprised in the writing core affect, writing emotional intelligence and writing motivation scales could be considered a potential limitation of the present study when measuring these emotional constructs in detail.

As explained in Section 3.2, the scales dealing with writing core affect, writing critical thinking and writing motivation were designed based on a theoretical framework only. This lack of a previously validated questionnaire as a source for the ECMQ scales dealing with these constructs may also be a possible reason for the reported low reliability estimates. Even though this should definitely be considered another limitation, it is to be mentioned that the present study was not aimed at validating individual scales for individual constructs, but to gather and adapt multiple previously validated questionnaires in order to gain access to participants' emotions in the EWRPP process. In that regard, the reported Cronbach's alpha of the whole ECMQ was a satisfactory $\alpha = 0.857$.

It is somewhat surprising, however, that the writing emotional intelligence scale reported the single lowest reliability coefficient in the ECMQ ($\alpha = 0.465$). This is even more unexpected if it is taken into account that the scale had its point of departure in Salovey et al.'s (1995) TMMS —which was validated with a reliability estimate $\alpha = 0.87$—

and its Spanish translation, which reported Cronbach's alpha coefficients over 0.8 in various validation studies (Espinoza-Venegas et al., 2015; Valdivia et al., 2015). In addition, the writing emotional intelligence scale in the ECMQ comprised five items, whereas scales such as the writing core affect and the writing motivation ones —which scored higher Cronbach's alphas— comprised four items.

The possible explanation for this low value may be twofold: *i.* the number of items of the used scale compared to the original TMMS and *ii.* the generalized low levels of emotional intelligence in the participants of the present study and their difficulties to report about their emotional intelligence skills. Regarding the first reason, the validity scores mentioned in the previous paragraph were obtained by the whole TMMS, which included twenty-four items. This means that, since the writing emotional intelligence scale in the ECMQ was deemed appropriate with just five items (see Section 3.2 for an explanation), little was left from the original, validated TMMS. Concerning the second reason, the results of this study show that, on average, participants reported a medium-low level of writing emotional intelligence ($\bar{x} = 2.65$, $\sigma = 0.77$). In fact, writing emotional intelligence was the construct with the lowest average score in the ECMQ —only writing anxiety was lower but this is considered positive. This was confirmed in the case studies explored via journey plots, as they show how even subjects with high scores in the rest of writing emotional constructs reported a limited writing emotional intelligence level (see Section 4.7 for details). Furthermore, writing emotional intelligence was the only construct to have very limited correlation coefficient with the rest of the emotional constructs entailed in the ECMQ (see Section 4.5). It is however impossible to tell if this lack of correlation is a consequence and/or a cause of the low reliability estimates.

In spite of the more moderate Cronbach's alpha reliability coefficients in some of the scales, it must be emphasized that the overall reliability estimate of the ECMQ was considerably high ($\alpha = 0.857$).

5.3. On construct scores and their fluctuation with AWRPP experience

The ability to use metacognitive writing strategies in different stages of the AWRPP process and the difficulty to reflect on the monitoring and regulation of cognition

As stated in Chapter 4, participants' responses to the ECMQ unveiled an average medium-high level of metacognitive writing strategy use. Writing metacognition was the construct with the highest average score among the nine constructs comprised in this study. The small standard deviation suggests that most of the participants' writing metacognition scores were close to the average. In spite of being scarce, references to writing metacognition in the six journey plots also reflected an adequate use of the construct —even in subjects with a medium average score in the writing metacognition scale of the ECMQ such as Participants 4 and 6. This positive result comes as no surprise due to the nature of academic writing and metacognition. First, as mentioned in the literature review (Section 2.1), metacognitive knowledge implies being aware of oneself,

what one knows, how one thinks, and how one learns (Flavell, 1979; Veenman et al., 2006; Negretti & McGrath, 2018). These are abilities that, to a greater or lesser extent, are expected in a researcher, and this finding seems to confirm such idea. Second, writing metacognition has been positively correlated in previous studies to academic writing proficiency in university students (Baker & Boonkit, 2004; Subramaniam, 2004; Hong-Nam & Leavell, 2006; Magno, 2008; Chien, 2010; Dülger, 2011; Negretti & Kuteeva, 2011; Stewart et al., 2015; Karlen, 2017; Farahian & Avarzamani, 2018). It can be agreed that members of the academia —even the less experienced ones— are expected to have a comprehensive writing background with satisfactory outcomes based on numerous undergraduate and graduate assignments, essay and dissertations and a PhD thesis, among others. It can therefore be suggested that those who make it to the status of 'academic' possess, in general, enough writing experience and proficiency to help them attain suitable metacognitive abilities in writing that can be used in EWRPP, to a greater or lesser extent, depending of the individual and the specific task and scenario.

Nevertheless, metacognitive abilities are adaptive (Allen & Armour-Thomas, 1993), and it could have been expected that writing metacognition levels would grow as AWRPP experience increases. This increase would be a consequence of experienced scholars having a wider knowledge of the content, textual, pragmatic, procedural and social aspects of the specific disciplinary community AWRPP genre (Tardy, 2009, 2016; Negretti & Kuteeva, 2011) than their junior counterparts. The yields in the present investigation do not follow this originally expected trend, at least not fully. Even though there was a clear improvement in the writing metacognition scores between the self-reported less experienced quartile of participants (Q1) and the most experienced one (Q4), participants in Q2 and Q3 reported, on average, a slightly lower level of writing metacognition than participants in Q1. A possible explanation for this might be that the *rhetorical awareness* (Swales, 1990) of those participants comprised in Q2 and Q3 in the present study was less or similarly developed than the one of those participants in Q1. This means that the mid-experienced participants' ability to use their genre knowledge in their writing process may not be as good as the less experienced ones.

Another possible reason for the slight decrease in writing metacognition average levels in Q2 and Q3 participants is connected with English proficiency and EWRPP experience. Data provided by participants did not allow to tell how proficient they really are in general or written English and how many years of that AWRPP experience have been actually linked to EWRPP and how many have been linked to academic writing in other languages such as participants' mother tongue. If English proficiency and academic English knowledge was indeed more limited, this could have an impact in participants' declarative metacognitive knowledge without affecting their procedural and conditional metacognitive knowledge (Schraw & Dennison, 1994) and/or their metacognitive knowledge about themselves, the task and the process (Flavell, 1979; Pintrich, 2002). In this scenario, metacognitive regulation would not be highly affected in the planning stage, but it would suffer a bigger impact in the monitoring and

evaluating stages. To develop a full picture of this issue, additional studies involving different participants in different academic contexts are needed.

In line with the highest average score of writing metacognition among all ECMQ scales, participants in the present study reported, in general, being fully aware of the importance of planning and revision in the EWRPP process. Four out of the five highest ranked items in the ECMQ dealt with these stages of writing. Participants seemed to understand the benefits coming from considering the purpose and the audience of the paper and from choosing and organizing the most germane information among their data. Revising their work and correcting it as the writing process goes on was reported to be as important as final paper revision for participants. These results reflect those of Maftoon et al. (2014) and Farahian and Avarzamani (2018), who, by means of qualitative and quantitative methods respectively, also linked being aware of planning and drafting strategies and taking the audience of the text into account with high levels of writing metacognition. However, in the present study writing metacognition levels of the participants in the present study seemed to be moderately more limited in regard to monitoring and regulating cognition. This finding seems to run parallel to the scenario hypothesized in the previous paragraph, in which the monitoring and evaluating stages of the metacognitive regulation process could end up being slightly undermined. In addition, this finding is consistent with Brown's (1978) and, more recently, Negretti and McGrath's (2018) theorizations, which underline that monitoring and regulating cognition are not always a conscious metacognitive process.

This idea is further supported by the analysis of the journey plots and the limited number of references to writing metacognition in them. No matter the reported score in the writing metacognition scale of the ECMQ, each of the six subjects made little reference to the construct in their journey plot. When references were made, most of them were connected with metacognitive knowledge and a small number dealt with short-term metacognitive regulation. No references were found to the monitoring and regulation of cognition, confirming Brown's (1978) and Negretti and McGrath's (2018) idea mentioned above.

The benefits of positive writing core affect and the role of negative and neutral core affect feelings in the AWRPP process

As mentioned in the results chapter, data retrieved via the ECMQ revealed that participants tend to write significantly better and more efficiently when they feel energetic, enthusiastic, happy, serene and calm than when they feel tired, gloomy, sad, upset and jittery. This is even more true if the high standard deviation of the former set of feelings is taken into consideration, which means that the gap between these two sets of feelings may be even heftier in some participants. Even though the present study did not consider any dimension of core affect as positive or negative due to the lack of existing evidence on the influence of core affect moods and emotions in any kind of writing process, results point towards a preliminary clear-cut distinction between more

and less desirable core affect feelings regarding AWRPP. Participants' responses suggest that those feelings located to the right side of the horizontal dimension —i.e. the hedonic dimension— in the 12-PAC (Russell, 2003; Yik et al., 2011) have a more positive impact in the AWRPP process than those located to the left side. Differences in the vertical dimension —i.e. the arousal dimension— of the 12-PAC were not found in the data. In fact, participants reported, on average, writing slightly better and more efficiently when feeling serene and calm than when feeling energetic, enthusiastic and happy. These findings are consistent with that of Humphreys and Revelle (1984), who found that, in most cases, optimal performance is achieved at intermediate levels of core affect activation —or arousal. Parallel to the results obtained in the present study, these two authors further indicate that higher levels in the arousal dimension are linked to simpler tasks whereas lower levels are more likely to take place when dealing with complex tasks such as EWRPP.

Concerning response deviation throughout AWRPP experience quartiles, it was noted in the Chapter 4 that there was a difference among the more desirable set of writing core affect feelings —those in the *pleasure* side in the hedonic dimension— and the less desirable ones —those closer to the *displeasure* side in the hedonic dimension. On the one hand, as explained earlier, the latter showed no significant differences between average scores —and standard deviations— across participant quartiles. It can thus be suggested that AWRPP experience does not seem to have a meaningful impact in considering feeling tired, gloomy, sad, upset and jittery as less desirable feelings for EWRPP performance. On the other hand, there was an interesting variation between participant quartiles regarding the more desirable set of writing core affect feelings. Mid-experienced participants (those in Q2 and Q3) reported, on average, being less influenced by the most desirable set of writing core affect feelings than the junior and the most experienced participants (those in Q1 and Q4 respectively). The gap was notably more significant in the item dealing with the lower end of the arousal dimension in the 12-PAC (Russell, 2003; Yik et al., 2011), this is, writing better and more efficiently when feeling serene and calm. This difference between the mid-experienced participants and the rest is even more remarkable when looking at the slight dissimilarity of average scores in the items entailing the less desirable set of writing core affect feelings. In general terms, mid-experienced academics —especially those in Q3— reported being faintly more influenced by the less desirable set of writing core affect feelings than the rest of the participants –especially junior researchers. As mentioned before, even though the variance is not significant, it helps to bolster the gap discovered in the more desirable set of feelings.

Due to the lack of previous literature on the impact of core affect in writing, AWRPP or EWRPP, it is not possible to determine the actual reasons behind such difference. One possible explanation could be that mid-career academics undergo less emotionally charged experiences than junior and late-career scholars. This would, based on Russel's (2003) theorizations, vanish from consciousness the importance of core affect feelings in their writing process. However, this could indicate that the years of experience have

more influence than individual psychological differences such as the degree of sensitivity or emotional volatility, internal biological causes such as different neurological responses, or other external factors such as social aspects discussed in the literature (e.g. Lykken & Tellegen, 1996; Maier & Watkins, 1998; Russell, 2003; Rolett, 2017). This seems very unlikely, especially looking at the correlation coefficients reported between AWRPP experience and the rest of the constructs in the present study (see Section 4.5), but should not be completely discarded. Another possible explanation is that the difference was a consequence of sampling. It might be that the mid-experienced academics who took place in the present study were not fully aware of the significance of the more desirable set of core affect feelings in their writing process as a consequence of internal and/or external factors that are impossible to determine with the available data. In this respect, future replication studies on the current topic are deemed necessary.

The analysis of the journey plots did not provide any meaningful insight in this regard, as groundedness was either low or equal to zero in all the instances except Participant 3. However, journey plots did support the idea unveiled by the correlational analysis that the more desirable set of writing core affect feelings tends to counter the less desirable set of writing core affect feelings, thus having a more significant impact in other emotional constructs. Data retrieved from the correlational analysis of the ECMQ shows that feeling energetic, enthusiastic, happy, serene and calm while writing is positively correlated with all the constructs entailed in the present study except writing anxiety. This is especially the case of the EMOWRI score, writing motivation, writing emotional intelligence, writing critical thinking, and writing metacognition. As a consequence, it finally seems possible to tag the most desirable set of writing core affect feelings as *positive* and feeling tired, gloomy, sad, upset and jittery as *negative* feelings for AWRPP. Nevertheless, a note of caution is due concerning this terminology. In line with the psychology literature addressing the *positive* versus *negative* terminological issue (e.g. Cohn, 2008; Kuppens, Realo & Diener, 2008; Kanske & Kotz, 2010; 2011; Zinchenko et al., 2015; Ackerman, 2020), tagging a set of feelings or emotions as 'negative' does not imply that they have to be avoided at all costs and that they are not useful in specific moments. The adjective 'negative' here means that their effect is, in most scenarios, significantly less beneficial for the AWRPP process than the *positive* set of writing core affect feelings.

Observed findings suggest that the *positive* set of writing core affect feelings may help the participants to develop and sustain higher levels of other emotional constructs and writing metacognition that will be beneficial for future writing events. This supports previous psychology studies like those of Lyubomirsky, King & Diener (2005) and Cohn (2008), and explains why, as noted in Section 4.5, most of the scatterplots comprising AWRPP experience in the SPLOM (Appendix 3) show how the most experienced academics tend to report generalized higher levels of all the emotional constructs except writing anxiety —which is not a desirable construct— than their junior and mid-experienced counterparts, who report a wider range of levels —including low levels.

As explained in the results chapter, based on the correlational analysis and the analysis of journey plots, an interesting finding was observed concerning the role of *negative* core affect feelings in the AWRPP process. This set of feelings seems to have substantially more limited medium and long-time effects than *positive* writing core affect feelings. In addition, as noted previously, the analysis of the journey plots revealed how subjects tend to find a short-term solution to their low-value emotional episodes by means of neutral or *positive* core affect. This neutral or *positive* core affect is achieved via various resources such as physical exercise, music, finding enjoyment in learning, emotional self-regulation, achievement emotions, critical thinking, and motivation. These findings therefore corroborate the conclusions of previous work in *positive* emotions (Fredrickson, Tugade, Waugh & Larkin, 2003; Cohn, 2008) and are encouraging to a great number of EAL scholars who have been found to feel *negative* core affect feelings such as resignation, passiveness, unhappiness and/or exhaustion in different stages of their EWRPP literacy process (Curry & Lillis, 2004; Pérez-Llantada et al., 2011). Existing research has also argued that that *negative* emotions do not hamper the benefits provided by *positive* ones (Cohn, 2008) and that *positive* emotions provide subjects with psychological resources that help to manage future stressful situations (Tugade & Fredrickson, 2004; Ong, Bergeman, Bisconti & Wallace, 2006). Further studies, which should take these issues into account, will need to be undertaken in order to find out if this is the case in academic writing.

The false belief that emotional intelligence is not necessary for an optimal AWRPP performance

The analysis of the average scores in the ECMQ disclosed a rather striking outcome. Given that the participants in the present study reported a generalized low level of writing emotional intelligence, it could be argued that this is detrimental for their AWRPP process, as prior studies have noted the benefits of emotional intelligence in academic writing performance at undergraduate and graduate levels (Sadeghi & Farzizadeh, 2013; Shao et al., 2013; Estaji & Shahmoradi, 2016; Genç et al., 2016; Ebrahimi et al., 2017). Similar to what happened with writing core affect, mid-experienced academics' (those in Q2 and Q3) responses disclosed an average lower level of writing emotional intelligence than their junior and most experienced peers (those in Q1 and Q4 respectively). The hefty standard deviations obtained from the data suggest that even though the generalized low level of writing emotional intelligence may not be the case for some participants, some others seem to have a remarkably low level of this emotional construct. Among all the quartiles, those participants with less AWRPP experience are the ones who reported a higher —yet low— level of writing emotional intelligence. The lack of existing literature on the impact of age and/or experience in writing emotional intelligence makes it difficult to establish the reasons behind this difference. The most plausible reason could be, as it has been explained in detail in the previous subsection on writing core affect, connected with sampling. Additional replication studies will help to develop a full picture on the matter.

Observing the rank of average responses to individual items within the writing emotional intelligence scale of the ECMQ included in Chapter 4 revealed three interesting findings worth discussing. First, the item which had the highest average among the five comprised in such scale is the one entailing the regulation of emotions within oneself. The item with the third highest average within the writing emotional intelligence scale was the one connected to mood redirected attention. The use of these two strategies is an instance of an adequate emotional intelligence (Salovey & Mayer, 1990) and supports the finding mentioned in the previous subsection which described how participants used different resources to overcome low-value emotional episodes as fast as possible by using neutral or *positive* core affect. Data retrieved via journey plots corroborates this finding since mood redirected attention seems to be the subjects' most used way of utilizing their emotions. In general, the main sources for low-valued emotional episodes are, according to the journey plots of the six academics, twofold. The first one, related to the writing process, is being asked to revise their paper either by an editor, an anonymous reviewer or a coauthor. Following Lillis and Curry (2006) work on *literacy brokers*, these problematic reviews seem to be mainly a consequence of the request of *academic brokers*. This is in accord with Lillis and Curry's findings, who described that the majority of *literacy brokers* reported in their research belongs to the category of academic professionals. The second source for low-valued emotional episodes, related to methodological aspects of their research, is having to deal with time-consuming and/or repetitive tasks. In order to utilize their emotions to feel emotionally better, participants make use of different resources such as focusing on the bright side of the reviews, making use of their achievement emotions and their critical thinking, practicing physical exercise, listening to music, and looking for peer support.

Second, as stated in the results section, even though the two items mentioned in the previous paragraph had higher averages than others within the writing emotional intelligence scale, the averages were still mid-low. As contradictory as this may appear, looking at the writing emotional intelligence item with the lowest average score helps to explain this issue. Participants reported, in general, paying little attention to their feelings and devoting almost no time to think about them neither before, during, nor after the EWRPP process. Contrary to expectations, the analysis of the journey plots included in Chapter 4 shows that even though some subjects (Participants 1 and 3) referred to and reflected on their emotions thoughtfully in their journey plots, the rest of them made a very superficial analysis of how they felt at different points in time and the reasons behind it. This difficulty in appraising and expressing their emotions came as a surprise due to the nature of journey plots, as it is an instrument designed to foster one's evaluation of emotions. However, this confirms the second finding of the ECMQ item ranking analysis. In accordance with the present outcome, previous studies have demonstrated that there is a need to increase emotional intelligence levels across modern societies not only in academic writing, but also in everyday situations (Sadeghi & Farzizadeh, 2013; Shao et al., 2013; Genç et al., 2016; Ebrahimi et al., 2017). Estaji & Shahmoradi's (2016) study on the relationship between EFL undergraduates' emotional intelligence, their gender and their writing performance concluded that male students

were in more need of emotional intelligence training than their female counterparts. Nevertheless, since the gender variable was not included in the present study, it is not possible to confirm such finding.

The last of the three findings obtained from the ranking was likewise rather unanticipated given that, as indicated in the results chapter, participants reported in the ECMQ that they rarely allow their feelings influence their thoughts nor their academic writing. This outcome is contrary to what it was found in the journey plots, in which participants appear to be highly influenced by a wide array of feelings and have to face numerous emotional episodes —even though some subjects did not appraise them nor state the reasons for them. Nonetheless, this finding is consistent with that of Flowerdew (2008), who suggests that the emotional burden entailed in the AWRPP process is generally overlooked, and Cottrell (2011), who argues that "the academic world traditionally likes to consider itself as logical and immune to emotions" (p.5). We can then deduce that even though EAL scholars are generally aware of their disadvantageous position regarding Anglophone academics in terms of language and culture (cf. Politzer-Ahles et al., 2016; see also Curry & Lillis, 2004; Pérez-Llantada et al., 2011; Corcoran et al., 2019), they still struggle when identifying the emotional challenges they face in their AWRPP process. A challenge that, as argued by Tang (2012), is a major obstacle EAL academics have to deal with throughout their academic career.

In this line, Flowerdew (2008) suggested that scholars prefer to deal with the emotional burden resulting from academic writing by themselves. The journey plots data about the subjects' emotional intelligence in regard to others in the present study seems to confirm this hypothesis. As stated in Chapter 4, those subjects who referred to this issue appear, in general, to struggle with the appraisal, expression and regulation of emotions in others. There are mentions to having difficulties to understand some coauthors' opinions, to grasp the reasons behind some editorial reviews, and to accept the paper submission process for journals and the editorial reasons behind it. Thus, it can be suggested that even though researchers within an academic discourse disciplinary community share numerous aspects (Swales, 1990, 1998; Berkenkotter & Huckin, 1995; Johns, 1997; Lea & Stierer, 2000; Lillis & Turner, 2001; Tardy, 2009, 2016; Negretti & Kuteeva, 2011; Hirvela et al., 2016), the emotional one is not among them.

The role of transactional leadership in AWRPP scenarios and the inception of effective writing leadership in academia

The idea of leadership as a continuum has been addressed in numerous theoretical studies which argue that a subject can display features of transactional and transformational leadership or not show any kind of leadership depending on the situation (Bycio et al., 1995; Avolio et al., 1999). Bass and Avolio (1993) likewise contend that the most effective leaders make use of both transactional and transformational leadership strategies. As noted in the results section of the present study, based on the responses to the ECMQ, participants' writing leadership levels seem to be, on average,

medium to medium-high. Since the writing leadership scale of the ECMQ measured the level of transformational leadership and there was no instance found of a complete lack of leadership among the participants, this result seems to be consistent with the idea of leadership as a continuum mentioned above. The reason for this is that as an average medium to medium-high score in the scale suggests that most participants show transformational leadership in a good number of situations, while they prefer not to do it —or they feel that they should not do it— in some other scenarios. Unfortunately, data retrieved from the journey plots did not help to identify the possible reasons behind the choice of showing or not showing participants' leadership skills. This finding differs from part of the existing literature, which pointed to the fact that the type of leadership found in academia is predominantly transactional (Rhodes, 2001; Christensen, 2013; Harden, 2013).

Taking AWRPP experience into consideration, those participants within the Q4 (i.e. the most experienced researchers) were the ones with the highest average score. This makes sense as power relationships in academia tend to be based on rank and years of experience. Nevertheless, research within the Influential Theory (Tuckman, 1965; Tuckman & Jensen, 1977) defends that challenging roles and relations help to turn a group into a team. Therefore, from the findings of the present study it could be argued that having junior researchers within a research group who have adequate levels of leadership seems necessary. As mentioned in Chapter 4, the reported values of Q1 and Q2 are in accord with this idea. Because this finding has important implications for planning writing instructional intervention, further studies would be necessary to further confirm the extent to which this outcome is sample-specific or if there are other reasons behind it.

As revealed in the results chapter, participants make use of visual support such as images, tables and graphs to their papers so as to make them easier to understand. This transactional leadership strategy can be seen as a way of trying to convince those readers within their academic discourse disciplinary community about the significance of their research by means of writing clarity and form. Thus, it seems that participants are aware, at least in this regard, of the social practice that AWRPP entails (cf. Hyland, 2006b; Lillis & Scott, 2007; Hirvela et al., 2016). Furthermore, and supporting Hemlin et al. (2008) and Heinze et al. (2009), who found that leadership is positively correlated with creativity, being able to summarize the most important findings of one's research and arrange them in a clear and simple visual representation requires a reasonable level of creativity.

Transactional leadership has been reported to be beneficial for team's efficiency and accomplishments (Yukl, 2013). In this line participants in the present study point towards an adequate level of transactional skills by reporting that they *i*. do their best to make their peers feel good about their academic writing skills in English no matter their actual proficiency and *ii*. let their colleagues know how they think they are doing and provide recognition when they accomplish their AWRPP goals. Furthermore, Tittle (2011) found a direct correlation between these two empathetic skills leaders possess with critical thinking. However, the item LE6. *I am content to let my colleagues continue*

writing in the same ways always and ask no more of their English writing style than what is absolutely essential reported a medium average and a relatively large standard deviation. According to this observation, it could be inferred that the transactional style of leadership is still present in some of the participants. If this is true, it can therefore be suggested that even though the academic leadership-oriented programs mentioned before are working, there is still room for improvement in this regard. However, this should not be a problem in certain cases as it has been argued that successful leaders might present both transactional and transformational attributes (Bass & Avolio, 1993). Likewise, from this finding we can deduce that the writing expectations, conventions and practices of an academic discourse disciplinary community are more important to scholars than individual writing styles. In this respect, this confirms the theorizations and outcomes of the existing literature (Starfield, 2002; Hyland, 2006b), which has also found that AWRPP is one of the most important means to bridge junior and more experienced academics (Lonka et al., 2014; Bommarito, 2016). Finally, the way of tackling other academics' academic writing problems may be done via constructive criticism, which will not only denote satisfactory levels of leadership, but also of critical thinking (Cottrell, 2011).

The satisfactory level of writing critical thinking in junior scholars and its development throughout the academic career

The issue of writing critical thinking being, on average, the highest scored emotional construct entailed in the present study came as no surprise since many of the skills a critical thinker should own according to the literature (Norris & Ennis, 1989; Perkins et al., 1993; Cottrell, 2011; Ennis, 2011a, 2011b, 2015, 2018) such as assessing the credibility of sources and the quality of arguments and existing experiments, being well informed, designing experiments, identifying trends and patterns, developing and arguing for a position on a given topic, drawing to conclusions cautiously, and considering implications are, among others, all required in academia and especially in AWRPP. Borglin (2011) further stated in this regard that "no-one would dispute the assertion that a mastery of academic writing in different genres and the development of skills in critical thinking and appraisal are fundamental elements in all academic disciplines, regardless of the subject area" (p.611). Consistently, journey plots did not make any alarmingly high number of references to any of the barriers to critical thinking described by Cottrell (2011).

As mentioned in the results section, the level of writing critical thinking averaged a mid-high score across the three first participant quartiles and a high score in those participants with the most AWRPP experience (i.e. Q4). The mid-high level of junior participants (i.e. Q1) is an interesting outcome, as it supports earlier findings such as the ones of Badley (2009) and Stacey and Granville (2009). These authors claim that moving from undergraduate academic writing to graduate academic writing and later to AWRPP involuntarily boosts critical thinking skills simply because of the idiosyncrasy

of academic writing per se. The high level of this emotional construct in the most experienced academics was also anticipated as critical thinking can be acquired (Cottrell, 2011) and the more years of experience a researcher has, the more number of times they will encounter situations in which the set of critical thinking skills mentioned in the previous paragraph are required. The data retrieved via journey plots was consistent with this finding in five out of the six case studies.

Previous studies have demonstrated that age does not correlate with writing critical thinking skills (Chau et al., 2001; Facione, Facione & Winterhalter, 2011; Hunter, Pitt, Croce & Roche, 2013). In this study, participants within Q3 did not score, on average, higher than participants in Q2. The average was alike, but the larger standard deviation in Q3 suggests that even though some Q3 participants follow the increasing trend across quartiles, some others did not. This outcome is in accord with the existing literature (see references above). As it has happened with other constructs, this difference between quartiles may be a consequence of sampling or something else that could not be identified in the present study neither with questionnaire nor journey plot data. Given that the finding is somewhat inconclusive, it would be desirable to further the analysis on the impact of AWRPP experience on writing critical thinking in future research.

As mentioned in Chapter 4, participants in the present study reported being open-minded and willing to change their academic English writing so as to seek as much precision as possible, and being able to look for alternatives when they face a problem in their AWRPP process. This results match those observed in the journey plots and in previous studies (Perkins et al., 1993; Tsui, 2002; Facione & Facione, 2008; Tittle, 2011) which also found that objectivity, honesty, logic and scientific soundness are directly correlated with critical thinking in academic writing. The item with a lowest average score in the writing critical thinking scale was CT4. *I am sensitive to the feelings and level of knowledge of the potential reader of my text*. The fact that this item is not only connected with the necessity of a superlative critical thinker to define concepts in a convenient way for a given context (Norris & Ennis, 1989; Ennis, 2011a, 2011b, 2015, 2018) and to take different perspectives (Cottrell, 2011), but that it is also linked to emotional intelligence confirms the generalized low level of writing emotional intelligence among participants of the present study mentioned before.

The difficulties of EAL academics to find intrinsic writing motivation in the EWRPP process

The existing literature has proved the benefits motivation has in academic writing at undergraduate and graduate levels (Lin et al., 2015; Han & Lu, 2018). Participants in the present study reported having, on average, high levels of instrumental and integrative motivation. These types of motivation have been identified in the SLA literature as beneficial factors for linguistic performance (Cook, 2000; Lightbown & Spada, 2001). Nonetheless, the item within the writing motivation scale with the highest average was MO2. *I write in English because it is required to advance in my professional career, if not, I would write in my mother tongue*, which also refers to extrinsic motivation. This finding supports

the work of other studies that also found that even though EAL academics believe that sharing one main language is advantageous and practical for scientific communication and progress (De Swaan, 2001; Ferguson, 2007; Lillis et al., 2010; Flowerdew, 2012; Pérez-Llantada, 2012, 2018), they would feel happier, more confident and less exhausted if they were to write in their mother tongue (Curry & Lillis, 2004; Pérez-Llantada et al., 2011; Corcoran et al., 2019).

It is also worth noting that extrinsic motivation has been found to be less correlated to adequate problem-solving skills in writing and self-determination towards an activity than intrinsic motivation (Ryan & Deci, 2000; Walker et al., 2006; Stover et al., 2012). Even though the item connected with intrinsic motivation in the writing motivation scale of the present study scored a middle average, it was lower than the average reported by the extrinsic motivation item. The item dealing with absence of motivation scored a low average. This is a positive result, as amotivation has been indirectly correlated with writing metacognition and research-article written performance (Pintrich, 2000; Lin et al., 2015). Therefore, even though it seems that the motivational profiles of EAL academics are enough to grant them success in AWRPP scenarios, there is still room for improvement in this regard. Increasing the levels of intrinsic motivation in EAL scholars could help them to ease the emotional burden they face (cf. Curry & Lillis, 2004; Pérez-Llantada et al., 2011; Corcoran et al., 2019) when engaging in the EWRPP process.

In this line, the literature has associated extrinsic motivation with lower writing performance than intrinsic motivation (Ryan & Deci, 2000; Walker et al., 2006; Stover et al., 2012). As mentioned in the results section, data retrieved via journey plots revealed that when positive references to writing motivation were made by low-motivation subjects, they were generally connected with extrinsic motivation. Identified regulations styles ranged from external regulation to identified regulation. Integrated regulation, that is, the style of extrinsic motivation closest to intrinsic motivation (Stover et al., 2012), was not found in any code. This confirms the idea mentioned in the previous paragraph regarding the need to boost intrinsic motivation in order to improve EAL academics' EWRPP process. Furthermore, these positive references to motivation were more closely linked with motivation to avoid failure than with motivation to achieve success. It is encouraging to compare this outcome with one of Han and Lu's (2018) conclusions, who identified a weak correlation between motivation to avoid failure and writing metacognition. Codes related to all subtypes of intrinsic motivation were significantly more common in those subjects with mid-high or high levels of writing motivation.

Previous work has found that individuals with high levels of motivation are able to maintain these levels even when encountering threats to their motivation levels (Fredrickson et al., 2003; Cohn, 2008). The present study corroborated this finding, as high-motivation subjects within the mid-high and high score range reported being able to keep their motivation high —even in the short run— after dealing with potentially demotivating events such as such as publishing pressure, negative reviewers' feedback, revising the text, adding new information to their paper, and facing linguistic difficulties. This finding also supports one of the present study's outcomes mentioned

before, as it confirms the remarkably more long-lasting effects on AWRPP of *positive* core affect, emotions and events than those of *negative* ones.

Finally, Duijnhouwer, Prins & Stokking (2012) observed that the use of improvement strategies was a positive predictor of satisfactory planning and revising in academic writing. In addition, Lin et al. (2015) found that an inability to find adequate motivation has a negative impact in the use of metacognitive writing strategies in AWRPP. The outcomes of these studies are in accord with the ones of the present study, as it seems that when low-motivation EAL scholars face opportunities to increase motivation levels such as using peer support and integrative motivation, taking advantage of random motivational bursts, and understanding supplementary efforts as chances to learn something new rather than seeing them as futile burdens, they do not make the most out of them.

The impact of positive writing achievement emotions in the AWRPP process and EAL scholars' difficulties to feel proud of their EWRPP skills

In the previous chapter it was shown that participants in the present study had, on average, a mid-high level of positive writing achievement emotions. This can be considered a favorable finding, as positive-valued appraisals of achievement emotions have been connected in the literature with numerous academic benefits such as future academic achievements (Artino et al., 2010; Raccanello, 2015; Pekrun et al., 2017; Butz et al., 2016; Stark et al., 2018), effective learning (Ahmed et al., 2013; Villavicencio & Bernardo, 2013; Jarrell & Lajoie, 2017; Pekrun et al., 2017), and high levels of metacognition (Isen, 2000; Wolters, 2003). The analysis of the journey plots included in Chapter 4 suggests that some of the reasons behind these positive-valued achievement emotions with a direct or indirect impact in AWRPP include, among others, gathering and analyzing data that is usable for the paper, learning how to use new tools, obtaining results that confirmed one's initial hypothesis, submitting a paper to a journal, receiving positive feedback from coauthors, and, as expected being accepted for publication.

Regarding quartile-based results, it was also noted in the results chapter that the average scores of those participants within Q1 and Q2 was alike, Q3 participants scored a slightly higher average, and those participants with the most AWRPP experience (i.e. Q4) reported the highest average across quartiles. These results reflect those of previous studies who also found that academic achievement —and it is undeniable that a member of the academia has accomplished high academic achievements— directly correlates with positive achievement emotions (Pekrun et al., 2014; Pinxten et al., 2014; Pekrun et al., 2017; Putwain et al., 2018). Based on these data, it could also be hypothesized that, in general, even though the sense of achievement and thus the level of positive writing achievement emotions is satisfactory even in junior researchers, it is not until the second half of the academic career that an increase of this construct begins and that the level peaks in the last years of academic career.

As stated in Chapter 4, a significant number of participants do not seem to be particularly proud of their academic English writing level —even though it may be enough. These outcomes support evidence from previous studies (e.g. Curry & Lillis, 2004; Lillis & Curry, 2010; Ferguson et al., 2011; Pérez-Llantada et al., 2011), which found that many EAL scholars feel a considerable pressure to publish their research output in English. Furthermore, data gathered in the present study indicate that participants do not tend to encounter non-positive-valued achievement emotions such as anger and boredom in their AWRPP process. This lack of negative-valued achievement emotions poses, as mentioned in the previous paragraph, numerous benefits for the AWRPP process and the development of EAL skills such as such as fostering future academic achievements (Artino et al., 2010; Raccanello, 2015; Pekrun et al., 2017; Butz et al., 2016; Stark et al., 2018), developing effective learning (Ahmed et al., 2013; Villavicencio & Bernardo, 2013; Jarrell & Lajoie, 2017; Pekrun et al., 2017), and increasing the use of metacognitive writing strategies (Isen, 2000; Wolters, 2003). Nevertheless, data obtained via journey plots does not fully support this finding, as there were numerous explicit and underlying references to negative-valued writing achievement emotions such as anger, frustration, sadness, shame and hopelessness. Some of the main sources for these emotions in everything surrounding the AWRPP process seem to be, among others, considering that the task one is engaged in is not valuable enough, dealing with time-consuming activities such as revising a paper, having to add new information and/or analyses to a paper, and receiving negative feedback from coauthors and/or reviewers.

Interestingly, even though these negative-achievement-emotions-related episodes took place a considerable number of times within the six journey plots, most of them were followed by a positive-achievement-emotions-related episode or a short-term switch to neutral or *positive* emotions. This outcome corroborates the long-lasting effect of *positive* emotions and events as opposed to the swift nature of *negative* ones mentioned in previous subsections and described in the literature (Fredrickson et al., 2003; Cohn, 2008). However, it is important to bear in mind that this enduring effect of positive achievement emotions might not occur in certain individuals. For instance, the journey plot of Participant 4 revealed that he struggled to make the most out of certain situations —regarding writing achievement emotions— that could have, according to the theoretical and experimental literature (Ryan & Deci, 2000; Weinstein et al., 2002; Lent et al., 2003; McCarthy & Goffin, 2004; Pekrun, 2006; Raccanello, 2008; Raccanello, 2015; Putwain et al., 2018), helped him improve his level of other emotional constructs such as motivation, self-efficacy and future achievement emotions. Participant 4's low level of writing achievement emotions was in line with his score in this construct's ECMQ scale. Further work is required to understand the causes of low achievement emotions levels in outliers like Participant 4.

The underlying issues causing different types of writing anxiety in the EWRPP process

The existing literature has demonstrated that there is a significant indirect correlation between writing anxiety and academic writing performance in both English-native doctoral students (Sosin & Thomas, 2014; Casanave, 2016; Russell-Pinson & Harris, 2019) and EAL doctoral students (Badenhorst, 2010; Rungruangthum, 2011; Ho, 2016; Russell-Pinson & Harris, 2019). One of the findings commented on in the results chapter was the average medium-low level of writing anxiety. Even though this level of writing anxiety is not remarkably detrimental, it is not as desirable as it could be. As mentioned previously, out of the six journey plot case studies, only Participant 4 reported a significantly high level of writing anxiety in his ECMQ. Unfortunately, the scarce number of writing anxiety codes in all the journey plots did not allow to identify shared reasons for and/or consequences of the writing anxiety episodes entailed in the AWRPP process. Additional studies on the matter are thus recommended. In addition, consistent with Ho's (2016) findings in a study on the development of writing anxiety in doctoral writers, the averages of the different quartiles in the present study suggest that, in general, writing anxiety levels follow a decreasing fashion as AWRPP experience grows. Nonetheless, the scatterplot analysis and the hefty standard deviations mentioned in Chapter 4 indicate that the impact of AWRPP experience in writing anxiety could not be gradual for some EAL scholars. There is room for further progress in determining if those experienced researchers with medium-low levels of writing anxiety had high levels when they started their academic career or if further individual and external factors have a significantly higher effect on writing anxiety reduction than AWRPP experience.

The data obtained by means of the ranking of average responses to individual items of the ECMQ revealed that, in line with earlier findings (Jebreil et al., 2015), avoidance is the least common behavior and/or consequence of academic writing anxiety in the participants of the present study. Average levels of somatic writing anxiety seem to be slightly higher than avoidance behavior. Cognitive writing anxiety is, on average, the most common type of writing anxiety. Some participants reported often worrying that their academic English writing skills might not be as good as their colleagues' and that they may use expressions and sentence patterns improperly or that the ways they express and organize their ideas do not conform to the norm while writing in academic English. These findings are in accordance with previous studies such as Jebreil, Azizifar & Gowharya (2014) and Jebreil et al. (2015), the former of which further found that males suffer from cognitive academic writing anxiety more than their female counterparts. Even though as mentioned before the number of writing anxiety codes in the journey plots was limited, some preliminary findings could be drawn in these regards based on them. For instance, reported strong episodes of anger and frustration when dealing with unfamiliar tools and methods and when facing disagreements with coauthors could possibly be a consequence of cognitive anxiety. EAL scholars' low emotional values when reviewing one's paper and when dealing with publishing pressure —which have been widely documented in the EAP literature (e.g. Curry & Lillis, 2004; Lillis & Curry,

2010; Ferguson et al., 2011; Pérez-Llantada et al., 2011)— could also be a consequence of this type of writing anxiety. In addition, tedious tasks could increase the levels of behavioral anxiety in future AWRPP scenarios. Some of these outcomes also match those of Russell-Pinson and Harris (2019), who likewise confirmed that interpersonal and non-academic stressors can strongly hamper the academic writing process.

The resources used by EAL scholars to overcome threats to writing self-efficacy and the possible role of experience

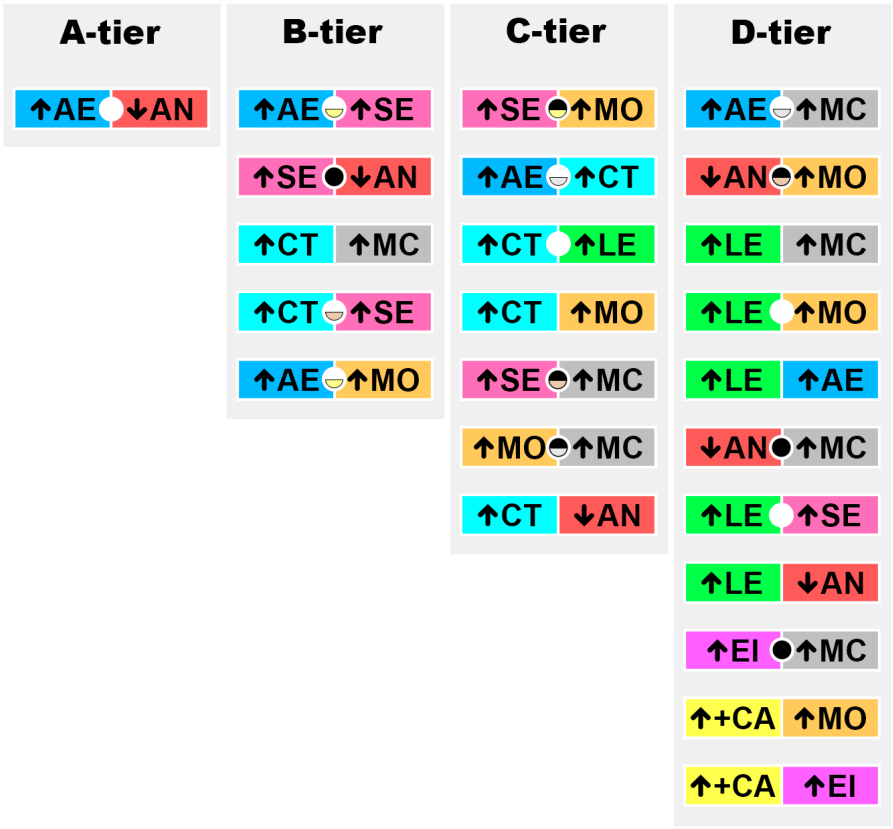
Previous studies on English-native doctoral students such as Forester et al. (2004) and on EAL doctoral students such as Ho (2016) have established the direct correlation between writing self-efficacy, the use of metacognitive writing strategies and academic writing skills and performance in academic writing settings. According to the responses to the ECMQ in the present study, participants' writing self-efficacy levels appeared to be, on average, medium to medium-high. This finding suggests that there is still room for improvement regarding this construct, which could help EAL academics to overcome the frustration and lack of confidence regarding the dominance of English in academia reported in some studies such as Curry and Lillis (2004), Pérez-Llantada et al. (2011) and Corcoran et al. (2019). Furthermore, in accord with Ho's (2016) conclusions, who found that academic and research writing self-efficacy might develop as experience is gained, the findings of the present study also show that there might be a gradual development of writing self-efficacy as AWRPP experience is gained. Nevertheless, parallel to what happened with writing anxiety, the scatterplot analysis and the relatively larger standard deviation in Q2 suggest that AWRPP experience could work as an equalizer concerning writing self-efficacy. This means that, in general terms, those junior researchers with high self-efficacy levels would stay high as their AWRPP experience grows, whereas those with lower levels of the construct would gradually improve in this regard as their years of AWRPP increase.

The existing literature (Lam & Kirby, 2002; Zeidner et al., 2004; Prat-Sala & Redford, 2010; Huerta et al., 2016) has suggested that there is a positive correlation between writing self-efficacy and increased levels of persistence, hard work and productivity in writing. In this line, the results of the present survey show that average medium levels of writing self-efficacy are connected with the procrastination of written tasks. This is one of the reasons why, confirming the findings of previous studies (see references above), those events which marked the end of procrastination such as planning and designing a study or starting the writing process were linked with high emotional values and coded as enactive and/or emotive, medium-generality self-efficacy boosters. Similarly, Hanley et al. (2015) reported that mindfulness and positive reappraisals —both linked to emotional intelligence— are positively correlated with academic self-efficacy following a perceived failure. This finding seems to be confirmed by the journey plot of Participant 1, who, as shown in the results chapter, encountered numerous potential self-efficacy threats such as receiving negative reviews from coauthors and/or

reviewers, dealing with unfamiliar tools and methods, and writing about such unfamiliar methodology. In spite of these potential threats, Participant 1's self-efficacy level was medium. A possible reason for this score might be his mid-high level of emotional intelligence.

5.4. On the correlation between constructs

Data obtained via the ECMQ helped to confirm and expand a significant number of the construct correlations found in the existing literature. In order to have an overview of the data reported in detail in Section 4.5 of the results chapter, Fig. 5.2 summarizes the different correlations between constructs found in the present study. The correlations in Fig. 5.2 are divided in tiers according to the strength of the correlation (Pearson's *r* value) as explained in Table 4.6 in Section 4.5. This means that the A-tier correlation stands for a very strong correlation ($x \geq .700$ or $x \leq -.700$), B-tier correlations are strong correlations ($.700 > x \geq .600$ or $-.700 < x \leq -.600$), C-tier correlations are medium strength ones ($.600 > x \geq .500$ or $-.600 < x \leq -.500$), and D-tier correlations are limited ones ($.500 > x \geq .300$ or $-.500 < x \leq -.300$). Very limited correlations ($.300 > x > -.300$) are not represented in Fig. 5.2. Following the explanations found in Section 2.10 and similar to what happened in Fig. 2.6, a white circle between constructs in Fig. 5.2 means that those constructs have been connected in the psychology literature. A black circle means that those constructs have been linked by existing studies on the psycholinguistics field. If a circle —either black or white— has the lower half colored, it means that the correlation between the two constructs was also found in the code co-occurrence analysis of the journey plots in the present study (as reported previously in Table 4.16 in Section 4.9). The color of those lower halves represents the strength of that co-occurrence as explained in Table 4.16. Thus, goldish yellow represents the stronger co-occurrences ($c \geq 0.3$), then followed by silvery grey ($0.3 > c \geq 0.2$), and finally bronzy brown ($0.2 > c \geq 0.1$). Co-occurrence coefficients under 0.1 are not represented in Fig. 5.2.



▲Fig. 5.2. Overview of results: tiered construct correlation.

A-tier correlations

Achievement emotions and anxiety had already been connected in Pekrun's (2006) Control-Value Theory of Achievement Emotions theoretical model. Pekrun underlines that anxiety and hopelessness —an emotion which can be connected with anxiety— are negative achievement emotions that result from a prospective focus on the outcome of an activity. This theoretical connection between the constructs has, to the best of my knowledge, never been proved in any psycholinguistic study. The findings of the present thesis suggest that there is a very strong, negative correlation between writing anxiety and writing achievement emotions in AWRPP. It can be hypothesized that low writing achievement emotions can cause writing anxiety, which in turn will hamper the academic writing process (cf. Badenhorst, 2010; Rungruangthum, 2011; Ho, 2016; Russell-Pinson & Harris, 2019) and thus will keep lowering achievement emotions in future academic writing scenarios (cf. Pekrun et al., 2014; Pinxten et al., 2014; Pekrun et al., 2017; Putwain et al., 2018). However, further work is required to establish if this correlation is bi- or unidirectional in the case of AWRPP and to what extent the connection may be causational and in which direction.

B-tier correlations

First, in line with previous studies on the correlation between self-efficacy and achievement emotions (Lent et al., 2003; McCarthy & Goffin, 2004; Raccanello, 2008; Weinstein et al., 2002; Raccanello, 2015), the present study also found a strong, direct correlation between these two writing constructs that confirms the theoretical likenesses found between the Control-Value Theory of Achievement Emotions (Pekrun, 2006) and Bandura's (1977) self-efficacy theory. Interestingly, this correlation was strongly reflected in the code co-occurrences of the six journey plots analyzed.

Second, the large body of existing research on the relationship between writing anxiety and writing self-efficacy (e.g. Pajares & Valiante, 2006; Woodrow, 2011; Stewart et al., 2015; Aula-Blasco, 2016; Huerta et al., 2016; Han & Hiver, 2018) is consistent with the strong, indirect correlation found in the present study. Previous findings also suggest that high self-efficacy efficacy levels can help to lessen the impact of writing anxiety in academic writing (Woodrow, 2011; Han & Hiver, 2018). This outcome was confirmed by the analysis of the journey plots, which showed how subjects with higher levels of writing self-efficacy were able to deal with writing anxiety episodes better and more efficiently than those subjects with lower writing self-efficacy scores.

Third, the conceptual likeness found between Bandura's (1977) 'verbal persuasion' —a source for self-efficacy beliefs— and the ability to understand and deal with criticism coming from others, which Cottrell (2011) listed as a characteristic of critical thinkers, has been further confirmed in the present study. A strong, direct correlation has been found between writing self-efficacy and writing critical thinking in AWRPP. Ennis (e.g. 2011a, 2011b, 2015, 2018) explains that an optimal critical thinker should be able to do a list of ten things which include, among others, assessing the credibility of sources and the quality of arguments, developing and arguing for a position on a given topic, and being bell informed. Likewise, Cottrell (2011) considers that critical thinkers should also take different perspectives and be objective, among other criteria. It is thus possible to hypothesize that if an individual is able to do all —or most— of the requirements for adequate critical thinking listed by Ennis and by Cottrell, they will consequently have high self-efficacy beliefs. This high level of self-efficacy could possibly result, in the long run, in an over-estimation of one's reasoning abilities that could hamper writing critical thinking in future scenarios.

Fourth, the theoretical correspondences between the Self-Determination Theory on motivation (Deci & Ryan, 1985; Vallerand et al., 1998; Ryan & Deci, 2000) and the Control-Value Theory of Achievement Emotions (Pekrun, 2006) seem to support the findings of the present study. A strong, positive correlation has been identified between writing motivation and writing achievement emotions in the responses of the participants. These two constructs also seem to strongly co-occur in the coding of the six journey plots. This finding is also in accord with earlier theoretical and practical studies (Pekrun, 2006; Artino et al., 2010; Pekrun & Perry, 2014; Butz et al., 2016; Jarrell & Lajoie, 2017).

Similar to what happened with the A-tier correlation mentioned in the previous subsection, additional studies are needed to develop a full picture of the directionality of most of these B-tier correlations —all except the one between writing anxiety and writing self-efficacy— and the possibility of causational connections in specific contexts, scenarios, genres and/or individuals.

C-tier correlations

First, based on participants' responses, a significant, direct correlation was found between writing self-efficacy and writing motivation. This finding further supports the idea of self-efficacy being a core motivational factor (Bandura, 1977). As reported in the results chapter, data obtained via journey plots —where the construct codes strongly co-occurred— also suggest that those subjects with higher writing self-efficacy are able to overcome potential threats to motivation easier than those individuals with lower writing self-efficacy. This seems to be consistent with previous studies that have also found that a high self-efficacy level promotes challenge endurance and goal establishment and increases the perceived value of writing and the likelihood of engaging in writing undertakings (Bandura, 1977; Bouffard-Bouchard et al., 1991; Zimmerman & Bandura, 1994; Pajares & Johnson, 1996; Pajares & Valiente, 1997; Torrano & González, 2004; Gore, 2006; Gil et al., 2009; Méndez & Peña, 2013; Surastina & Dedi, 2018). Furthermore, results obtained in the present study corroborate the bidirectionality of this correlation proposed by studies such as Gil et al. (2009) and Han and Hiver (2018).

Second, the significant, direct correlation found between writing achievement emotions and writing critical thinking goes in line with the unidirectional influence found in the literature (Isen, 2000; Pekrun, 2006; Cottrell, 2011), as positive achievement emotions boosts flexible and creative strategy use, thus helping to develop critical thinking. It could conceivably be hypothesized that this correlation might be bidirectional, as some of the characteristics of critical thinking such as assessing the quality of an argument, drawing conclusions cautiously, taking different perspectives, and not misunderstanding criticism (Cottrell, 2011; Ennis, 2011a, 2011b, 2015, 2018) could be used, by means of emotional intelligence, as a way to promote prospective positive achievement emotions towards future AWRPP tasks. However, no solid evidence has been found to date that can confirm this hypothesis, neither in the literature nor in the journey plots.

Third, the theory-based bidirectional connection between critical thinking and leadership found when comparing the work of Burns (1978) and that of Cottrell (2011), seems to be supported by the significant, positive correlation between the two writing constructs reported in the present study. The findings of the present study suggest that writing critical thinking and writing leadership correlate in individuals who are open-minded, creative, clear and precise, who possess advanced problem-solving skills, and who are able to assess their colleagues' —written— work and provide recognition when necessary.

Fourth, as explained in Chapter 4, a significant, direct correlation between writing critical thinking and writing motivation was found in the participants of the present study. This correlation was stronger in the code co-occurrence among the six journey plots. Being able to recognize conclusions, reasons and assumptions, assess the appropriateness of arguments and evidence, and not over-estimating one's abilities —all characteristics of critical thinkers (Cottrell, 2011; Ennis, 2015, 2018)— appear to be useful when dealing with potential threats to motivation in AWRPP such as receiving negative feedback from coauthors or being rejected for publication. Due to the lack of literature on the relationship between these two constructs, further studies will be needed to see if this finding is replicated.

Fifth, writing critical thinking and writing anxiety seem to be significantly, indirectly correlated according to data provided by the participants of the present study. Even though, to the best of my knowledge, there are no studies on the relationship between these two constructs to confirm —or contradict— this finding, it is possible to hypothesize about the bidirectionality of this correlation. Consistent with the literature (Jebreil et al., 2014; Jebreil et al., 2015; Russell-Pinson & Harris, 2019), those participants in the present study with high levels of writing anxiety seem to worry especially about their academic English writing skills, causing cognitive writing anxiety. These high levels of writing anxiety can cause uneasiness, anger or negative expectations (Cheng, 2004) and they have also been found to be detrimental for overall academic writing performance in both English-native (Sosin & Thomas, 2014; Casanave, 2016; Russell-Pinson & Harris, 2019) and EAL doctoral students (Badenhorst, 2010; Rungruangthum, 2011; Ho, 2016; Russell-Pinson & Harris, 2019). It can be hypothesized that all these problems resulting from high levels of anxiety could, in turn, gradually diminish critical thinking (Tsui, 2002; Cottrell, 2011; Brookfield, 2012; Sahoo & Mohammed, 2018) in the AWRPP process by means of mental blocks, lack of attention to details and the inability to objectivize one's abilities and achievements.

The impact of emotional constructs in writing metacognition

Writing metacognition has been widely linked to better academic writing outcomes across multiple higher educational contexts (Lv & Chen, 2010; Negretti & Kuteeva, 2011; Mair, 2012; Yeh, 2015; Karlen, 2017; Negretti, 2017; Negretti & McGrath, 2018). In the light of this finding, it seems desirable to promote high levels of any emotional construct that is directly correlated with the use of metacognitive writing strategies.

First, a strong, positive correlation has been found between writing critical thinking and writing metacognition. This finding broadens the work of other studies in this topic, which found that critical thinking boosts creativity, objectivity and logic, triggers the use of problem-solving skills, and develops scientific soundness in academic writing (Perkins et al., 1993; Tsui, 2002; Facione & Facione, 2008). Participants' willingness to change their academic English writing in order to achieve as much precision as possible

—a critical thinking skill— could be a reason for the high use of metacognitive writing strategies concerning revision and correction in the AWRPP process.

Second, the comparison of the outcomes of the present study with those of previous studies on the impact of writing self-efficacy on writing metacognition in the academic writing process entailing undergraduate and graduate students (e.g. Woodrow, 2011; Sanders-Reio et al., 2014; Ashrafi-Rizi et al. 2015; Stewart et al., 2015; Ho, 2016; Huerta et al., 2016; You, 2018) confirms that the use of metacognitive writing strategies is significantly, directly correlated with writing self-efficacy also in AWRPP settings. However, a note of caution is due here, as the reported correlation is not as strong as in other studies. Identifying if this more moderate correlation is a characteristic of AWRPP or is a sample-related finding of the present study is an important issue in future investigations. In addition, it has been found that participants are especially aware of the usefulness of planning and revision —a part of writing metacognitive knowledge. This could explain why participants' writing self-efficacy was higher regarding being able to write a well-organized research paper and correcting possible mistakes in their drafts even though some self-efficacy threats were found in the revision stage of AWRPP as a consequence of the request of different *literacy brokers* (cf. Lillis & Curry, 2006) —e.g. revising a paper according to coauthors' or editors' negative feedback.

Third, consistent with the literature (Pintrich, 2000; Wen, 2001; Bernaus & Gardner, 2008; Han & Lu, 2018), the findings of the present study tentatively confirm that there is also a significant, direct correlation between writing motivation and writing metacognition in the AWRPP process. As mentioned previously, extrinsic motivation was more present in the participants than intrinsic motivation. Unfortunately, it was not possible to identify if the higher levels of extrinsic motivation were connected with achieving success or avoiding failure in order to compare the findings of the present study with those of Han and Lu (2018), who suggest that the former is a more significant predictor of writing metacognition than the latter.

Fourth, as seen under the D-tier umbrella in Fig. 5.2, the present study revealed some significant, but weaker, correlations between writing metacognition and other emotional constructs. In this respect, it is worth noting that the direct correlation with writing achievement emotions is in line with previous theoretical studies that suggested that positive achievement emotions promote the use of metacognitive writing strategies (Isen, 2000; Wolters, 2003). The findings also indicate that those event that trigger positive achievement emotions have a more lasting effect in participants' writing achievement emotions levels than negative ones. It can thus be suggested that positive achievement emotions could have a heftier impact in long-term writing metacognition than negative achievement emotions. Likewise, writing metacognition has also been found to be negatively correlated with writing anxiety. This finding matches those of earlier work (Woodrow, 2011; Sander-Reio et al., 2014; Ho, 2016), which also found that writing anxiety in academic contexts appears to have a weaker impact on writing metacognition than other emotional constructs. To the best of my knowledge, the direct correlation between writing metacognition and writing leadership found in the present

study has not been reported elsewhere in the literature. The use of visual support in participants' papers and letting their colleagues know how they think their AWRPP process is doing —both characteristics of effective writing leadership— seems to be correlated with high levels of writing metacognition in the stages of planning and revision. Finally, the present study has been unable to confirm the possibility of writing metacognition and writing emotional intelligence being strongly correlated, which was proposed after analyzing the work by Negretti and Kuteeva (2011) and Negretti (2012). However, the D-tier correlation between these two constructs might be in agreement with these authors, as they suggested that metacognitive awareness of the rhetorical aspects of writing could be connected with self-regulatory strategies —a small part of emotional intelligence— and not with all the aspects encompassed in writing emotional intelligence.

The case of AWRPP experience

An initial objective of the present thesis was to identify and assess the impact of AWRPP experience on writing metacognition and writing emotional constructs. Unfortunately, this study has been unable to demonstrate a strong correlation between experience and any construct. Indeed, most correlations were not even reported to be significant (as seen in Table 4.6 in Section 4.5). Nonetheless, some outcomes might be useful as preliminary findings for future research on academic writing experience. These findings must thus be interpreted with caution, as they might be a consequence of sampling. First, the level of positive writing achievement emotions does not seem to diminish as age and experience grows, but it appears to be more connected with individual differences across subjects. This finding is contrary to that of previous psychology literature entailing participants ranging from kindergarten to university students (Pekrun & Stephens, 2012; Raccanello et al., 2013; Raccanello, 2015). Second, the importance of intrinsic motivation seems to be limited in EAL academics —in favor of extrinsic goals. In this respect, this finding corroborates Ryan and Deci's (2000) idea that intrinsic goals tend to lessen as an individual enters adulthood. Third, based on quartile averages and consistent with the literature (Huwari & Aziz, 2011; Ho, 2016), it can be inferred that there is a possible progressive dwindle of writing anxiety and a gradual increase of writing self-efficacy average scores as AWRPP experience is gained.

Perhaps the most salient empirical finding regarding the impact of AWRPP experience in writing metacognition and writing emotional constructs emerged from the analysis of the scatterplots included in the SPLOM. As explained in Section 4.5, the progressive increase of beneficial writing emotional constructs and the gradual decrease of writing anxiety according to quartile averages seems to be a consequence of the disappearance of participants with low levels of those constructs —high levels on the case of anxiety— as AWRPP experience grows, especially in those academics with more experience. Given this, it is possible to hypothesize that AWRPP experience works as a leveling agent for writing metacognition and writing emotional constructs. This means

that, on the one hand, experience would help to overcame low levels of writing self-efficacy, writing motivation, writing achievement emotions, writing critical thinking, writing emotional intelligence, and writing leadership —especially in the long run— and would also help to diminish higher levels of writing anxiety in EAL scholars. On the other hand, this means that those less-experienced academics —e.g. junior researchers— with high levels of writing metacognition and/or any writing emotional construct could use AWRPP experience as a way of strengthening those high levels.

5.5. On the use of journey plots as a research instrument

The number of existing previous studies that comprise journey plots in their methodology (Shaw et al., 2008; Sala-Bubaré & Castelló, 2015; Turner, 2015; Petric, 2017) is, to the best of my knowledge, limited. These studies use journey plots retrospectively in an interview with the subject. As explained in Section 3.3, this was deemed potentially problematic since it was observed that the information obtained is generally vague and the actual intensity of the emotions might be diminished or lost.

Confirming the initial hypothesis, the findings of the present study reported in Chapter 4 confirm that *online* journey plots gather significantly richer and more detailed information regarding both the emotional appraisals and the explanation for their cause accompanying them. As commented previously, rhythm in *online* journey plots —i.e. the number of points depicting emotionally-charged events— proved to be considerably higher than in retrospective ones. This finding is strengthened by the journey plots of those subjects who filled in theirs partly retrospectively and partly *online*. Within these journey plots, retrospective points had less rhythm and retrieved less information than *online* points. Furthermore, in some cases, tempo and intensity is also notably lower in retrospective points than in *online* ones. It could therefore be argued that *online* journey plots are more difficult to sustain in scenarios that span across multiple years such as PhD thesis writing (Sala-Bubaré & Castelló, 2015) and PhD supervision (Turner, 2015; Petric, 2017). However, this does not discredit the benefits of *online* journey plots.

Prospective points did not show such a diversion from *online* responses as retrospective ones did. Nonetheless, prospective data must be interpreted with caution because it does not represent actual emotional appraisals and events, but a prediction of them. Even though prospective data in journey plots seem to be more untrustworthy than retrospective ones, additional studies would be required in order to develop a full picture of this topic. Being able to interview the subject —or share some emails with them— after the completions of their journey plot seems to be a good practice even when dealing with *online* responses.

Regarding the reliability of journey plot responses, the data retrieved via this instrument matched the information gathered with the questionnaire. Subjects' scores to the different construct scales of the ECMQ seem to be in line with the data reported in the journey plots and the coding of them. This is especially the case of *online* responses,

as their richness allows a more detailed coding process. The scarce number of contradictions between journey plot data and questionnaire data were limited to single isolated emotional constructs and could be a consequence of the subjective and elusive nature of *state* psychological factors and emotional appraisals. Thus, it seems possible to recommend the use of *online* journey plots in future psycholinguistics studies, both as a triangulation method to quantitative tools and as a main research instrument.

Chapter 6
Conclusion

The main insight learned from interdisciplinary studies is the return to specialization.
—George Stigler (*The Essence of Stigler*, 1986)

This thesis set out to examine and evaluate the possible correlations between writing anxiety, writing self-efficacy, writing motivation, writing achievement emotions, writing core affect, writing critical thinking, writing emotional intelligence, writing leadership, the use of metacognitive writing strategies, and AWRPP experience in EAL scholars. In order to do so, quantitative data were obtained from 224 Spanish EAL academics via a 53-item, 5-point-Likert questionnaire (the Emotional Constructs and Metacognition Questionnaire). The data were then triangulated by means of six case studies, who filled in a journey plot regarding the AWRPP process of one of their research papers. Journey plots provided valuable qualitative data —as well as quantitative data— that helped to identify, clarify and better understand the reasons behind a number of findings granted by the questionnaire.

By combining the results of the present study with the existing literature on the fields of psychology, linguistics and psycholinguistics, it was expected to develop a state-of-the-art preliminary framework that will hopefully help to identify gaps in the literature, future research opportunities, and confirmed correlations between the constructs mentioned before. This chapter brings together the main findings of the present thesis and, based on them, provides potential implications for education and artificial intelligence, discusses the limitations of the study, and gathers the recommendations for future work stated across the previous chapter.

6.1. Looking back to the findings

With respect to Research Questions 1 and 2 (i.e. *RQ1. To what extent are the constructs of writing anxiety, writing self-efficacy, writing motivation, writing achievement emotions, writing core affect, writing critical thinking, writing emotional intelligence, and writing leadership related to EAL researchers' use of metacognitive writing strategies in EWRPP scenarios?* and *RQ2. What are the correlations between writing anxiety, writing self-efficacy, writing motivation, writing achievement emotions, writing core affect, writing critical thinking, writing emotional intelligence, and writing leadership, the use of metacognitive writing strategies, and AWRPP experience?*), the present thesis has identified that participants' use of metacognitive writing strategies is more common in the planning and revision stages of the AWRPP process. The unconscious nature of the metacognitive processes of monitoring and regulating cognition is supported by the current findings. It has also been found that the average mid-high level of writing metacognition correlates in the participants with a mid-high level of writing critical thinking. Qualitative data revealed

that open-mindedness, precision-seeking behaviors and problem-solving skills were generally present in the participants. The dimension of writing critical thinking with lowest scores concerned being aware of the feelings and level of knowledge of the potential readers of one's text. As explained earlier in this PhD thesis, this finding is in accord with the generalized low level of writing emotional intelligence found in the participants. The results showed that the analyzed EAL scholars use a limited amount of resources to evaluate and manage their feelings both before, during, and after the writing process. It was also found that a significant number of participants seemed to believe that their feelings have little impact on their AWRPP process. Nevertheless, this study confirmed that this belief is far from the truth, as data retrieved via journey plots indicated that the AWRPP process is full of emotionally-charged episodes that influence the way scholars perceive their research papers, their academic English writing skills, and even their colleagues and coauthors.

In line with the impact of feelings in the AWRPP process, the investigation of writing core affect showed that there is a set of feelings that positively correlate with better and more efficient academic writing than other feelings. Feeling energetic, enthusiastic, happy, serene and/or calm is more desirable for the AWRPP process than feeling tired, gloomy, sad, upset and/or jittery. A significant finding to emerge from the present study is that the effects of neutral core affect and/or *positive* —i.e. desirable— core affect feelings generally outweighs the effect of *negative* feelings in the short run. It has also been identified that *positive* core affect feelings have a more substantial medium and long-term positive effect than *negative* core affect feelings both in the AWRPP process and in academics' levels of beneficial writing emotional constructs.

Another main finding deriving from the present study is that participants' writing motivation sources appeared to be mainly instrumental and integrative. As explained previously, a significant number of the analyzed EAL academics reported writing their research papers in English due to the language's linguistic dominance in science, as writing in Spanish —their mother tongue— would be more efficient and less stressful for them than using English. The data obtained via journey plots proved useful to identify a number of threats to participants' motivation such as receiving negative feedback from coauthors and journal reviewers (which was also a threat to writing self-efficacy and writing achievement emotions), meeting deadlines and feeling the pressure to publish (which also caused higher levels of writing anxiety), dealing with tedious revising tasks, and encountering linguistic difficulties while writing. The detrimental medium and long-term effects of these threats to writing motivation seem to be significantly weaker in those scholars with higher levels of intrinsic motivation.

A further relevant finding of the present study is that even though, generally speaking, the analyzed EAL academics' belief that their academic English writing skills are sufficient to meet journal standards, some of them are not particularly proud of those skills. In addition, qualitative data revealed that, during the AWRPP process, most episodes provoking negative achievement emotions are usually followed by episodes of positive achievement emotions and/or a short-term switch to neutral or *positive*

emotions. As noted previously, this supports the positive role of some feelings related to writing core affect mentioned before. However, it was also identified that this relatively swift switch to neutral or *positive* states does not often happen in participants with low levels of writing achievement emotions, motivation, and self-efficacy. Questionnaire data revealed that writing achievement emotions levels tend to increase with AWRPP experience, as more academic achievements are accomplished. Similarly, writing leadership scores in interpersonal AWRPP scenarios was also found to increase as AWRPP experience grows. Regarding leadership styles found in social academic writing, according to the data from the questionnaire it seems that transformational leadership has a significant presence in those scholars with high leadership levels. Transactional tints were also found in some participants' academic writing leadership styles. This suggests a generalized adequate combination of transformational and transactional behaviors that strengthens as AWRPP experience increases.

Concerning writing anxiety, the data showed that avoidance behaviors and somatic anxiety seem to have no significantly strong impact in most participants' AWRPP process. Nonetheless, cognitive writing anxiety —which, as reported earlier, negatively correlated with writing achievement emotions— was found to emerge from feeling the pressure to publish, facing disagreements with coauthors, and when dealing with time-consuming revision tasks if they were perceived as unnecessary or ineffective. It is likewise important to underline that the outcomes of the present study also show that writing anxiety levels indirectly correlate with participants' writing self-efficacy scores. Higher levels of self-efficacy were identified regarding EAL scholars' ability to write a well-organized research paper, apply English grammar and punctuation rules, write grammatically correct sentences, deal with unforeseen writing difficulties, and correct mistakes found in their earlier drafts. Even though the procrastination of the AWRPP process does not seem to have long-lasting anxiety issues, boosted self-efficacy episodes tend to ensue the outset of the writing process after dealing with mid- and long-term avoidance behaviors.

It was also found that writing metacognition directly correlates with other emotional constructs apart from writing critical thinking –which was mentioned at the beginning of this section. Less strong positive correlations were found between writing metacognition and emotional constructs such as writing self-efficacy, writing motivation, writing achievement emotions, writing leadership, and writing emotional intelligence. Similarly, an indirect correlation was identified between writing metacognition scores and writing anxiety levels. In response to Research Question 3 (i.e. *RQ3. To what extent does experience in AWRPP help to increase or decrease EAL researchers' level of writing anxiety, writing self-efficacy, writing motivation, writing achievement emotions, writing core affect, writing critical thinking, writing emotional intelligence, and writing leadership, and writing metacognition?*), the analysis of the impact of AWRPP experience on the use of metacognitive writing strategies and on emotional constructs revealed that there is not a clear correlation between these and experience. However, it was found that AWRPP experience could work as a levelling agent that helps to develop low levels of

writing metacognition and desirable emotional constructs in those EAL academics with originally low levels.

Finally, in response to Research Question 4 (i.e. *RQ4. From a methodological perspective, do journey plots retrieve rich and valuable information regarding the influence of emotional constructs and writing metacognition in AWRPP? Is there any difference between data collected using journey plots and data gathered via questionnaires?*), this thesis provided a deeper insight into the use of journey plots as an ethnographic research method to measure emotional constructs in the psycholinguistics field. The present study found that *online* journey plots are better at gathering rich and detailed data regarding the emotional appraisals entailed in the writing process and the reasons behind them than retrospective and prospective journey plots. Even though journey plots per se were found to retrieve data that matches the one obtained via questionnaire, having an interview with the subjects —or keeping contact with them in person or by email— after the completion of the journey plot is strongly recommended in order to clarify potential misconceptions.

Having explained the significance of the findings and the main contribution of the present PhD study, in the following sections implications, limitations of the study and areas for future research are addressed.

6.2. Implications

Implications for academic writing education

Being one of the aims of this thesis to explore the impact of emotional constructs in AWRPP writing metacognition, which has been widely proved to significantly improve the quality of writing outcomes and performance (e.g. Maarof & Murat, 2013; Maftoon et al., 2014; Ong, 2014; Stewart et al., 2015; Karlen, 2017; Farahian & Avarzamani, 2018), the findings of the present study can be valuable to academic writing course designers and teachers. Integrating the emotional factor in EAL academic writing courses could not only help in boosting the quality of participants' writing, but also in improving their perception of EWRPP and the publication process and even their overall quality of life.

In line with the literature of EAP and ESP teaching (Flowerdew, 2000; Curry & Lillis, 2004; see also Tang, 2012 for an overview), some qualitative findings of the present study confirm the need to establish integrated collaborations between language specialists and subject specialists when designing EAL academic writing courses for scholars. These partnerships, which would also benefit language specialists, have the potential of aiding —both linguistically and emotionally— to those subject specialists entailed in the course design and those academics on the receiving end alike. For the former, an increase of writing metacognition could be expected, as language specialists might indirectly raise their metacognitive awareness regarding academic English and writing. Likewise, when evaluating the outcomes of the course, subject specialists could also engage in different types of *action research* (Wallace, 1998; Hyland, 2003) concerning field-specific academic

writing. In addition, emotional benefits for these subject specialists could encompass a boost of achievement emotions and motivation that may impact their own AWRPP performance. For the latter, that is, those academics receiving the course, an integrated collaboration in the course design would grant them the chance to work on their academic writing skills while dealing with state-of-the-art, field-specific genres —which may difficult to grasp for a language specialist alone. This could increase EAL scholars' writing motivation and self-efficacy, as they feel that they are aware of the linguistic challenges entailed both in traditional and emerging academic genres.

As a consequence of the apparent challenges the sample population of this PhD study reported regarding emotional intelligence, another important practical implication is that of overcoming the "emphasis (…) on the individual writer" that prevails nowadays in academia (Lillis & Curry, 2016, p.213) by means of group writing. By placing emphasis on the social dimension of academic writing, not only writing emotional intelligence in relation to others can be boosted, but it may also foster integrative writing motivation and broaden the available catalogue of writing strategies for an EAL scholars, as they may receive ideas on different strategies that have proved useful for their colleagues in previous academic writing scenarios. This focus on group writing, which can also be undertaken within research groups, departments, or other peer associations, has been found to increase writing self-efficacy and reduce writing anxiety (Belcher, 2009; Aitchison & Guerin, 2014; Murray & Thow, 2014; Goodson, 2017; Russell-Pinson & Harris, 2019). Furthermore, Cargill and O'Connor (2013, p.117-121) provide a useful set of strategies and activities aimed at developing group writing such as setting journal clubs, selecting feedback strategies for different purposes, becoming a journal reviewer, and training for responding to reviewers, which can have a positive impact in writing emotional intelligence, writing critical thinking, and writing leadership. In regard to the latter, the social nature of academic writing also plays a major role in the development of writing leadership. The establishment of leadership networks within an academic community has the potential to provide peer-advice and effective resources and boost professional development (Hoppe & Reinelt, 2010; Berman, 2015) which can, in turn, result in increased levels of transformational leadership in AWRPP scenarios.

The outcomes of this thesis also suggest that greater efforts are needed to bring all or some of the writing emotional construct levels in a large number of EAL academics to more desirable, higher ones —lower in the case of writing anxiety. Being aware of individual and group *emotional writing* needs is thus necessary so as to address which emotional constructs require more attention regarding the academic writing process of that individual or group. Some recommendations to develop writing achievement emotions provided by the literature (Pekrun, 2006; Pekrun, Frenzel, Goetz & Perry, 2007; Butz et al., 2016) include matching task demands with the scholars' *zone of proximal development* (Vygotsky, 1978) in order to increase their sense of control and their positive values, endorsing both autonomous and cooperative writing, providing frequent and detailed feedback, and even dealing directly with emotions in the course syllabus. This direct approach towards the emotions of academic writing may also have the benefit of

increasing scholars' emotional intelligence (Clarke, 2010; Hen & Sharabi-Nov, 2014). In addition, low and moderate levels of writing self-efficacy could also be improved by means of positive feedback focused on making the most out of failures and, as recommended by DeBrine-Mascle (2013), by gradually transferring writing task control from the course teacher to the scholars. Furthermore, in order to increase academics' integrative and intrinsic writing motivation, which the present study has found to be low in some participants, I would align with what Lin et al. (2015, p.412) recommend, namely, "conceptualiz[ing] (…) English research-article writing as an identity-seeking process in which a future identity of English L2 researchers could be obtained by writing research articles acceptable to their disciplinary communities." Finally, in the light of the findings of this thesis regarding the beneficial role of *positive* core affect feelings, there seems to be a definite need for creating a learning atmosphere that fosters feelings such as excitement, enthusiasm and satisfaction among participating academics.

Regarding the implications for the selection of teaching materials for EAL academic writing courses, the use of case studies —such as the ones included in Casanave (2002), Curry and Lillis (2004) and Corcoran et al. (2019), to name a few— is a viable recommendation in order to address the importance of emotions in academic writing. Case study research on individuals' trajectories can be very helpful in showing to an EAL scholar that the emotional difficulties encountered in their AWRPP process are shared with other colleagues and can provide them with problem-solving skills for future academic writing scenarios. This has the potential of increasing writing emotional intelligence, writing motivation, writing self-efficacy and writing critical thinking at the same time that decreases writing anxiety resulting from procrastination or from facing difficulties while writing. Data-Driven-Learning (DDL) could be a recommended approach, as argued by earlier studies such as Swales and Feak (2012) and Pérez-Llantada and Swales (2017). Building a course using corpora of discipline-specific texts (e.g. Tribble & Wingate, 2013; Chen & Flowerdew, 2018) may also help to develop scholars' writing self-efficacy and writing motivation, as they feel that they are dealing with texts that have already been published —which is the final goal of every researcher.

Implications for artificial intelligence

Although this thesis focused on academic writing and psycholinguistics, the findings may well have a bearing on the field of artificial intelligence (AI). The wide-ranging psycholinguistic data gathered in the present study and the findings obtained from the quantitative and qualitative analyses, grounded on a comprehensive examination of the existing literature, have been extremely valuable in order to create the EMOWRI Framework. As explained in Section 5.1, this framework synthesizes visually the state-of-the-art regarding the psycholinguistics of writing research. By observing the main construct connection and correlation trends in the EMOWRI Framework and supporting it with the information contained in this thesis, the complex relationship between different emotional constructs and writing metacognition can be somehow 'simplified'.

This simplification process can be done via value normalization and clear-cut uni- and bidirectional correlations, causal inference diagrams, and Bayesian networks, among others. It is thus expected that the proposed ideas aid in the process of 'translating' the psycholinguistic outcomes of this thesis into 'simpler' suggestions for AI professionals to take over.

Developing an AI model of the EMOWRI Framework could be useful in several ways. For instance, creating prediction models could be of interest to course designers and even policy makers in the decision-making process so as to build context-specific courses and pass laws that boost the emotional wellness of EAL academics across different settings. Similarly, AI could help to understand which emotional constructs should be targeted and improved in order to assist a struggling writer by enhancing their writing metacognition and, ultimately, their writing outcomes. These suggestions seem mandatory, as a relatively recent report from the McKinsey Global Institute identified the education industry as mid-low digitized, labor-intensive sector which has "the potential to provide digital tools to their workforce" (Gandhi, Khanna & Ramaswamy, 2016). Finally, within the idea of strong AI, the EMOWRI Framework and the outcomes of the present thesis could be used to develop human-like AI behaviors regarding writing —including AWRPP— that take into account the deep impact of emotional constructs in the writing process.

As a way of a basic illustration, an individual (`Subject1`) with mid-high or high levels of writing achievement emotions (`AEscore`), writing anxiety (`ANscore`), writing critical thinking (`CTscore`), writing leadership (`EIscore`), writing motivation (`MOscore`), writing self-efficacy (`SEscore`) and writing metacognition (`MCscore`), with a medium level of writing emotional intelligence (`EIscore`), and which feels activated (`CA_active`) and pleased (`CA_please`) —based on their writing core affect— in one specific moment (`Subject1origin`), could be defined by means of values and Booleans as follows:

```
class Subject:

    def __init__(self, AEscore, ANscore, CA_active, CA_please, CTscore, EIscore,
LEscore, MOscore, SEscore, MCscore):
        self.AEscore = AEscore
        self.ANscore = ANscore
        self.CA_active = CA_active
        self.CA_please = CA_please
        self.CTscore = CTscore
        self.EIscore = EIscore
        self.LEscore = LEscore
        self.MOScore = MOscore
        self.SEscore = SEscore
        self.MCscore = MCscore

Subject1origin = Subject(0.82, 0.1, True, True, 0.71, 0.65, 0.75, 0.89, 0.9, 0.73)
```

The original definition of the subject could then be modified by one of the many factors or experiences described in this thesis. This modifier could be identified by means of external devices, expression analysis, speech recognition, natural language processing

and/or identification of pronunciation patterns, among others. If, for instance, as a consequence of this writing experience (`experience1`), writing anxiety levels seemed to increase from 0.1 to 0.15, a consequent 5% decrease of self-efficacy levels could follow —based on the EMOWRI Framework. This chain reaction would certainly be longer in real-life scenarios, but just as an example, it could be expressed in the following way:

```
Subject1experience1 = Subject(0.82, 0.15, True, True, 0.71, 0.65, 0.75, 0.89, 0.9,
0.73)

if Subject1origin.ANscore < Subject1experience1.ANscore:
    Subject1origin.SEscore = (Subject1origin.SEscore * -0.05) +
Subject1origin.SEscore

#print(Subject1origin.SEscore) reports a value of 0.855.
```

Similarly, if during a second writing experience (`experience2`) it is detected that the subject is sad and tired, this would mean that the subject's writing core affect is close to the displeasure and deactivation zones. This would be represented by Booleans `CA_active` and `CA_please` turning `False`. As a consequence of this writing core affect situation, it could be said that a hefty decrease (15%) of writing achievement emotions might follow. This reaction could be expressed as follows:

```
Subject1experience2 = Subject(0.82, 0.15, False, False, 0.71, 0.65, 0.75, 0.89,
0.86, 0.73)

if Subject1experience2.CA_active and Subject1experience2.CA_please:
    Subject1origin.AEscore = Subject1origin.AEscore
else:
    Subject1origin.AEscore = (Subject1origin.AEscore * -0.15) +
Subject1origin.AEscore

#print(Subject1origin.AEscore) reports a value of 0.697.
```

As simple as these examples are, it is hoped that they lay the foundations for far more complex AI models designed by AI interdisciplinary teams in the near future.

6.3. Limitations

Even though the outcomes of the present thesis are deemed satisfactory since it has been possible to provide a preliminary answer to all original the research questions, there are some possible limitations of this study that should be addressed in future research. The sources for these potential limitations are fourfold: *i.* the partially limited reliability of the shortest scales of the ECMQ, *ii.* the possible sampling issues, *iii.* the minor discrepancies between ECMQ scores and journey plot data, and *iv.* the failure to demonstrate any valuable correlation between AWRPP experience and writing metacognition or any emotional construct.

Regarding the first source, as explained in Sections 4.1 and 5.1, those scales of the ECMQ dealing with writing core affect, writing emotional intelligence and writing motivation did not meet Nunnally's (1978) minimum Cronbach's alpha coefficient for social sciences. The scale entailing writing critical thinking did not meet the criteria either, but it was close to doing it. As explained previously, Cronbach's alpha is a reliability estimate —i.e. an approximation— subject to the number of tested items. However, this function is the best option to assess the reliability of psycholinguistic scales and it is the most widely used in the literature (Salovey et al., 1995; O'Neil & Abedi, 1996; Cheng, 2004; Rowold, 2005; Jones, 2008; Pekrun et al., 2011; Espinoza-Venegas et al., 2015; Stewart et al., 2015; Valdivia et al., 2015; Aula-Blasco, 2016; Ho, 2016). It is important to bear in mind that the Cronbach's alphas of all the scales and the ECMQ as a whole were considered adequate given the nature of the present study. This is due to the fact that it deals with psychological factors, which are always challenging to explore, and metacognition, which is not always a conscious process (Brown, 1978; Negretti and McGrath's, 2018). Nonetheless, in the light of the findings of the present study, some recommendations can be made in order to achieve higher reliability coefficients in the future. Firstly, longer scales could be designed to measure the different emotional constructs. The additional items could follow the findings obtained via journey plots or upcoming studies' conclusions, which would also help to find more detailed correlations between constructs. Secondly, and not exclusionary to the first one, further psychology studies validating scales to assess the problematic emotional constructs would indirectly benefit psycholinguistic research. Lastly, additional psycholinguistics studies dealing with the correlations between metacognition and just two or three constructs —apart from the widely studied writing anxiety and writing self-efficacy (e.g. Latif, 2007; Williams & Takaku, 2011; Stewart et al., 2015; see also references provided in previous chapters)— will allow the use of longer, more detailed scales that, hopefully, will not threaten response rates (cf. Dörnyei, 2003).

With respect to the second source, potential sampling issues are usually a limitation of any study. In the present case, concerns are raised concerning the locality of participants and their uneven distribution in quartiles according to their years of AWRPP experience. Even though the ECMQ was, as explained in Section 3.1, originally launched to EAL researchers based on three different areas of Spain (i.e. northeast, southwest and northwest), the 81.25% of the academics were based in the northeast area. This could pose a threat to the variety of academic contexts in which participants' AWRPP processes take place. The fact that only 13 participants were involved in Q4 as opposed to the 109 who were included in Q1 seems reasonable, as accomplishing 34 years or more of AWRPP experience is not always the case. Nonetheless, the lack of most experienced researchers might have biased Q4 data. In order to examine the extent to which these sampling issues have distorted the reality of the population, future replication studies are recommended. The methodologies of these future studies could take into account the recommendations stated previously to achieve more comprehensive outcomes.

Concerning the third source, the analysis of the six journey plots and its comparison to questionnaire-retrieved data showed that the discrepancies between research instruments were marginal. By carrying out the recommendations concerning the length and scope of the scales mentioned previously as regards to dealing with scale reliabilities, these inconsistencies might be avoided. However, two out of the three main discrepancies found across the journey plots were connected with writing metacognition, which scored a sufficient Cronbach's alpha. This means that the unconsciousness of some metacognitive processes such as monitoring and regulating cognition suggested by Brown (1978) and Negretti and McGrath's (2018), among others, may be challenging to overcome with questionnaires and/or journey plots. To develop a fuller picture of this matter, further studies could complement and even triangulate questionnaire data with other types of data collection methods such as think-aloud protocols, diaries and semi-structure interviews, among others (cf. Creswell & Creswell, 2017), for attaining further insights into writing.

Finally, even though it was not possible to confirm any significant correlation between AWRPP experience and writing metacognition or any emotional construct, a negative result should be considered as valuable as a positive one (Mlinarić, Horvat & Smolčić, 2017). Nevertheless, it can be hypothesized that this lack of correlation could have multiple sources such as generational differences, the use of information and communication technologies nowadays, the ever-growing predominance of English as an academic lingua franca, and/or a shift in academic relationships within disciplinary communities, among others. In order to determine if this negative result is representative of all the population and what are the reasons for this lack of correlation, additional studies will need to be undertaken.

6.4. Future work

In spite of the numerous insights gained by this thesis, due to the preliminary nature of this study and the limitations mentioned in the previous section, some questions still remain to be answered. Replication studies in other academic contexts and/or with larger samples could provide more definitive evidence regarding the irregularities found in the responses of some construct scales within the ECMQ provided by mid-experienced scholars. These deviations, which include the significance of *positive*, neutral and *negative* core affect feelings in the academic writing process and the potential progressive increase of writing emotional intelligence, writing leadership and writing critical thinking scores as AWRPP experience is gained, would be fruitful issues for additional work. In addition, further studies need to be undertaken to establish whether writing achievement emotions levels tend to increase significantly only in the second half of the academic career —cresting in the last years— or if the levels of this emotional construct follow any other development patterns concerning AWRPP experience with other samples. Furthermore, more case study research could be useful to determine the causes behind the particularly low writing achievement emotions levels in some outlier

academics and to understand the reasons behind the writing anxiety episodes entailed in the AWRPP process and its possible consequences.

More broadly, research is also needed to determine up to what degree AWRPP experience actually works as a levelling agent for desirable construct levels. Further quantitative and qualitative investigation would shed more light on establishing if, in general, those junior researchers with a less desirable level of one or more writing emotional constructs and/or writing metacognition develop their scores as AWRPP is gained —while those with initial desirable levels just have their scores strengthened as experience is gained— or whether there is a different kind of relationship between these factors —i.e. AWRPP experience and desirable construct scores. Likewise, future work could also focus on assessing the impact of EAL proficiency and actual years of EWRPP experience —in contrast with AWRPP experience— on writing metacognition and the emotional constructs included in the present study.

Some of the construct connections entailed in the EMOWRI Framework remain to be fully elucidated regarding AWRPP. Noteworthy examples of these connections include *i*. the correlation between writing achievement emotions and anxiety, *ii*. the relationship between writing critical thinking and writing anxiety and the different types of writing motivation, and *iii*. the strength of the correlation between writing metacognition and writing self-efficacy. Additional studies might explore the (bi)directionality of these construct correlations in AWRPP and to what extent the connection may be causational and in which direction.

Finally, if the debate on the use of journey plots in ethnographic psycholinguistic research is to be moved forward, a better understanding of the reliability of prospective data needs to be developed. Similarly, future work is required to confirm the preferability of *online* journey plots over retrospective and prospective ones. Assessing whether journey plots are an effective tool to measure isolated emotional constructs such as emotional intelligence and anxiety in the AWRPP process could be likewise germane for further research.

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Appendix 1

Política de privacidad y protección de datos

En conformidad con lo establecido en el Reglamento General de Protección de Datos, Reglamento (UE) 2016/679 del Parlamento Europeo y del Consejo de 27 de abril del 2016, el investigador a cargo del estudio se compromete al cumplimiento de su obligación de secreto con respecto a los datos de carácter personal y al deber de tratarlos con confidencialidad. A estos efectos, adoptará las medidas necesarias para evitar su alteración, pérdida, tratamiento o acceso no autorizado.

Para cumplir con la obligación legal, declara lo siguiente:

- Que para la realización del estudio se ha informado al participante con carácter **previo de los objetivos del proyecto.**
- Que para la realización del proyecto no **se requiere recabar y tratar datos personales** de ningún colectivo de interesados.
- Que los datos se almacenarán en un entorno web restringido (acceso identificado).
- Que no se recabarán ni se tratarán datos de nivel medio ni de nivel alto, que son los siguientes:
    - Nivel alto: datos especialmente protegidos (origen racial o étnico, saludo, vida sexual (orientación acoso), ideología, religión, creencias, afiliación sindical).
    - Nivel medio: datos de infracciones administrativas o penales (solvencia patrimonial y crédito, datos que ofrecen una definición de las personas y establecen perfiles personales, datos de tráfico y localización).
- Que los datos recabados por el investigador a cargo del estudio se tratarán confidencialmente, para lo que se clasificarán de forma anónima y serán únicamente utilizados para ser analizados de acuerdo a los objetivos del estudio.
- Que en ningún caso los datos recabados serán objeto de tratamiento o de cesión a terceros, si no es con el consentimiento expreso del afectado según los supuestos previstos por la normativa legal vigente.
- Que los datos se conservarán durante el tiempo imprescindible para la realización del proyecto y el análisis de sus resultados.
- Que la dirección donde el interesado/a podrá ejercer los derechos de acceso, rectificación, cancelación y oposición ante el mismo es: Facultad de Filosofía y Letras, Departamento de Filología Inglesa y Alemana, c/San Juan Bosco 7, Universidad de Zaragoza o, preferiblemente, contactando con el investigador a cargo del estudio mediante la dirección de correo electrónico jab@unizar.es.
- Que al responsable del estudio le compete adoptar las medidas de seguridad que corresponden al fichero que se cree en el entorno web. Las cuatro medidas básicas siguientes:
    - Control de acceso con identificación y autentificación del usuario/s autorizado/s
    - Copias de seguridad
    - Gestión de incidencias
    - Gestión de soportes (memorias USB)

En Zaragoza, a 15 de abril de 2018.
Firmado por Javier Aula Blasco.

Universidad Zaragoza
1542

DECLARACIÓN DE CONSENTIMIENTO INFORMADO (CESIÓN DE DATOS)

D. / Dª. NOMBRE……..…….APELLIDOS.……......, con D.N.I. nº……, he sido informado/a sobre la necesidad de que los datos aportados para la ejecución del estudio '**Experiences in writing in English for Research Publication Purposes: A proposed framework on the relationships between metacognition and emotional constructs based on a mixed-method study**' van a ser tratados confidencialmente, de forma anónima y que en ningún caso van a ser cedidos a terceros.

Los datos cedidos serán única y exclusivamente los relacionados, con la finalidad del proyecto y con el fin de realizar los objetivos previstos.

En conformidad con lo establecido en el Reglamento General de Protección de Datos, Reglamento (UE) 2016/679 del Parlamento Europeo y del Consejo de 27 de abril del 2016.

He sido informado de que este consentimiento para la comunicación de mis datos tiene carácter revocable.

Según lo anterior, EXPRESO MI CONSENTIMIENTO al amparo del Reglamento General referido.

En ZARAGOZA, a ...……... de ……. de 2018.

Firma:

Appendix 2

Emotional Constructs and Metacognition Questionnaire (ECMQ)

Welcome page

The aim of the following questionnaire is to identify the emotional constructs which may have a bigger impact in non-native users of English when writing an academic text in English. While answering the questionnaire, please bear in mind all the times you have written an academic text in English with the objective of publishing it (e.g. journal articles, book chapters, etc.), both as an only author or with other colleagues. Please be completely honest. There are no right or wrong answers. Your personal data and answers will be exclusively used for the present reseach and then eliminated. Thank you very much for your time and interest. For any inquiries or questions please contact me, Javier Aula-Blasco, via jab@unizar.es.

Field of knowledge: **dropdown**

Years of experience as a researcher (approximately): **text box maximum two figures**

Contact email (optional): **text box**

Would you participate on the second stage of the present study? This will not be too time-consuming and will help you to rediscover yourself as a researcher and as an academic text writer. **yes/no choice**

Questionnaire pages

Please read each statement and choose a number from 1 to 5 indicating how true the statement is for you, being 1 *never or almost never true*, 2 *generally not true*, 3 *slightly true*, 4 *generally true*, and 5 *always or almost always true for you*.

Writing achievement emotions

1. I enjoy the process of writing in academic English and acquiring new knowledge on the matter.
2. I have great hope that my academic English writing skills are sufficient to meet the standards of journals and editors.
3. I am proud of my capacity and of how well I master academic writing in English.
4. When I write in academic English, I tend to feel anger and to be fairly annoyed. (R)
5. I feel ashamed that my academic English writing skills are not enough to carry out my written work the way I would like. (R)

6. I have lost all hope that I have the skills to do well on writing in academic English. (R)

7. I feel very relieved when I finish my academic English writing undertaking.

8. I get very bored when I am writing in academic English. (R)

Writing anxiety

1. I do my best to avoid situations in which I have to write in academic English. (R)

2. I usually feel comfortable and not nervous at all when writing in academic English.

3. My mind often goes blank when I start to write in academic English. (R)

4. I often worry that I may use expressions and sentence patterns improperly or that the ways I express and organize my ideas do not conform to the norm while writing in academic English. (R)

5. I often worry about what my colleagues would think of my academic English writings and I am afraid that my English writing skills would be rated as very poor. (R)

6. I do not worry that my academic English writings may be worse than my colleagues'.

Writing core affect

1. I write better and more efficiently in academic English when I feel energetic, enthusiastic and happy.

2. I write better and more efficiently in academic English when I feel serene and calm.

3. I write better and more efficiently in academic English when I feel tired, gloomy and sad.

4. I write better and more efficiently in academic English when I feel upset and jittery.

Writing critical thinking

1. I find it easy to determine and maintain focus on the issue I am writing (in academic English) about and to be clear about the intended meaning of it.

2. I am able to look for alternatives when I face a problem when writing in academic English.

3. I am open-minded; considering seriously other points of view than my own and being reflectively aware of my own basic beliefs regarding writing in academic English.

4. I am sensitive to the feelings and level of knowledge of the potential reader of my text.

5. I seek as much precision as possible; changing my academic English writing preconceptions when the evidence and reasons are sufficient to do so.

6. I seek as many learning opportunities as possible to improve my academic English writing skills.

Writing emotional intelligence

1. I pay attention to my feelings and I devote time to think about them before, during and after writing in academic English.
2. I let my feelings influence my thoughts and my academic English writing skills. (R)
3. I am aware of my feelings each time I write in academic English and I can express how I feel without any problem.
4. If I feel sad and upset when writing in academic English, I try to think of pleasant things and be optimistic.
5. If I am angry and I have the feeling that I am complicating things when writing in academic English, I try to calm down and change my mood.

Writing leadership

1. I make my colleagues feel good about their academic writing skills in English, even when their level is not excellent.
2. I help my colleagues develop their writing skills and tell them how to write in academic English if they want to be rewarded for their work.
3. My colleagues have complete faith in my academic English writing skills.
4. I add appealing and simple visual support (e.g. images, tables, graphs, etc.) to my academic English texts to make them easier to understand.
5. I let others know how I think they are doing and provide recognition when they reach their academic English writing goals.
6. I am content to let my colleagues continue writing in the same ways always and ask no more of their English writing style than what is absolutely essential.
7. I help my colleagues find meaning in their work, rethink their own ideas, and express everything in a written form in academic English.

Writing motivation

1. The possibility of becoming part of a worldwide academic community motivates me to write in English.
2. I write in English because it is required to advance in my professional career, if not, I would write in my mother tongue.
3. Failure to write well in academic English just makes me try harder.
4. I have problems to find actual motivation to write in academic English. (R)

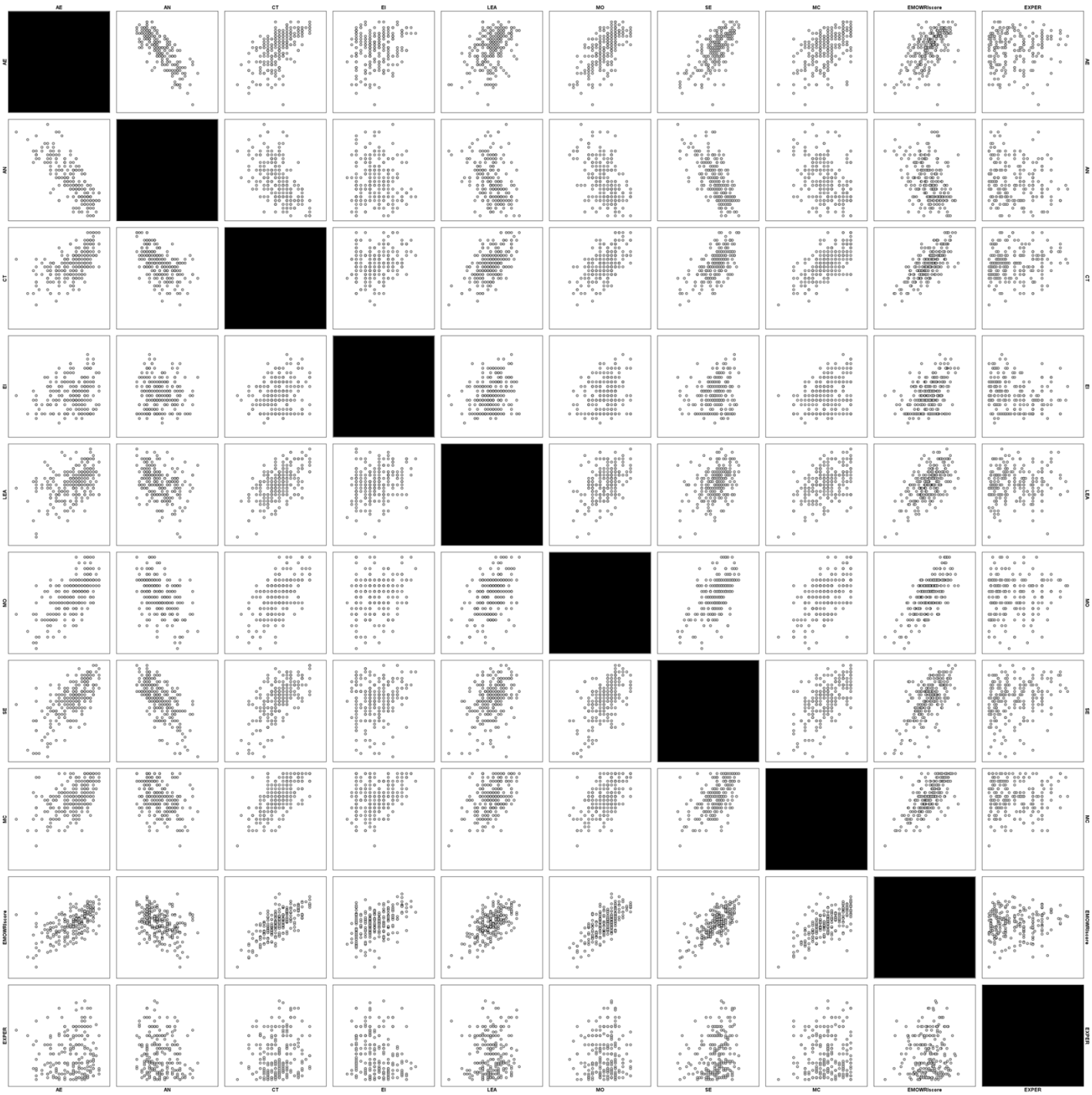
Writing self-efficacy

1. When I make plans to write an academic text in English, I am certain I can make them work within the appropriate timing.
2. When I have a pending written project in English, I go right to work on it.
3. When I have unpleasant written work to do in English, I stick to it until I finish it.
4. When unexpected problems with writing in academic English occur, I handle them appropriately.
5. I can write a well-organized research paper in English with a concise abstract, a suitable introduction, a clear methodology, a handy results section, a comprehensive discussion, and a pertinent conclusion.
6. I can correctly apply grammar rules, write grammatically correct sentences, use the right punctuation marks, and properly organize a text when writing in academic English.
7. Even if I may initially make grammar, punctuation, and/or spelling errors, I am sure I can correct them when proofreading.

Writing metacognition

1. I consider the purpose of the text and think about the audience for whom I am writing before I start writing.
2. I am aware of the need to plan my writing process in academic English, selecting and organizing relevant information before writing.
3. I am aware of my own thinking when writing in academic English.
4. I check my work and correct my errors while I am writing in academic English.
5. I keep track of my progress as an academic writer and, if necessary, I change my techniques and/or strategies.
6. I see revision as part of the writing process in academic English.

Appendix 3



A full-sized version of Appendix 3 can be found in Mendeley Data (http://dx.doi.org/10.17632/vrsmb9y367.1).

The current dominance of English as an academic language has a hefty impact in the way English as an Additional Language (EAL) academics across disciplines approach and understand Academic Writing for Research Publication Purposes (AWRPP). The impact of linguistic and cultural matters has been widely studied in the literature. However, psychological aspects also play a significant part in the academic writing process that has been traditionally overlooked regarding AWRPP. Similarly, the use of metacognitive writing strategies has been evidenced in numerous existing studies as a great predictor of high writing performance and better written outcomes. Still, little is known about how different emotional constructs and metacognition interact with each other during the AWRPP process in an additional language. The present thesis aims at starting to fill these gaps by creating a framework (the EMOWRI Framework) that encompasses the correlations between eight emotional constructs (i.e. achievement emotions, anxiety, core affect, critical thinking, emotional intelligence, leadership, motivation, and self-efficacy) and the use of metacognitive strategies in the academic writing process, more specifically focusing on AWRPP. A further aim of this thesis is to assess how the years of AWRPP experience influence the levels of these constructs. To do so, quantitative and qualitative data was obtained from 224 EAL scholars researching and publishing in numerous fields of study. These participants filled out the Emotional Constructs and Metacognition Questionnaire (ECMQ; $\alpha = 0.857$), which was designed based on existing validated scales and widely accepted theoretical models. A selection of six participants completed a journey plot concerning the writing process of one of their research papers in order to triangulate questionnaire results. Findings suggest that all the emotional constructs have, to a greater or lesser extent, an impact in the AWRPP process. Particularly interesting is the discovery of some core affect feelings being more beneficial to AWRPP than others, both in the short and the long run. Furthermore, writing metacognition seems to be more common in the planning and revision stages of the AWRPP process. A wide number of strong and significant correlations were found between the constructs. Some less strong correlations are also addressed. Online journey plots (i.e. completed at the same time their writing process takes place) seem to gather richer and more detailed data regarding the emotional appraisals entailed in the writing process and the reasons behind them than retrospective and prospective journey plots. Finally, potential implications of the findings for the fields of education and artificial intelligence are suggested.

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