

# **A Brief Analysis of 20 Years of Emotional Intelligence: An Introduction to Assessing Emotional Intelligence: Theory, Research, and Applications**

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## **Twenty Years of Emotional Intelligence**

Interest in Emotional Intelligence can, in part, be gauged by the amount of research activity it has stimulated since first making an appearance in the psychological literature about 20 years ago. To set the scene for the chapters that follow in this book we analyzed the number of theory, research, and application papers that have been published on EI by year and subject area. As shown in the tables below, there has been an increasing amount of empirical data and commentary published on the topic of EI, especially since the start of the 21st Century. What stands out is the number of published commentaries of the construct of EI with particular reference to how EI relates to standard psychological measures and constructs. In some ways, our review of the published material on EI illustrates a considerable diversity of opinion in which there is a solid stream of papers criticizing and or critically examining the construct validity of EI as well as a strong and growing arm of research evaluating how EI might be used in various applications across the workplace, health and educational settings. Clearly the conjecture over the reliability and validity of current measures as well as the construct validity of EI is not slowing the amount of research, the number of special issues or interest in EI from a very wide range of disciplines and practice areas (e.g., psychology, medicine, industry, education, neuroscience, etc.). Although measures of EI are at a fairly preliminary phase in their development (first or second versions are available for most measures), research on the applications of EI scores across several applied areas is on in earnest.

The data presented here were generated by conducting a SCOPUS search for any journal publications with the words “Emotional Intelligence” captured in either the publications’ keywords, title or abstract. It was important to limit the search to the two word phrase “emotional intelligence” as the word “emotion”

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identifies more than 66,000 publications and the word “intelligence” identifies a staggering 128,000 plus publications! By comparison to these older subject areas of psychology, emotional intelligence is still in its infancy! SCOPUS also identifies the words “emotional intelligence” in other published works such as patents, world wide web, etc., but as these are numerous and often without peer review, we considered these “publications” outside our current analysis (although still interesting).

Analysing the bar chart below in which we plot the number of SCOPUS publications across several years and several year bands we can see that there has been a steady increase in the number of publications focusing on EI from about 1998 (a potential lag time from the publication of the popular book by Daniel Goleman in 1995) in which there were 14 publications. This number steadily rises per year until 2006 in which there were 145 publications with a 2006 date. At the time of conducting this analysis (mid 2008) there were 118 SCOPUS publications on EI, which would translate into approximately 250 publications with a 2008 date by the end of 2008. It should be noted that this search is likely to underestimate the total number of publications for a number of technical reasons relating to how papers are added and archived into SCOPUS. However, if taken as a guide, and assuming that the number of publications on EI relates in some positive manner to the amount of research being undertaken on EI, then these numbers suggest that research into EI is growing and that we might expect around 250–400 publications per year for 2009 and 2010. This would result in approximately 1300 papers focused on EI between 2006 and 2010 (Fig. 1).

Three hundred publications per year for the next few years may lead to significant developments in research on emotional intelligence and in particular on issues of test construction, test reliability and validity. In fact, some of the most often consulted articles published in such major journals as *Personality and Individual Differences* are focused on EI. Most popular research and commercial measures of EI are now in their second version. Consequently we might expect significant improvements in test construction and perhaps some positive resolution to some of the issues concerning construct validity that have been the

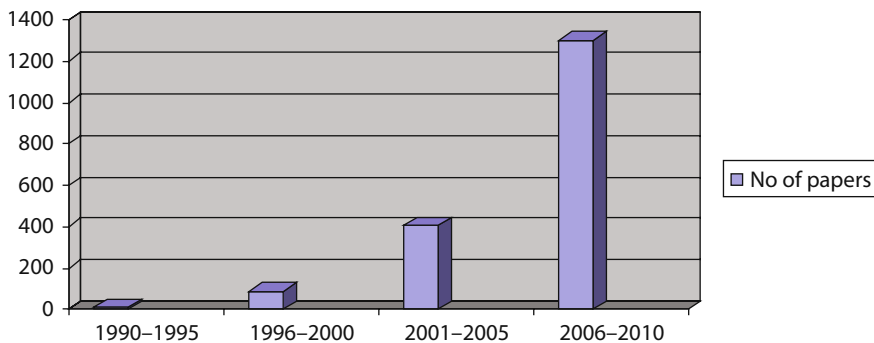


Fig. 1 Number of EI papers listed in SCOPUS by year

focus of some authors' energy, particularly the discriminant validity of EI over existing constructs such as personality and intelligence. Clearly there is growing interest in the construct, which should lead to significant advances in both the measurement and application of emotional intelligence to the workplace, health psychology and perhaps some under-studied areas of application.

However, an analysis of the number of publications with EI in the title, keywords and/or abstracts, does not necessarily substantiate that the publication is specifically concerned with the study of EI. Some publications may only tangentially describe or mention EI, and many publications are commentaries rather than empirical studies. Therefore the current exercise is not designed to be definitive but rather provoke some thoughts about the growing interest in EI and where this research is heading.

To further understand how the construct of EI is being used in these 952 publications we assessed their different subject or discipline areas. First we removed 46 publications that used the words "emotional intelligence" in a way that was qualitatively different from the psychological sense (e.g., intelligent engineering). After this process there were 906 SCOPUS publications with the words "emotional intelligence" remaining. Of these we inspected every article and attempted to allocate the publications to subject/discipline areas. We decided that a single paper within the original set could only be allocated to one particular discipline area, although many publications crossed several discipline areas. Where there was some ambiguity we decided on the basis that the most direct relation to a discipline area could be ascertained and externally agreed to by an independent researcher. We used the following areas to describe papers:

1. Workplace (industrial and organizational psychology, management, personnel psychology, training)
2. Psychometric and Construct Validity (test construction, reliability, validity, relations with other psychological constructs — particularly personality and intelligence (IQ))
3. Neuroscience
4. Health (health psychology, psychiatry, clinical disorders, health promotion)
5. Education (primary, secondary or tertiary training, scholastic results, student attrition, selection)
6. Cross-culture
7. Sport
8. Other

The results of this analysis are described in Table 1 below. It can be seen that publications concerned with EI in our search focused on (in order of frequency): workplace, psychometric and construct validity, health, education, neuroscience, culture and sport. However the majority of publications were focused on the workplace, psychometric and construct validity, education and health areas. Relatively few publications appear in the areas of culture, sport or neuroscience.

**Table 1** Number of EI related papers by discipline area

	Number of papers	Percentage of papers
Workplace	337	35.4
Psychometric/construct validity	224	23.5
Neuroscience	31	3.3
Health	157	16.5
Education	134	14.1
Cross-culture	17	1.8
Sport	6	0.6
Other	46	4.8

Clearly there are few publications in the area of cross culture and sporting applications, which appears odd given the high face validity of the construct to both of these areas. For instance the role of emotions in understanding opponents in sporting competitions and the management of emotions in elite athletes appear to be important areas for future research. Similarly how current measures of EI compare across different geographical and language barriers is an important topic for many multi-national organizations. The selection of chapters for this book has been chosen at least in part to help stimulate future research across as many discipline areas as possible.

### **Organization of “Assessing Emotional Intelligence: Theory, Research, and Applications”**

Not surprisingly the organization of our book is reflective of the contents of Table 1 where there is an emphasis on both workplace and psychometric/test development research and commentary. However in order to facilitate future research in under-represented areas, we intentionally sought out authors who could expertly and insightfully write chapters on the measurement and place of EI in relation to clinical disorders, biological processes, cross-cultural comparisons, and sports. These areas would seem to be highly promising for the study and application of EI- there is certainly the appearance of face validity. Although the specialization of affective neuroscience is an active area of research, relatively little is known about the biological basis of current methods of measuring and assessing EI, which can, in turn, provide researchers with the foundations to understand how individual differences relate to a wide array of abilities and behaviours associated with emotion.

This book is arranged according to several different conceptual sections. We start with this very short chapter describing the recent interest in EI and in particular, what areas of psychology and other fields have examined EI for the purpose of determining its relevance to understanding human behavior. As shown above, the data presented show the increase in publications in the area over time and where these papers have been published. This analysis raises some

questions about which areas are lacking research and where we may expect research to be focused in the future. The second chapter in this first part discusses the construct itself with particular reference to its construct validity. In what is certain to be an important chapter in any advanced class addressing basic issues of test reliability and validity, Gignac outlines the type of reliability and validity estimates that are important for the construct and measures of EI. In a systematic analysis he examines the measures required to assess all aspects of reliability and validity, the research that has been undertaken previously in this area within the context of EI and provides commentary on this research. Given the number of individual papers and commentaries on the construct validity of measures of EI, this chapter is an important integration of a large body of research. Gignac's chapter establishes some important conceptual and measurement issues that the reader can apply to the chapters to follow.

In Part II, five chapters are allocated to different measures of EI. The focus of these chapters differs somewhat according to the research focus of each measure. In the first of these chapters (Chapter 3), Papadogiannis, Logan, and Sitarenios present a comprehensive description of the theoretical underpinnings and empirical research on the most often used ability measure of emotional intelligence, the MSCEIT. This and related measures created by Mayer and Salovey, along with Caruso, was one of the very first to both attempt to measure EI and to operationally define it as an "ability". The next chapters describe other important measures that are regarded as trait measures. While a number of scales have appeared in recent years, we have included chapters only on the more established scales such as the EQi (Wood, Parker, and Keefer), the TEIQue (Petrides), the GENOS and SUEIT (Palmer, Stough, Harmer, and Gignac) and the Assessing Emotions Scale (Schutte, Malouff, and Bhullar). These chapters provide comprehensive analyses of the theoretical foundations, psychometric properties, and research findings related to the selected scales.

In Part III, six chapters are presented in which the application of EI is the focus. Given the very great interest in EI from the business world, the first three of these chapters are concerned with the workplace. In the first of these chapters Furnham discusses research and issues relating to the training of EI. In the second chapter in this part, Reid provides a thorough examination of the relationship between performance measures and several EI measures including the MSCEIT. Jordan, Murray, and Lawrence bring together the considerable published work and commentaries in the area of EI and industrial and organizational psychology, providing insightful linkages across a number of work domains and outcomes in the third chapter in this part. These chapters are intended as an important contribution to the field of EI and the psychology of the workplace and will be useful to both IO research psychologists and HR practitioners.

In recent years there has been considerable interest in the potential relevance of EI to health, psychological disorders, and everyday problems and education. Keefer, Parker, and Saklofske examine the potential relevance of EI to health

and health-related behaviors. In contrast to an exclusive physical approach to describing and treating health issues, EI research has shown its relevance to adapting a healthy life style. In the next chapter Hansen, Lloyd, and Stough discuss the current state of knowledge in the area of EI and clinical disorders. Although there is now emerging research in the area of EI and health variables, there have been relatively and surprisingly few studies examining EI across psychological and psychiatric disorders. In the final chapter of this part, Parker, Saklofske, Wood, and Collin provide some linkages between EI and educational outcomes. In recent years, a number of studies have demonstrated the relationship between EI and scholastic variables ranging from achievement and retention to student failure and early leaving. These studies also suggest that developing EI within educational settings may improve a range of outcomes for students and institutions and will be a useful resource for educational psychologists, teachers and school administrators.

The final part (Part IV), “New Directions and Conclusions” provides some initial linkages between some new areas of EI research. The universality of EI is examined by Ekermans. Cross-cultural studies are of critical importance as we study not only how well current measures of EI “travel” across cultures and language groups, but how robust EI is in a description of human emotions, their definition, management, and relevance. It is certainly well known that sport involvement and accomplishments are much more than physical actions. In recent years, sports psychology has had an increased presence in the training of elite athletes but also in examining ways to improve the physical health of the general population. The chapter by Stough, Clements, Wallish, and Downey looks more closely at the potential relevance of EI in sporting activities.

EI has certainly caught the attention of the public since the publication of Goleman’s book in the mid 1990’s. At the same time, skeptics within the scientific psychology community have been either very critical or much more cautious about the “significance” of the EI construct. At the same time, both the research and applied fields of psychology have carefully and systematically subjected EI to “empirical tests” as the growing number of publications would attest. For these reasons, this book concludes with an in-depth commentary by Orchard, MacCann, Schulze, Matthews, and Roberts in which these authors outline some new areas of research for EI and some potentially useful new measures.

We feel very confident that all of the chapters published in this book will contribute to stimulating new areas of EI assessment, research, and application. We are most grateful to the chapter authors for their contributions to this book. Their fair but critical analyses of EI will do much to ensure the scientific integrity of future research and applications. In turn, this will result in the kind of evidence-based findings that will determine the relevance of EI in the study of individual differences. Thank you all. We are very grateful to both Judy Jones and Angela Burke at Springer for their tremendous support throughout the preparation of “Assessing Emotional Intelligence: Theory, Research, and Applications”.