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Abstract

Purpose – This study aims to examine the self-perceived competencies of 231 Italian students enrolled in a psychological degree program and involved in a practicum. It analyzes the subjective perception of the competences that students expect to develop, acknowledge as developed and that might be inferred from tasks performed during the practicum; the level of expertise (novice, intermediate or advanced) of these competences; and the relation between the practicum facility and the competences.

Design/methodology/approach – This study administered an *ad hoc* survey comprising open-ended questions and used the Practicum Competencies Outline (Hatcher and Lassiter, 2007) as a framework for the content analysis.

Findings – The results revealed poor perception of some competency domains, such as Diversity: Individual and Cultural Differences; Development of Leadership; Application of Research and Ethics; and a frequent acknowledgment of Psychological Assessment and Professional Development. Before the practicum, the students expected to develop competence mainly at a novice level of expertise; after the practicum, the intermediate level of competences acknowledged as developed and inferred from performed tasks increased.

Research limitations/implications – The findings have implications for research on competence-based training, such as the necessity of self-assessment training evaluation.

Practical implications – Undergraduate psychology students must reflect on the value of psychological competences during their formative training to re-orient their learning process and build a competent professional role. Moreover, psychological facilities and university must share common objectives in training undergraduate students.

Originality/value – This study is the first attempt to analyze Italian college students' subjective perceptions of psychological competencies expected or developed during practicum .

Keywords Competences, Self-assessment, Competence-based training, Implicit/explicit competences, Practicum

Paper type Research paper

Introduction

From a socioconstructivist view, competence has inter-subjective, cultural and contextual features and results from dynamic interactions between people participating in communities of practice (Wenger, 1998). Specifically, some socioconstructivist studies (Angioni, 2004; Warnier, 1999) confirm that tacit or implicit competence is a non-codified competence that cannot be supplied through a linguistic medium, but it is rather co-developed by people sharing the same working or formative experience. Nonaka and Takeuchi (1995) extended the study of Polanyi (1966) – who suggested that people know more than they are able to declare – and affirmed that competence development is determined through dynamic modes of social interaction, externalizing

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implicit competences and converting them into explicit competences. Thus, the features of cultural, formative and working environments, where competence is co-developed, influence the process of externalizing and explicitly recognizing these competencies.

Recently, the practice of psychology has expanded to include new services with implications for the training of future psychologists and their professional development. Accordingly, some scholars (Kaslow *et al.*, 2004; Rodolfa *et al.*, 2005; Rychen and Salganik, 2001) began to dedicate to the identification, training and assessment of competencies for health- and human-service providers in psychology. They promoted conferences, work groups, organizational projects and commissions throughout North America and Europe and published books on defining, training and evaluating key competencies in psychology (Sumerall *et al.*, 2000). A general agreement exists on defining these widespread endeavors as the outcomes of a broader and important scientific movement in the competency-based education and training domain. This scientific movement, known as the competence movement, focuses on fostering and evaluating psychological competence in formative settings. Competence is a much debated concept in literature and is generally used to describe one's fitness of ability (Rodolfa *et al.*, 2005). Competence refers to a person's skills, knowledge and abilities. For example, according to Le Boterf (2000), competence has a complex and combinatorial nature and is a well-balanced mixture of knowing, being able to do and being able to be, derived from the control and usage of judgment ability, critical thinking and decision-making (Rodolfa *et al.*, 2005). Increasing one's competence can develop competency, namely, the ability to complete a certain task. This means that competency requires action and verification of what is achieved by that action. Moreover, the competence movement highlights a reflexive feature of competence: a competent performance is attained through reflexive and critical behaviors, i.e. the ability to understand when, where and how to arrange and move resources. This is a metacognitive conception of reflexivity (Fogarty, 1994; Moore, 2011) where reflexivity is conceived as subject's awareness of their thoughts to control the learning process and perform effectively. From this perspective, reflexivity is based on students' awareness of their set of learned attitudes and values (being able to be dimension), knowledge (knowing dimension) and skills (being able to do dimension). Moreover, reflexivity is conceived as a function to connect these dimensions to develop students' awareness of knowing how to do in a specific context and consequently help them perform productively (Esposito and Freda, 2015a; Mok *et al.*, 2006).

The competence movement suggests that competence has dynamic, adaptive and evolving aspects (Falender and Shafranske, 2012) and therefore involves continuous construction (Freda *et al.*, 2015). For example, different stages of professional development exist (e.g. graduate education, internship and postdoctoral training) and psychologists can gain, maintain and enhance competency throughout their careers.

Numerous studies have investigated competence, suggesting a culture of psychological competence (Roberts *et al.*, 2005) to outline the features of competent professional psychologists and redefine formative academic programs. For example, the 2002 Competencies Conference in Scottsdale, Arizona, inspired the development of a competence-based culture (Roberts *et al.*, 2005). This term is commonly used to define the need for a competence-based education in different formative steps. In higher education, the promotion of a competence-based culture refers to the development of effective formative devices for promoting key competences for university psychology

students (Roberts *et al.*, 2005) and evaluation tools to assess the development of such competences (Kaslow *et al.*, 2004. The conference highlighted the necessity of establishing competence assessment and self-assessment procedures to provide feedback to students and evaluate the effectiveness of the curricula and formative devices.

A meaningful result of the Competencies Conference is the cube model for competency development (Rodolfa *et al.*, 2005). The cube model is a three-dimensional competency model describing the essential elements in the development of a professional psychologist. It provides specific definitions regarding competency and competency domains: competency means that a professional is capable (i.e. has the knowledge, skills and values) of practicing the profession safely and effectively. The domains of competency are the domains of professional activity in which competency is developed.

The cube model distinguishes between foundational and functional competency domains and affirms that knowledge and skills in the foundational domains provide the groundwork for psychologists to subsequently acquire functional competency. Specifically, foundational competency domains are the building blocks of psychologists' work. They describe the knowledge, skills, attitudes and values that serve as a foundation for all psychologists:

- reflective practice–self-assessment;
- scientific knowledge–methods;
- relationships;
- ethical–legal standards policy;
- individual–cultural diversity; and
- interdisciplinary system.

Foundational competency domains are primarily taught in graduate school and internships, although psychologists continue to enhance them during other formative paths.

The functional competency domains describe the knowledge, skills and values necessary for psychologists. They define psychologists' work, encompassing day-to-day services:

- assessment–diagnosis–case conceptualization;
- intervention;
- consultation;
- research–evaluation;
- supervision–teaching; and
- management–administration (Rodolfa *et al.*, 2005).

Each foundational domain has implications for each functional competency domain; moreover, as the scientific and professional basis of psychology advances and changes in the external market place occur, these changes are reflected in the foundational competency domains. Moreover, the cube model depicts the developmental context in

which the domains of competency are developed from graduate education, internships, postdoctoral training or residency and continuing competency.

Importance of a formative evaluation of the practicum experience

Numerous studies have focused on identifying competency domains developed during supervised practical training experiences. This experience is a useful means for building psychological competence and professional identity (Fouad, 2003; Miller, 2012).

Researchers have investigated the practicum experience (Kaslow *et al.*, 2004; Rodolfa *et al.*, 2007). Hatcher and Lassiter (2007, p. 49) suggested that "the practicum is the first step on the path of professional development toward independent professional competence in psychology". In general, the practicum is the basis for the coherent construction of professional competence, as this process trains students for the transition from the academic to the working world (Busacca, 2002). The Practicum Competencies Outline (PCO) identifies and describes the competencies that should be produced during the first supervised practical experience (Hatcher and Lassiter, 2007), considering the distinction between foundational and functional competency domains described by the cube model (Rodolfa *et al.*, 2005).

The PCO is divided into two sections: baseline competencies and competencies developed during the practicum. The baseline competencies include skills, attitudes and knowledge that students should possess at an acceptable level before beginning the practicum but that can be improved during the practicum activities.

They are further divided into:

- personality characteristics and intellectual and personal skills (i.e. ability to listen and empathize, problem-solving ability, tolerance of ambiguity and uncertainty, desire to help others, openness to new ideas, etc.); and
- knowledge from classroom experience (i.e. the basic theoretical and research knowledge that students acquire from prepracticum coursework, such as basic theoretical and research knowledge related to diagnosis, assessment and intervention).

Competencies developed during the practicum comprehensively explains competency domains influenced by the cube model and associated skills that are the focus of practicum experience. It includes 11 competency domains as follows:

(1) Relationship/Interpersonal Skills (forming and maintaining productive relationships with others, such as clients, colleagues and supervisors).

(2) Application of Research Skills (seeking and applying theoretical and research knowledge relevant to psychology; understanding and applying theoretical and research knowledge related to diagnosis/assessment and intervention).

(3) Psychological Assessment Skills (comprehensive and integrated assessment from the initial interview, psychological testing, intervention and the evaluation of the outcome of psychological services).

(4) Intervention Skills (planning, implementing and assessing preventive, developmental and remedial interventions).

(5) Consultation/Inter-professional Collaboration Skills (relating, dialoguing and collaborating with other professionals).

(6) Diversity: Individual and Cultural Differences (knowing how individual and cultural differences influence clients' recognition of a problem and appropriate solutions).

(7) Ethics (practical knowledge of ethical practice and understanding of legal standards and practice guidelines).

(8) Development of Leadership Skills (understanding and practice in leadership through leading research teams, mentoring newer students in vertical team settings and participating in clinic discussions of organizational goals).

(9) Supervisory Skills (being familiar with the role of supervisors and of supervision activities by knowing literature on supervision, its limits and its usefulness for improving professional practice, etc.).

(10) Professional Development (maintaining effective clinical practice – timelines, writing notes, etc. – and continuing to develop competences – awareness of personal identity and critical thinking and analysis).

(11) Metaknowledge/Metacompetencies (reflective understanding of one's own knowledge and competencies and knowing the extent of one's own skills).

Moreover, the PCO defines, according to a developmental viewpoint, the order in which these competencies should be developed. During practicum experience, students' knowledge, attitudes and skills grow and develop depending partly on the range and quality of their practicum training. Specifically, the PCO qualifies competence levels as novice, intermediate or advanced[1].

Novices have limited knowledge and lack the skills of analyzing problems and of applying the processes and techniques for finding solutions to the problems. They do not yet recognize patterns or differentiate well between important and unimportant details.

Students at the intermediate level have gained adequate experience through practice, supervision and instruction to recognize important recurring domain features and select appropriate strategies.

Finally, students at advanced level have gained deeper, more integrated knowledge of the competency domains. They are considerably more fluent in recognizing important recurring domain features and selecting appropriate strategies. They possess the ability to manage many contingencies of clinical work (Hatcher and Lassiter, 2007).

Self-assessment and subjective perception of competencies

Few studies have focused on the subjective perception of the competencies that students develop or expect to develop after formative supervised practical training (Gross, 2005; Kamen *et al.*, 2010).

Students have different perceptions regarding the competencies that they have developed or should develop, as these individuals are differently involved in social interactions in the formative context (Forrest *et al.*, 2008). Consequently, the place where training is conducted assumes great relevance in influencing the acknowledgment of some competencies and the lack of acknowledgment of other competencies and can impact the conversion and externalization of implicit competencies into explicit competencies (Falender and Shafranske, 2012).

Conducting self-assessments is important to examine the perceptions of the competencies that students expect to develop or acknowledge as developed. Self-assessments are relevant and effective for enhancing learning processes and lifelong learning competencies, particularly when conducted both before and after formative training (Mok *et al.*, 2006). Indeed, the acknowledgment of competencies may depend on several factors such as the students' career goals, which influence the competence domains that should be developed primarily during the training (Kamen *et al.*, 2010); the formative area or field in which students work during supervised practical training (Bosio, 2011); the influence of the psychological culture of specific psychologist roles or psychology fields (Eby *et al.*, 2011); and the formative models in the academic context (Bosio, 2011), which help to strengthen beliefs and standards regarding who is the "good psychologist" (Forrest *et al.*, 2008). Surveys associated with the subjective competence experience evaluate the role of these factors to improve the quality of academic formative paths.

The survey

Our study develops from the interest shown in the literature for processes of self-assessment of psychological competences during the practicum experience. The focus placed on self-assessment, self-perception of competences, relevance of the practicum experience for professional development, level of expertise of competence and the context where psychological training is conducted have guided the formulation of our research objectives.

Specifically, this study is the first attempt to investigate the self-perception of the expected and developed competencies of in a group comprising undergraduate Italian students involved in practicum experience. It analyzes the level of expertise (novice, intermediate and advanced) of perceived competence and if students' perceptions of expected or developed competencies are influenced by the context of their practicum experience. To achieve these goals, this study adopts the PCO as a framework for analysis for the first time in the Italian context.

In the Italian context, the scientific community is focused on the first supervised practical experiences of students during training in degree programs, which the Italian jurisdiction (D.M. 270) recently declared mandatory. With the launching of the Bologna Process in 1999 by the Ministers of Education and university leaders of 29 countries in Italy, the supervised practical experience includes activities performed while taking Bachelor's and Master's degree programs in psychology, comparable with the US practicum experience; post-laureate supervised practical activities, comparable with the US internship and accomplished after attaining a degree in psychology and before obtaining a license for professional practice; and supervised practical activities performed during the four- or five-year long formation in psychotherapy[2].

Despite the mandatory dimension of the practicum experience, various Italian universities have established their own guidelines for developing practicum training programs. At the university in this study, the practicum for students enrolled in the Master's degree program in Dynamic, Clinical and Community Psychology conveys basic- or low-level psychological competencies associated with professional practice. This practicum integrates theoretical knowledge with the professional procedures of specific institutional settings. Because this training is the first formative step involving

supervised practice, the practicum primarily focuses on acquiring professional techniques that are generally developed with higher frequency.

The practicum comprises 200 hours of psychological activities supervised by a tutor, who must be a licensed psychologist. Each student chooses a psychological facility from among several psychological facilities affiliated with the university, considering whether the facility is known as well as its functions and goals. Students are informed regarding the facilities and can also independently contact the facility and any available tutor. After the exploration phase, students write a formative plan in which they declare which facility they have chosen for their practicum activities.

This study has the following three aims:

(1) To understand the subjective perception of the competencies that students expect to develop and acknowledge as developed after the practicum experience. To analyze a) the competencies that the students expect to develop before the practicum experience; b) the competencies that they acknowledge as developed after the practicum experience; and c) the competencies that might be inferred from the tasks performed during the practicum.

(2) To analyze the level of expertise (novice, intermediateand advanced) of the competences expected, developed and inferred from performed tasks.

(3) To explore the relation between the practicum facility and the competences expected, developed and inferred from performed tasks.

Methods

We considered 231 Italian students (M = 35; F = 198) enrolled in the Master's degree program in Dynamic, Clinical and Community Psychology at the University of Naples Federico II. Their average age was 25.05 (SD = 5.54). The students performed the practicum at different facilities: health-care centers for childhood and adolescence (27.5 per cent), facilities for the treatment and rehabilitation of mental patients (17.9 per cent), facilities for the treatment and rehabilitation of other patients (16.5 per cent), therapeutic service facilities for drug addicts (7.8 per cent), psychological therapy settings within hospitals (16.5 per cent) and sundry associations and agencies providing psychological services (26.1 per cent).

Despite their heterogeneous patient base and, occasionally, a facility's narrow focus on a specific psychiatric disorder, these are all mainly clinical establishments that involved the students in similar psychological activities. Every facility engaged the students in supervised psychological activities centered on psychological counseling, interventions within various contexts (school, hospital, etc.) and supervisory activities, either individual or in small groups. Thus, although the students chose their facility based on their formative interests in a specific population or disease, they are aware that each facility provided a similar opportunity to develop comparable, mainly clinical, competences.

Two *ad hoc* surveys were conducted: before the practicum and after the practicum. The entrance survey comprised open-ended questions concerning personal student information and the practicum facility. Additional information regarding competence (e.g. definitions, examples, etc.) was not provided to avoid influencing participants' responses.

Our analysis focuses on the response to the question "Which competencies do you think can be developed during the practicum experience?" Notably, the exit examination included several open-ended questions, focusing on the answers to the following questions: "Which competencies do you think you have developed during the practicum experience?" and "Which tasks have you performed during the practicum experience?"

Both surveys were administered through e-mail to 240 students. We received 231 entrance and exit surveys for the data analysis.

We used the PCO as a framework for the content analysis of the answers to the two questions listed above to perform a qualitative analysis. Among the recent literature on psychological competency development (e.g. competency benchmarks, etc.), we chose the PCO because it is specific for the study of competency development around the first supervised training experience.

To analyze the level of expertise of competence, we considered whether the students were novice, intermediate or advanced in accordance with the PCO grid for coding the three stepwise descriptors. Moreover, we considered the baseline competencies that could be improved and redefined during the first experience of supervised practical training, even if these competencies should have been developed before the practicum (Hatcher and Lassiter, 2007).

We used the PCO to categorize the answers to the question "Which tasks have you performed during the practicum experience?" This choice was determined by theoretical and methodological observations. Researchers (Epstein and Hundert, 2002; Proctor, 1991) have indicated that competency includes different elements and is closely related to performance and daily practice. Le Boterf (2000) suggested that competence cannot be separated from its conditions of implementation, i.e. from the tasks it is required for. Thus, competencies can be deduced not only from specific questions concerning expected and developed competencies but also from the description of performed tasks. From a methodological viewpoint, some authors (Bosio, 2011) have analyzed competency by deducing it from the performed activities. This procedure of deduction of competencies from performances is a framing task, i.e. a method for configuring and surveying students' work. Thus, if a student was engaged in test administration (assessment) tasks, then the acknowledgment of the development of an assessment competency is expected.

In addition, we supposed that analyzing the performed tasks would be useful to investigate the implicit dimension of competence, whereas analyzing the competences expected and developed might enable inquiry into its explicit dimension.

Two independent judges – academic researchers and experts in the evaluation of psychologist competences – performed the content analysis. The agreement between the judges reached a sufficiently high level for the analysis concerning the competency domains ($r = 0.83$) and the level of expertise ($r = 0.89$). Any disagreement was settled through the intervention of a third judge.

All the answers seemed to fit into at least one category from the PCO; thus, every answer was coded. Moreover, the questions usually generated answers that could be categorized into different competency domains. Thus, the total number of analyzed competencies was greater than the number of students in the study[3].

In addition, we computed the frequency of each competency domain and the level of expertise for the competences expected, acknowledged as developed and inferred from performed tasks and used a χ^2 test to calculate the frequency distribution[4]. The same

procedure was followed to calculate the relation between the type of facility and the competences expected, developed and inferred.

Results

Expected competencies

The analysis of the answers to the question "Which competencies do you think can be developed during the practicum experience?" revealed that Psychological Assessment (27 per cent) was the most frequent competency domain, and this result was also statistically significant ($\chi^2 = 170.80$; df = 9; $1-p > 99.99$)[5]. Interestingly, domains such as Application of Research, Leadership and Diversity: Individual and Cultural Differences have a null frequency (Table I).

The most frequent level of expertise is the novice level (75 per cent)[6], followed by the intermediate (23.8 per cent) and the advanced (1.2 per cent) levels. The novice level is present in some domains, such as Metaknowledge/Metacompetences, Ethics and Supervisory Skills. The most frequent expected competency domain, Psychological Assessment also presents an intermediate level of expertise, such as Professional Development, Knowledge from Classroom Experience, Intervention and Relationship/Interpersonal skills. Moreover, Personality Characteristics is the only domain to present some advanced level of expertise.

Furthermore, students who performed the practicum at facilities for the treatment and rehabilitation of mental patients expected to develop more knowledge from classroom experience ($\chi^2 = 55.775$; df = 35; $1-p \geq 99.99$).

Competencies acknowledged as developed

The content analysis of the answers to the question "Which competencies do you think you have developed during the practicum experience?" showed a statistically significant frequency ($\chi^2 = 279.92$; df = 9; $1-p > 99.99$) for Professional Development (24.2 per cent). Even in this case, the domains Diversity: Individual and Cultural Differences and Leadership, along with the Supervisory Skills domain, had null frequencies (Table II).

Regarding the level of expertise, the novice level is the most frequent even in the analysis for competences acknowledged as developed (57.9 per cent)[7], followed by the intermediate (32.3 per cent) and the advanced (9.8 per cent). Novice is the only level present in some domains, such as Ethics, Consultation/Interprofessional Collaboration and Application of Research. Nevertheless, compared to the analysis of expected competences, some competency domains, such as Psychological Assessment, Professional Development, Knowledge from Classroom Experience and Metaknowledge/Metacompetences, have an increased frequency of the intermediate and advanced levels. A similar trend, although less marked in terms of frequency, it is noted for Personality Characteristics and Relationship/Interpersonal Skills.

Concerning the relation between the type of facility and developed competences, students who performed the practicum at facilities for the treatment and rehabilitation of mental patients perceived to have mainly developed Personality Characteristics ($\chi^2 = 69.894$; df = 48; $1-p > 99.99$).

Competencies deduced from the performed tasks

The content analysis of the answers to the question "Which tasks have you performed during the practicum experience?" showed a statistically significant frequency for the Psychological Assessment competency (37.1 per cent) ($\chi^2 = 663.88$; df = 11; $1-p >$

Table I.
Frequency and percentage of expected competency domains

Competency domain	Example response	No. of response	(%)	Level of expertise Novice (%)	Intermediate (%)	Advanced (%)
Psychological Assessment	I would like to develop competencies in the administration of surveys concerning the adaptive behavior of patients affected by mental retardation	76	27.0*	84.2	15.8	0
Relationship/Interpersonal Skills	I believe I can develop new competencies about the relationship and the reception of patients in the working context	55	19.5	70	30	0
Personality Characteristics, Intellectual and Personal Skills	I hope I can improve my listening skills and I have more consideration of patients' viewpoints	39	13.8	58.8	35.3	5.9
Metaknowledge/Metacompetencies	I think the practicum can help me in understanding what my talents are and what my problems are	27	9.6	100	0	0
Professional Development	I hope I can develop competence in drawing up observation protocols and reports	26	9.2	90	10	0
Knowledge from Classroom Experience	I expect to enhance the knowledge about interventions with autistic children	21	7.4	81.3	18.8	0
Intervention	I hope I will be able to arrange health and education interventions	21	7.4	75	25	0
Consultation/Interprofessional Collaboration	I hope I will learn how to collaborate with professionals, such as physician and social assistants	12	4.3	100	0	0
Ethics	I expect to learn the basics about laws and rules	4	1.4	100	0	0
Supervisory Skills	I expect I can understand which are role and goals of the supervision	1	0.4	100	0	0
Leadership	–	0	0	0	0	0
Diversity: Individual and Cultural Differences	–	0	0	0	0	0
Application of Research	–	0	0	0	0	0

Note: *$1 - p > 99.99$

Table II.
Frequency and percentage of developed competencies domains

Competency domain	Example response	No. of responses	(%)	Level of expertise Novice (%)	Intermediate (%)	Advanced (%)
Professional Development	I developed competences are mainly reflexive competences	109	26.6*	59.1	49.9	0
Psychological Assessment	I learned how to administer and analyze the MMPI-2 test	81	19.8	51.9	35.2	13
Personality Characteristics, Intellectual and Personal Skills	I developed empathic communication skills with cancer patients	77	18.8	55.6	34.9	9.5
Relationship/Interpersonal Skills	I learned how to establish rapport with disabled persons	42	10.3	55	35	10
Knowledge from Classroom Experience	I developed an above average knowledge of regulative principles of group and psychotic-patient psycho-dynamics	33	8.1	69.2	19.2	11.5
Metaknowledge/Metacompetencies	I learned more about the professional competencies of a psychologist and my own in particular	26	6.4	50	37.5	12.5
Consultation/Interprofessional Collaboration	I learned how to collaborate within a team with psychologists and social workers	19	4.6	100	0	0
Intervention	I developed competencies in the planning of activities for health education interventions	16	3.9	60	40	0
Ethics	I acquired some competences with regard to the application of our professional ethical code	4	1.0	100	0	0
Application of Research	I learned how to analyze data for a research run during practicum	2	0.5	100	0	0
Leadership	–	0	0	0	0	0
Diversity: Individual and Cultural Differences	–	0	0			
Supervisory Skills	–	0	0	0	0	0

Note: *$1 - p > 99.99$

99.99 per cent). In contrast to the previous analysis, the Intervention and Consultation/Interprofessional Collaboration domains appeared with higher frequencies. Particularly, the frequency of the Supervisory domain also increased (Table III).

Concerning the level of expertise, the intermediate level has the highest frequency (49.5 per cent)[8], followed by the novice (45.3 per cent) and the advanced (5.2 per cent) levels. Some competency domains (Psychological Assessment, Knowledge from Classroom Experience, Intervention, Professional Development and Consultation/Interprofessional Collaboration) actually present an evident increase in the frequency of the intermediate level. Novice continues to be the only level present in some domains, such as Ethics, Supervisory Skills, Application of Research, Leadership and Metaknowledge/Metacompetences.

No significant relation exists between the type of facility and competence deduced from the performed tasks ($\chi^2 = 53.299$; df = 48; $1-p \leq 99.99$).

Discussion

Concerning the analysis of the expected competences, the results reveal that the Psychological Assessment domain was frequently observed. This may be attributed primarily to its broadness (Krishnamurthy *et al.*, 2004); it reflects potential psychological dynamics enacted during the current relation with the practicum context, which suggests, for instance, a sort of compulsive drive to be able to do. This dynamic often characterizes the approach of a young psychologist in the first practicum setting. Students consider the practicum as a concrete reality facilitating performance and the development of their understanding of being a psychologist.

Regarding the second objective of the study, the results reveal that the novice level has significantly highest frequency, followed by the intermediate level and the advanced level with a very low rate. This result is consistent with that of the prepracticum formative step of students who face some difficulties in clearly perceiving more complex levels of expertise of competences. According to the PCO, students' knowledge, skills and attitudes in the various domains of professional competency can grow and develop only during the experience, namely, when the students engage in psychological practice at different facilities.

Concerning the third objective of the study, the results suggest that students who performed their practicum at facilities for the rehabilitation and treatment of mental patients expected to develop mainly Knowledge from Classroom Experience. Notably, a significant relation exists between this type of facility in both the expected and the developed competences. Regarding the competences acknowledged as developed, students perceived to have developed mainly Personality Characteristics. As mentioned in the Introduction, these two areas of competencies belong to the macro category of baseline competences that the student should have sufficiently developed during the prepracticum coursework. This facility, in comparison with the others, is mostly populated by patients who are frequently affected by severe and chronic psychopathology. Within this context, it is common for students to experience for the first time to a high emotional impact that may generate feelings of impotence and incompetence. We hypothesize that students' perceptions, rather than being centered on new competency domains, may mostly be related to more "familiar" competences that they sufficiently developed during their prepracticum coursework. It might be easier for them to expect or recognize that they have developed competences relating with what is

Table III.
Frequency and percentage of competency domains deduced from the performed tasks

Competency domain	Example response	No. of response	(%)	Level of expertise Novice (%)	Intermediate (%)	Advanced (%)
Psychological Assessment	I administered tests and supervised diagnostic interviews with children	165	37.1*	47.1	48.8	4.1
Intervention	I have been involved in creative rehabilitation with children	72	16.2	35.3	52.9	11.8
Consultation/Interprofessional Collaboration	I collaborate with psychiatrists in order to establish with them and my tutor how to revise the intervention for some patients	61	13.7	37.5	62.5	0
Professional Development	I filled in medical records and wrote observation protocols and reports	52	11.7	38.5	61.5	0
Relationship/Interpersonal skills	I began a trusted relationship with disabled children	34	7.6	71.4	28.6	0
Knowledge from Classroom Experience	I experienced and learned some syndromes that I did not yet know about	24	5.4	56.7	36.7	6.7
Supervisory Skills	I have been involved in meetings for supervising some cases	22	4.9	100	0	0
Application of Research	I administered surveys and analyzed data for research on school bullying	7	1.6	100	0	0
Metaknowledge/Metacompetencies	I thought about competencies I have already developed and ones that I have not yet learned	4	0.9	100	0	0
Personality Characteristics, Intellectual and Personal Skills	I tested my empathic skills and I endured patients' silence	2	0.4	66.7	33.3	0
Leadership	I have been involved in an organizing committee that should take decisions about some activities for a project of intervention with disabled students	1	0.2	100	0	0
Ethics	I often realized I must observe professional secrecy and avoid clear references to patients	1	0.2	100	0	0
Diversity: Individual and Cultural Differences	–	0	0	0	0	0

Note: *$1 - p > 99.99$

the mental illness, what psychologists have to do with such severe patients and which personality attitudes (empathizing, tolerating frustration and uncertainty and wanting to help the patient) are necessary to manage the impact on problematic clients.

Focusing on the developed competences, we highlight the statistically significant frequency of Professional Development. This category includes a set of methodological competencies concerning knowhow and the management and organization of resources within a given setting to refine, improve and redefine one's psychological function with time.

Conversely, the Diversity: Individual and Cultural Differences, Development of Leadership, Application of Research and Ethics domains are poorly acknowledged as developed competencies.

Concerning the level of expertise, the results indicate a higher degree of specialization of competences. Even if the novice level continues to be significantly most frequent, there is an evident increase of the intermediate and advanced descriptors of competence expertise. Some competency domains perceived as expected to develop in the previous analysis (i.e. Psychological Assessment, Professional Development, Knowledge from Classroom Experience, etc.) have an increased frequency of the intermediate and advanced levels. The same domain of Professional Development is not only perceived with a higher frequency but also at a more specialized level of expertise. We assume that after the practicum, students acknowledge to have developed more complex levels of competence.

Concerning the analysis of the competencies derived from performed tasks, the results reveal a statistically significant frequency for the Psychological Assessment competency. Moreover, other domains (e.g. Intervention, Consultation/ Inter-professional Collaboration and Supervision) appear with higher frequency, highlighting different practices and functions for the psychologist's role and more sectors and collaborations with other professionals.

The analysis regarding the levels of expertise indicates that in addition to a greater variety of recognized competency domains, a greater degree of specialization of competence exists for Psychological Assessment and other competency domains (i.e. Knowledge from Classroom Experience, Intervention, etc.). In fact, the intermediate level is significantly the most frequent, followed by the novice and advanced levels.

Moreover, no competency domains (Ethics, Application of Research, Supervisory Skills and Leadership) report any frequency of the intermediate or of advanced level in any of the three analyses. This result is consistent with Hatcher and Lassiter's prediction that substantial competence is expected in some areas (e.g. Professional Development), whereas some competencies are needed only the beginning of understanding (e.g. Leadership). This means that a student, or any psychologist, may be an expert in some competency domains and a novice in others.

Overall, the results reveal that some competency domains, such as Psychological Assessment and Professional Development, are more acknowledged and are perceived as more specialized after practicum experience. Other domains (Ethics, Application of Research, Supervisory Skills and Leadership) are poorly recognized and constantly present the novice level of expertise. Finally, some domains (Consultation/Interprofessional Collaboration, Intervention, etc.) indicate a greater frequency only in the analysis relating to the competences deduced from performed tasks and increase in the level of expertise.

We provide a different hypothesis to interpret the poor recognition of some competency domains. First, we consider the shortness of the practicum experience, which is only 200 hours long and might not be sufficient for developing a large set of competencies. We know that a short practicum may facilitate the development of skills but not genuine competencies and that students may need more time to recognize the developed competencies and consider themselves competent while developing different types of competencies. Nevertheless, in this short time, each domain has the same probability of development and recognition, although a few domains are explicitly acknowledged. We formulate the hypothesis that certain competences remain at an implicit level of recognition, whereas others have an access to an externalization process in explicit competences. For example, consider what happens in the analysis inherently with the competences deduced from the performed tasks. Some domains were reported with a sufficiently high frequency, but they were not acknowledged when the students were asked regarding expected or developed competencies. In general, the students seemed unable to externalize these competencies when tasks corresponding to some domains were performed.

We believe that the process of conversion of the implicit competence into explicit competence is mediated by specific factors. Furthermore, we discuss these influencing factors to understand the externalization of some domains and the lack of externalization of others by providing different types and levels of data interpretation.

Differences between domains

Comparing the domains described by the PCO is difficult. According to the cube model of competency domains (Rodolfa *et al.*, 2005), some domains are foundational, while others are functional. Moreover, some focus on the being able to be dimension (personality characteristics), whereas others focus on the being able to do dimension (assessment), knowing dimension (Knowledge from Classroom Experience) or knowhow dimension (Professional Development). Thus, each domain has different skill sets, abilities and predispositions, which are developed at different times. For example, a young psychology student involved in assessment activities asked to administer or evaluate a psycho-diagnostic test might develop the professional ability to conduct this procedure and consider this competency as a component of her skill set. Indeed, this domain is strongly associated with the being able to do dimension, as a more technical image of a professional practice involving easily acquired skills and, in some cases, smaller and less demanding reflexive deployment. Participants need not reflect on how to move and arrange their own resources to perform assessment activities; they just need to apply a set of skills related to the practicum specific context. Previous studies (Rodolfa *et al.*, 2005) have widely addressed the reflexive features of competence and the influence of these features on the feeling of competence.

However, a young psychologist involved in intervention activities in different settings may find it more difficult to recognize his ability to plan, master, organize or evaluate a psychological intervention. In this case, more complex skills requiring a greater amount of subjectivity are considered. These skills are organized and coordinated according to a metacognitive reflexive thinking that a student might not have developed during this formative step, and the trainee will more likely learn technical competencies with a higher specification of step-by-step operation (Esposito and Freda, 2015b).

Context-specific features of the practicum

In this study, the students performed different tasks in clinical facilities, and the choice of these facilities was based on a specific clinical and dynamic academic path offered through the degree program. We propose that this feature also influenced the explicit acknowledgment of primarily clinical competencies, e.g. the assessment competency. Indeed, the students not only participated in clinical activities but also readily acknowledged these familiar competencies and had a greater theoretical background concerning the competency domains. In addition, an affective–emotional interpretation is also reasonable. Indeed, students can easily recognize clinical competencies, as these individuals are motivated by a "desire" to become competent in the role of clinical psychologist for which they chose university education and experiences during the practicum. Moreover, during the initial supervised practice, competencies primarily of a clinical nature and often considered as basic competencies for the psychological profession are expected to develop and to be recognized as developed. Other domains focused on competencies involving different areas of the psychological profession are typically learned during subsequent steps of supervised practice (Bosio, 2011).

The importance of the cultural context

A different relevance has been considered for some competencies within our degree program and the facilities where the practicum activities were performed, reflecting social and cultural phenomena typical of the Italian academic psychological formation. The local context that we considered describes, under many perspectives, a micro-system reflecting the organizational dimension, practice and aim of the Italian academic formative system.

For example, consider the low frequency of the Application of Research domain, which is moreover perceived by students only at a novice level. In the Italian academic and internship formative paths, the focus on promoting research competencies is less than that in the US context. Our degree program is organized so that the students are only exposed to psychological research and methods and subsequently develop competencies only during PhD activities. Thus, the students observed in this study exhibited difficulties considering themselves as competent not only because of little participation in research activities but also because, culturally, this domain is not considered to be fundamental and distinctive for the psychologist role. Remarkably, the students in this study did not acknowledge the Supervision domain as developed, even when the individual participated in several supervision groups. The PCO specifies that the practicum experience should not necessarily confer mastery of specific supervisory competencies, but it should spur the acquisition of a familiarity with the role and duties of the supervisor. Consistently, the students in this study perceived their supervisory skills only at a novice level. However, we propose that the difficulty in acknowledging this competency, although highlighted in previous studies (Falender and Shafranske, 2012), also depends on difficulties in both the conceptualization of this domain and the consideration of this competency as one that is necessary for young psychologists.

The process of validating the professional role

The analysis of the competencies derived from the performed tasks indicated that other domains appear with higher frequency that highlight different functions and practices for the psychologist's role, contributing to a more multifarious and complete portrait of it.

We believe that a traditional representation of psychologist role emerges from the analysis of expected and developed competencies: according to Bosio (2011), this role can be defined as a classic professionalism. This term suggests that the psychological profession is an elective and unique occupation. From our point of view, this role of the psychologist is expected and acknowledged as developed by students probably because it might be the easiest way in which a young psychologist can represent the profession during initial professional practice, as it primarily concerns diagnostic and assessment sectors.

However, from the analysis of the performed tasks, the level of expertise of other domains is more complex compared with that of the two previous domains, and a more fluid and versatile role for the psychologist emerges, involving more sectors and collaborations with other professionals; this role is closely associated with forms of neo-professionalism (Bosio, 2011). The practicum tasks indicate professional activities and highlight the versatile areas in which it is possible to work. We assume that this versatility and recognition of a more specialized level of competence are not explicitly converted into codified competencies because they are rather influenced by a representation of the psychologist role strongly associated with the "traditional" psychologist who works in her own consulting room, diagnosing and treating patients.

We attribute this lack of externalization to cultural processes of role validation that, according to some studies (Chang *et al.*, 2008), tend to label, even nowadays, the diagnostic psychologist as the "good psychologist." This cultural process might influence the acknowledgment of different competency domains. For a young student in a professional practice for the first time, developing a professional identity can be difficult (and might be risky) to acknowledge, questioning the traditional and validating the psychologist role.

Implications

This study has practical implications for the training and assessment of competence. First, it delineates some guidelines in developing interventions in professional psychology. For example, degree programs should foster the development of different competencies concerning domains that are often poorly encouraged and evaluated (Ruane, 2012). Indeed, the conscientious development of the psychological profession, according to the Competencies Conference, involves merging different domains that should be encouraged in academic contexts and practicum settings (Wendlandt and Rochlen, 2008). Moreover, degree programs should specifically focus on the training and development of different levels of expertise of competence to enable students to gradually reach rates that are more advanced during their professional activity. We know from the literature that in recent years, the nature of expertise and its development have received considerable attention in educational research. We believe that using a set of stepwise descriptors, such as the novice, intermediate and advanced levels, could be a useful tool for academic programs to strengthen assessment and training procedures addressed to students. Furthermore, we assume that academic programs present students with a more versatile and multifaceted psychologist role involving higher frequency cut-crossing competencies that do not depend on the specific theoretical model of the degree program. Additional studies might help to reduce the distance between a profession that expands and branches over time and shows different aspects in supervised practical settings and the representation of the psychologist profession associated with traditional viewpoints. Thus, academic and supervised practical

training entities must essentially cooperate to promote procedures and tools for forming and assessing the competencies obtained by the students (Eby *et al.*, 2011). Moreover, they must provide a coherent perception of students' professional development using different and multifaceted activities, identify the functions and aims currently required of psychologists, reduce the distance between academic and supervised practical sites and utilize competence as an associative link (Kaslow *et al.*, 2004).

The study has some research implications. It indicates that developing interventions that cannot disregard the analysis of students' self-perception of competences is important. This means that degree programs must consider students' subjectivation of the practicum experience to enhance an effective professional identity; moreover, interventions have to be aimed at exploring the processes (cultural, emotional, etc.) that mediate the conversion of implicit competence in explicit.

This study provides an evaluative viewpoint that is useful for investigating the implicit competencies that represent different roles and psychological competencies, which are difficult to analyze using traditional evaluation approaches. In general, we propose that research concerning psychological competence should focus not only on what is present, i.e. what the students acknowledge as developed, but also on what is absent, i.e. not explicit through the linguistic code but present at an implicit level (Freda, 2011; Salvatore and Freda, 2011). The lack or low frequency of a domain does not necessarily suggest that this competency has not been instilled or learned, but it could not be acknowledged at an explicit level. We propose that a useful intervention context might facilitate the externalization of implicit competencies to provide students with the recognition of a richer and more versatile set of competencies.

This study has some limitations. First, similar to other studies involving self-assessment, it has poor reliability and the results are difficult to generalize, as the analyses are based on subjective perceptions (Bacchini *et al.*, 2009; Bowman and Seifert, 2011). However, this study aimed at analyzing the subjective perception of expected and developed psychological competencies in the practicum experience rather than evaluating the "objective" competence level. We propose that self-assessment procedures are useful for providing information concerning the observed differences between implicit and explicit competencies. Thus, academic formative courses should foster self-assessment procedures during different formation steps and, particularly, at the beginning and end of transitional steps, such as supervised practical training (Forrest *et al.*, 2008). However, the formative entities should also involve hetero-assessment procedures to compare the results. Therefore, future research could include the tutor assessment of trainee competencies and use objective measures, such as exam grades, to obtain information concerning the gap between the subjective and objective perceptions of competencies.

Another limitation is that the students were all enrolled in the same degree program, with a primarily clinical and dynamic orientation. Indeed, including students enrolled in degree programs with different orientations would have provided different information concerning changes in the perception of psychological competences associated with the theoretical and formative models of specific degree courses.

Notes

1. These levels have been defined according to the Dreyfus model (Dreyfus and Dreyfus, 1986).
2. According to the Bologna Process launched in 1999, the current Italian legislation concerning

academic courses (DM 270) identifies the steps in the psychology academic path. This academic path begins with a three-year long "Laurea Triennale" degree (Bachelor equivalent) course, after which the student is considered a "Psicologo Junior" (Junior Psychologist). Optionally, the student might enroll in a two-year long "Laurea Magistrale" degree (Master equivalent) program, after which the student is considered a "Dottore in Psicologia" (Doctor in Psychology). The qualification of "Psicologo" (Psychologist) is achieved only after passing a licensing examination for professional practice. Finally, psychologists wanting to become psychotherapists must enroll in a (four- or five-year long) school specializing in psychotherapy and those wanting to pursue the academic and research careers must enroll in a three-year PhD program.

3. Specifically, we computed 282 expected competences, 409 acknowledged as developed and 445 deduced from performing tasks.
4. The χ^2 has been calculated using SPHINX software (Lexica version).
5. The χ^2 test does not consider domains with null frequencies.
6. There is a statistically significant frequency for the novice level of expertise ($\chi^2 = 183.570$; df = 2; $1-p \geq 99.99$).
7. There is a statistically significant frequency for the novice level of expertise ($\chi^2 = 74.477$; df = 2; $1-p \geq 99.99$).
8. There is a statistically significant frequency for the intermediate level of expertise ($\chi^2 = 77.112$; df = 2; $1-p \geq 99.99$).

References

Angioni, G. (2004), "Doing, thinking, saying", in Sanga & Ortalli (eds), *Nature Knowledge*, Berghahm Books, New York, NY; Oxford, pp. 249-261.

Bacchini, D., Esposito, G. and Affuso, G. (2009), "Social experience and school bullying", *Journal of Community & Applied Social Psychology*, Vol. 19 No. 1, pp. 17-32, available at: http://dx.doi.org/10.1002/casp.975

Bosio, A.C. (2011), *Fare lo psicologo. Percorsi e prospettive di una professione [Being a psychologist. Routes and perspectives for a profession]*, Raffaello Cortina Editore, Milano.

Bowman, N.A. and Seifert, T.A. (2011), "Can college students accurately assess what affects their learning and development?", *Journal of College Student Development*, Vol. 52 No. 3, pp. 270-290. doi: 10.1353/csd.2011.0042.

Busacca, L.A. (2002), "Career problem assessment: a conceptual schema for counselor training", *Journal of Career Development*, Vol. 29 No. 2, pp. 129-146. doi: 10.1177/089484530202900204.

Chang, K., Ling Lee, I. and Hargreaves, T.A. (2008), "Scientist versus practitioner-an abridged meta-analysis of the changing role of psychologists", *Counselling Psychology Quarterly*, Vol. 21 No. 3, pp. 267-291. doi: 10.1080/09515070802479859.

Dreyfus, H.L. and Dreyfus, S.E. (1986), *Mind Over Machine: The Power of Human Intuition and Expertise in the Era of the Computer*, The Free Press, New York, NY.

Eby, M.D., Chin, J.L., Rollock, D., Schwartz, J.P. and Worrel, F.C. (2011), "Professional psychology training in the era of a thousand flowers: dilemmas and challenges for the future", *Training and Education in Professional Psychology*, Vol. 5 No. 2, pp. 57-68. doi: 10.1037/a0023462.

Epstein, R.M. and Hundert, E.M. (2002), "Defining and assessing professional competence", *Journal of the American Medical Association*, Vol. 287 No. 2, pp. 226-235. doi: 10.1001/jama.287.2.226.

Esposito, G. and Freda, M.F. (2015a), "Evaluating training context competence of use: productive and unproductive models of use", *Evaluation and Program Planning*, Vol. 50, pp. 77-87. doi: 10.1016/j.evalprogplan.2015.02.003.

Esposito, G. and Freda, M.F. (2015b), "Reflective and agentive functions of narrative writing: a qualitative study on the narratives of university students", *Integrative Psychological & Behavioral Science*, Vol 49 No. 4. doi: 10.1007/s12124-015-9323-5.

Falender, C.A. and Shafranske, E.P. (2012), "The importance of competency-based clinical supervision and training in the twenty-first century: why bother?", *Journal of Contemporary Psychotherapy*, Vol. 42 No. 3, pp. 129-137. doi: 10.1007/s10879-011-9198-9.

Fogarty, R. (1994), *How to Teach for Metacognition*, IRI/Skylight, Palatine, IL.

Forrest, L., Schen Miller, D.S. and Elman, N.S. (2008), "Psychology trainees with competence problems: from individual to ecological conceptualizations", *Training and Education in Professional Psychology*, Vol. 2 No. 4, pp. 183-192. doi: 10.1037/1931-3918.2.4.183.

Fouad, N.A. (2003), "Career development: journeys of counselors", *Journal of Career Development*, Vol. 30 No. 1, pp. 81-87. doi: 10.1177/089484530303000106.

Freda, M.F. (2011), "Understanding continuity to recognize discontinuity", *Integrative Psychological and Behavioral Science*, Vol. 45 No. 3, pp. 335-346. doi: 10.1007/s12124-011-9169-4.

Freda, M.F., Esposito, G. and Quaranta, T. (2015), "Promoting mentalization in clinical psychology at universities: a linguistic analysis of student accounts", *Europe's Journal of Psychology*, Vol. 11 No. 1, pp. 34-49. doi: 10.5964/ejop.v11i1.812.

Gross, S.M. (2005), "Student perspectives on clinical and counselling psychology practica", *Professional Psychology: Research and Practice*, Vol. 36 No. 3, pp. 299-306. doi: 10.1037/0735-7028.36.3.299.

Hatcher, R.L. and Lassiter, K.D. (2007), "Initial training in professional psychology: the practicum competencies outline", *Training and Education in Professional Psychology*, Vol. 1 No. 1, pp. 49-63. doi: 10.1037/1931-3918.1.1.49.

Kamen, C., Veilleux, J.C., Bangen, K.J., VanderVeen, J.W. and Klonoff, E.A. (2010), "Climbing the stairway to competency: trainee perspectives on competency development", *Training and Education in Professional Psychology*, Vol. 4 No. 4, pp. 227-234. doi: 10.1037/a0021092.

Kaslow, N.J., Borden, K.A., Collins, F.L. Jr, Forrest, L., Illfelder-Kaye, J., Nelson, P.D. and Rallo, J.S. (2004), "Competencies conference: future directions in education and credentialing in professional psychology", *Journal of Clinical Psychology*, Vol. 60 No. 7, pp. 699-712. doi: 10.1002/jclp.20016.

Krishnamurthy, R., VandeCreek, L., Kaslow, N.J., Tazeau, Y.N., Miville, M.L., Kerns, R., Stegman, R., Suzuki, L. and Benton, S.A. (2004), "Achieving competency in psychological assessment: directions for education and training", *Journal of Clinical Psychology*, Vol. 60 No. 7, pp. 725-739. doi: 10.1002/jclp.20010.

Le Boterf, G. (2000), *Construire les compètences individuelles et collectives [Building individual and common competencies]*, Les Editions d'Organisation, Paris.

Miller, R. (2012), "Structuring the capstone experience in psychology", *Teaching and Education in Psychology, International Journal of Psychology*, Vol. 47(Supp 1), pp. 744-757, doi: 10.1080/00207594.2012.709130.

Mok, M.M.C., Lung, C.L., Cheng, D.P.W., Cheung, R.H.P. and Lee Ng, M. (2006), "Self-assessment in higher education: experience in using a metacognitive approach in five case studies", *Assessment and Evaluation in Higher Education*, Vol. 31 No. 4, pp. 415-433. doi: 10.1080/02602930600679100.

Moore, T. (2011), "Critical thinking: seven definitions in search of a concept", *Studies in Higher Education*, Vol. 36, pp. 1-17. doi: 10.1080/03075079.2011.586995.

Nonaka, I. and Takeuchi, H. (1995), *The Knowledge Creating Company*, Oxford University Press, New York, NY.

Polanyi, M. (1966), *The Tacit Dimension*, Routledge, London.

Proctor, J. (1991), *Using Competencies for Management Development*, Henley Distance Learning Limited for National Health Service Training Directorate, Her Majesty's Stationery Office, London.

Roberts, M.C., Borden, K.A., Christiansen, M.D. and Lopez, S.J. (2005), "Fostering a culture shift: assessment of competence in the education and careers of professional psychologists", *Professional Psychologist: Research and Practice*, Vol. 36 No. 4, pp. 355-361. doi: 10.1037/0735-7028.36.4.355.

Rodolfa, E., Bent, R., Eisman, E., Nelson, P., Rehm, L. and Ritchie, P. (2005), "A cube model for competency development: implications for psychology educators and regulators", *Professional Psychology: Research and Practice*, Vol. 36 No. 4, pp. 347-354. doi: 10.1037/0735-7028.36.4.347.

Rodolfa, E.R., Owen, J.J. and Clark, S. (2007), "Practicum training hours: fact and fantasy", *Training and Education in Professional Psychology*, Vol. 1 No. 1, pp. 64-73. doi: 10.1037/1931-3918.1.1.64.

Ruane, I. (2012), "The reality we construct in training", *Professional Training and Licensure. International Journal of Psychology*, Vol. 47(Supp 1), pp. 641-648, doi: 10.1080/00207594.2012.709121.

Rychen, D.S. and Salganik, L.H. (Eds) (2001), *Defining and Selecting Key Competencies*, Hogrefe & Huber Publishers, Seattle, WA.

Salvatore, S. and Freda, M.F. (2011), "Affect, unconscious and sensemaking: a psychodynamic, semiotic and dialogic model", *New Ideas in Psychology*, Vol. 29 No. 2, pp. 119-135. doi: 10.10167j.newideapsych.2010.06.001.

Sumerall, S., Lopez, S.J. and Oehlert, M.E. (2000), *Competency-based Education and Training in Psychology*, Charles C. Thomas, Springfield, IL.

Warnier, J.P. (1999), *Construire la culture matérielle – L'homme qui pensait avec ses doigts*, PUF, Paris.

Wendlandt, N.M. and Rochlen, A.B. (2008), "Addressing the college-to-work transition: implications for university career counselors", *Journal of Career Development*, Vol. 35 No. 2, pp. 151-165. doi: 10.1177/0894845308325646.

Wenger, E. (1998), *Communities of Practice: Learning, Meaning, and Identity*, Cambridge University Press, Cambridge.

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