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Cognitive Complexity Across Supervision and Counseling Competencies of Counselors-in-Training in Malaysia

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Abstract. Counseling competency is a fundamental component of counselor education, as counselor trainees are expected to develop the knowledge, skills, professional dispositions, and behaviors necessary to conduct effective and ethical counseling practice. Although counseling competency has received significant attention within counselor education and supervision, deeper exploration is required regarding the cognitive characteristics associated with competency throughout the supervision process. Cognitive complexity defined as the ability to differentiate, integrate, and interpret complex information from multiple perspectives may be particularly relevant in counseling practice, especially when counselor trainees must understand multidimensional client experiences while balancing theoretical, interpersonal, cultural, and professional factors. This concept paper proposes a conceptual framework examining the direct relationship between pre- and post-supervision cognitive complexity and counseling competency among counselor trainees. Grounded in literature on cognitive complexity, counseling competency, counselor education, and clinical supervision, this paper posits that pre- and post-supervision cognitive complexity levels are positively related to counseling competency. The proposed framework conceptualizes cognitive complexity at two supervision-related time points as distinct measures, whereas counseling competency represents the outcome construct. This framework provides a clear, concise foundation for understanding the relationship between cognitive complexity and counseling competency across the supervision process, while establishing a basis for future empirical validation within counselor education and supervision.

Keywords: *Cognitive Complexity; Counseling Competencies; Counselor Trainees; Clinical Supervision; Counselor Education*

INTRODUCTION

Counseling competency is a fundamental component of professional counseling practice, as counselors are expected to deliver effective and ethical services that align with professional standards. Early conceptualizations of counseling competency emphasized the acquisition and demonstration of basic counseling skills. However, over time, this concept has evolved to encompass broader professional capacities, including counseling skills, professional dispositions, professional behaviors, interpersonal abilities, conceptual understanding, self-awareness, and the capacity to respond appropriately to clients' social and cultural contexts [1], [2], [3], [4]. Consequently, contemporary perspectives conceptualize counseling competency as a multidimensional construct extending beyond technical proficiency to include the professional qualities and behaviors that allow counseling knowledge and skills to be applied effectively in practice [4], [5].

The multidimensional nature of counseling competency is reflected in the Counseling Competencies Scale-Revised (CCS-R), which encompasses counseling skills and therapeutic conditions, as well as counseling dispositions and behaviors [5]. This conceptualization demonstrates that competent counseling entails not only the ability to apply specific techniques, but also the capacity to respond appropriately, professionally, and effectively to complex client situations. Accordingly, developing counseling competency requires counselor trainees to integrate knowledge, skills, professional dispositions, and behaviors throughout their professional preparation.

Counselor education provides a vital context for this developmental process through academic coursework, skills training, practicum, internship training, and clinical supervision. Among these experiences, supervision offers a structured environment for counselor trainees to receive feedback, examine

their practice, foster self-awareness, and integrate theoretical knowledge with practical experience [6]. Supervision also provides opportunities for counselor trainees to demonstrate their developmental progress while receiving continuous guidance and evaluation. As counselor trainees encounter increasingly complex counseling scenarios, they must process client concerns, evaluate their own responses, incorporate supervisor feedback, and determine effective approaches for subsequent client interactions.

These demands demonstrate that counseling competency involves cognitive processes alongside observable counseling skills. Counselor trainees must process information from multiple sources, consider alternative interpretations, identify connections between various aspects of client experiences, and integrate information when making counseling decisions. Such demands are particularly relevant in the context of supervision, where counselor trainees are expected to reflect on their practice and integrate supervisor feedback into their developing professional understanding [7].

One construct offering a relevant perspective on these cognitive demands is cognitive complexity. Cognitive complexity generally refers to the ability to differentiate and integrate information and interpret individuals, events, and situations from multiple perspectives. In the counseling context, cognitive complexity involves the capacity to assimilate, integrate, analyze, reflect upon, and adapt various information sources to form a more comprehensive understanding of clients and their circumstances [8], [9], [10]. Rather than relying on simple or singular explanations, counselors with higher cognitive complexity are likely better equipped to recognize the multidimensional nature of client experiences and consider alternative perspectives in understanding counseling situations.

Cognitive complexity is particularly relevant in counseling because client concerns and issues are typically multidimensional and cannot be adequately understood through a single interpretation. Counselors must differentiate relevant information, consider alternative perspectives, tolerate ambiguity, and integrate cognitive and affective information when conceptualizing clients and determining appropriate responses. Prior literature has linked higher levels of cognitive complexity with the ability to provide more varied responses to clients, higher tolerance for ambiguity, clearer clinical hypothesis formulation, and a greater capacity to integrate information from multiple sources [11]. Cognitive complexity has also been associated with empathy and therapeutic responsiveness, indicating that the capacity to differentiate and integrate complex information is relevant to several key processes involved in effective counseling practice [8], [11].

Within the context of counselor education, this cognitive capacity may be especially relevant throughout the supervision process. Counselor trainees gain opportunities to examine and expand their counseling understanding through supervised practice, feedback, and reflection [6], [7]. Therefore, examining cognitive complexity across the supervision process can offer a useful perspective on how this cognitive characteristic relates to counseling competency at different stages of professional development.

The Present Study

Although cognitive complexity has been examined in relation to several counseling processes, existing literature has largely focused on specific outcomes, including empathy, therapeutic responsiveness, clinical judgment, clinical intervention, tolerance for ambiguity, and the differentiation and integration of client information [8], [10], [11]. While these findings highlight the relevance of cognitive complexity to counseling practice, less is known about its relationship with counseling competency as a broader multidimensional construct encompassing counseling skills, therapeutic conditions, professional dispositions, and professional behaviours [5]. Cognitive complexity may also be relevant across the developmental process of counselor education. Supervision provides counselor trainees with opportunities to receive feedback, reflect on counseling experiences, and develop professional capabilities [6].

However, limited attention has been given to examining cognitive complexity before and after supervision in relation to counseling competency. Moreover, cognitive complexity may be domain-specific, with counseling and supervision cognitive complexity representing related but distinct forms of cognitive functioning [10], [12]. To address this gap, this concept paper proposes a parsimonious framework examining the direct relationships of pre-supervision cognitive complexity and post-supervision cognitive complexity with counseling competency among counselor trainees. Supervision is positioned as the developmental context in which cognitive complexity is examined at two distinct time points. The framework proposes that higher levels of cognitive complexity before and after supervision are positively associated with counseling competency.

LITERATURE REVIEW

Counseling Competencies in Counselor Education

Counseling competency has developed from a focus on acquiring and mastering specific counseling skills to a broader, multidimensional understanding of effective professional practice. Early perspectives

emphasised counseling micro-skills, while later perspectives incorporated knowledge, interpersonal skills, professional dispositions, professional behaviors, conceptual abilities, self-awareness, and the ability to respond appropriately to diverse client needs and contexts [1], [2], [3], [4]. Thus, counseling competency involves not only the use of counseling techniques but also the professional qualities and behaviors needed to apply knowledge and skills effectively. The multidimensional nature of counseling competency is reflected in the Counseling Competencies Scale–Revised (CCS–R), which includes counseling skills and therapeutic conditions, as well as counseling dispositions and behaviors [5]. Counseling skills and therapeutic conditions include verbal and nonverbal skills that support the therapeutic relationship, while dispositions and behaviors reflect the professional qualities expected of counselor trainees. Therefore, counseling competency involves more than technical skills; it also includes how counselors understand clients, respond to them, and behave professionally throughout the counseling process.

The development of counseling competency is important in counselor education, as counselor trainees need to integrate theoretical knowledge, counseling skills, professional dispositions, and practical experience. Clinical supervision supports this development by providing opportunities to receive feedback, reflect on counseling practice, develop self-awareness, and connect theory with practice [6]. Supervision also allows trainees' developing competencies to be observed and evaluated. Therefore, counseling competency should be viewed as a developmental construct that develops through the integration of multiple professional capabilities rather than through the mastery of counseling techniques alone. This multidimensional view also highlights the importance of cognitive characteristics in competent counseling practice. Counselor trainees need to process client information, consider different perspectives, integrate theoretical and contextual information, evaluate their responses, and make appropriate professional judgments. These demands suggest that cognitive functioning may influence how counseling competency develops and is demonstrated. Cognitive complexity is particularly relevant because it involves the ability to differentiate and integrate information while considering multiple perspectives when understanding complex situations [8], [10].

Cognitive Complexity in Counselor Development

Cognitive complexity refers to the ability to differentiate and integrate information and to understand individuals, events, and situations from multiple perspectives. In counseling, it involves the capacity to combine, analyze, and reflect upon information to gain a more comprehensive understanding of clients and counseling situations [9], [10]. Cognitive complexity is essential because client experiences are typically complex and cannot be adequately understood through a single explanation. Counselors must consider clients' thoughts, emotions, behaviors, relationships, experiences, and contexts, and integrate this information effectively. Higher levels of cognitive complexity are associated with a broader range of responses to clients, higher tolerance for ambiguity, clearer clinical hypothesis formulation, and a greater capacity to integrate information from diverse sources [11].

Cognitive complexity is also related to empathy, therapeutic responsiveness, and clinical interventions [11]. Counselors or counselor trainees with higher cognitive complexity demonstrate a superior ability to understand client feelings and provide appropriate responses [11]. Furthermore, cognitive complexity can vary across contexts, including counseling and supervision domains [10], [12]. Overall, cognitive complexity is a crucial characteristic in counselor development, as it encompasses the ability to understand and integrate client information, consider multiple perspectives, tolerate ambiguity, and form a comprehensive clinical conceptualization. These characteristics provide a foundation for examining its relationship with counseling competency.

Cognitive Complexity Across Supervision

Clinical supervision serves as an appropriate context for examining cognitive complexity because counselor trainees must process and integrate diverse professional information. During supervision, they evaluate counseling experiences, consider client needs, assess self-responses, receive supervisor feedback, and explore alternative ways of understanding or responding to clients. Thus, supervision is not merely passive information reception but requires counselor trainees to interpret, evaluate, integrate, and apply information in counseling practice. Development throughout supervision also underscores the importance of cognitive processes. As counselor trainees advance, they assume greater responsibility for evaluating their counseling practice and engage in reflective, self-directed professional learning [6]. Supervision provides them with opportunities to examine complex counseling experiences from multiple perspectives and integrate feedback with existing knowledge and experience.

Literature also indicates that cognitive complexity is related to counselor development. Duys and Hedstrom [8] found that cognitive complexity is associated with counseling skill development among counseling students. Similarly, Castillo [11] reported relationships between cognitive complexity and counseling skills, empathy, clinical intervention, tolerance for ambiguity, and clinical judgment. These findings suggest that cognitive complexity may be linked to processes supporting competency development

in counselor trainees. However, cognitive complexity should not be equated with supervision effectiveness nor assumed to function identically across counseling and supervision contexts. Washburn [12] distinguished counseling cognitive complexity from supervision cognitive complexity, demonstrating that while interrelated, they represent distinct domains.

Cognitive Complexity and Counseling Competencies

The reviewed literature provides a foundation for proposing a direct relationship between cognitive complexity and counseling competency. Counseling competency requires counselor trainees to master counseling skills, establish appropriate therapeutic conditions, and demonstrate professional dispositions and behaviors [5]. Cognitive complexity, conversely, involves the capacity to understand and integrate complex information, consider multiple perspectives, tolerate ambiguity, and form a comprehensive understanding of counseling situations [8], [10]. These two constructs are interrelated because competent counselors must process complex client information and apply that understanding to provide appropriate responses. The relationship of cognitive complexity with empathy, therapeutic responsiveness, clinical intervention, clinical judgment, and counseling skills further supports this connection [8], [11].

Cognitive complexity may also be related to various aspects of counseling competency. Within counseling skills, counselors must comprehend and integrate client information to deliver appropriate responses. Regarding professional dispositions and behaviors, counselors require flexibility, openness to alternative perspectives, tolerance for ambiguity, receptivity to feedback, and sound professional judgment. Thus, cognitive complexity may be associated with counseling competency overall. However, existing evidence is insufficient to indicate a consistent or causal relationship. Castillo [11] reported mixed findings in research examining cognitive complexity and counseling outcomes. Therefore, this concept paper posits that cognitive complexity shares a direct relationship with counseling competency, without asserting that cognitive complexity causes competency development.

Proposed Conceptual Framework

Based on the literature reviewed, this concept paper proposes that pre- and post-clinical supervision cognitive complexity have direct and positive relationships with counseling competency among counselor trainees. Cognitive complexity refers to the ability to understand and integrate complex information, consider multiple perspectives, tolerate ambiguity, and form a comprehensive understanding of clients and counseling situations [8], [9], [10]. This capacity is directly relevant to counseling competency, which encompasses counseling skills, professional dispositions, and professional behaviors [4], [5]. Prior research indicates that cognitive complexity is linked to empathy, therapeutic responsiveness, clinical judgment, tolerance for ambiguity, and the capacity to comprehend and integrate client information [8], [10], [11].

Within counselor education, supervision assists counselor trainees in applying counseling knowledge and skills, receiving feedback, engaging in reflection, and developing professional capabilities [6]. Therefore, examining cognitive complexity both pre- and post-supervision offers a clearer understanding of its relationship with counseling competency. The proposed conceptual framework positions pre-supervision cognitive complexity and post-supervision cognitive complexity as two predictor variables, with counseling competency functioning as the outcome variable, as shown below:

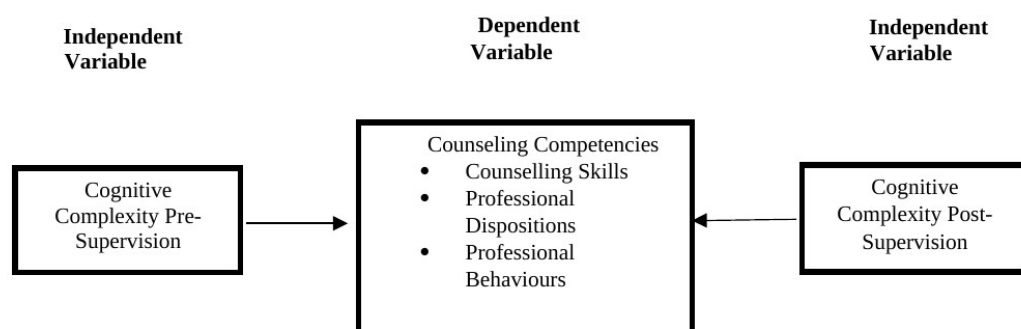


Figure 1. Proposed conceptual framework of cognitive complexity pre-supervision and post-supervision and counseling competencies among counselors-in-training

The proposed conceptual framework examines whether cognitive complexity at different supervision stages shares a direct relationship with counseling competency among counselor trainees. Supervision serves as a developmental context in which cognitive complexity is evaluated at two distinct time points: pre-supervision and post-supervision. Accordingly, this framework posits that pre- and post-supervision cognitive complexity levels are directly related to counseling competency.

METHODS

Research Design and Participant

This concept paper uses a literature-based approach to develop a theoretical framework on the relationship between cognitive complexity and counseling competencies during supervision. For future empirical testing, a quantitative repeated-measures correlational design is proposed. Cognitive complexity would be measured at two points: before supervision (pre-supervision) and after supervision (post-supervision). The proposed participants would be counselors-in-training who are completing their practicum or internship and receiving formal counseling supervision at Malaysian higher education institutions. Around 250–300 trainees could be recruited using stratified random sampling, with the final sample size determined through an a priori power analysis.

Instruments

Cognitive complexity would be measured at both time points using the Need for Cognition Scale (NCS) [13]. The NCS is intended to assess an individual's tendency to engage in and enjoy effortful cognitive activities. Counseling competencies would be assessed using the Counseling Competencies Scale (CCS), preferably through supervisor ratings to provide an independent assessment of trainees' competencies. The CCS assesses counseling skills, professional dispositions, and professional behaviors [4], [5].

Research procedure

For future implementation, ethical approval would be obtained from the relevant university research ethics committee before data collection. Permission would also be obtained from the participating universities. Informed consent, voluntary participation, confidentiality, secure data handling, and the right to withdraw from the study without academic or supervisory consequences would be ensured throughout the research.

Data analysis

Descriptive statistics and Pearson product-moment correlation would be used to examine the relationships between pre-supervision cognitive complexity, post-supervision cognitive complexity, and counseling competencies. Simple linear regression could also be used to examine whether each measure of cognitive complexity contributes to counseling competencies. In addition, a paired-samples t-test could be used to examine changes in cognitive complexity before and after supervision.

EXPECTED RESULTS

Trainees with higher levels of cognitive complexity are expected to demonstrate higher levels of counseling competency, including counseling skills, professional dispositions, and professional behaviors. This expectation is based on previous studies indicating that cognitively complex individuals are better able to differentiate and integrate information, consider different perspectives, tolerate ambiguity, and develop a more comprehensive understanding of counseling situations [8], [10], [11]. The proposed framework also expects that both pre-supervision cognitive complexity and post-supervision cognitive complexity will be positively associated with counseling competency. Trainees with higher cognitive complexity before supervision may already have a greater capacity to understand client information, reflect on their counseling practice, and apply counseling knowledge. Similarly, trainees with higher cognitive complexity after supervision may be better able to understand supervisory feedback, consider different perspectives, and apply their learning to counseling practice [6]. It is also expected that post-supervision cognitive complexity may show a stronger association with counseling competency than pre-supervision cognitive complexity. This expectation is based on the developmental role of supervision, which provides trainees with opportunities to reflect on their counseling experiences, receive feedback, consider alternative perspectives, and develop their professional practice [6]. However, this framework does not assume that supervision causes changes in cognitive complexity or counseling competency. Overall, the expected findings may provide preliminary support for the proposed relationship between cognitive complexity and counseling competency among counselors-in-training.

IMPLICATIONS FOR COUNSELOR EDUCATION AND SUPERVISION IN MALAYSIA

The proposed framework has implications for counselor education, clinical supervision, and professional competency development in Malaysia. Counseling programmes may give greater attention to cognitive complexity alongside counseling skills through case analysis, multiple-perspective thinking, and reflective practice. Within supervision, Malaysian counselor educators and supervisors may incorporate reflective questioning, case conceptualisation, and structured feedback to help counselors-in-training consider different perspectives and strengthen professional judgement. These approaches may support the development of counseling competencies beyond technical skills and complement the professional competency expectations

of the Malaysian Board of Counselors. The framework is also relevant to SDG 4 (Quality Education) by supporting the development of critical thinking and professional competencies in counselor education, and to SDG 3 (Good Health and Well-being) through the preparation of competent counselors who can provide effective and ethical counseling services. Thus, integrating cognitive complexity into counselor education and supervision may contribute to strengthening the quality of counselor preparation and professional practice in Malaysia.

CONCLUSION

Counseling competency extends beyond technical counseling skills and requires counselors-in-training to understand complex client experiences, integrate information, consider multiple perspectives, and exercise professional judgement. These demands suggest that cognitive complexity may be an important characteristic associated with counseling competency. This concept paper proposes a framework examining the direct association between pre- and post-supervision cognitive complexity and counseling competencies among counselors-in-training. The framework provides a basis for understanding cognitive complexity across supervision without assuming a causal relationship. The framework also highlights the importance of cognitive complexity in counselor education and supervision, particularly in developing reflective practice, case conceptualisation, and professional judgement. In Malaysia, it may support efforts to strengthen counselor preparation and professional competency in line with the expectations of the Malaysian Board of Counselors, while contributing to SDG 4 (Quality Education) and SDG 3 (Good Health and Well-being). Future research should empirically examine the proposed relationships among counselors-in-training.

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