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Developing Dyadic Measurements in Marriage and Family Therapy: The Dyadic Supervision Evaluation

Adrian Avila

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LOMA LINDA UNIVERSITY
School of Behavioral Health
in conjunction with the
Faculty of Graduate Studies

Developing Dyadic Measurements in Marriage and Family Therapy:
The Dyadic Supervision Evaluation

by

Adrian Avila

A Dissertation submitted in partial satisfaction of
the requirements for the degree
Doctor of Philosophy in Marital and Family Therapy

September 2015

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Each person whose signature appears below certifies that this dissertation in his/her opinion is adequate, in scope and quality, as a dissertation for the degree Doctor of Philosophy.

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ABBREVIATIONS

AAMFT	Association for Marriage and Family Therapy
AAPC	American Association of Pastoral Counseling
AMOS	Asset Management Operating System
APIM	Actor-Partner Interdependent Model
CC	Core Competencies
CFI	Comparative Fit Index
CSS	Counseling Skills Scale
COAMFTE	Commission on Accreditation for Marriage and Family Therapy Education
DAS	Dyadic Adjustment Scale
DSE	Dyadic Supervision Evaluation
EFA	Exploratory Factor Analysis
FACES	Family Adaptability and Cohesion Evaluation Scale
FSHIF	Family Skills: Helper's Intentions Form
FTSORF	Family Therapy Skills Observer Rating Form
GFI	Goodness of Fit Index
ICC	Intra-Class Correlation
LISREL	Linear Structural Relations
MANOVA	Multivariate Analysis of Variance
MANCOVA	Multivariate Analysis of Covariance
MFT	Marital and Family Therapy
MLM	Multilevel Modeling
PGCD	Post Graduate Competency Document

RMA	Repeated Measures ANOVA
RMSEA	Root Mean Square Error of Approximation
SCS	Skilled Counseling Scale
SDD	Standard Dyadic Design
SEM	Structural Equation Modeling
SED	Supervision Evaluation Device
SF	Supervisor Factor
SPSS	Statistical Package for the Social Sciences
TF	Trainee Factor
X^2	Chi-square

ABSTRACT OF THE DISSERTATION

Developing Dyadic Measurements in Marriage and Family Therapy:
The Supervision Evaluation Device

by

Adrian Avila

Doctor of Philosophy, Graduate Program in Marital and Family Therapy
Loma Linda University, September 2015
Dr. Brian Distelberg, Chairperson

This study applies integrative developmental theory and a common factors approach in evaluating and describing how Marital and Family Therapy trainee's progress in mastering the core competencies set forth by the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE) through the process of clinical supervision. More specifically, this project evaluates the internal reliability, construct validity, and predictive validity of the Dyadic Supervision Evaluation (DSE). The important role and influence of clinical supervision as well as the next steps for validating and evaluating dyadic, developmental, core competencies and common factors measurements in clinical supervision are discussed.

Keywords: Competencies, Development, Dyadic, Integrative, Supervision

CHAPTER ONE

INTRODUCTION

Evaluation of clinical supervision and trainee development is an important part of Marital and Family Therapy (MFT). Several scholars have made significant contributions in developing assessments or evaluation tools to measure a trainees' knowledge and experience. Unfortunately there is still a considerable amount of research that is needed to advance knowledge in an empirical way for the purpose of supporting clinical supervision as a developmental process. During the last decade in MFT, there has been a movement towards the development of core competencies (CC) for the profession. This study proposes an integrative developmental theoretical approach to evaluate how MFTs trainees progress in mastering core competencies through the process of supervision. Within the literature a significant emphasis has been placed on integrative systemic theory. Integrative supervision proposes distinct principles in understanding a MFTs as a trainees and through the lens of development (progression) during the first years in the profession. This is consistent with the given critical emphasis and amount of supervision conducted at this stage in the profession. Given its quantitative nature, this study will utilize psychometric theory and dyadic data analysis to discuss and ground the study in line with methodological best practices, which follows the profession's movement toward evidence-based practices.

The purpose of the study is to advance and evaluate an assessment tool capable of measuring the mastery of core competencies set forth by the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE) in a way that is congruent with the systemic principles of the profession, while also being

psychometrically sound, and accounting for development over time. Said differently, this study seeks to further the validity of a measurement, the Dyadic Supervision Evaluation (DSE). This validation study will focus on the therapist progress in early stages of development in the context of clinical supervision.

The measurement tool (DSE) used in this study was first design by the director of the master's program in MFT at Loma Linda University, Dr. Mary Moline. The measurement tool was used to monitor MFT trainees' competencies on a quarterly basis for at least four quarters. The data collected through over thirteen years will be utilized to develop psychometric qualities that would enable empirical research on therapist development, clinical supervision, and support the broader empirical study of supervisor and trainee development. The first step in evaluating the psychometric qualities of the DSE is currently under review (The Dyadic Supervision Evaluation: An Exploratory Factor Analysis; Avila, A., Distelberg, B., Samman, S. Borieux, M., Yektafar, G. and Moline, M.). The study evaluated the underlying structures or latent factors embedded in the measurement through four quarters of clinical supervision. In addition, exploratory factor analysis (EFA) was utilized to test reliability levels in the measurement tool. The results of the EFA showed the DSE to have a good level of reliability, with alpha Cronbach's of $\alpha \geq .95$.

This current study will advance the psychometric qualities of the DSE through two aims: First, this study will explore the internal reliability of both the supervisor and trainee forms of the DSE. The second aim of this study is to test the construct and predictive validity of the DSE. More specifically this second aim a) tests the relationship between factors over three time points, b) evaluates the direct effect from the supervisor

to the trainee and c) assesses the interdependent relationship between supervisor and trainee. Taken together, these aims will result in furthering the validation and application of the DSE.

A secondary goal of this study is to present a road map in how to build and validate assessment tools that are consistent with the systemic principles of the profession. This includes psychometric qualities (reliability and validity) but also characteristics in line with systemic values such as a dyadic data analysis approach. In such a way, this study adds to the body of knowledge necessary to give congruence to the evaluation and the MFT field's values for systemic, interpersonal, interdependent, and relational paradigms. Secondly, this study will advance the ability of the DSE to evaluate and ultimately support training centers and trainees in their supervision process. In addition, this study will add to the supervision and training literature by evaluating the critical role the supervisory process has in MFT training and practice.

Background

Although most mental health professions value clinical supervision, marital and family therapy is believed to be notably different due to the amount of clinical supervision that is necessary (Thomas C. Todd & Storm L. Cheryl, 2002) from graduate programs to become accredited by organizations such as the American Association for Marital and Family Therapy (AAMFT). It has been reported by Todd and Storm that, "Only AAMFT [American Association of Marital and Family Therapy] and the American Association of Pastoral Counseling (AAPC) professional organizations designate supervisors', defines supervisors' qualifications, and require supervisor

training” (Todd & Strom, 2002., pg. 4). Statements like this, in the literature, seems to suggest that only in these two organizations (AAMFT and AAPC) supervision has been formalize as a unique function in the profession.

With these claims, it is imperative to conduct empirical research to determine how MFT supervision influences the temporal (developmental) growth of trainees, especially in the progression or mastery of core competencies, as set forth by COAMFTE.

Consistent with the movement toward core competencies in MFT, this study proposes that the temporal-developmental growth of MFTs in training can be evaluated in stages, from a quarter to quarter basis. In this line, evaluating the developmental track over different quarters suggests different sets of factors over time. In other words, this implies the mastery of developmental milestones over the course of a year.

In 2003, AAMFT sought to articulate what constituted a competent MFT and from this discussion developed stringent processes to “designate supervisors, define supervisors’ qualifications, and require supervisory training” in the field (Todd & Storm, 2002, p. 5). It also enforced accreditation standards through the institution of COAMFTE for MFT education and competency development (Nelson & Graves, 2011; Nelson & Johnson, 1999). One example of this is COAMFTE’s emphasis on input-based system with well-defined student requirements, including 500 supervised client contact hours, 100 hours of supervision, and specified coursework (AAMFT, 2007).

In 2006, COAMFTE implemented Version 11.0 of its Accreditation Standards (COAMFTE, 2005), representing a major change in its basic philosophy for MFTs skill development. Rather than a focus on an input-based system requiring accrual of clinical hours, it now focuses on the evaluation of education and training in terms of outcomes,

which is a focus consistent with master's students' needs in a COAMFTE-accredited program (Hertlein & Lambert-Shute, 2007). This is in direct relationship with what “refers to a pedagogical model that focuses on student outcomes rather than input and was the driving philosophy behind the core competencies (Nelson & Smock, 2005; Nelson et al., 2007).

With this change in focus, practitioners and researchers such as Nelson et al. (2007) provided a detailed description of outcomes expected from MFTs as represented in the development of core competencies for practice and as guidelines to assess MFT skills. AAMFT reduced the competencies to 128 (Nelson & Graves, 2011; see also Platt, Miller, Todahl, & Lesser-Bruun, 2004). Although this is a significant step forward in the development of the field, the field is still left with little direction as to how training centers can implement, measure, and evaluate their trainees in line with these 128 CCs. More specifically there are few empirically based measures or processes to help universities and training centers achieve the rigorous new standards (Nelson & Graves, 2011; Perosa & Perosa, 2007). Also, currently there are no widely accepted or reliable measures used across all AAMFT-accredited programs to effectively measure MFT trainees' and interns' CC development. To this end, in their review of supervisor assessment tools, Perosa and Perosa (2010) suggest designing clinical supervision evaluations that can accurately assess the development of clinical skills and competencies for MFTs in training.

Such competencies have previously been defined as “a collection of the basic or minimum skills that each practitioner should possess in order to provide safe and effective care” (Graves, 2005, p. 15). Thus the CCs are atheoretical and reflect skills that

cut across all theoretical family therapy approaches. They encompass both lower-order mental processing (e.g., knowing, understanding) and higher-order cognitive processing (e.g., analyzing, synthesizing, and evaluating knowledge; Perosa and Perosa, 2007).

Despite the inherently interpersonal context of MFT, researchers in related fields such as psychology have for too long not fully studied the interdependent nature of individuals' cognitions, emotions, and behaviors. One reason for this failure to study interdependence is the historic reliance on statistical models that assume independence among observations (Kenny, Kashy & Cook, 2006). If empirical research in marital and family therapy is to uphold the systemic or relational principles of the field, it is critical that the issue of non-independence is given attention. In spite of past efforts to build and validate relational measurements, such as the Dyadic Adjustment Scale (DAS; Spanier, 1976) and the Family Adaptability and Cohesion Evaluation Scale (FACES; Olson, Sprenkle & Rusell, 1979), now in its fourth and latest version, there continues to be a scarcity of relational measures with high levels of dyadic (interpersonal) psychometric properties. For the most part, measurements contain properties at the individual (independent) level. Clinicians and researchers misuse these measures by simply assessing the view of individuals rather than the system or the dyad. For example, FACES has been administered to measure adolescent perspectives or attitudes without considering the responses from the family as a whole (Baer, 2002). This is of historical importance given that dyadic conceptualization statistical analysis approaches have been available for at least thirty years.

At the most basic and practical level, dyadic measurements should reflect the contribution of two persons, although the function of those contributions can be quite

different (Bond & Kenny, 2002). In other words, MFT empirical research analysis dealing with relationships should account for interdependence that presumes that social interaction can be modeled as a set of two-person games and that the outcomes of these games become inherently interdependence (Kelly, Holmes, Kerr, Reis, Rustbult & van Lange, 2003). This is in contrast to most MFT research measures, which attend to independence that is based on “the assumption that one data point does not influence another. When data come from people, it basically means that the behavior of one person does not influence the behavior of another” (Field, A. 2009, pg. 133). In contrast, the study of interdependence can reveal what each member of a dyad contributes differently to the relationship. In such a way, when we study therapist development in supervision, we can measure the developmental characteristics of a trainee not independent from the supervisor, but in relationship to the supervisor-measured characteristics, and especially over time. This perspective is supported by many statistical advances and resources on dyadic statistical analysis (e.g., Bolger & Shrout, 2007; Gonzalez & Griffin, 2004; Kenny, Kashy, & Cook, 2006).

Preview of Conceptual Framework

The conceptual framework proposed in this study consists of integrative family therapy supervision. This theory is particularly congruent in examining clinical supervision for MFTs in their first year as trainees and/or interns. Integrative supervision allows for the study of clinical supervision so we can evaluate the developmental course of the supervisory relationship (and/or therapist’s development over time) and the unique elements associated with this critical period in therapist development. Integrative

supervision is embedded within and recognizes the importance of developmental stages in clients and therapists. In this way a developmental trajectory consists of a trainee learning basic system theory (broadening their worldview), followed by organizing observed clinical patterns of clients (integrating assessment data), and then using integrated information in case conceptualization and executing appropriately selected interventions.

For practical purposes, this framework utilizes integrative supervision as a proposed best fit in the training, development, and acquisition of core competencies for therapists in their first year of development. In this study, I utilize integrative supervisory theory because it contends that (and I believe that supervision functions best when it) adopts a holistic and recursive approach, takes a non-deficit developmental perspective, and does not limit itself to specific schools of therapy.

A second component in the conceptual framework is the focus on the importance of common factors literature and empirical studies in regards to understanding essential elements that make therapy and supervision work. It is important to note that for the purpose of this study, common factors literature is utilized in reference to known elements of the supervisory relationship, not to be confused with latent structure factors, which is a concept derived from statistical confirmatory factor analysis.

These two components are conceptually interrelated in this study in order to evaluate the progression or mastery of core competencies in the supervisory relationship. Due to the historical development of core competencies and common factors findings, these two components can be integrated in the conceptual framework, due in part to the atheoretical nature from which they both developed. However, it is important to note that

these components serve this study at different levels of analysis. Close attention is given to keep the distinction and implications of these two components intact. A further presentation is given in the following chapters on how these components are operationalized in this study.

As a final note, because this study is quantitative in nature, and the goal is the advancement of the SED in terms of validity, a brief theoretical presentation of psychometric theory is integrated.

Purpose and Focus

Whereas the present state of knowledge in MFT and the movement towards evidence based practices, it is imperative that MFT research is supported through empirical dyadic analysis studies. However, the field suffers from limited measures that are consistent with the systemic principles that ground the field. This study is consistent with scholars in the field calling for the creation of systemic measurements. In this study, the overall purpose is the advancement of a psychometric measurement (DSE) which can then be used to conduct dyadic research. The advancement of reliability and validity of the DSE in this study focuses specifically in the progression of mastery of core competencies, developmental trajectory, and influence of supervisor on trainees. As it has been suggested, for the MFT profession and individual clinicians, success is becoming largely dependent on the ability to concretely demonstrate competence (Platt et al., 2004). If the MFT field is to claim clinical supervision as a distinctive feature in the quality of training, education, and provide “best practice” services, then it is necessary to

demonstrate or support this claim through empirical evidence. Further implications of this study are reported in chapter 5.

Advancement of Knowledge

Although there are some supervision evaluations, it seems that the time has come to more clearly and empirically evaluate the core competencies identified by members of our profession. This study tests an evaluation tool that is intended for use within MFT programs, and other programs that find this tool applicable to their programs and objectives. This proposed instrument advances the knowledge in the field in adopting a strong foundation in systemic principles and a developmental-integrative lens, and by evaluating trainees'/interns' clinical and therapeutic behaviors, which are consistent with COAMFTE core competences. In this way, this study answers the call for empirical research guided by the theoretical and conceptual foundations of the MFT profession and utilizes cutting edge statistical methods through the use dyadic data analysis.

CHAPTER TWO

CONCEPTUAL FRAMEWORK

This chapter introduces the theoretical framework that guides this study and examines clinical supervision of MFT trainees. This chapter begins with a review of the multiple functions of clinical supervision, and the relevant tenants of integrative supervision theory. In congruence with the central principles of this theory, identification and exploration of key elements that influence the supervisory relationship over time will be presented (including developmental and relational aspects). More precisely, this chapter presents the relevance of the integrative supervision approach in the training, development, and acquisition of core competencies in the early stages of therapists' development. The second part of this chapter focuses on the research contribution of common factors literature in regards to clinical supervision. The third part supports integrative supervision as a best-fit approach in early stages of therapist development, while informing inferential conclusions regarding the influence of supervisors on the development and progression of trainees over time.

Supervision

Supervision serves multiple functions in attending to trainees' services and development. In their work, *The Integrative Family Therapy Supervisor* Robert Lee & Craig Everett (2004) present a comprehensive view of the integrative supervisors' functions. These functions include the following: (a) monitoring and evaluation, (b) instruction and advising, (c) modeling, (d) consultation, and (e) support and sharing of experiences. Tasks of supervision are typically referred to in terms of (a) intervention

skills, (b) case conceptualization, (c) professional role, (d) emotional awareness, and (e) self-evaluation. For the purpose of this study, contextual factors of the supervisory process are characteristics of (a) the supervisor, (b) the trainee, (c) the client, and (d) the setting where supervision takes place (Lee & Everett, 2004). It is important to note these functions and characteristics are not necessarily executed in a linear fashion; rather they are circular in the sense that they are activated as needed. Most important for the focus of this study is the central role that the relationship between supervisor and trainee plays in the supervision process.

Integrative Supervision

Integrative supervision approaches are understood as a conceptual models for conducting supervision with an “overarching theory, principles and concepts that inform therapists in a consistent, sequential, coherent, and cohesive manner” (Lee & Everett, 2004, p. 23). A central principle in this supervision approach is the inclusion of a full range of breadth and depth of family systems theories giving room for trainees to explore and learn what works best for them. In this way, integrative supervision focuses on systemic family dynamics, developmental stages of a system and/or trainee, and unique resources, as well as balances the potential for change. At the same time, the integrative supervisor’s goal is to deepened and increase sensitivity of the trainee’s understanding of systemic perspective, ensure trainees have sufficient knowledge and skills to apply systems theory, and integrate theoretical knowledge with assessment data to formulate appropriate interventions. Lastly, integrative supervisors support trainees in evaluating

objectively and learning from successes and failures, in such a way that trainees grow in confidence and creativity.

As a first priority, integrative supervisors tailor interventions to the needs of clients and therapists rather than their own professional or personal preferences (Todd & Storm, 2002). Integrative supervisors believe there is little in the way of solid research to support any one model over another (Storm et al., 2001). Berger and Buchholz (1993) further argue that “supervisory styles are as varied as the proponents of these [different] models” (p. 87).

Similarly, the work of White and Russell (1995) as well as Storm et al. (2001) continues the push toward identifying and applying a common set of supervision practices. If a set of common elements can be identified in approaches to supervision, then these can form the basis for studying variation in the supervision process and outcome that is not necessarily confounded by theoretical differences. Such an approach could not only provide a template for supervision research, but also for teaching and providing supervision (Morgan and Sprenkle, 2007).

Integrative conceptual frameworks in the field of marital and family therapy are in line with the notion of common factors. These frameworks include metaframeworks developed by Douglas C. Breunlin, Richard Schwartz, and Betty Karrer (1997); systemic cognitive-development by Sandra Rigazio-DiGilio (1994); integrative problem-centered by William M. Pinsof (1983); and mythological perspectives constructed by Stephen A. Anderson and Dennis A. Bagarozzi (1989). These frameworks seem to be consistent with common factors literature in that integrative supervision approaches stem from research showing that in “family and systemic therapy...there are more similarities

among effective treatments than there are differences (Fraser, Solovey, Gove, Lee, Greene, 2012. Pg. 518).

Even though all of these integrative supervision models mentioned above share the idea of including a range and depth of family systems theories, they each emphasize or highlight different aspects of the supervisory process or therapist's development. These distinctions (between and within integrative models) are important in this study, as the focus specifically evaluates therapist's development at the trainee level. For instance, Metaframeworks makes emphasis on therapist's movement among units of treatment and orientation. This approach relies on therapist ability to manage complexity, work with families, individuals, focus on diversity characteristics, which provide the grounds by which to evaluate trainee's (Breunlin, et. al., 1995). Such an emphasis provides a frame to evaluate trainee's in a concrete empirical way making it a viable model for supervision of trainees.

In the case of Systemic cognitive-development, a different model of integrative supervision, is different in that makes the most emphasis, in contrast to other integrative supervision models, in a developmental theoretical frame. This model highlights the importance of the trainee's changes in ideas and worldview grounded in a nonlinear developmental perspective (Rigazio-Digilio, 1997). This supervisory model is useful in trainee development in that it focuses on the needs of the trainee rather than on a specific therapeutic theoretical approach of the supervisor. This can be of significant point of interest for trainees who present with a need for attention on their creativity and difficulties.

On Integrative problem center (a model of integrative supervision) put the emphasis on alliance (Pinsof, 1983). Focus on alliance can present at different levels; supervisory, therapeutic, system or subsystems, etc. As the integrative supervisory approach is grounded in the relationship alliance, it calls for a trainee's own theory construction and clinical practice. The implication on this model suggests that as therapists attend to different needs, different therapeutic alliances are necessary. From a conceptual perspective this model presents to be the best fit for therapists development. At early stages of development, trainees might find themselves more dependent on the alliance of their supervisors –given the levels of insecurities or confidence. More important, this models seems to stimulate a therapists own development, and to progressively attend to the needs of the relationships. This is very significant and congruent with the systemic principles in MFT, especially as it refers to the education and embodiment of a relational perspective.

The mythological perspective in integrative supervision is focused on the development of understanding (Begarozzi & Anderson, 1989a). In this model, supervisors stimulate trainee's to deepen their capacity to understand clients and development from a mythological perspective. With it, supervisors help to advance trainees' therapeutic skill and for them to design their own integrative therapeutic approach. This approach is mostly conducted through a narrative approach constructed from behavior, symbolic-experiential, systemic, psychodynamic, and trans-generational theoretical underpinnings. Although this can be a significant, perhaps a millstone achievement in level of expertise, it can be overly complex for a trainee level therapists whose primary task is to master essential competencies in the profession. In addition,

given the narrative nature of the supervisory process, it is limited in its capacity to be validated in an empirical or objective way.

Moreover, integrative supervision emphasizes the needs of the client and self-awareness of the therapist (i.e., their own competency and characteristics). Integrative supervisors are required to incorporate a wide repertoire of concepts from a variety of therapy models in a way that enables them to address clients' and therapists' needs. At the same time, as this approach develops interventions that stem from clients' needs, integrative supervisors are sensitive and attend to unique contextual issues, such as culture, gender, and power, both in the supervisory relationship and in the trainee's therapeutic relationship with clients. Therefore, they are able to supervise in a variety of settings, with varied presenting issues and contextual themes, as well as progressively attend to the mastery of key professional matters such as legal and ethical dilemmas. Supervisors can continuously evaluate therapists' growth in relationship to trainees' potential and limitations. These components are consistent with "increasing demand for output-oriented, competency-based exercises and evaluations" (Miller, 2010. pg. 329). Furthermore, outcome-oriented education calls for evidence adaptable integrative models are best suited for empirical research, as opposed to the psychoanalytic and postmodern approaches, which are not suited for empirical research.

Integrative supervision in general focuses on the importance of the co-evolving interactional nature of the relationship, or more importantly, the alliance between client-therapist-supervisor, rather than holding a preconceived map of how the relationship should develop. The implication of this co-evolving relationship is that it calls for a longitudinal evaluation, and give a closer look at what emerges over time. A supervisor

alliance and trust in the supervisory relation can influence a trainee development in a significant way. In this way, a supervisor attends to what a developing therapist needs to know, and expands the overall therapeutic perspective (worldview) of the developing trainee.

A critical piece of integrative supervision models is how contextual influences and professional issues are addressed. Contextual influences such as culture (ethnicity, religion, country of origin, immigration status, level of acculturation, etc.), gender, sexual orientation, and power and historical context (political environment, language acquisition, educational background, etc.) can play an important role in supervision and therapy. For these matters, it is incumbent on the supervisor to provide the necessary learning environment for the trainee to explore and evaluate whether such factors constrain the process or provide an opening for different possibilities to unfold in a creative and effective way. What is critical, as it relates to this study, is how supervision is evaluated in the midst of all of this factors? It might well be the case that a well-intended supervisors obstruct these processes, in part due to the conviction of their supervisory philosophy –herein a matter of subjectivity.

Given the strong emphasis that integrative supervision places on trainees' level of development and attention to the progression of competency, and capacity to be evaluated in an empirical (objective way) integrative supervision framework presents as the most compelling for the early stages in the development of therapists.

Development in Integrative Supervision

What all integrative supervision models see as most important and converge on is

the view that therapist's growth and competency is based on a developmental perspective (Todd & Storm, 2002). In simplified form, the integrative developmental models of supervision suggest that trainee's pass through a number of predictable, universal stages in their growth as clinicians and in their supervisory relationships. Each stage is characterized by particular needs, conflicts, or tasks that the clinician must resolve to continue her or his growth (Todd & Storm, 2002). The job of the supervisor then becomes recognizing the trainee's stage-based needs, and adopting the focus, methods, or style of supervision to facilitate optimal development (Taibbi, 1990). In a very general overview, it is assumed that the beginning stages of trainee development flourish more so in a structured environment where the supervisor focuses on tasks. Therefore later stages of trainee development move out of a task focus orientation into a collaborative, conceptual orientation from the supervisor.

From the empirical research it appears the developmental perspective is important. Much of the MFT supervision literature now calls for supervisors to tailor their supervision to the specific developmental level of trainee's (Rigazio-DiGilio, 1997; York, 1997), following the notion that beginning therapists require a different supervisory focus than more experienced therapists (Flemons, Green, & Rambo, 1996). Although the developmental perspective are being validated in the literature, there is still a great deal of investigation that is needed before we have a more robust support for the tenants of the developmental perspective (Bernard & Goodyear, 1992; Storm et al., 2001).

MFT Trainee Development

Continuing with the work of Lee & Everett (2004), the authors present the [a] “developmental trajectory of trainees include their; joining a clinical family and acquiring a therapeutic contract, performing increasingly sophisticated assessments, selecting therapeutic goals, planning, administrating and evaluating interventions and so on” (Liddle, 1988). In such way, it is important for supervisors to attend as accurate and objectively as possible to the needs and gradual growth of the developing therapist. A developmental perspective offers a perspective by which to evaluate therapist’s growth in a stage wise acquisition of competency. In other words, we can estimate a three difference stages of development: *beginning, intermediate, and advance stage*.

During their interviews with student trainees (masters and doctoral) Lee & Everett (2004) found distinct developmental themes which they conceptualized in the three stages mentioned above and two transitional periods; beginning stage: those with no prior clinical experience; transitional period 1: moving into autonomy, confidence, and competence; intermediate level: trainees with good resources and skills; transitional: from reliance on supervisor to more personal autonomy (process of individuation); and advance level: emotional and professional confidence preparedness to assume role.

This model is consistent with results found in the empirical study conducted by Avila, et al. (under review), in that distinct levels of therapist development are present in distinct phases of development over a year of trainee development. More specifically Avila, et. al., (under review) found ten distinct factors that existed at different points in time over a year. In this case each quarter of the trainee’s development offered different factors that present a progressive pattern of complexity in trainee’s competencies. A

critical component, and the purpose of this study, is to test whether these factors can be supported from a more rigorous empirical stance.

Nonetheless, because the conceptual operationalizes the stages of MFT trainee development, and the core competencies, it is possible to construct measures that aid in the supervisor’s abilities to help trainees gain core competencies, but also be informed by a developmental perspective. A more detailed description of the tasks, transitions, and their alignment with the DSE factors is illustrated in table 1 below.

Table 1. Tasks, transitions, and DSE factors in trainee development

	Model of Developmental Tasks of Trainees Craig & Everett, (2004).	Dyadic Supervision Evaluation Avila, et. al. (under review)
No Experience	Task: Working alliance, professional identity and professional role and skill	Quarter 1 Factor 1: Participation in Supervision Factor 2: Beginning Level Systemic Therapists Factor 3: Therapeutic Relationship Development
	Transition 1: Differentiation, confidence, and mastery	
	Task: Clearer professional identity, increase trust in supervisor, clinical interventions, reflectivity on role and intervention	Quarter 2 Factor 4: Developing Systemic Therapist Factor 5: Professional Collaboration
	Transition 2: personal and professional autonomy, overcome insecurities, “leaving home”	Quarter 3 Factor 6: Developing Systemic Therapist Factor 7: Professional Respect
Year of Experience	Task: New levels of confidence, autonomy, awareness of levels of improvement and training, differentiation from role, supervisory, supervisory process, group, etc.	Quarter 4 Factor 8: Skilled Systemic Therapist Skills Factor 9: Supervision and Professional Collaboration Factor 10: Therapeutic Relationships

Supervisors Role

In the journal article *Toward a Common Factors Approach to Supervision* by Morgan M. M. & Sprenkle, D.H. (2007) the authors present a range of models that capture the variety of roles supervision play at one situation or another. Four roles are describe as underlying structures in supervisors: coach, teacher, administrator, and mentor. Because supervisors typically serve trainees at multiple levels, these roles are not discrete, but rather form a functional continuum, shifting (overlapping) roles according to the needs that arise. At a broader level, many supervisors would argue that the most important component in their supervising role is to monitor and evaluate supervisees (Morgan & Sprenkle, 2007). The authors also suggest that conceptually, supervisors attend to three distinct areas of therapist development: (a) clinical-professional competence, (b) specificity (needs of trainees and general standards of the profession), and (c) the quality of the supervisory relationship, varying from a directive to a collaborative approach. Because the nature of supervision is multifaceted attending to these areas present in a continua, often permeating and overlapping.

As previously mentioned, the relationship between supervisor and trainee is key to the quality of the supervisory process. In evaluating this relationship the role of supervisors is of significant importance. In MFT, supervisors are believed to be responsible for ensuring the quality of client care, as well as maintaining ethical standards, providing evaluations for trainee's, and helping trainees develop professional competencies (Lee & Everett, 2004). If these are the goals for the supervisor then there are many elements that need to be considered in evaluating the effectiveness of a supervisor in achieving these goals.

One important factor is the conceptual framework of the supervisor and specifically how the personal values and beliefs, professional assumptions and principles within that framework fit the needs of a trainee. How a supervisor views his/her role in the supervisory relationship directly influences the options of how a trainee can relate/participate in return. For instance, if a supervisor has a strict teaching structural hierarchy the option for the trainee is to relate as student. The implications of this kind of relationship is on how the supervisory alliance and collaboration will develop over the year in training.

Other considerations include how the supervision structure fits with the practical circumstances or supervision setting. MFTs might consider if live supervision is part of the supervision contract and if the supervision setting has the necessary means to conduct supervision modalities, such as a one way mirror. (Lee & Everett, 2004, pg. 24.). This can be a critical consideration as live supervision can be a practical and immediate modality to evaluate and support a trainees' mastery of core competencies (systemic perspective, intervention skills, therapeutic relationship, etc.).

Having evaluated the areas that supervisors attend to Avila, et. al., (under review) found ten distinct developmental factors that can be observed over four quarters in a supervisory process over a year. Findings from this study (Avila, et. al., under review) are representations based on students responds to evaluation of their supervisors. These factors are the results of the student's measures from the DSE (see appendices B)

Table 2. Supervisor areas of attention.

Developmental Stages	Latent Factors
Quarter 1	Factor 1: Supervisory Outcome Satisfaction Factor 2: Supervisory Responsibilities, Assistance, and Clarity Factor 3: Investment in Trainee/Intern Development
Quarter 2	Factor 4: Supervisory Outcome Satisfaction Factor 5: Awareness and Respect of Contextual and Diversity Issues
Quarter 3	Factor 6: Awareness and Respect of Contextual and Diversity Issues Factor 7: Contribution in Trainee/Intern Development
Quarter 4	Factor 8: Investment in Trainee/Intern Development Factor 9: Professional Contribution and Clarity Factor 10: Attention to Supervisory Alliance and Legal Concerns

In attending for these factors, integrative supervision models fit well for three central elements. The first is the attention and investment given to the trainee developmental stages, a critical factor given the insecurities, challenges, and future aspirations of a trainee’s. Second is the awareness and respect for contextual and diversity that are presented in trainee’s professional and personal lives. This implies that supervisors necessitate a broad view of developing aspects that are related or interact with contextual factors. And third, good supervisory outcomes are more likely, from a trainee perspective, if priority is given to their developmental needs and the alliance in the supervisory relationship.

Given the points in favor of integrative supervision having the strongest fit for early stages of a therapist development, there are a few other aspects worth mentioning. First, integrative supervision can be easily adapted to fit both academic and nonacademic or community clinical settings. The approach allows for graduate level learners to

experiment with ideas and methods. Also, as mentioned earlier, the integrative supervisor takes into great consideration the individual level of development of a trainee and a course model can be adapted into different formats. Finally, the approach can work well for therapists in training and credentialing paths due to the focus in competency mastery.

Application of Conceptual Framework

In all, the conceptual framework proposed in this study, consistent with integrative family therapy supervision, is based on the focus on early stages of therapist development. Given the this study's purpose in advancing the psychometric attributes of a dyadic supervision evaluation, the integration of common development factors in the supervisory relationship over time present integrative supervision theory to be the best fit. As discussed above, integrative supervision is embedded and recognizes the importance of developmental stages of clients and therapists. A developmental trajectory point of view consists of evaluating the trainee learning basic system theory. This would be followed by organizing clinical patterns of clients to then use integrated information in case conceptualization with appropriately selected interventions. In congruence with integrative supervision, the evaluation of the factors mentioned above would be conducive of broadening the worldview of trainee's, while appropriately integrating assessment data into a systemic therapeutic approach.

A second component in the conceptual framework is the focus on the importance of common factors literature and empirical studies. This is beneficial in regards to understanding essential components that make supervision work. In practical terms, common factors in supervision approaches, such as the supervisory relationship, the role

and focus of supervisors, and the developmental tasks (mastery of core competences) of trainee's, provide the central concepts to be operationalized in this study. The integrative supervision assumption of a holistic and recursive approach will allow this study to make inferences in regards to how the measurement tool under study can be utilized in a variety of settings.

These components are conceptually interrelated in order to study the progression in mastery of core competencies, as well as the developmental trajectory and influence of common factors in supervision. In this view, capturing the supervisory process through an integrative developmental conceptual framework fits well. In addition, evaluating the supervisory process from an empirical basis and in a way that is congruent with systemic principles provides further evidence for the critical role supervision plays in MFT. It is important to note that because this study is quantitative, and a central goal is the validation of a measurement tool, a brief theoretical understanding of psychometric theory is integrated in the literature review section. Finally, this conceptual model is intended as a first step toward better understanding of what good supervision might look like, and to provide a conceptual tool that can be used to empirically evaluate the supervisory process.

CHAPTER THREE

REVIEW OF LITERATURE

The following chapter consists of a literature review on research studies in regards to the concepts and components relevant to this study. This review includes the contribution of common factors literature specific to supervision as well as evidence based practices in MFT supervision. As mentioned previously, in supporting the creation of a measurement tool for MFT supervision that is consistent with the systemic principles of the profession, attends to the developmental needs of MFT trainees, and build with sound psychometric attributes close attention is necessary as other measures in the field (DAS and FACES) are not fully congruently used for the field of MFT. In doing so, a review of common factors in supervision, evidence based practices, testing in MFT and evaluation tools, is presented in this chapter. At the conclusion of this review, this chapter will also touch on the best practices for psychometric validation, while pointing out significant limitations in this practice for systemic fields like MFT. This section will also provide suggestions to improve this best practice which can be applied to develop systemically informed measures.

Common Factors in Supervision

Common factors literature is typically known for its contribution to the field in regards to family and couples therapy. However, a section in the 2009 article by Sprenkle, Davis, and Lebow, “Common factors in couples and family therapy,” focuses on training and supervision. Consistent with the understanding that common factors are a description of the elements that make change possible in therapy, rather than a specific

model-driven approach, the authors present the beneficial elements in training and supervisory approaches.

Sprenkle, Davis and Lebow (2009) suggest that there are eight underlying elements across supervisory models. The first of these is (1) *ensuring the fit* between supervisor and trainee. In some instances, a supervisor might run the risk of evaluating a trainee based on his or her (supervisor) theoretical approach without considering the personal theoretical interest of the trainee. If polarization exists in the supervisory relationship due to the implications embedded in the language of a theoretical approach of either party, a problematic situation may arise. A best-fit approach would be more with the understanding that “no one model is so comprehensive that it precludes mastery of another” (Blow et. al., 2007, p.310). In this way, supervisor and trainee can rest assured that they are adapting to the needs of clients, therapists, and supervisors.

Considerations of (2) *human diversity* issues such as culture, gender, ethnicity, sexual orientation, religion, and others are also a critical component in the supervisory process. Some researchers assert that certain models are likely better suited for some cultures, genders, and ethnicities than others (McGoldrick, Giordano, & Garcia-Prieto, 2005). Societal discourses are filled with stereotypes that often present in therapy and supervision. Therefore it is critical to remain sensitive and manage the propensity to reinforce, directly or indirectly, harmful stereotypes when working with clients or trainees.

The third element, therapist (3) *resourcefulness*, is an important characteristic that cannot be underestimated even at early stages of therapist development. Similar to the view that clients in therapy often overcome difficulties not mentioned or worked on in

therapy, trainees can tap into resources not discussed in supervision. Supervisors would be best advised that despite their level of competence and expertise, it might often be unnecessary, given trainee's ability, to tap into their own resources in some instances.

The fourth factor is an understanding of the principles of (4) *change* rather than specific therapy models. Understanding the central ideas underlying change across a variety of models facilitates conversations about between supervisor and trainee interventions, treatment plans, and goals in therapy. Specific elements underlying potential for change include motivation, satisfaction, personal responsibility, and choice among many others.

Fifth is the broad understanding of common factors in (5) *healthy functioning* relationships, such as alliance, engagement, hope, and reasonable expectations, among others. This can be understood to be of parallel importance in supervisory and therapeutic relationship. This factor perhaps among the most important for any systemic-relational approach.

With the understanding the no therapeutic approach is capable of addressing all issues it is important for therapists to be informed of (6) *Nonclinical related research*. This consists of having basic tools to keep up to date with related literature in areas of normal family development, gender and diversity issues, culture, religion, sociopolitical issues that impact families, clients and society in general.

The seventh principle consist of having a good (7) *working knowledge* of broad and specific aspects of inherent in all therapeutic approaches. This include the importance of alliance across models, engagement in the therapeutic process regardless of theoretical orientation, and the positive influences and expectation of therapy in general. This is

consistent with suggestion “that no one model of supervision could claim empirical superiority to any other” (Sprenkle, 1999, pg. 309).

The eight element identified by the authors is the task of any reasonable professional to have their (8) *personal issues*, self-of-the-therapist, resolved and out of the way of their professional duties and responsibility. Because the therapeutic enterprise is inherently delving into human problems at multiple levels, it is common to activate any unresolved relational, psychological, emotional, spiritual, or other personal issues of the therapists. For this, the self-of-the-therapist work is widely accepted across therapeutic and supervision practices to be a common factor.

These common factors to be considered in supervision suggest several implications. One is that this view provides a shift in paradigm, moving from a specific therapeutic approach to a *Meta* level of evaluation of the supervisory process. Questions about level of engagement, motivation, match or fit, directive vs. collaborative, alliance, credibility, and safety become of imperative nature to the supervisory process. A second implication is the supervisory process becoming more systemic and comprehensive in that specific factors can be evaluated from session to session. And last is that, paradoxically, an atheoretical approach can foster a climate of reflective theoretical inclusivity rather than a polarization of competing ideas. Said differently, a supervisory process based on common factors brings about a give-and-take attitude. Having supported this view, it is important to note that “the common factors position is not without criticism, however the important point here is that common factors in psychotherapy have emerged from empirical studies on clinical outcome” (Morgan & Sprenkle, 2007, pg. 6).

Evidence Based Practice in MFT Supervision

In conducting a literature review search on journals (journal of marriage and family therapy, contemporary family therapy, and family process) most research studies on MFT supervision are focused and limited, by a tendency to study specific content areas –therapists specific skills, perspectives or interventions, and qualitative in nature. These research studies seem to focus on isolating specific outcomes –trainee’s specific skills or assessment theme specific. Furthermore, it seems that empirical and best practice models of supervision focus more heavily into the therapeutic model itself rather than the supervisory model (Lee & Nelson, 2014). This leaves supervision with little empirical support for the supervision as an evidence based practice.

Nonetheless, it seems that a movement towards evidence based practice of supervision is under way. Before the 1990’s Liddle and associates called for a systematic and empirical evaluation of MFT skills across training programs (Liddle, et. al, 1988). This discussion was in large part raised due to the focus of supervision and training on the goals and change processes of specific therapeutic models. This was a significant step in the direction of therapist’s competency. These included, conceptual, perceptual, and technical or executive skills, working alliance, and meta- and micro skills. Concurrently, Figley and Nelson’s (1989) added to supervision professionalism as one central goal. More recently, Karam and Sprenkle (2010) have suggested that the research informed practitioner encourages therapists to become consumers of research, becoming more prepare and up to date in current findings and directions in the field.

From 1990 to 2000 a series of Delphi study explorations brought about consensus into the two areas of concern regarding supervision: content of training and supervisory

process (Lee & Nelson, 2014). In terms of content of training, early in 2000 an initiative was set forth to establish what constituted the major areas of responsibility for MFTs, what is now called the core competencies in MFT, or CCs' (Nelson et. al., 2007). Building on this areas of competence, the field shifted in its educational standards towards an outcome based format (Gerhart, 2011). The need for outcome research to provide legitimacy for the field has been stated multiple times in MFT books, journals, and conferences. For example:

Outcome research is important for identifying treatments that improve client outcomes, and in turn is important for MFTs to show the effectiveness of their interventions. This helps researchers distinguish MFT as a unique and legitimate form of psychotherapy, and clinicians justify reimbursement by third party payers. (Norcross, Beutler & Levant, 2006).

In their work, White and Rusell (1995) conducted a study addressing what constituted effective supervision as well as what constituted an effective supervision process. Their findings resulted in several areas of concern, which include; clear expectations, solid working alliance, and attention to all specific details of case management, theory and interventions, and self of the therapist. In Anderson's et. al., (2000) study of best and worst supervision experiences of trainee's, four areas of concern emerged: supervisor's openness (closed), a focus on strengths (critical), personal growth (rigid), and conceptual and technical guidance (invasive and vulgar).

Given this findings, outcome based education has gained momentum paralleling trends towards evidence based practices in MFT. However, many training programs do not have the capacity (probably due to time constraints or other priorities) to develop their own supervisory evaluation methods in a way that incorporates mastery of core competencies. "At present, there is no way to systematically or comprehensively evaluate

clinical skills across training programs, or to compare the usefulness of curriculum innovations in obtaining particular educational outcomes” (Roux, Podgorski, Rosenberg, Watson, & McDaniel, 2011, 545). Unfortunately, there is a lack of measures used across American Association for Marriage and Family Therapy (AAMFT) accredited programs to effectively measure MFTs’ clinical advancement (Perosa & Perosa, 2007). For the most part, the evaluation in master’s level programs seems to be conducted through a qualitative evaluations, which is understandable when accounting for the cost of administration and not having sufficient ways to evaluate the process of trainee development. However, “assessment procedures are not systematically integrated into the educational experience” (Le Roux, Podgorski, Rosenberg, Watson, & McDaniel, 2011, pg. 545).

Moreover, the connection between supervision practice epistemology and the experience for the participants [trainee] has received little attention (Storm et al., 2001, pg. 363-367). This seems inconsistent with the systemic nature of the supervisory process and the profession in general. In recent studies by “Morgan and Sprenkle (2007) highlighted the importance in supervisory relationships for supervisors to balance between two common factors—being collaborative and being directive—in order to support respectful, reciprocal relationships with therapists and safety for clients” (Hair & Fine, 2012, pg. 616). These points to the need for a systemic-relational evidence based practice research of the supervisory process, inclusive of important content areas such as core competencies. To that end a more inclusive outcome-based education and a learning-centered approach is necessary to provide and bring about a greater sense of

objectivity to the training and education of the next generation of MFTs, particularly as it relates to the mastery of core competencies.

Evaluation and Measuring Outcomes in MFT

Testing and empirical research is a critical component in advancing the state of knowledge in the field of MFT. For many years the field has called for reducing the clinician- research gap. However, work in bridging this gap seems to be slow. The provision of clinical work parallels the medical field in the need to be research-informed. Empirical research enhances professional treatment in helping clinicians and the profession by providing evidence that confirms or disconfirms past widely held theoretical or clinical beliefs (Crane, Wampler, Sprenkle, Sandberg, Hovestadt, 2002). To continue to provide services on incorrect assumptions or beliefs can bring about negative consequences.

In addition, competition with other fields (e.g. psychology and psychiatry) to access compensation and research funds have generated a need for research focused on relational interventions that have empirical support in their efficacy (Lee & Nichols, 2010, pg. 264). This adds a momentous challenge to the field at many levels, including the call for empirical evidence of clinical supervision, as the field promotes supervision to be one of its hallmarks. Efficacy in MFT is important in that this research is commonly understood with internal validity and randomized control trials, which is a scientific approach to evaluate positive and adverse effects of a modality or a treatment approach.

However, the field of MFT is limited in its ability to conduct empirical research that is congruent with its foundational principles (e.g., systemic and contextual nature). In

large part, this limitation stems from the scarcity in psychometric measurements focused on interdependent attributes. This is consistent with the historical roots of the mental health field in its focus on individual characteristics or traits. In this way, psychometric instruments have been designed with assuring assumptions of statistical independence. In addition, dyadic statistical analysis approaches capable of integrating interdependence (relational) components have emerged recently, resulting in many seasoned researchers in MFT not being familiar with this method of analysis.

Evaluation Tools for Supervision and Training

Todahl and Perosa (2006) describe the variety of evaluation strategies and tools from the fields of education, medicine, and psychology that could be used throughout the MFT curriculum to assess student growth (Perosa & Perosa, 2010, pg. 127). In this same article, the author's study of supervision evaluations, these authors highlight existing psychometrically reliable self-assessment and supervisor evaluations. These instruments concentrate on evaluating the effect of supervision on trainee/intern accomplishments in therapy while also focusing on selective competencies for the purpose of clinical applications. Even though their presentation of available psychometrically reliable and validated evaluations is not exhaustive of all measures in the field of MFT, their article does provide the latest analysis helping us to locate the state of knowledge of evaluation tools of supervision. In evaluating these instruments, respect was given to the fact that currently, no single measure assesses all of the COAMFTE core competencies. Nonetheless, the ability to capture as many core competencies as possible is viewed as a strength in measurements that have a high external validity for use in MFT training.

Attempts to develop a trainee development instrument in the field of marital and family therapy can be traced back to 1983 in the article by Breunlin, Schwartz, Krause, and Selby, published in the *Journal of Marital and Family Therapy*. The development of the instrument noted in this study began by videotaping observations, with multiple-choice questions as part of the conceptualization and recommendations of the videotape. This instrument focuses heavily on the trainee rather than on the supervisory relationship process (systemic). (Breunlin, Schwartz, Krause, and Selby, 1983). Overall it seems that this instrument is limited by its ability to capture knowledge from newer MFT approaches and other core competencies now prescribed by COAMFTE. More specifically, this measure was squarely based in structural and strategic modalities and therefore loses some validity when a trainee or supervisor practices from other theoretical orientations (Breunlin, et. al., 1983, pg. 46).

Similarly, Piercy, Laird, and Mohammed (1983) designed the Family Therapist Rating Scale to measure ten skills from five categories, which include the following: structuring, relationship, historical, structural/process, and experiential. This instrument had a wider scope in terms of competencies across therapists. The methodology and design of their study was similar to the one previously mentioned: looking at recorded session interviews with trainees, etc. The authors present a highly detailed report of criterion-related validity, with an inter-rater reliability correlation coefficient of .77 ($p < .001$). In terms of the utility of this instrument, it prevails with the psychometric results mentioned above. This rating scale is foundational and presents great historical value in terms of focusing on necessary skills and competencies. As the field calls for dyadic measurements, this scale can benefit from updating with dyadic components.

The Postgraduate Competency Document (PGCD; Storm, York, Vincent, McDowell, & Lewis, 1997) measures seven areas of competency and was developed specifically for postgraduate therapists. But, as noted by Perosa & Perosa (2010) the competency areas within this evaluation tool do span a very helpful range of CC which include general case management, therapeutic relationship, perceptual, conceptual, structuring, intervention, and professional development competencies. But this evaluation tool does not provide indicators to assess the opportunity for feedback and evaluation for trainees. (Perosa & Perosa, 2010, pg. 137)

The Basic Skills Evaluation device (Nelson & Johnson, 1999) measures trainee proficiencies and professional growth. This instrument includes 20 core competencies, such as “understanding theories, recognizing contextual and systemic dynamics, understanding models of assessment, and hypothesizing” (Perosa & Perosa, 2010, pg. 136). The instrument provides a strong and detailed presentation of its development, which was based on a thorough literature review at the time of conception. In terms of psychometric value, the instrument reports an overall Cronbach’s alpha score of .97, indicating a high level of strength. Although a very useful tool, it has yet to demonstrate a predictive and developmental validity as it has only been studied in cross sectional designs and it does not offer a dyadic structure.

The MFT Internship Evaluation Instrument (Hovestadt, 2001; Parr, 2006) was designed to measure professional development and counseling processes. The instrument lacks reliability and validity due to unclear instructions in reference to numerical scoring as well as guidelines for how to evaluate specific behaviors (Perosa & Perosa, 2010).

The Skilled Counseling Scale (SCS; Urbani et al., 2002) was designed and modified to evaluate the occurrence of skills performed as opposed to the usefulness of how the skills are applied. This type of measurement is aligned mostly with input-based education, which is an important distinction because output-based education aligns most closely with CC development. Given this limitation, this instrument does not appear to capture how trainees/interns apply learned skills at the beginning of training. To address some of these limitations, the SCS was later revised into what is now called the Counseling Skills Scale (CSS; Eriksen & McAuliffe, 2003). The CSS scoring system requires subjective evaluations of the helpfulness of the skills used by the trainee/intern. In this context the process lacks bi-directionality, which strays from systemic principles. Additionally, this revised version does not account for the skills that MFT trainees/interns need beyond early stages of training.

In 2007, Davenport, Northey, Ratliff, Todahl, and Perosa developed the Competency Evaluation Inventory for the utilization of MFT faculty and students. The authors reported that the measure has demonstrated good reliability with sensitivity to therapist growth. It is also “asserted that it has the ability to discriminate between self-ratings, competency of trainees/interns by hours of experience” (Perosa & Perosa, 2010, pg. 139), meaning that trainees due rate themselves different from as they accumulate hours. While this evaluation is presented to have good reliability and sensitivity, and ready for large scale studies it’s limitations are important to note. These limitations include: (a) no factor analytic strategies have been used to test for reliability and validity, (b) self-ratings answers suggests an independence (individualistic) perspective, rather

than an interdependence (systemic) view, (c) Perosa and Perosa (2010) notes that no longitudinal testing has been conducted in this evaluation.

The Family Therapy Skills Rating Forms, the Family Skills: Helper's Intentions Form (FSHIF), the Family Therapy Skills Supervisor Rating Form (FTSSRF), and the Family Therapy Skills Observer Rating Form are linked to a successful model used in individual counseling programs and have demonstrated reliability and validity (Perosa & Perosa, 2010). This set of instruments appears systemic in nature, yet there are discrepancies in the supervisors' ratings and the trainees' self-report on performance, and it is not easily available for program use.

In summary, these instruments concentrate on evaluating the effect of supervision on trainee/intern accomplishments in therapy while also focusing on selective competencies for the purpose of clinical applications. While the skill-based instruments have made valuable contributions they are not without limitations. The instruments do not take into account two valuable AAMFT domains: legal ethics standards, and research and program evaluation. Although these assessments have addressed a number of CCs, they fail to highlight the systemic process principles that are consistent in the field and some are limited psychometrically. In summary, the reviewed assessments show the lack of available measurements covering a broad range of core competencies. There is a deficiency in assessments that view stages of trainee/intern development throughout various points in time, as proximal processes ultimately overlook the impact of competency development and mastery as they progress through training (Parr, 2006).

A further step is to optimize measurement tools in terms of psychometric properties. The tools must be grounded in a theory with pedagogical underpinnings that

are systemic or dyadic in nature, making it congruent with the epistemological principles of the profession, and with the ability to capture as many core competencies as possible as set forth by COAMFTE. They should also be able to utilize new education technology (software or platforms) to expedite the evaluation process, making it more user-friendly for supervisors and trainees to evaluate the program and be able to present outcomes for accreditation purposes.

Psychometric Theory

There are well known and historically salient best practices for building, testing and disseminating evaluation tools. Most of these best practice are referred to as psychometric empirical evaluation. While these practices are helpful, and should be followed, they have not yet developed to the point where they are completely useful for a field that values systemic assumptions of interdependence. Therefore it is important to understand these basic best practice, while also looking forward to future systemically informed best practice.

The conceptual components mentioned for evaluating a measurement tool should include at the very least some empirical psychometric qualities to be consistent with evidence base practices. These include reliability (test-retest, parallel, inter-rated reliability, or internal consistency) and validity (face, criterion-related, formative, or sampling). Reliability is concerned with “how stable is the position of a given score in a distribution of scores when measured at different times or in different ways” (Tabachnick & Fidell, 2013, p. 11) while validity is concerned with “[if] tests truly measure what it claims” (Gravetter & Wallnau, 2013). In empirical research, more sophisticated concepts

and levels of analysis are necessary to create proven measurement tools.

In their recent publication, R. Michael Furr and Verne R. Bacharach, 2014; *Psychometrics: An Introduction* (2nd ed), the authors propose that psychometric theory is utilized to evaluate the attributes (qualities) of the psychological and individual measurements (Furr & Bacharach, 2014). Of particular interest is the information generated, the reliability of the tool, and issues concerning the validity of data obtained through the evaluation tool. In general, psychometric theory is concerned with the procedures and operations used to estimate and evaluate the attributes of a test (Furr & Bacharach, 2014). In the practical sense, the study of psychometrics is the practice of using measures and numbers in the variability of operationalized concepts or constructs on a given psychosocial phenomena. Critical components that require close attention include: (a) participant reactivity (such as demand characteristics, social desirability, and malingering), (b) researcher bias and expectations, (c) composite scores, and (d) score sensitivity (DeVellis, 2012).

Particular areas that are given attention to in this study include the historical nature of psychometrics' focus on individual differences (independence) without regard for the interplay or influence of relationships on individuals (interdependence). Another psychometric challenge is the degree to which the numerical symbols reflect differences among the attributes under investigation.

Exploratory Factor Analysis Results on DSE

In advancing the psychometric attributives from the previous study, "The Dyadic Supervision Evaluation: An Exploratory Factor Analysis," Avila, A. et.al (under review),

resulting developmental latent factors can be utilized to test the validity quality of the DSE. The previous study resulted with a reliability Cronbach's alpha of $\alpha \geq .95$, demonstrating high levels of reliability. Furthermore, the exploratory factor analysis resulted in twenty latent factors in the supervisory relationship throughout four academic quarters. Of these twenty factors, eleven are present in supervisors and nine on trainee. The latent factors that emerged in the study are presented in Figures 1 and 2 below.

<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter 4</u>
F1: Participation in Supervision	F4: Developing Systemic Therapist	F6: Developing Systemic Therapist	F8: Skilled Systemic Therapist
F2: Basic Level of Systemic Therapists	F5: Professional Collaboration	F7: Professional Respect	F9: Professional Engagement in Supervision
F3: Basic Level of Therapeutic Alliance			F10: Working Therapeutic Relationship

Figure 1. Trainee Developmental Factors

<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter 4</u>
F1: Supervisory Outcome Satisfaction	F4: Supervisory Outcome Satisfaction	F6: Awareness/ Respect of Contextual/Diversity Issues	F8: Investment in trainee Development
F2: Responsible Supervisory Assistance and Clarity	F5: Awareness and Respect of Contextual/Diversity Issues	F7: Contribution to trainee Development	F9: Professional Contribution and Clarity
F3: Investment in trainee Development			F10: Supervisory Alliance and Attention to Legal Concerns

Figure 2. Supervisor Developmental Factors

These factors emerged through the analysis of the original quarterly evaluation survey. The original survey items are consistent with COAMFTE core competencies. It is important to clarify that neither the original nor the most recent version of the DSE are able to capture all 128 COAMFTE competencies. However, the authors suggest the measurement is capable of capturing more than 80 core competencies, making it the most robust measurement available for supervision evaluation purposes. It is reported that the measurement is limited in capturing the COAMFTE research and program development domain of core competencies.

The Dyadic Supervision Evaluation: An Exploratory Factor Analysis, study presents several strengths. First is that collection of data was gathered in a dyadic way, therefore further analysis can be conducted from a dyadic data analysis statistical approach. This is significant in that empirical studies can be conducted in congruence with the systemic or relational nature of the MFT field. Second, data was collected in a COAMFTE accredited graduate program (LLU masters and doctoral program in MFT). Because of the diverse characteristics of the students and supervisors it is suggested that reasonable representation of COAMFTE accredited programs is achieved.

The limitations of this study (DSE: An exploratory factor analysis) include: (a) sample size meets the minimum standards, therefore a more robust sample size could demonstrate more statistical power, (b) results present a preliminary levels of reliability; the study demonstrate a tentative inductive results that imply a developmental trajectory, (c) does not present statistical analysis to indicate levels of validity, (c) the systemic qualities are inferred in large theoretically given that sample is collected in dyads, but

correlation levels have not been analyzed, and (d) the study does not present levels of progression throughout the year in training.

Dyadic Data Analysis

Empirical dyadic research design can include cross-sectional and longitudinal dyadic structures, such as the standard dyadic design (SDD), and a specific case of the SDD called the actor–partner interdependence model (APIM; Kenny & Winquist, 2001; Kenny et al., 2006). Characteristics that can be used to distinguish members of a dyad could include role (e.g., therapists and clients, fathers and daughters), gender (e.g., female and male), and age (e.g., older versus younger sibling) (Wittenborn, Dolbin-MacNab, & Keiley, 2013). Such direction in research can represent a significant step in supporting the interactive and relational nature of the supervisory process. A next step would be to take it to triadic research to include the impact of supervision on therapeutic outcomes. This can be accomplished with the same empirical designs previously mentioned. As of now, the significance of creating measurement tools of supervision from a developmental and dyadic perspective, with good psychometric qualities, and capturing the greatest number of core competencies can optimize the efficiency of supervision as a distinct feature of marital and family therapy.

Looking ahead to having a measurement tool that is systemic, dyadic, and with sound psychometric properties, research on the implication of the supervisory process can move to the next step: triadic implications. Having a sound measure of the characteristics and common factors associated with supervision, analysis can be conducted in terms of the triadic relationships between supervisor, trainee, and client. In other words, if we can

capture the positive and negative workings of the supervisory relationship, the theoretical propositions suggest that what happens in supervision should parallel what happens in therapy. In this situation, it would be interesting to see if a supervisor who is rated highly by a trainee and a trainee rated highly by his/her corresponding supervisor really cascades into a high rating in the therapeutic relationship. In contrast, we could see if a negative rating of the supervisory relationship parallels into the therapeutic relationship. This can shed light on whether a match in therapeutic perspective influences not only the supervisory process alliance (e.g. do they conceptualize the problem similarly), but also the impact this has on therapeutic outcome.

In this way, the field of MFT can be advanced by programs of empirical research that are consistent with the central tenants of the field. Given the literature available, and the lack of measurements that are dyadic in nature, this study presents a road map on how to conduct research that is both empirical and relational. Research focused on interdependent (relationship) is perhaps one of the most significant ways to establish evidence, support, validity, and credibility in MFT, and is necessary given the competitive nature with other fields in mental health.

CHAPTER FOUR

METHODOLOGY

This chapter includes a description of the research design and discusses the rationale for its approach. The sample population, participant selection, research procedures, and instrument used to collect data are also described. The purpose of this study is to extend the research on the evaluation and implication of the clinical supervisory process as trainees' progress and develop throughout a year in training. With this purpose, the first step is to continue the psychometric validation process of the DSE.

As mentioned in the introduction chapter, this study has two aims: First, this study seeks to explore the internal reliability of the Dyadic Supervision Evaluation (DSE). The measurement tool used in this study was first design by the director of the master's program in MFT at Loma Linda University, Dr. Mary Moline. The measurement tool has been used to monitor students' competencies on a quarterly basis for six quarters. In all, this measure has been collected in every cohort for more than 8 years continuously. This data set was utilized to conduct the exploratory analysis in the first study mentioned previously (Avila, A., et al.). The second aim of this study is to test the construct and predictive validity of the DSE. More specifically, this second aim tests (a) the relationship between factors over three time points, (b) the direct effect from the supervisor to the trainee, and (c) the interdependent relationship between supervisor and trainee. Taken together, these aims will result in furthering the validation and application of the DSE. It is important to note that results of this study will be presented in the form of a publication format dissertation.

Research Design and Rationale

This study uses a longitudinal design measuring supervisors and trainees over four quarters. Data for this study was collected in a dyadic way, meaning that collection of data was collected in relationships (one measure for supervisor and one for trainee). In this way, data will be analyzed in dyads rather than at the individual level. This design provides consistency with the systemic principles of marital and family therapy. This provides a sufficient basis to continue furthering the psychometric attributes of a measurement in a dyadic in nature.

Participants

Participants in this study include first and second-year students in Marriage and Family Therapy, Clinical Mental Health, and Counseling, and their corresponding supervisors from programs in Loma Linda University's School of Behavioral Health and University of San Diego's School of Leadership and Education Sciences. Only students who are in trainee or intern status will be included. The number of participants at the individual level consists of 50 supervisors and 150 trainees; a total of 150 supervisory (dyadic) relationships ($n = 150$) per quarter. Other characteristics of participants include an age range of 21 to 50 years with 80% of the student participants identifying as female and 20% identifying as male. Supervisors' ages range from 35 to 65 years with 50% identifying as female and 50% identifying as male. The estimated response rate is 95%. According to these numbers, the study meets the minimum requirement of participants needed to test the hypotheses as consistent with statistical power of $1-\beta > .80$.

Students within these programs are asked to complete a survey (the Dyadic Supervision Evaluation: Trainee) designed to capture essential core competencies. Supervisors responsible for the training and education of trainees and interns complete a separate survey (the Dyadic Supervision Evaluation: Supervisor) designed to capture supervisors' professional duties on a quarterly basis (completed at the end of each quarter). All placement sites must be approved by the program's clinical director, or clinical site manager or director, and the supervisor must have fulfilled the California Board of Behavioral Sciences' requirements for having students in clinical training to count towards hours for licensure in the state of California.

Protection of Human Subjects

This research is based on a secondary data analysis, and appropriate steps have been taken to insure the confidentiality and identification of participants. Data was collected from the master's program directors from both Universities, in which participants were first de-identified from the dataset. The principle investigator established a clear and fair agreement with program directors prior to conducting data analysis and the obligations and responsibilities of each party. Participation in this study did not pose any substantial risk to subjects. It was speculated that supervisors or trainee's might present issues of reactivity, such as social desirability, score composition, score sensitivity, and expectations, while completing the Supervision Evaluation Device, consistent with the nature of most participants on a given evaluation. Program directors were informed of the potential benefits of the study and that scores did not in any way influence or impact outcomes in their program. The participants were informed of

procedures for contacting the investigator following participation should stress, potential harm, or related questions or concerns arise.

Measurement

The Dyadic Supervision Evaluation (DSE; see Appendices A & B) assesses core competencies of marital and family therapists during the first year of training, and their respective supervisors. The evaluation consists of two forms, one for supervisors and one for trainees. The supervisor form consists of 23 six-point Likert scale items, while the trainee form consists of 41 six-point Likert scale items, all distributed in six areas of competency (i.e., case management, therapeutic relationship with client[s], clinical competency, assessment and diagnosis, supervision, and professional competency). This inventory measures approximately 98 core competencies of the 128 proposed by COAMFTE. This inventory has been tested for internal reliability, scoring a Cronbach's alpha of $\alpha \geq .95$ for both forms. This measurement is utilized by administering the inventory at four different time points.

The measurement used in this study was initially developed at Loma Linda University's (LLU) Master's Program in Marital and Family Therapy by the Program Director, Dr. Mary Moline. The purpose of this evaluation is to mirror the COAMFT standards' Version 11.0 Core Competencies, and to use as a tool to evaluate trainees and supervisors progress. The original survey contained 50 Likert scale items mirroring competencies in the areas of case management, therapeutic relationship with clients, specific clinical competencies, assessment and diagnosis, supervision, and professional competencies. The original survey for supervisors contained 27 Likert scale items. As

mentioned previously, this evaluation was utilized to conduct an exploratory factor analysis pilot study for publication in a journal related to the field of marital and family therapy, Avila, A. et al; The Dyadic Supervision Evaluation: An Exploratory Factor Analysis, (under review). The study resulted in a reduction of items on both scales, from 50 items to 41 for trainees and from 27 items to 23 for supervisors. This reduction was due in part to issues of missing item responses and meeting the assumptions and procedures of exploratory factor analysis. Results of psychometric qualities of this previous study are consistent with the ones presented in the current study's measurement.

Data Collection

Procedures for data collection included the approval of Loma Linda University's IRB, and securing permission from program directors. Collection of data has been conducted in two ways to allow for adjustments in program schedules (e.g., days and times of student or supervisor availability). In one way, program directors collected data from supervisors and trainees at the end of each quarter in supervision. The program directors in Loma Linda University has been collecting this data for evaluation and accreditation purposes for more than eight years. The second method of data collection will be utilized in the master's program in marital and family therapy at the University of San Diego. It is important to note that collection of data at this second University will be conducted for the first time by way of the DSE. The same process is conducted at four time points. Supervisors and trainees will complete DSE returned completed forms to an envelope with all measurements to program directors.

Once data is collected and de-identified, the principle investigator will format the information in programs such as the Statistical Package for the Social Sciences (SPSS) for checking and cleaning to solve for issues such as non-response and unanswered questions.

Questions and Hypotheses

In furthering the psychometric attributes of the DSE this study has two aims: First, this study explores the internal reliability of the DSE. Second, this study aims to test the construct and predictive validity of the quarterly trainee and supervisor evaluation. More specifically this second aim a) tests the relationship between factors over three time points, b) evaluates the direct effect from the supervisor to the trainee and c) assesses the interdependent relationship between supervisor and trainee. (See Table 1).

Table 3. Research Questions and hypothesis.

Question	Hypotheses	Analytic Approach
1) What are the levels in consistency (internal reliability) of the Dyadic Supervision Evaluation in supervisor and trainee over a year course of development?	The DSE presents consistent levels of reliability when evaluating development progression of supervisors and trainee over the course of a year	Repeated Measures ANOVA
2a) Is there a relationship between the developmental factors over three time points?	There is a significant positive relationship between the developmental factors over the course of three quarters, from quarter 1, to quarter 2, to quarter 3, to quarter 4	Actor-Partner Interdependence Model Lagged Effect
2b) What is the level of direct effects of supervisors on trainees' in terms of development and progression of latent factors (core competencies) over three time points?	Supervisors have a positive direct effect in the development and progression of trainee's mastery of developmental factors (CC)	Actor-Partner Interdependence Model Cross Effect
2c) What is the level of interdependence in the relationship between supervisor and trainee's on a quarterly basis?	There is a significant and positive interdependence in the relationship between supervisors and trainee's	Actor-Partner Interdependence Model (controlling Independence)

The first aim in advancing the psychometric qualities in this study is to explore the internal reliability of the Dyadic Supervision Evaluation. This aims consists of exploring the consistency of the DSE over the supervisory relationship over the course of a year (four quarters). It is hypothesized that the DSE presents consistent levels of reliability when evaluating developmental *progression* of supervisors and trainee's over the course of a year. The implications of this hypothesis, if sustained, is that the DSE is capable of measuring trainee's progression in the process of mastering a significant

number of the core competencies set for by COAMFTE over the course of a year. (See Figure 3).

Trainee/Supervisor Factor	Quarter 1	Quarter 2	Quarter 3	Quarter 4
F1	✘ →	✘ →	✘ →	✘
F2	✘ →	✘ →	✘ →	✘
F3	✘ →	✘ →	✘ →	✘
F4		✘ →	✘ →	✘
F5		✘ →	✘ →	✘
F6			✘ →	✘
F7			✘ →	✘
F8				✘
F9				✘
F10				✘

Figure 3. Repeated Measures ANOVA
 Note. →: Progression, ✘: Scores

Aim 2(a) tests the construct and predictive validity of the DSE. More specifically this second aim tests (a) the relationship between factors over three time points. This hypothesis tests the measurement’s conceptual frame. Said differently, the second aim tests whether the measurement is congruent with its developmental conceptualization. In this case, those high on the first quarter factors will be high on the second quarter factors and so forth. In terms of APIM modeling this is considered a lag effect (See Figure 4).

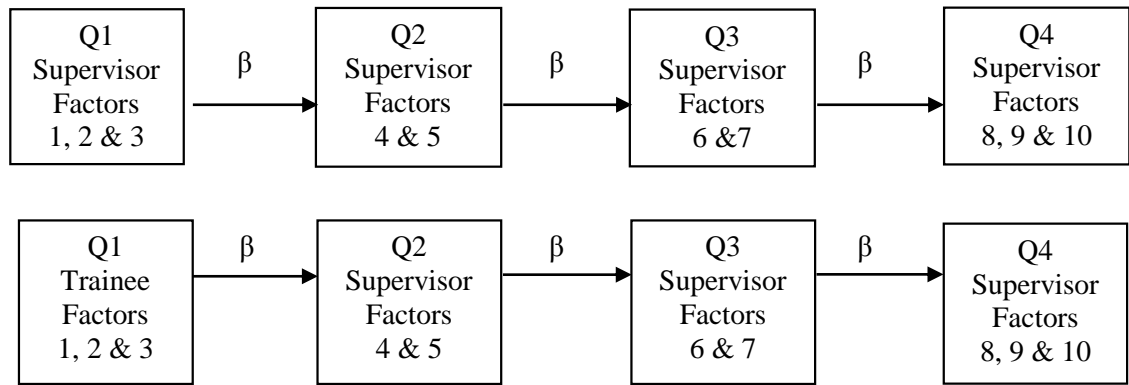


Figure 4. Lagged Effect Model for Factor Correlation or Predictability
 Note: β : lagged effect

Aim 2(b) explores the direct effect (influence) from supervisors on the trainee’s progression over time. This is often referred to as the crossover or partner effect in APIM models. It is hypothesized that the DSE is able to measure, in a reliable and valid way, the levels of positive influence supervisors have on trainee’s level of mastery over the course of a year. The implication of this finding can provide further empirical support for the value of supervision on therapists’ development and progressive mastery of core competencies. (See Figure 5).

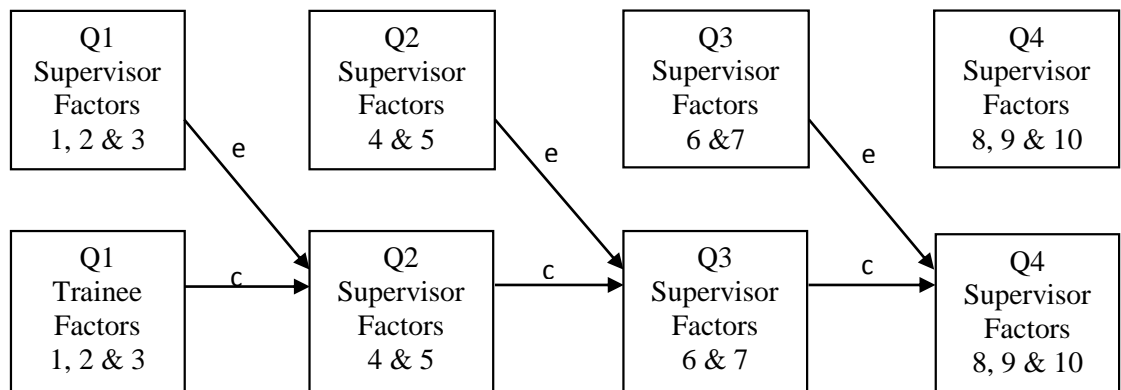


Figure 5. Actor-Partner Interdependence Model for Clinical Supervision Cross effects.
 Note. c: correlation, e: effect

And finally, aim 2(c) will test the DSE’s ability to incorporate, with high levels of reliability and validity, the interdependent relationship between supervisor and trainee. It is hypothesized that there is a significant and positive interdependence in the relationship between supervisors and trainees. Consistent with the conceptual framework, this aim evaluates the level of alliance in the supervisory relationship across the four evaluated quarters. This hypothesis will provide further support for the dyadic nature of the evaluation in its ability to evaluate the measurement relationship nature rather than therapist development at the individual (independent) level. (See Figure 6).

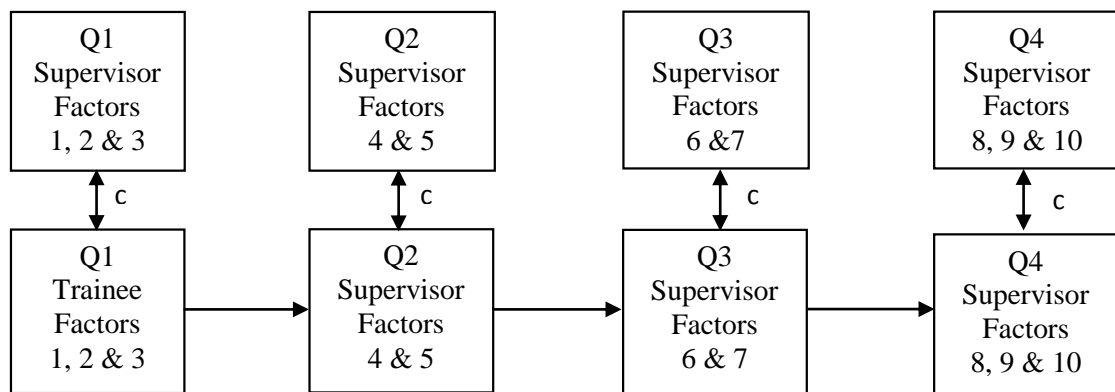


Figure 6. Actor-Partner Interdependence Model for Clinical Supervision Independence Correlation.

Note. c: correlation

Data Analysis Method

This investigator will use multiple approaches to accomplish the aims set forth by the study, including repeated measures analysis of variance (RMA) and standard dyadic design (SDD)—specifically using the Actor-Partner Interdependent Model (APIM). RMA design will be utilized to test changes in mean scores over three time points for

supervisors and trainee's, adding a formative (progression) component to the study. This can provide results that further the level of validity of the measurement utilized in this study. APIM will be used to study interdependent effects in the standard dyadic design. This type of analysis will allow for evaluation of the developmental factors or therapist characteristics that vary between and within the supervisory dyads. Furthermore, APIM will be used to simultaneously evaluate the [cross] effects (Kenny & Winquist, 2001) of supervisor and trainee. This type of analysis will shed light on the developmental and progressive developmental processes of trainees over the year in training, the level of influence supervisors have on trainees, and the level of alliance between them (supervisor and trainee), all in regards to the development or mastery of core competencies.

Progression Over Time: Repeated Measures ANOVA

The repeated measures ANOVA is an analytic approach to test the equality of means in a given random sample over time. In other words, the dependent variable is tested over several time points. In this study, RMA is used to compare the variance in means of the latent factors over different time points for both supervisors and trainees. An assumption test of RMA is to test for sphericity (ϵ) or circularity assumption, which is the variance of sample scores under different conditions (time points). Testing for sphericity is conducted through Mauchly's Test (in which the null hypothesis indicates that the differences between conditions are equal). When rejecting the null hypothesis Greenhouse-Geisser and Huynh-Feldt corrections can be used. In this approach, Levene's test is utilized for equality of variance with $p < .05$. In addition, power issues can be identified by significance of difference. With this, we are accounting for the degree of

differences in the variance of two variables (they can present significant differences in means, but have no significant differences in variance).

Actor-Partner Interdependent Model (APIM); a Standard Dyadic Design

The next step in analysis was conducted through the use of the Actor-Partner Independent Model (APIM). The model proposes that when partner effects are counted in, evaluation of a relationship process is possible (Kenny, Kashy & Cook, 2006). In APIM, partner and actor effects are examined simultaneously (Kenny & Winquist, 2001). According to Cook and Snyder (2005) an actor effect assesses the effect of a predictor variable for Partner A on an outcome variable for Partner A, while a partner effect assesses the effect of a predictor variable for Partner A on an outcome variable for Partner B. (Cook & Snyder, 2005).

Four derivative approaches of this model exist: actor-oriented (little effect of partner), partner-oriented (partner as a predictor), couple-oriented (both participants effects happen and are parallel), and social comparison (both effects parallel in size, but different in sign). These approaches are conducted through three methods: pooled regression, multilevel modeling (MLM), and structural equation modeling (SEM). When choosing to utilize one of these approaches attention to whether the study focuses on indistinguishable data (calling for MLM) or distinguishable data (calling for SEM).

Development Over Time: Longitudinal Considerations

Over time, dyadic research can be conducted by several designs. The most typically used in social sciences are standard dyadic design (SDD), and a specific case of

the SDD called the actor–partner interdependence model (Kenny & Winqvist, 2001; Kenny et al., 2006). In respect to longitudinal (over time) research in dyadic analysis, there are two types of approaches depending on whether outcomes are interval or dichotomous. A critical principle in longitudinal dyadic research is the concept of lagging. This is a model for calculating (through regression equations) the predictive explanatory variable value with the lagged, past, or first period values of this variable. While there are several types of over-time dyadic research, autocorrelation type seems to be the most reliable for practical purposes. This is due in large part to the assumption that the best predictor of future behavior is past behavior. Autocorrelation data analysis is consistent with the basic premise of taking a measure in one time point and taking the same measure again at another point in time. There are several types of analysis for longitudinal dyadic data. However three are used most frequently and are not as complex as the others. These include cross-lagged regression (standard APIM) growth-curved modeling, cross-spectral analyses, and nonlinear dynamic modeling. In the cross-lagged regression model, actor effects are interpreted as stability effects, and partner effects represent cross-partner influence, or reciprocity (Cook & Kenny, 2005). An important consideration when interpreting the model is that data points are not nested. This means that time and participants are usually crossed. For a dyad, the time point is the same for the two persons in the dyad in each time point.

It has been demonstrated that dyadic approaches are congruent with the conceptual and theoretical underpinnings of MFT and reflect theoretical and empirical evidence of interdependence within close relationships (Wittenborn, Doblin-MacNab, & Keiley, 2013). In “Dyadic Data Analysis,” Kenny, Kashy, and Cook (2006) outline

practices of statistical analysis that do not try to get around violations of the assumption of independence but instead privilege or focus interdependence that is such a natural part of our field for analysis. In dyadic research, there are two common types of research questions. Within-dyad research questions examine the correspondence (e.g., similarity or difference) of dyad members' experiences on a given variable or study how dyad members influence one another. Between-dyads research consists of study designs where the independent variable is a condition that applies to both members of the dyad who are influenced/impacted at the same level (Kenny et al., 2006).

In SEM, more than one equation can be estimated and tested simultaneously, and the relations between parameters in different equations can be specified (Cook & Kenny, 2004). In using SEM, programs such as Linear Structural Relations (LISREL), Structural Equation Modeling Software (EQS), Asset Management Operating System (AMOS), among others, are available to assist in estimating the multiple equations within SEM approaches.

The practical implication of the mentioned components of a supervisory dyadic evaluation is that we are able to capture the individual characteristics (or data) of the supervisor as well as the trainee. Furthermore, we are able to capture how the effect patterns of the supervisor influence the characteristics and outcomes of the trainee, and vice versa. In this light, careful consideration should be given to the outcomes or variables that can be studied. Development over time of the trainee can be an important outcome variable. Using outcomes data from therapy collected conjointly with these measurements should result in an analysis of whether the developmental track of the

supervisory relationship produces negative or positive results. In other words, is the supervisory relationship correlated negatively, positively, or not at all.

Reliability and Validity

In terms of reliability, one form of measuring reliability is the test-retest process. In this process the goal is to determine whether the measurement has the ability to provide consistent results when the same entities are tested at two different time points. In terms of reliability estimation procedures, inter-item reliability or scale reliability, are important to review including; Pearson's r , Spearman Brown Prophecy Formula, or coefficient alpha.

With validity, there are multiple ways by which a tool can be presented, including face validity, exploratory or confirmatory factor analysis, and discriminate versus convergent validity. However, when designing or building a measurement tool, it is important to evaluate whether the measurement has undergone revision through several phases. In their book, *Psychometrics: An Introduction* (2nd ed.), R. Michael Furr & Verne R. Bacharach present six stages in the development of psychometric evaluation tools. These include six stages: (1) face validity (i.e., is the tool consistent with a theoretical framework and tested?), (2) internal reliability and construct validity (i.e., is a split half design proven consistent and exploratory factor analysis proves constructs are latent?), (3) construct and criterion validity (i.e., has the measure been tested against multiple measures to assess criterion and predictive validity?), (4) construct validity (i.e., has it been tested using different samples with a confirmatory factor analysis?), (5) test-retest (i.e., has the measure been tested with longitudinal design studies?), and (6) external

validity (i.e., has the measure been re-tested with different populations to ratify reliability and confirmation of factors?).

Expected Results

With this study and the hypotheses set forth, it is expected that a developmental path can evaluate the progression in core competencies over a year-long experience of clinical supervision of trainees. As the developmental path continues to be supported through increasing the psychometric qualities of the measurement used in this study, a repeated measures Anova analytic approach can increase the validity of the measurement, as well as adding to the literature of a developmental path in clinical supervision. Having identified the developmental path and factor progression over time in this relationship, this study will shed light on the relationship between factors from on a quarter-to-quarter basis, the influence or impact of supervisors on trainee mastery of core competencies over time, and the significance of the relationship between supervisor and trainee.

The significance of these results facilitates a further understanding on the important aspects of the supervision relationship, such as stages of development of trainees over a year, the different aspects for supervisors to track on a quarter-by-quarter basis and the level of influence they have, and the level of alliance (correlation) between supervisor and trainee that has been demonstrated to be critical to therapists development and best practices in MFT. Furthermore, the methodological design utilized in this study will advance the creation of evaluation tools congruent with high quality psychometric attributes and set forth more evidence and viability of dyadic research, all while upholding the systemic principles of the MFT profession.

Limitations

Limitations in this study are present in several areas. However, an exhaustive discussion is not feasible due to a lack of the space necessary to explain them in great detail. Nonetheless, limitations are present in terms of complexities with sampling, the measurement tool's reliability and validity at this point of its development, and data collection in terms of accounting for diverse populations (evaluating themes regarding culture, ethnicity, gender, socioeconomic status, etc.), and having participants from two masters programs located in southern California. In addition, some aspects of labeling factors or characteristics might be up for discussion given the qualitative (inductive) component exploratory factor analysis. In this line, inferences in the specificity of an interpretation a factor might be argued as biased. In answer to this, I can only contend that interpretation of factors is based on the recommendations of factorial analysis and the conceptual framework as a whole. A possible next step could be to provide scale descriptors of each item in the measurement, rather than respondents answering entirely on a Likert scale.

CHAPTER FIVE

IMPLICATIONS

The goal of this study is to advance and evaluate an assessment tool (DSE) capable of measuring the mastery of core competencies set forth by COAMFTE in a way that is congruent with the systemic principles of the profession, while also being psychometrically sound, and accounting for MFT trainees' development over time. In advancing the psychometric qualities of the measurement (DSE), this study has two aims: to explore the internal reliability of the measurement and to test the construct and predictive validity from quarter to quarter. This project contributes to the MFT supervision literature in a number of ways. First, this study is the second in a series of designed studies that aim to assess the statistical interdependence of the supervisory dyad in a longitudinal manner. This work builds and expands on previous research that resulted in a journal article by Avila, A. et al. (under review) titled "Dyadic Supervision Evaluation: An Exploratory Factor Analysis," which identified a reliable and measureable set of empirical factors that are central to the development of core competencies in clinical supervision. To date, the DSE is the first *dyadic* measure to assess the development of the core competencies in MFT clinical supervision. The second way in which this project contributes to the MFT supervision literature is by focusing on the common factors, which are hypothesized to lead to effective therapy and supervision. Third, this study will measure the development of MFT core competencies as they develop over time in the supervisory dyad. Fourth and finally, this project will articulate the developmental and relational processes that transpire as supervisors work

with trainees during their first year of clinical training. These issues and directions for future research are outlined below.

Dyadic Supervision Evaluation

As an empirical research project, this study adds to the literature in MFT on developing evaluation tools that are systemic, developmental, and with sound psychometric attributes. At this point in time, MFT empirical research is limited in reliable and widely validated dyadic measurement designs with congruent systemic principles, with the exception of the Dyadic Adjustment Scale and the Family Adaptability and Cohesion Evaluation Scale (though these are criticized for their dyadic limitations in design and use). Additionally, the dyadic analysis is a departure from measures and research based on statistical assumptions of independence, focusing instead on the integration of interdependent methods. This presents a significant advancement in the field because it provides a road for creating and conducting research that is dyadic in nature and that leads to outcome research. This road map includes steps in accounting for reliability through factorial analysis and for validity through dyadic data analysis (e.g., repeated measures Anova and actor-partner relational modeling). This road map can ultimately provide systemic-based empirical results that further legitimize the field of MFT.

Common Factors in Supervision

Common factors literature brings about a significant contribution to the evaluation of the supervisory process for several reasons. Although senior supervisors have a

working knowledge base about the prevailing factors of supervision over the course of a year, these are typically evaluated from a specific supervision model base. Furthermore, a supervisor's supervision approach is at risk of focusing on a particular set of factors that are inconsistent with a trainee orientation or exploration of a different theoretical approach. Additionally, a common factors approach can bring about a level of neutrality supported through empirically-based evaluations. Having a solid evaluation based on the understanding of common factors in clinical supervision enables clinical sites and programs to attend to the rigorous standards set by the American Association for Marriage and Family Therapy (AAMFT).

Studying the critical elements of MFT clinical supervision through common factors literature provides appropriate grounds for understanding what makes supervision work from an atheoretical perspective. Studying the elements of supervision from this perspective enables a more comprehensive evaluation of supervisory process and outcome without becoming confounded by theoretical differences. Elements such as alliance, influence, role, among others can also be evaluated from a broad developmental lens. With it, the process, content, and outcome of supervision can be empirically evaluated at multiple levels (supervisor-trainee, supervisor-mentor, and supervisor-program director).

Mastery of Core Competencies

It is argued that the MFT field requires training in systemic principles that set the field apart from other mental health and behavioral health fields. In 2006, COAMFTE implemented Version 11.0 of its Accreditation Standards (COAMFTE, 2005),

representing a major change in its basic philosophy for MFT skills development. Rather than a focus on an input-based system requiring accrual of clinical hours, it now focuses on the evaluation of education and training in terms of outcomes, which is a focus consistent with master's students' needs in a COAMFTE accredited program (Hertlein & Lambert-Shute, 2007). By changing this philosophy, practitioners and researchers such as Nelson et al. (2007) provided a detailed description of outcomes expected from MFTs, as represented in the development of core competencies for practice and as guidelines to assess MFT skills. Although this is a significant step forward in development, the field is still left with little direction as to how the trainee centers can measure and evaluate their trainees in line with these 128 core competencies.

More specifically, there are few empirically-based measures to help universities and training centers achieve the rigorous new standards (Nelson & Graves, 2011; Perosa & Perosa, 2007). With this study, I argue that by capitalizing on the supervisory process through empirical, systemic, and developmental evaluation of core competencies, these standards can be better achieved in a more effective way. According to Perosa and Perosa (2010), supervision is an essential component in the temporal growth of marriage and family therapists during the course of the training year. In their review of supervisor assessment tools, Perosa and Perosa (2010) suggest designing clinical supervision evaluations that can accurately assess the development of clinical skills and competencies for MFTs in training. In line with this, this study advances the field in validating through empirical research (dyadic analysis) the embodiment of the necessary core competencies set forth by the profession.

Supervisor Influence of Therapist Development

For the most part, evaluations in master's level programs seem to be conducted through subjective or qualitative perspectives. This is understandable given cost, administration practices, and already existing complexities in the learning process of the trainee. "Typically assessment procedures are not systematically integrated into the educational experience" (Le Roux, Podgorski, Rosenberg, Watson, & McDaniel, 2011, pg. 545). Therefore, adding the Supervision Evaluation Device with appropriate administration and discussion with students in a systemic and integrated way is a significant advancement in managing the supervisory process.

Thus, it seems that the time has come to more clearly and empirically evaluate the core competencies held by members of our profession and common factors associated with clinical supervision in MFT. This study tests the evaluation tool (DSE) in its capability to evaluate mastery of core competencies from a developmental perspective (stages), progression over time, and the influence of supervisors on trainees. In doing so, this study answers the call for empirical dyadic research to more objectively evaluate trainees' development by focusing on the necessary core competencies to be mastered over a year in training. By adopting this measurement and the longitudinal results presented by this study, a significant contribution to the field by making it possible for closer monitoring, evaluation, and focused discussion between supervisor and trainee's.

CHAPTER SIX

PUBLISHIBLE PAPERS

Paper 1

**Factors in Integrative Marital and Family Therapy Supervision during First Year
in Training: An Exploratory Factor Analysis**

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Abstract

The current lack of empirically validated tools for supervision and training significantly limit our ability to not only study the supervision process more systemically, but also limit the field's practice of supervision. This study takes one step in addressing these gaps in the research literature by developing an assessment tool supported by a theoretical framework and supporting psychometric properties. The design of the research consist of a developmental and systemic (integrative) supervision framework. We utilize an exploratory factor analysis approach, which is a quantitative inductive approach. The analysis resulted in a total of 20 latent structures; nine on trainees & 11 on supervisors, with a range in reliability of $\alpha = .82-.98$. In terms of its overall significant we believe this study takes a significant step forward in laying the foundation for dyadic-developmental assessments within the systemic field of family therapy. The advantage of this evaluation device is allowing supervisors and trainees to construct a personalized professional developmental plan set forth in partnership targeting specific latent factors.

Keyword: Development, Dyadic, Integrative, Supervision, Psychometric

According to Perosa and Perosa (2010), supervision is an essential component in the temporal growth of family life and well-being services providers, and is particularly important during the course of first year in clinical training. Leading experts in marital and family therapy (MFT) clinical supervision has stated the overall purpose of supervision to be the monitoring and evaluation of therapists in training (Todd and Storm, 2014). However, the current lack of empirically validated assessment tools for supervision and training significantly limit our ability to not only to evaluate the supervisory process objectively. Furthermore, a lack of psychometrically valid assessment tools prevents the field to conduct research of the most relevant factors on supervision process systematically, and in way the advances the fields unique body of research –developmental and systemic. Specifically to this study, we propose conducting research of the first steps in the design of an evaluation tool that is developmental, systemic, with sound psychometric properties, and for the purpose of evaluating the supervisor-trainee relationship during the first year of clinical training when supervision is required or mandated.

Having psychometrically reliable and valid tools can aid in the field's ability to facilitate the development of trainees, but also provide tailored tools that fit the underlying principles of development, systems and the interdependent relationship between supervisor and the trainee.

In this light, this study takes one step in addressing these gaps in the research literature by developing an assessment tool supported by a theoretical framework and supporting psychometric properties.

In creating an assessment tool based on best practices in psychometric tool development we follow the central principles set by Flower, (2009). These principles includes the attention given to sampling, research design, and the process of collecting data. In following these practices this research focus is on studying latent factor embedded in a survey that evaluates clinical supervision of trainee's during first year in training. The design of the research consist of a developmental and systemic (relational) supervision framework. In congruence with this design data collection process has been conducted longitudinally (four time points) and in dyads (data from supervisor-trainee) at each time point. We utilize an exploratory factor analysis (EFA) approach, which is a quantitative inductive approach. We hypothesize that through our data collection survey and EFA several latent factor will emerge at as time elapse, suggesting higher levels of complexity with time given the assumptions of developmental theory.

Supervision as a Developmental Process

Like in most relationships or therapy the outcome of a supervisory relationship reflects the quality of its developmental process. In such way, the field of MFT has developed theoretical models of supervision to bring clarity, support and expertise to accomplish its specific goals, and monitoring and evaluation of therapists in training (Todd and Storm, 2014). In the mental health field, it seems there is a general consensus that the level of competence of a therapist depends on a developmental process –phases and stages. In this light we propose that at its most basic level the creation of an evaluation assessment for therapist in training is consistent with the developmental nature of therapist's competence.

In developing an evaluation assessment tool a theoretical framework is also critical in regards to the inherent psychometric properties of the tool –validity. An assessment tool necessitates clarity and basic guiding principles in measuring what is design to measure –face validity and inferential purpose. Consequentially, this raises critical epistemological (theory of knowledge) considerations in regards to the theoretical background and the nature of what is attempted to be studied. In developing an assessment tool with psychometric properties (quantitative) a theory of clinical supervision necessitates an epistemological background applicable to quantitative research. In MFT there are many theories of supervision designed under different epistemological backgrounds. Among the most common theories of clinical supervision include, Psychodynamic, Transgenerational, Classic Systemic, Integrative or Common Themes, and Postmodern approaches (Todd and Storm, 2014).

For the purposes of this research, and the creation of an objective evaluation assessment tool we believe that an integrative supervision theoretical framework is the best fit. Integrative supervision focused attention to progressive learning of therapist in a way that is observable and measureable, primarily on the clients and supervisee’s needs. In addition, this theory puts special emphasis in the wealth of experience and level of expertise of the supervisor in that accounts for the ability of the supervisor to build a strong working alliance. In turn this focus allows for testing the interdependence (relational) aspects of the supervisory relationship in a more concrete way. For the purpose of this study, we also conclude this to be the best framework in contrast to other systemic supervision theoretical models for the following reasons.

Although very different in their epistemologies, psychodynamic and postmodern supervision theories are highly reliant on in their subjective perspective of reality. This alone makes these theories difficult to consolidate into an objective assessment evaluation. Purposive systemic supervision is typically conducted live, in vivo, behind the mirror. The task is mainly focused on modeling and directing the interactional nature of therapy. This limits translating its focus on an assessment tool focused on the supervisory relationship rather than on the therapeutic task. In terms of transgenerational supervision the limitation on developing an evaluation consist of the role of the supervisee's in its apprentice observant role, where the supervisor model what therapy "should" be like. Therefore this theory is limited in accounting and observing in a concrete way the developmental nature and supervisory process over time.

In an article by Lee and Everett (2004), the authors present a comprehensive integrative developmental view and functions in MFT supervision. Within this model the authors note that there are two interdependent developmental trajectories for the supervisor and the trainee. The developmental continuum of the supervisor ranges from an authoritative guide (responsible for trainees and clients) to an experience-consulting therapist (who provides support for the autonomy of the trainee while offering apprenticeship opportunities). The developmental continuum of the trainee ranges from personal and role differentiation to learning theory and application to therapeutic success. This can be seen in the supervisory relationship in terms of the trainee preparedness to present concerns and alert supervisors of crisis cases as well as trainee ability to become self-organized and determined in meeting their goals, needs, and therapeutic issues. The authors also present typical functions of supervisors, which include (a) monitoring and

evaluation, (b) instruction and advising, (c) modeling, (d) consultation, and (e) support and sharing of experiences.

Monitoring and Evaluation; “Assessment”

Supervision serves multiple functions, though it is primarily focused on monitoring and evaluating trainees’ provision of services and development. The question herein is what specifically to monitor and evaluate. For example, in 2003, the American Association of Marital and Family Therapy (AAMFT) sought to articulate what constituted a competent marital and family therapist. During this process, AAMFT also designated a specialized role for supervisors and articulated the qualifications and requirements of a supervisor. Furthermore, in 2006, the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE) implemented Version 11.0 of its Accreditation Standards (COAMFTE, 2005) representing a major change in its basic philosophy for MFT skills development. Rather than a focus on an input-based system requiring accrual of clinical hours, it now focuses on the evaluation of education and training in terms of outcomes—a focus consistent with master’s students’ needs in a COAMFTE-accredited program (Hertlein & Lambert-Shute, 2007). These changes in educational approach lead to an effort to describe the expected outcomes of MFTs education, resulting in the development of the core competencies of MFTs. Although this is a significant step forward in the development of the field, there is still little direction as to how supervisors and Master’s programs can measure and evaluate their trainee’s development of core competencies. The current research endeavor found only a few empirically-validated and reliable measures.

Conceptual Framework

As mentioned above, the work of Lee and Everett (2004) presents a comprehensive view of the integrative supervisor theoretical approach. They reported that integrative supervision approaches are understood as models for conducting supervision with an all-encompassing theory that contributes a set of principles to guide the supervisory process in a sequential, coherent, and interrelated way. In this way, integrative supervision focuses on systemic and developmental stages of a system and/or trainee and unique resources, while also balancing the potential for change. At the same time, the integrative supervisor's goal is to deepen and increase the sensitivity of the trainee's understanding of systemic perspectives, ensure trainees have sufficient knowledge and skills to apply systems theory, and integrate theoretical knowledge with assessment data to formulate appropriate interventions. Lastly, integrative supervisors support trainees in evaluating objectively and learning from successes and failures, in such a way that trainees grow in confidence and creativity. In this study, we ground our exploratory factor analysis in the theory's developmental idea. More specifically we explore the continuum of factors and tasks proposed in Lee & Everett (2004) qualitative findings. We postulate that their qualitative findings are mirrored in the current research endeavor's quantitative findings (see Figures 1 and 2). As presented in the author's theory, the supervisory process over a year follows a set of tasks and transition, moving from a structured reliance on the supervisor towards the autonomous consultation of the trainee. In this way, we mirror the tasks and transition reported to those latent factors as found over the course of a year at four time points.

Assessments in Supervision and Trainee Development

Attempts to create a trainee development instrument in the field of MFT can be traced back to an article by Breunlin, Schwartz, Krause, and Selby, which was published in the *Journal of Marital and Family Therapy* in 1983. The development of the instrument noted in this study began by videotaping observations, with multiple-choice questions as part of the conceptualization and recommendations of the tape. While this was a very important step forward for family therapy supervision, this instrument focused heavily on the trainee rather than on the supervisory relationship process.

Although assessment in family therapy supervision has been noted a need in the literature for decades, Perosa and Perosa (2010) remind us that even today there is a significant need to develop more evaluation instruments. Especially instruments that are congruent with the systemic principles of family therapy. Specifically that they call for psychometrically sound measures that include a developmental perspective as well as value the dyadic systemic nature of the supervisor and trainee relationship. As presented by the Perosa and Perosa (2010) ten assessments identified and reviewed show that the field is lacking a quality tool for measuring trainee development within MFTE programs. Specifically, only 6 of the 10 identified assessments have a notable history of psychometric testing. Of these six assessments, the greatest number of core competencies achieved by any one assessment is 39. Furthermore, of these six, one (Competency Evaluation Inventory) utilizes both the trainee and supervisor levels of measurement. None of the 10 demonstrate robust research in terms of psychometric properties, or capture the developmental (longitudinal design) or relational systemic (interdependence) principles of the field –single evaluators (see figure 1). Furthermore, all of the

assessments suffer from limited psychometric building strategies. Although some present empirical qualities, which brings value to these assessment, none of the present or show a step wise best practices approach in the development of psychometric properties.

Psychometric Testing and Systemic Principles

In the work by Flower F. (2009) *Survey Research Methods* the author presents best practice standards for creating psychometric testing and assessment. At the most basic level these practices include sampling, design, and the process of collecting data. In this regard what is initially consider is the inferring characteristic of the population under study, the susceptibility of error, and limitations in terms of the ability to measure what is attempting to be measured. Address this concern of face validity best practice research suggest the use a conceptual theoretical framework. Two components are at the core of empirical testing of assessment, reliability and validity. Reliability evaluates the stability of scores when testing in different time points (Tabachnick & Fidell, 2013) and validity is tests if an evaluation tests what is supposed to test (Gravetter & Wallnau, 2013.)

In best practices, testing these components are typically conducted in steps. The first is to pilot the evaluation and test its reliability. Testing these properties can be conducted in several ways, these include factor analysis, test-retest, parallel, internal consistency, and inter-rated reliability (DeVillis, 2012). The following step typically consists of testing the validity of the evaluation. This can also be conducted in a variety of ways, including face, content, criterion-related, and construct validity (Furr & Bacharach, 2014).

Table 1. Summary of existing Supervisor/Trainee evaluation tools.

INSTRUMENT	# CC	EVALUATOR	DEVELOPMENTAL	PSYCHOMETRIC PROPERTIES
SKILLED COUNSELING SCALE (SCS)	29	Focus supervisor Rate	Best used at the beginning of training	Inter-rater .79-.90; α .81-.89 (Urbani et al. 2002; Schaeffe et al., 2005); content and predictive validity (Eriksen & McAuliffe, 2003)
COUNSELING SKILLS SCALE (CSS)	39	Supervisor	Limited to skills learned early in MFT skills courses	α .91; construct validity (Eriksen & McAuliffe, 2003)
FAMILY THERAPIST RATING SCALE (FTRS)	Information not available ^a	Supervisor	The scale is more useful in the early part of training	Inter-rater reliability; Face and criterion validity (Piercy et al., 1983)
THE BASIC SKILLS EVALUATION DEVICE	18	Supervisor	For beginners	α .97; content validity (Nelson & Johnson, 1999)
MFT INTERNSHIP EVALUATION INSTRUMENT (MFTIE)	Information not available ^a	Supervisor	Aggregate Summation	None
POSTGRADUATE COMPETENCY DOCUMENT	Information not available ^a	Supervisor	Utilized for postgraduate therapist	None
SCORING RUBRIC COUNSELOR-TRAINEE CLINICAL WORK (SRCTCW)	Information not available ^a	Supervisor	Not Available	None
COMPETENCY EVALUATION INVENTORY	Information not available ^a	Supervisor and self-report	Measures self-ratings of competence by trainees from 0 -500hrs over time	Internal consistency; concurrent validity, (Davenport, Northey, Ratliff, Todahl, & Perosa, 2007)
THE FAMILY SKILLS SUPERVISOR RATING FORMS (FTSSRF)	Information not available ^a	Supervisor		Internal Consistency; concurrent validity (Perosa & Perosa, 2007)
FAMILY THERAPY SKILLS OBSERVER RATING FORM (FTSORF)	Information not available ^a	Self-report	None	None
CASES	30	Self-report	No	Internal consistency; Concurrent and predictive validity

a = research team was unable to access the actual items on the assessment due to the item not being published in peer reviewed journals or in conference proceedings. Additionally general internet searches yielded no information about the assessment or the items.

These practices as they stand present an outline for developing assessment tools with tested psychometric properties. However, and mentioned above, what is critical at the initial steps of building assessment tools is the conceptual theoretical framework base. In spite the abundance of psychometric tests in the field, is difficult to find evaluation that are build, design, created and testing from a systemic lens. Even in the field of MFT, most assessments are tested at the individual level (through univariate analysis), see table 1.

In this study, we take initial steps in creating an evaluation tool with tested and sound psychometric properties while attending to the systemic-relational principles of the field. This initial step consists of addressing face validity (conceptual theoretical base) at its core –systemic and developmental. Having conceptualize the evaluation in this regard it dictates its psychometric design to be longitudinal (progress over time) and dyadic (at least two members) to account for interdependence. In such a way, sampling and data collection procedures requires collection in dyads, triads, or more given the intent or purpose of the evaluation. In the last decades, dyadic analysis approaches have emerged and proven to be effective. These include standard dyadic designs, social relational models, one-with-many design, and the actor-partner relational model. These approaches allow for testing specific factors in dyads (triads, etc.), and the relationship among factors at various points over time (Kenny, Kashy & Cook, 2006).

In light of the challenge mentioned earlier (limited evaluation tools with systemic principles), the aim of this study is the exploration of latent factors in the supervisory process as well as the development of a survey that is parsimonious yet robust in capturing the widest range of competencies necessary for marriage and family therapists

in training. As a first step in developing this evaluation, through the use of exploratory factor analysis functions as a strategic tool, this study intends to locate latent structures embedded within a survey at each of the four time points, while reducing the number of ineffective survey items.

As a result of this analytic approach, we believe this study will result in the development of an efficient supervisory evaluation with consideration to supervisees' developmental-based educational outcomes. Said differently, this evaluation will reflect developmental approach to supervision that provides the frame to evaluate trainees' progression over time and evaluate the factors that interdependent in the supervisory relationship. Given the dyadic data collection approach and the analysis conducted on a quarterly basis, the evaluation provides a systemic empirical perspective by which to monitor the nature, alliance, and influence in the supervisory relationship (see Figure 3). In statistical terms we hypothesize developmental latent factors to emerge in the DSE.

Method

This study used secondary data collected from a COAMFTE Marriage and Family Therapy Master's program in southern California. The data utilized in this study was obtained from the master's program director as a de-identified (removed all identifying information of participants) data in protection of trainees and supervisors. The secondary analysis process within this study were approved by the authors' University Human Subjects Internal Review Board (cert # 5140391)

Participants

Participants in this study included 88 MFT trainees along with 88 corresponding supervisors from the trainees' clinical sites. Clinical supervisors are required to be approved by the California Board of Behavioral Sciences as licensed to supervise. Data was collected within four time points, each at the end of a quarter. Students from this program ages range from 20 to 60 years, 78 % female, 22 % Male, 20 % African-American, 13 % Asian, 8 % other ethnicities). For students to achieve trainee status in the program they are required to complete at least two quarters with classes in content areas of assessment, theory, and law and ethics. Trainees' clinical training in this program consist of at least a year (four quarters) in case class (practicum), sometimes more, depending on the time that it takes the trainee to complete 500 clinical contact hours with clients.

Measurement: Survey History

The initial survey evaluation tool utilized in this study was developed by the Program Director in 1980. The initial purpose of the survey was to evaluate and gather feedback of trainees' competence from the clinical supervisors' point of view and to generate a source of feedback for the supervision being received. Over time, minor modification have been made to this assessment tool and currently the items reflect groups or themes based on the new COAMFTE 11.0 standards for core competencies. In its survey's version before this study, the DSE form evaluation of trainee consisted of 50 Likert scale question items, assessing for trainee development in the areas of case management, therapeutic relationship with clients, clinical competency, assessment and

diagnosis, supervision, and professional competencies. The DSE evaluation of supervisor form consisted of 27 Likert scale question items, measuring areas of assessment and diagnosis, clinical competence, supervisory relationship, and professional competence (see Appendix A & B for the Supervisor and Trainee forms).

Procedure

For this study, data was amassed for student cohorts attending the Master's program between 2004 and 2011. Data was collected at the end of each quarter and collected through the student's first four quarters of clinical work/supervision. Trainees and supervisors completed the evaluation separately and returned it directly to the program administrator to secure confidentiality. Completing the evaluation form requires approximately 15 minutes or less for both the supervisor and the trainee.

Prior to analysis, items with excessive (greater than 10%) missing answers were eliminated. An example of item question removal is the trainee's collection of service fees. This items presents a high level of missing answers is due to trainee's are not in clinical practicum sites where they collect fees themselves. The dataset was then divided into four quarters of measures for the trainee and four quarters of measures for the supervisor, for a total of eight datasets (e.g., one for the trainee's first quarter, one for the supervisor's first quarter with the trainee, etc.). A separate exploratory factor analysis (EFA) was conducted on each dataset to determine the underlying latent factor structure of each quarter. In all of these analyses, guidelines for principle component factor analysis were followed, which included the Kaiser rule, evaluating the scree plots, retaining only items with high communalities (greater than .50), removing cross loading

items (greater than .4), and suppressing items with medium coefficients or lower (less than .50) (Tabachnik & Fidel, 2013). Through this process, items were removed if they did not meet these criteria while the remaining items were exposed to both orthogonal (Varimax) and oblique (Promax) principle component factor analyses.

Results

The results present an updated version of the evaluation with reduction of items on both evaluations, trainee and supervisors. The trainee evaluation resulted in 39 (out of 50) of the original items being retained (see Appendix A), and 26 (out of 27) items on the supervisors, see appendix B). Furthermore, the exploratory factor analysis resulted in 9 latent structures for trainees; 2 in first quarter, 3 in second quarter and 2 in fourth and fifth quarter. For supervisors 11 latent structures emerged; 3 in the first quarter, 2 in the second and third quarter, and 4 on the last quarter. All analyses met the indicated criteria for appropriate solutions (eigenvalues, variance, and residuals). In all cases, the orthogonal fit proved to be the more appropriate rotation for the data. Rotated factor loadings are included in Tables 1 and 2, corresponding to each evaluation. After completion of the EFA process, a qualitative analysis was conducted for each factor to determine the latent construct and develop appropriate factor label.

Trainee Results

The analysis for the first quarter produced a two component solution, accounting for 80.57 % of the total variance within the first quarter of data. Factor 1: Therapy Competency I (Systemic Assessment) includes 13 items

(10,11,13,17,19,21,22,24,25,27,28,29&30) and a $M(SD) = 4.76(.85)$; and Factor 2: Supervision I (Receptive to Supervision) including 3 items (33,34&37) and $M(SD) = 5.09(.82)$. The analysis for second quarter produced a three factor solution, accounting for 75.98 % of the total variance within quarter two. Factor 3: Therapy Competency II (Documentation & Assessment) includes 12 question items (1,2,20,21,22,23,24,26,27,28,30&33) and $M(SD) = 4.78(.73)$. Factor 4: Supervision II (Engagement in Supervision) includes 9 items (25,31,32,33,34,35,36,37&39) and $M(SD) = 5.29(.73)$, and Factor 5: Professional Conduct & Diversity was made up of 8 items (3,4,7,9,11,12,13&14) having a $M(SD) = 4.99(.7)$. The analysis for the third quarter produced a two component solution, accounting for 81.77 % of the variance within quarter three. The first factor, Factor 6: Therapy competency III (Alliance building, treatment planning & goal setting) contained 18 items (6,7,8,10,11,12,13,14,15,16,17,18,19,22,23,24,28&30) with a $M(SD) = 5.09(.74)$. Factor 7: Supervision III (Proactive in Supervision I) was made up of 8 items (31,32,33,34,35,36,37&39) with a $M(SD) = 5.38(.77)$. The analysis for fourth quarter produced a two factor solution, accounting for 72.07 % of the total variance in quarter four. The first extracted factor, Factor 8 Therapy competency III (Treatment Planning & Assessment) consisted of 11 items (8,11,12,13,14,18,21,22,23,24&28) and had a $M(SD) = 5.27(.59)$. Factor 9: Supervision IV (Proactive in Supervision II) was made up of 7 (5,25,34,35,36,37&39) items and had a $M(SD) = 5.52(.55)$. The model fit information as well as alpha reliabilities can be found in table 2 below.

Supervisor Results

The analysis for the first quarter produced a three component solution, accounting for 80.37 % of the total variance within the first quarter. Factor 1: Clinical Knowledge I (Systemic Assessment & Treatment Planning) including 6 items (1,2,3,4,11&16) and $M(SD) = 5.18(.89)$; Factor 2: Supervisor I (Supervisor Value & Support) including 6 items (18,19,20,21,25&26) and $M(SD) = 5.56(.68)$ and Factor 3: Therapeutic Skill Building & Support including 7 items (5,6,7,10,22,23&24) and $M(SD) = 5.37(.71)$. The analysis of the second quarter produced a two component solution, accounting for 75.86 % of the total variance within the second quarter. Factor 4: Clinical Knowledge II (Assessment & Treatment Skills, & Negotiating Expectations) including 12 items (1,2,3,4,6,8,10,12,13,14,15&23) and $M(SD) = 5.35(.8)$, and Factor 5: Supervisor II (Supervisor Value) including 4 items (7,19,21&26) and $M(SD) = 5.55(.71)$. The analysis of the third quarter produced a two component solution, accounting for 71.06 % of the variance within the third quarter. Factor 6: Clinical Knowledge III (Diagnosis and Treatment Skills) including 9 items (1,2,3,6,7,8,9,10&15) and $M(SD) = 5.40(.69)$, and Factor 7: Supervisor III (Supervisory Collaboration) including 5 items (13,14,19,22&26) and $M(SD) = 5.63(.64)$. The analysis of the fourth quarter produced a four component solution, accounting for 77.13 % of the total variance within the fourth quarter. Factor 8: Supervisor IV (Therapist Skill Building and Growth) including 8 items (5,14,17,18,19,21,23&26) and $M(SD) = 5.7(.46)$, and Factor 9: Supervisor V (Treatment Skills and Negotiating Expectations) including 7 items (6,11,12,22&24) and $M(SD) = 5.53(.65)$; Factor 10: Clinical Knowledge IV (Cultural Sensitivity in Treatment and Supervision) including 3 items (7,8&16) and $M(SD) = 5.74(.49)$; Factor 11: Clinical

Knowledge V (Documentation & Diagnosis) including 2 items (1&2) and a M(SD) = 5.46(.77). More specific information of the resulting analysis is presented in table 3, (eigenvalues, Cronbach's alpha, KMO and Bartlett's test of sphericity).

Discussion

After careful analysis of the latent factor construct and the developmental continuum our findings seem to parallel the integrative supervision continuum proposed by Lee and & Everett. However, we believe the constructs and labels we have given them are different in large in how questions were originally articulated in the initial design of the DSE. See figure 1 & 2.

Experience Level	Developmental Tasks of Trainee (Lee & Everett, 2004).	Trainee Developmental Trajectory Empirical Model
No Experience	Task: Working Alliance, Professional Identity and Professional Role	Quarter 1 Factor 1: Therapy Competency I (Systemic Assessment) Factor 2: Supervision I (Receptive to Supervision)
	Transition 1: Differentiation, Confidence, and Mastery	Quarter 2 Factor 3: Therapy Competency II (Documentation & Assessment) Factor 4: Supervision II (Engagement in Supervision) Factor 5: Professional Conduct & Diversity
	Task: Clearer Professional Identity, Increased trust in supervisor, clinical interventions, reflectivity on role and intervention	Quarter 3 Factor 6: Therapy competency III (Alliance building, treatment planning & goal setting) Factor 7: Supervision III (Proactive in Supervision)
	Transition 2: Personal and Professional Autonomy, Overcoming insecurities, “leaving home”	Quarter 4 Factor 8: Therapy competency III (Treatment Planning & Assessment) Factor 9: Supervision IV (Proactive in Supervision)
	Task: New levels of confidence, autonomy, awareness of levels of improvement and training, differentiation from role, supervisor, supervisory process, and group	
Year of Experience		

Figure 1. MFT Trainee Qualitative and Quantitative Developmental Trajectory Models

	Developmental Tasks of Trainee (Lee & Everett, 2004).	Supervisor Developmental Trajectory Empirical Model
Beginning of 1st year Training	Task: Evaluate resources, deficits and level of experience; supervisory alliance; interviewing, systemic concepts and theory, and assessment skills	Quarter 1 Factor 1: Clinical Knowledge I (Systemic Assessment & Treatment Planning) Factor 2: Supervisor I (Supervisor Value & Support) Factor 3: Therapeutic Skill Building & Support
	Transition: nurturance, structure, larger developmental perspective	
	Task: Supporting autonomy, focus on trainee ability to assess, advance interventions while providing rationale and supporting data, and therapeutic reflexivity	Quarter 2 Factor 4: Clinical Knowledge II (Assessment & Treatment Skills, & Negotiating Expectations) Factor 5: Supervisor II (Supervisor Value)
	Transition: From nurturance to support, reinforce growth and creativity, getting ready for autonomous practice	Quarter 3 Factor 6: Clinical Knowledge III (Diagnosis and Treatment Skills) Factor 7: Supervisor III (Supervisory Collaboration)
End of 1 st year in Training	Task: Consulting role in reinforcing confidence, separation and autonomy, evaluate future professional roles for trainee, termination of supervision, and self of the therapist	Quarter 4 Factor 8: Supervisor IV (Therapist Skill Building and Growth) Factor 9: Supervisor V (Treatment Skills and Negotiating Expectations) Factor 10: Clinical Knowledge IV (Cultural Sensitivity in Treatment and Supervision) Factor 11: Clinical Knowledge V (Documentation & Diagnosis)

Figure 2. MFT Supervisor Quantitative Developmental Trajectory Model

In an effort to study clinical supervision in the first year of MFT training from an empirical approach we examined a survey created to evaluate MFT students in supervisory relationships. In congruence with the best practices in psychometric scale

development we begun in this study by conducting an exploratory factor analysis to examine, subscales/underlying latent structures in the evaluation tool. In this case, exploratory factor analysis allowed for the reduction of items (given redundancies or statistical insignificance) while testing for levels of reliability. Results indicated multiple underlying structures in supervisors and trainees.

Given the sampling process in terms of data collection in dyads, consisting of a trainee and supervisor, it we hypothesize that factors between members of the dyad are related or influence each other at various levels. In addition, by the research design the DSE can be conceived as a tool consistent with systemic or relational principles.

These results seem to presents parallel results to those found by Lee & Everett qualitative study of factors during the first year in MFT clinical supervision. Both of these studies present a developmental continuum that range from novice trainee's dependence on supervisors moving to a collaborative-apprentice approach, with progressive levels of autonomy of MFT's in training.

Although both studies present add to the literature to the understanding of MFT clinical supervision during first year in training, the current study provides empirical evidence. More specifically, it is the first step in developing an assessment measure with psychometric properties to be utilized in MFT programs. This study proposes a quantitative approach for research and evaluation of factors MFT in clinical supervision throughout a year in training. These results are promising in continue to evaluate the DSE psychometric properties, and to test its predictive validity with further stages of clinical supervision.

Table 2. Supervisee's; M (SD), Eigenvalues, % Variance, Cronbach's Alpha, KMO, and Bartlett's Test & Item Factor Loading

Items	Time 1		Time 2		Time 3		Time 4		
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8	F 9
1 write complete and quality case notes			.56						
2 quality paperwork in a timely manner			.56						
3 agency policies and procedures					.62				
4 treats staff with respect and works cooperatively					.70				
5 treats clients with respect									.73
6 clients' best interests						.76			
7 therapeutic relationship					.65	.73			
8 use self in the therapeutic relationship						.78		.79	
9 maintain clients' investments in therapy					.58				
10 addresses crisis issues appropriately	.80					.71			
11 family and individual developmental stages	.80				.73	.87		.73	
12 cultural and ethnic backgrounds					.73	.79		.76	
13 gender issues	.81				.78	.78		.80	
14 sensitive to the spiritual issues					.74	.85		.82	
15 sets goals with clients						.77			
16 appropriate treatment plans						.85			
17 considers abuse issues	.82					.83			
18 considers sexual behavior issues						.79		.71	
19 competency in issues related to the treatment	.78					.80			
20 distinguishes between content and process			.63						
21 systemic view, assessing the entire system	.85		.70					.78	
22 assess him / herself as part of the clients' system	.88		.78			.71		.72	
23 employs the DSM IV accurately			.71			.78		.67	
24 able to identify a family systems	.84		.79			.81		.72	
25 attends supervision regularly and on time	.63			.61					.55
26 utilizes appropriate assessment methods			.76						
27 accurately identifies problem areas for clients	.80		.63						
28 applies his/her theory	.76		.69			.76		.76	
29 accurately assesses client strengths and resources	.78								
30 assess family and community support networks	.85		.66			.76			
31 prepared for supervision discussions				.81			.80		
32 active participant in supervision discussions				.80			.85		
33 provides supervisor with case note		.89		.72			.76		
34 applies suggestions and concepts		.82		.71			.81		.80

35	takes responsibility for his/her own learning				.82			.84		.77	
36	willing to receive feedback				.86			.87		.89	
37	ability to utilize feedback	.84			.81			.82		.92	
38	recognizes ethical and legal issues		.53								
39	presents him/herself as a professional				.64			.75		.81	
Mean (Standard Deviation)		4.76(.85)	5.09(.82)	4.78(.73)	5.29(.74)	4.99(.7)	5.09(.74)	5.38(.77)	5.27(.59)	5.53(.55)	
Eigenvalue		11.8	1.09	19.13	1.73	1.17	19.33	1.687	11.45	1.52	
Percent of Variance Explained		73.77	7.8	65.98	5.96	4.04	71.6	6.24	63.6	8.47	
Internal Consistency (Cronbach's Alpha)		0.98	0.9	0.96	0.97	0.95	0.98	0.97	0.93	0.93	
KMO		0.903			0.938			0.937			0.92
Bartlett's Test of Sphericity		X^2	df	p	X^2	df	p	X^2	df	p	
		1004.85	125	>.01	2657.92	406	>.01	3122.28	351	>.01	

Table 3. Supervisor's; M (SD), Eigenvalues, % Variance, Cronbach's Alpha, KMO, and Bartlett's Test & Item Factor Loading

Items	Time 1			Time 2		Time 3			Time 4			
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8	F 9	F 10	F 11	
1 methods for writing case notes and treatment plans	.77			.79		.73					.86	
2 understanding and application of DSM diagnoses	.83			.76		.51					.83	
3 understanding and application of systems diagnoses	.87			.79		.70						
4 assessment of interactions between couples/families	.80			.76								
5 improving my skills as a therapist			.69					.73				
6 learning about my theory			.65	.74		.62			.68			
7 ethical and legal guidelines			.87		.84	.72					.88	
8 cultural and ethnic issues in therapy				.86		.93					.72	
9 gender issues and roles in therapy						.87						
10 spiritual issues			.78	.81		.77						
11 abuse issues in therapy	.75								.59			
12 (verbally or written)expectations for my traineeship				.71					.74			
13 conveying understanding, acceptance, and support				.71			.88					
14 listened attentively to my suggestions				.78			.88	.68				
15 cultural and ethnic issues in supervision				.79		.91				.63		
16 gender issues and roles in supervision	.77											
17 strengths as a therapist								.76				
18 safe was the environment in supervision		.83						.67				
19 contribute to your learning this quarter?		.81			.86		.54	.65				
20 valuable feedback		.85										
21 support you received from your supervisor		.73			.85			.78				
22 met with me for one hour per week			.87				.75		.80			
23 encouraged to discuss my expectations			.57	.75				.60				
24 expectations for supervision.			.61						.74			
25 enhanced my understanding desire to grow		.59										
26 experience of meeting		.76			.89		.75	.84				
Mean (Standard Deviation)	5.18(.89)	5.56(.68)	5.37(.71)	5.35(.80)	5.55(.71)	5.40(.69)	5.63(.64)	5.7(.46)	5.53(.65)	5.74(.49)	5.46(.77)	
Eigenvalue	12.73	1.34	1.2	10.72	1.42	8.61	1.33	10.43	1.22	1.16	1.08	
Percent of Variance Explained	67.01	7.04	6.31	67.01	8.85	61.53	9.53	57.93	6.67	6.46	5.97	
Internal Consistency (Cronbach's Alpha)	0.95	0.93	0.91	0.96	0.91	0.93	0.9	0.93	0.89	0.88	0.82	
KMO		0.903			0.907		0.882			0.875		
Bartlett's Test of Sphericity	X^2	df	p	X^2	df	p	X^2	df	p	X^2	df	p
	1165	171	>.01	1402.7	120	>.01	1211.5	91	>.01	1394	153	>.01

Through an SPSS scale reliability analysis results indicate the current version of the DSE (see appendix A & B) presents with high levels of reliability with a range in Cronbach's alpha = .82 to .98 across the entire measure. This allows for further steps in evaluation. Some of this include exploring a larger and different population sample, the developmental correlation of factors at different time points (to test whether factor is consistent through time), the levels of influence or impact of factors across time, each other and the interrelation from supervisor to trainee and vice versa.

This study provides evidence for creating an evaluation tool for clinical supervision consistent with the developmental and systemic lens of disciples in mental health, such as MFT. Through the use of an exploratory factor analysis approach we were able to structure embedded latent factors in a measurement, while calculating their corresponding levels of reliability. This findings make the DSE capable of measuring these factors over time, through the use of mean scores and standard deviations. In practice, these set of factor allows supervisors and trainee's to evaluate the current state of development, critical factors in the supervisory alliance. Program directors can track or evaluate the quality and outcome of supervision for quarter to quarter, or detect any red flags that emerge.

Pertaining to our study, results calls and allows further exploration of clinical supervision through empirical means. Given the need and movement towards an outcome-based education and evidence base models in MFT we believe this study presents a stepping stone in developing measurements and empirical research that is consistent with the systemic and developmental principles of the profession.

Some limitation of the study include and as mentioned before sample size. From a statistical point of view the study meets the necessary rules of thumb for exploratory factor analysis, even though a more robust sample size had been better. In addition even though we believe southern California's ethnic diversity is representative of MFT in the US. We also believe that further confirmatory analysis is necessary to evaluate longitudinal effects, through statistical method; Repeated-measures MANOVA or MANCOVA to explore group differences in reference to gender, sex, race; and structural equation modeling to evaluate levels of influence from supervisors to students over time. We also hypothesize that factors influence each other given the dyadic data collection procedure. Further testing is necessary to confirm this, which could be conducted through structural equation modeling.

In terms of its overall significant we believe this study takes a significant step forward in laying the foundation for dyadic-developmental assessments within the systemic field of family therapy. The field is lacking assessments that are congruent with the underlying systems and developmental frameworks. Breaking ground in developing measures that reflect these values and assumptions continues to be an important area to master in the field. This would include the design of relational assessments and measurements for clinical use, treatment and outcome research, and educational purposes. This can add a significant hallmark to our field.

In summary, we believe that MFT graduate level programs, supervisors, and clinical service agencies could benefit from access to evaluation tools that enable them to evaluate clinical supervision effectively thereby facilitating instant and direct feedback to clinicians in training as well as supervisor or program directors. Following this further,

this would reflect trainee developmental needs while honoring their voices during the educational process (Hertlein & Lambert-Shute, 2007). The advantage of this technique is allowing supervisors and trainees to construct a personalized professional developmental plan set forth in partnership targeting specific latent factors.

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Appendix A

Dyadic Supervision Evaluation Device, Trainee

To be filled by Supervisor

Name of Trainee: _____ Quarter & Year: _____
 Name of Supervisor: _____ Site: _____
 1 = POOR, well below acceptable 3 = ADEQUATE, at an acceptable 5 = VERY GOOD, significantly better acceptable
 2 = FAIR, below acceptable 4 = GOOD, better than acceptable 6 = EXCELLENT, far exceeding an acceptable

Case Management

- | | |
|--|----------------|
| 1 The trainee has the ability to write complete and quality case notes. | NA 1 2 3 4 5 6 |
| 2 The trainee completes quality paperwork in a timely manner. | NA 1 2 3 4 5 6 |
| 3 The trainee follows agency policies and procedures. | NA 1 2 3 4 5 6 |
| 4 The trainee treats staff with respect and works cooperatively with them. | NA 1 2 3 4 5 6 |

Therapeutic Relationship with Clients

- | | |
|---|----------------|
| 5 The trainee treats clients with respect by conveying understanding, acceptance, warmth, and affirmation. | NA 1 2 3 4 5 6 |
| 6 The trainee acts in accordance with the clients' best interests. | NA 1 2 3 4 5 6 |
| 7 The trainee is cognizant of the therapeutic relationship during the course of therapy. | NA 1 2 3 4 5 6 |
| 8 The trainee displays his/her ability to use self in the therapeutic relationship. | NA 1 2 3 4 5 6 |
| 9 The trainee is able to maintain clients' investments in therapy so that clients continue in therapy when appropriate. | NA 1 2 3 4 5 6 |

Clinical Competency

- | | |
|--|----------------|
| 10 The trainee addresses crisis issues appropriately. | NA 1 2 3 4 5 6 |
| 11 The trainee recognizes and addresses family and individual developmental stages. | NA 1 2 3 4 5 6 |
| 12 The trainee is aware of the cultural and ethnic backgrounds of his/her clients and shows sensitivity to cultural and ethnic issues. | NA 1 2 3 4 5 6 |
| 13 The trainee displays awareness of and sensitivity to gender issues. | NA 1 2 3 4 5 6 |
| 14 The trainee is sensitive to the spiritual issues of the clients. | NA 1 2 3 4 5 6 |
| 15 The trainee sets goals with clients and reviews progress toward those goals. | NA 1 2 3 4 5 6 |
| 16 The trainee formulates appropriate treatment plans and revises them when necessary. | NA 1 2 3 4 5 6 |
| 17 The trainee considers abuse issues in treatment. | NA 1 2 3 4 5 6 |
| 18 The trainee considers sexual behavior issues in treating clients. | NA 1 2 3 4 5 6 |
| 19 The trainee displays competency in issues related to the treatment of adults. | NA 1 2 3 4 5 6 |
| 20 The trainee appropriately distinguishes between content and process in therapy sessions. | NA 1 2 3 4 5 6 |

Assessment and Diagnosis

- | | |
|---|----------------|
| 21 The trainee employs a systemic view, assessing the entire system regardless of the number of persons presenting for therapy. | NA 1 2 3 4 5 6 |
| 22 The trainee has the ability to assess him / herself as part of the clients' system. | NA 1 2 3 4 5 6 |
| 23 The trainee employs the DSM IV accurately to make appropriate diagnoses. | NA 1 2 3 4 5 6 |
| 24 The trainee is able to identify a family systems. | NA 1 2 3 4 5 6 |
| 25 The trainee attends supervision regularly and on time. | NA 1 2 3 4 5 6 |
| 26 The trainee utilizes appropriate assessment methods. | NA 1 2 3 4 5 6 |
| 27 The trainee accurately identifies problem areas for clients upon which to base treatment approaches. | NA 1 2 3 4 5 6 |
| 28 The trainee applies his/her theory when making diagnoses, formulating hypotheses, and establishing goals. | NA 1 2 3 4 5 6 |
| 29 The trainee accurately assesses client strengths and resources. | NA 1 2 3 4 5 6 |
| 30 The trainee works with clients to assess family and community support networks available to them. | NA 1 2 3 4 5 6 |

Supervision

- | | |
|---|----------------|
| 31 The trainee is prepared for supervision discussions. | NA 1 2 3 4 5 6 |
| 32 The trainee is an active participant in supervision discussions. | NA 1 2 3 4 5 6 |
| 33 The trainee provides supervisor with case notes, recordings, and other concrete information from which the supervisor can assess his/her work. | NA 1 2 3 4 5 6 |
| 34 The trainee effectively applies suggestions and concepts given by the supervisor and colleagues to the therapy. | NA 1 2 3 4 5 6 |
| 35 The trainee takes responsibility for his/her own learning. | NA 1 2 3 4 5 6 |
| 36 The trainee is willing to receive feedback on his/her therapy practice. | NA 1 2 3 4 5 6 |
| 37 The trainee has the ability to utilize feedback from his/her supervisor. | NA 1 2 3 4 5 6 |

Professional Competencies

- | | | |
|----|--|----------------|
| 38 | The trainee recognizes ethical and legal issues and takes appropriate steps to address them. | NA 1 2 3 4 5 6 |
| 39 | The trainee presents him/herself as a professional who is responsible to clients. | NA 1 2 3 4 5 6 |

Appendix B

Dyadic Supervision Evaluation Device, Supervisor

To be filled out by trainee

Name of Trainee: _____ Quarter & year: _____
 Name of Supervisor: _____ Site: _____
 1 = POOR, well below acceptable 3 = ADEQUATE, at an acceptable 5 = VERY GOOD, significantly better acceptable
 2 = FAIR, below acceptable 4 = GOOD, better than acceptable 6 = EXCELLENT, far exceeding an acceptable

Assessment & Diagnosis

1	The supervisor assisted me in learning methods for writing case notes and treatment plans.	NA 1 2 3 4 5 6
2	The supervisor contributed to my understanding and application of DSM diagnoses.	NA 1 2 3 4 5 6
3	The supervisor contributed to my understanding and application of systems diagnoses.	NA 1 2 3 4 5 6
4	The supervisor enhanced my assessment of interactions between couples and families	NA 1 2 3 4 5 6

Clinical Competence

5	The supervisor offered useful suggestions to me in improving my skills as a therapist.	NA 1 2 3 4 5 6
6	The supervisor contributed to and encouraged my learning about my theory.	NA 1 2 3 4 5 6
7	The supervisor displayed knowledge of and adherence to ethical and legal guidelines.	NA 1 2 3 4 5 6
8	The supervisor was aware of and showed sensitivity to cultural and ethnic issues in therapy.	NA 1 2 3 4 5 6
9	The supervisor displayed awareness and sensitivity to gender issues and roles in therapy.	NA 1 2 3 4 5 6
10	The supervisor displayed sensitivity to spiritual issues.	NA 1 2 3 4 5 6
11	The supervisor assisted my understanding of abuse issues in therapy.	NA 1 2 3 4 5 6

Supervisory Relationship

12	The supervisor clearly articulated (verbally or written) his/her expectations for my traineeship.	NA 1 2 3 4 5 6
13	The supervisor treated me with respect by conveying understanding, acceptance, and support.	NA 1 2 3 4 5 6
14	The supervisor encouraged my ideas and opinions, and listened attentively to my suggestions.	NA 1 2 3 4 5 6
15	The supervisor was aware of and showed sensitivity to cultural and ethnic issues in supervision.	NA 1 2 3 4 5 6
16	The supervisor displayed awareness of and sensitivity to gender issues and roles in supervision.	NA 1 2 3 4 5 6
17	The supervisor recognized and commented upon my strengths as a therapist.	NA 1 2 3 4 5 6
18	How safe was the environment in supervision to allow you to discuss your cases and your own development?	NA 1 2 3 4 5 6
19	Overall, how well did your supervisor contribute to your learning this quarter?	NA 1 2 3 4 5 6
20	How valuable was the feedback you received from your supervisor?	NA 1 2 3 4 5 6
21	How would you describe the support you received from your supervisor this quarter in your journey of being a therapist?	NA 1 2 3 4 5 6

Professional Competence

22	The supervisor met with me for one hour per week (other than vacations) for supervision.	NA 1 2 3 4 5 6
23	The supervisor encouraged me to discuss my expectations of supervision.	NA 1 2 3 4 5 6
24	The supervisor clearly articulated (verbally or written) his/her expectations for supervision.	NA 1 2 3 4 5 6
25	The supervisor enhanced my understanding of areas in which I desire to grow as a therapist.	NA 1 2 3 4 5 6
26	Overall, how has the experience of meeting with your supervisor been for you this quarter?	NA 1 2 3 4 5 6

Paper 2

Developmental Properties and Application of the Dyadic Supervision Evaluation

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Abstract

In this current study, we test the dyadic supervision evaluation (DSE) with focused on the internal consistency of the measure. This is an important step as the conceptual framework of the tool assumes a developmental trajectory, which assumes factors to be stable over time. To accomplish this goal this study samples 205 dyads in a longitudinal design. We used repeated measures ANOVA (RMA) with intra-class correlation (ICC) to measure the level of consistency of the subscales overtime. The DSE is currently utilized to track and evaluate supervisee's' progress and obtain the feedback of and from supervisors. ICC analysis has indicated good levels of reliability (.66 or greater) that factors remain developmentally stable. This is an important finding in that it provides evidence in support for the DSE developmental conceptual frame. In such way the DSE can evaluate the mentioned factors embedded in the supervisory relationship developmentally –at multiple levels of complexity at four time points during the first year of training and clinical supervision.

Keyword: Development, Dyadic, Integrative, Supervision, Psychometric

In the field of Marital and Family Therapy (MFT) there has been movement towards evidence-based practices. In order to continue in this direction, the field calls for more research to attain an empirical basis for best practices. A critical and often overlooked issue is the lack of measurement tools that are congruent with the precepts or guiding principles of the MFT field. At the core of the MFT professions are assumptions based on developmental as well as systemic, interdependent relational principles. Currently, tools that are consistent with these systemic principles are scarce. It has been suggested that the reason for the scarcity of measurement tools is due to that difficulties that exist in developing psychometric practices that incorporate the field's value for systems and interdependence (Card & Barnett, 2015; Oka & Whiting, 2013). Therefore if the field of MFT is to continue advancing its knowledge and empirical investigation in developmentally informed and systemic ways, then assessment tools and processes will have to be developed that incorporate these foundational assumptions.

Furthermore, Perosa and Perosa (2010) argued that supervision is an essential component in the temporal growth of Family Therapists (MFTs), however, there is a lack of empirically validated measures which help support training centers and universities achieve the rigorous standards set by accrediting and professional bodies such as the American Association for Marriage and Family Therapy (AAMFT) and Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE). Therefore, there is still a considerable amount of research that is needed to advance the MFT field. Specifically in regards to developing helpful tools that are empirically tested and support the supervisor-supervisee training relationship.

In a previous study by Avila, A. et. al.; *Factors in Integrative Marital and Family Therapy Supervision during first year in training: An Exploratory Factor Analysis (In review)*, found 20 developmental latent factor structures in the Dyadic Supervision Evaluation (DSE). This initial exploratory factor analysis study evaluated the DSE developmental factors with trainee and supervisors over the course of four quarters (e.g. one year of training). This evaluation resulted in 20 subscales (factors), with reliability α ranging from 0.90 to 0.98 for trainees' and from 0.82 to 0.96 for supervisors. Figure 1 below illustrated the subscales and developmental processes within the DSE.

In this current study, we test the DSE with a new sample and focused on the internal consistency of the measure. This is an important step as the conceptual framework of the tool assumes a developmental trajectory for both the trainee and the supervisors, therefore certain factors are assumed to be stable over time, while other factors build in a formative way as the relationship develops over time. This study will assess both issues to determine whether this new measurement indeed follows a developmental conceptual logic. To accomplish this goal this study samples 205 dyads in a longitudinal design. We used repeated measures ANOVA (RMA) with intra-class correlation (ICC) to measure the level of consistency of the subscales overtime.

Time 1		Time 2		Time 3		Time 4	
F 1: Therapy Competency I (Systemic Assessment) $\alpha = 0.98$		F 3: Therapy Competency II (Documentation & Assessment) $\alpha = 0.96$		F 6: Therapy competency III (Alliance building, treatment planning & goal setting) $\alpha = 0.98$		F 8: Therapy competency III (Treatment Planning & Assessment) $\alpha = 0.93$	
F 2: Supervision I (Receptive to Supervision) $\alpha = 0.90$		F 4: Supervision II (Engagement in Supervision) $\alpha = 0.97$		F 7: Supervision III (Proactive in Supervision) $\alpha = 0.97$		F 9: Supervision IV (Proactive in Supervision) $\alpha = 0.93$	
		F 5: Professional Conduct & Diversity $\alpha = 0.95$					
				Trainee Factors			
Supervisor Factors							
F 1: Clinical Knowledge I (Systemic Assessment & Treatment Planning) $\alpha = 0.95$		F 4: Clinical Knowledge II (Assessment & Treatment Skills, & Negotiating Expectations) $\alpha = 0.96$		F 6: Clinical Knowledge III (Diagnosis and Treatment Skills) $\alpha = 0.93$		F 11: Clinical Knowledge V (Documentation & Diagnosis) $\alpha = 0.82$	
						F 10: Clinical Knowledge IV (Cultural Sensitivity in Treatment and Supervision) $\alpha = 0.88$	
F 2: Supervisor I (Supervisor Value & Support) $\alpha = 0.93$		F 5: Supervisor II (Supervisor Value) $\alpha = 0.91$		F 7: Supervisory Environment III (Supervisory Collaboration) $\alpha = 0.90$		F 8: Supervisor IV (Therapist Skill Building and Growth) $\alpha = 0.93$	
F 3: Therapeutic Skill Building & Support $\alpha = 0.91$						F 9: Supervisor V (Treatment Skills and Negotiating Expectations) $\alpha = 0.89$	

Note. α = Cronbach's Alpha

Figure 1. *Factors in Trainee Development, Factors in Supervisory Alliance, and Factor Reliability*

Developmental Evaluations

Evidence Base Education. Evidence based practices have gained momentum across the MFT field. Similarly there is a growing push for outcome base education. For example, in 2006, COAMFTE took a significant step in implemented Version 11.0 of its Accreditation Standards (COAMFTE, 2005), representing a major change in its basic philosophy for MFT skills development. Rather than a focus on an input-based system requiring accrual of clinical hours, it now focuses on the evaluation of education and training in terms of outcomes – a focus consistent with Master’s students’ needs in a COAMFTE-accredited program (Hertlein & Lambert-Shute, 2007). However, “At present, there is no way to systematically or comprehensively evaluate clinical skills across training programs, or to compare the usefulness of curriculum innovations in obtaining particular educational outcomes” (Roux, Podgorski, Rosenberg, Watson, & McDaniel, 2011). Furthermore, typical assessment procedures are not systematically integrated into the educational experience (Falender and Shafranske, 2004).

Attempts to create a trainee development evaluation instrument in the field of marital and family therapy can be traced back to 1983 in the article by Breunlin, Schwartz, Krause, and Selby, L.M., which was published in the journal of marital and family therapy *Evaluating Family Therapy Training: The development of an instrument*. The development of the instrument began with video tape observations with multiple choice questions as part of the conceptualization and recommendations of the videotape. This instrument focuses heavily on the trainee, in contrast to the supervisory relationship process (systemic); “this project was to develop an instrument that would assess whether trainees who complete training programs in structural-strategic family therapy actually

benefit from training.” In such way it seems the instrument is limited by its ability to capture knowledge from newer latest developed MFT approaches and other core competencies now prescribed by COAMFTE. Although the authors report their methodology in great detail in terms of process and psychometrics, the generalizability or inference of their results is limited by participants –structural-strategic therapists. This attempt was a “significant step in the direction of evaluating family therapy training” Breunlin et al (1983).

There are few empirically based measures or process to help universities and training centers achieve the rigorous new standards (Nelson & Graves, 2011; Perosa & Perosa, 2007). Also currently, there are no widely accepted or reliable measures used across MFT programs to effectively measure the supervisory process in first year in training. In their review of supervision assessment tools, Perosa and Perosa (2010) suggest designing clinical supervision evaluations which can accurately assess the development of clinical skills and competencies for MFTs in training.

With these limitations of the evaluation of trainee development and supervisory process this study tests the SED from a developmental and systemic theoretical framework. In particular, we utilize an Integrative Family Therapy Supervision Model because it closely mirrors previous results on key factors in supervision during the first year of MFT trainees. Most critical, this theoretical framework is also chosen to address two central issues that are typically missing in MFT evaluations; (a) having a conceptual theoretical framework is consistent with best practices in psychometric evaluation design, and (2) this theoretical frame brings congruency with the developmental and relational core principles of the field of MFT.

Psychometric Theory

Considering the influence of testing calls for a basic understanding psychometric theory. Data or information of gathered through measurements influence the decisions and interpretations we make of people, relationships and research. Without a basic understanding of the principles underlying an evaluation users risk misinterpreting and can misuse information. These risks include, harming subjects, or lead to false interpretations or conclusions. A basic understanding of psychometric principles and an evaluation design can lead to valuable and beneficial information for patients, clinicians, and researchers. For the purpose of this study, a brief review of the central components of designing or testing an evaluation tool psychometrics is presented.

Consistent with best practices in psychometric theory, development of a measurement tool should include at the very least some empirical tested properties such as reliability and of the measure (Fowler, 2009). On the one hand reliability is concerned with address “how stable is the position of a given score in a distribution of scores when measured at different times or in different ways” (Tabachnick & Fidell, 2013, p. 11). Validity on the other hand is concerned with “whether the test truly measures what it claims” (Gravetter & Wallnau, 2013.).

Common practices to test reliability include: (a) *Test Re-test*, (i.e., the ability of a measure to provide consistent results when the same entities are tested at two different time points; (b) “*Internal Consistency* is typically a measure based on the correlations between different items on the same test (or the same subscale on a larger test). It measures whether several items that propose to measure the same general construct produce similar scores” (Streiner, 2003).

The validity of a measure can be evaluated in terms of: (a) *Face*, “is the extent to which a test is subjectively viewed as covering the concept it purports to measure. In other words, a test can be said to have face validity if it looks like it is going to measure what it is supposed to measure.” (Holden, 2010, p. 637). (b) *Criterion-Related*, “is a measure of how well one variable or set of variables predicts an outcome based on information from other variables, and will be achieved if a set of measures from a personality test relate to a behavioral criterion on which psychologists agree. A typical way to achieve this is the extent to which a score on a personality test can predict future performance or behavior” (Pennington, 2003). (c) *Construct Validity*, “Used to ensure that the measure is actually measuring what it is intended to measure (i.e. the construct), and not other variables” (Thorndike, 2000). “This type of research examines the relationship between scores on the measure and some criterion.” (Trochim, 2000).

In spite of these best practices it seems that most psychometric assessments are designed and intended for individual (independent) analysis. These best practices even assume an individual level of analysis and utilize methods and analytic strategies that rely on independent individuals and their data. The field of MFT at its core would object to the idea that meaning of human behavior, thought or emotion can be measured isolated or independent of relational context. In this sense, developing measurements for MFT would necessitate to account in some shape or form the level of influence and interdependence to relational systems if it is to be consistent with the principles of the profession. In this light, the question that emerges for the field of MFT is how to develop or integrate best practices in psychometric design that is developmental, systemic and with sound psychometric properties.

This question can be addressed by considering carefully the psychometric components and testing strategies mentioned above. In conjunction with these components, and considering the conceptual design (testing the individual) of most psychometric tests it is imperative that the conceptual design begins with a developmental and relational conceptual design –which will be congruent with the core of MFT. Consequentially, a research design that is consistent with these principles is imperative if the evaluation is to be reliable and valid under the assumptions proposed by developmental and systemic theory. In practice this requires a set of steps of analysis, as testing for psychometric properties congruent with MFT principles requires a more robust approach.

In the first study by Avila, et. al (in review) the authors take an initial step to test for the internal consistency of the DSE underlying subscales over time. This longitudinal approach addresses, to an extent, the developmental internal reliability of the evaluation. The authors of the article make the case for the relational validity of the evaluation given the dyadic data collection process, which can be a fair statement, however further testing would be necessary. A second step in testing the reliability properties consist of test re-test evaluation furthering evidence of its developmental properties.

Testing the relational properties of an evaluation requires a different set of statistical approaches which have not been widely utilized in the field of MFT. These approaches include standard dyadic designs (SDD), social relational models, and one-with-many designs. A SDD that has been gaining moment in the last decade is the Actor-Partner Interdependent Model (APIM). Through the use of structural equation modeling, APIM is able to evaluate the causal (developmental) and covariant (relational)

psychometric properties of an evaluation. Utilizing these analytical approaches, measurement tools can be created and tested in a way that is congruent with the core principles of MFT. In this regard, it is of critical importance to design more evaluations to be available for MFT that are tested through a longitudinal and dyadic approach.

Supervision Evaluation Device

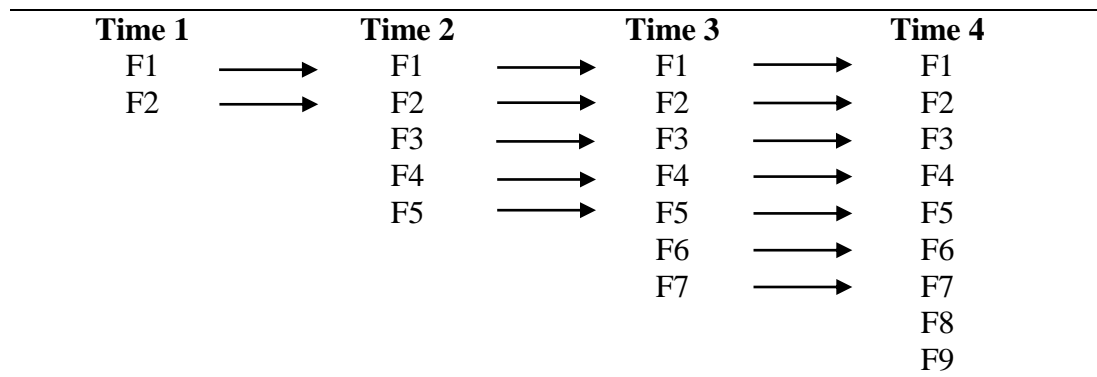
In the previous exploratory factor analysis study analysis, Avila, et al. (in review) we evaluated four waves of dyadic data for trainees and supervisors. In this initial study, twenty factors emerged during this first year of clinical supervision. Of these factors, trainees presented with nine and supervisor's eleven factors (see figure 1). Results of the study also paralleled the qualitative results presented by (Lee & Everett (2004) in that the factors mirrored a developmental continuum for both trainees and supervisors. These results are consistent with developmental theory in that greater levels complexity emerge, which can be mastered as the relationship develops over time.

However, developmental theory also assumes that in most cases, greater levels of mastery necessitate stability of previous factors to build on top of previous competences. Therefore, further study of stability of factors over the course of time is necessary to support the developmental framework or foundation of the DSE. In this regard further testing of the DSE is necessary to support the assumption that factors, once achieved, are stable over time. In terms of a psychometric testing, this calls for Test Retest reliability analysis. As mentioned above, a Test re-Test analysis evaluates the consistency (stability) of participant's scores at different time points. Statistically speaking, a good level of test re-test reliability presents consistent mean scores over time. A statistical approach utilize

to test this type of reliability can be conducted through repeated measures Anova (RMA). It is important to note that as RMA is commonly utilized to evaluate significant change over time, RMA can also be utilize in the same way, however from a test re-test stand point what is looked for is no significant change.

Study Aims

This study takes a further step in testing the developmental properties of the evaluation tool. This study aims to evaluate the developmental stability of factors through a longitudinal approach. Said differently, it is assumed that once a student achieves a level of proficiency in the first quarter (subscales 1-4) then that proficiency should remain in quarters 2-4. What is changing is addition of new competencies, in this case subscales 4-9. A visual representation of how this conceptual developmental progression is presented below (figure 2). In this study a Repeated Measures ANOVA (RMA) is utilized as a statistical approach to determine whether each subscale score remains stable throughout all time points. In most cases this approach is utilized to test differences of participants. In this study we hypothesize that no meaningful change (stability) will be measured over time for any of the factors.



Note. → : Progression, F: Scores

Figure 2. *Trainee Developmental approach through Repeated Measures ANOVA*

Method

Participants

This is a secondary analysis utilizing data collected in dyads and longitudinally in Loma Linda University's, Master's program in MFT. The data was collected over the course of twelve years in a conjoint manner from clinical site supervisors and supervisees over four quarters (waves or time points) in first year of clinical training. Trainees in this program demographic characteristics in terms of age, ethnicity and gender are presented in table 1; with a sample size of n = 205 dyads (ages ranging from 20 to 60 years, 78 % female, 22 % Male, 20 % African-American, 13 % Asian, 8 % other ethnicities). Further descriptive statistics of participants is limited given the nature of the data collected by the program. The study also utilized only de-identified data and therefore could not connect the existing data to other sources of data that might offer demographic information. The study methods and design were approved by authors' University Internal Review Board (cert # 5140391). See table 1.

Table 1. Demographic Characteristics

	Trainee
Age	
20-29	70%
30-39	22%
40-59	9%
Ethnicity	
African-American	11%
Hispanic	22%
Asian-American	15%
White	52%
Gender	
Female	86%
Male	14%

Measurement

The supervision evaluation device (DSE) is currently utilized to track and evaluate supervisee's' progress and obtain the feedback of and from supervisors. In its latest and current version, the supervisor evaluation of the trainee form consists of 39 Likert scale question items, assessing for trainee development in the areas of case management, therapeutic relationship with clients, clinical competency, assessment and diagnosis, supervision, and professional competencies. The trainee evaluation of supervisor form consists of 26 Likert scale question items, measuring areas of assessment and diagnosis, clinical competence, supervisory relationship, and professional competence. The first study by Avila et. al. *Factors in Integrative Marital and Family Therapy Supervision during First Year in Training: An Exploratory Factor Analysis* The factor structure reliability Cronbach's alphas ranging from 0.90 to 0.98 for trainees' and

from 0.82 to 0.96; for supervisors, for a details presentation see Avila et. al., (in review). In a second study, the test re-test reliability was assessed and both the trainee and supervisors evaluation forms were seen to offer strong test re-test reliability with factors associated with supervisee's having an ICC range of 0.66 to 0.80, and for the supervisor factors ranging in ICC = 0.69 to 0.80.

Procedure

Data cleaning process. Prior to analysis an Expectation-Maximization (EM) imputation algorithm is utilized to deal with missing data. This strategy is utilized as an alternative approach to address missing data imputation when missing answers are less than .05 (Schafer, 1997; Schafer & Olsen, 1998). A frequency analysis was first conducted in SPSS to evaluate missing answers. The analysis resulted with 0.039 of missing answers. Given this result data was transfer to EQS to conduct the imputation, once imputation was completed data was re transferred to SPSS. This strategy allowed for keeping the sample size at $n = 205$ supervisory relationships.

The design of the study consists of longitudinal testing of the developmental stability of factors over time. A repeated measures ANOVA approach was utilized to test for non-significant change over 4 time points (waves). Given the limited use of RMA for factor stability, a scale reliability analysis, Intra-Class Correlation (ICC) is also utilized to further assess the stability of each subscale. In statistical analysis, ICC is often utilized for test-retest reliability. In addition, descriptive statistics are reported to evaluate through a visual representation (histogram) and in terms of skewness and kurtosis how factors behave over time. Out of the 20 factors that emerged in the EFA previous study only 14

were access with RMA and ICC. This is due to six of these factors (two from the supervisees and four from the supervisors) being measured only at the fourth time point.

Results

Results for the RMA and associated effect size measures can be seen in tables 2 & 3 below. These results show that all factors measured a significant change over time, with each ANOVA F ranging from 4.79 to 54.70. Although each factor did show a statistically significant change over time we were more concerned with type II error than type I and therefore rely more heavily on the effect size of the change. In each assessment the η^2 ranged from 0.002-0.23.

Table 2. RMA Supervisee (Within-Subjects)

	Time Point 1	Time Point 2	Time Point 3	Time Point 4	F	$p > .05$	Eta^2
	$M(SD)$	$M(SD)$	$M(SD)$	$M(SD)$			
Factor 1	4.54 _(.72)	4.78 _(.67)	4.99 _(.73)	5.17 _(.64)	54.79	0.000	.23
Factor 2	4.99 _(.82)	5.20 _(.74)	5.29 _(.81)	5.44 _(.66)	22.27	0.000	.10
Factor 3		4.69 _(.73)	4.93 _(.81)	5.12 _(.69)	37.21	0.000	.17
Factor 4		5.24 _(.72)	5.38 _(.75)	5.47 _(.63)	10.18	0.000	.05
Factor 5		4.95 _(.71)	5.11 _(.73)	5.27 _(.62)	22.92	0.000	.10
Factor 6			4.98 _(.77)	5.16 _(.67)	21.69	0.000	.11
Factor 7			5.35 _(.75)	5.48 _(.63)	7.33	0.007	.04
Factor 8				5.14 _(.66)	~	~	~
Factor 9				5.49 _(.59)	~	~	~

Note. * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$

M = Mean

SD = Standard Deviation

Table 3. RMA Supervisor (Within Subjects)

	Time Point 1	Time Point 2	Time Point 3	Time Point 4	<i>F</i>	<i>p >.05</i>	<i>Eta²</i>
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)			
Factor 1	5.18(.78)	5.25(.78)	5.27(.77)	5.42(.68)	7.17	0.000	0.04
Factor 2	5.44(.69)	5.53(.66)	5.51(.68)	5.61(.58)	4.63	0.003	0.02
Factor 3	5.21(.72)	5.27(.73)	5.30(.70)	5.43(.65)	7.66	0.000	0.04
Factor 4		5.35(.68)	5.38(.65)	5.50(.57)	6.45	0.002	0.03
Factor 5		5.44(.70)	5.44(.72)	5.56(.63)	4.36	0.013	0.02
Factor 6			5.34(.69)	5.46(.61)	9.39	0.003	0.05
Factor 7			5.52(.64)	5.61(.56)	4.79	0.030	0.02
Factor 8				5.59(.58)	~	~	~
Factor 9				5.44(.62)	~	~	~
Factor 10				5.67(.55)	~	~	~
Factor 11				5.30(.85)	~	~	~

Note. * = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$

M = Mean

SD = Standard Deviation

A comparison between supervisee's and supervisor's η^2 (effect size), tables 2 shows a change in supervisee's factor's 1, 2, 3, 5, and 6, however table 3 shows none of the factors of supervisor's presenting change in η^2 . Evaluation of effect sizes of the supervisee's factors mentioned present small effects, with only factor 1 having higher than .1 effect size. While it seems some factors (subscales) to have no clinically significant change over time, only factor 1 showed a small change. With these results, we took a further step in analysis of factor score's distribution through a further analysis of frequency distribution of SPSS and visual evaluation of histograms (see figure 3 & 4).

Results of frequency distribution show each subscale to have a consistent level of negative skewness in the distribution of both supervisees and supervisor's scores. These scores ranged from -0.07 to -1.95. In this case the data meets the univariate assumption of

normality for ANOVA, but visual inspection of the histograms showed that participants tended to rate each other higher over time. Leading to a stacking of scores on the top end of the scale after three quarters. This is most evident in supervisee's factor 1, where time point 1 distribution seems to offer the more traditional bell shaped curve distribution, with a skewness of -0.007, however as time progresses the distribution increasingly moves negative with an ending skewness of -0.77. See figure 3 & 4 for the visual illustration of this skewness phenomenon. Conceptually this might mean that most trainees reach a specific level of proficient in the scale in that scale's associated quarter, but some students do not. Over time, the students that struggled in the previous quarter improved and score higher on the same scale but in a subsequent quarter. Conversely, those that scored in the proficient range in the first quarter, maintained this score, rather than continuing to improve it.

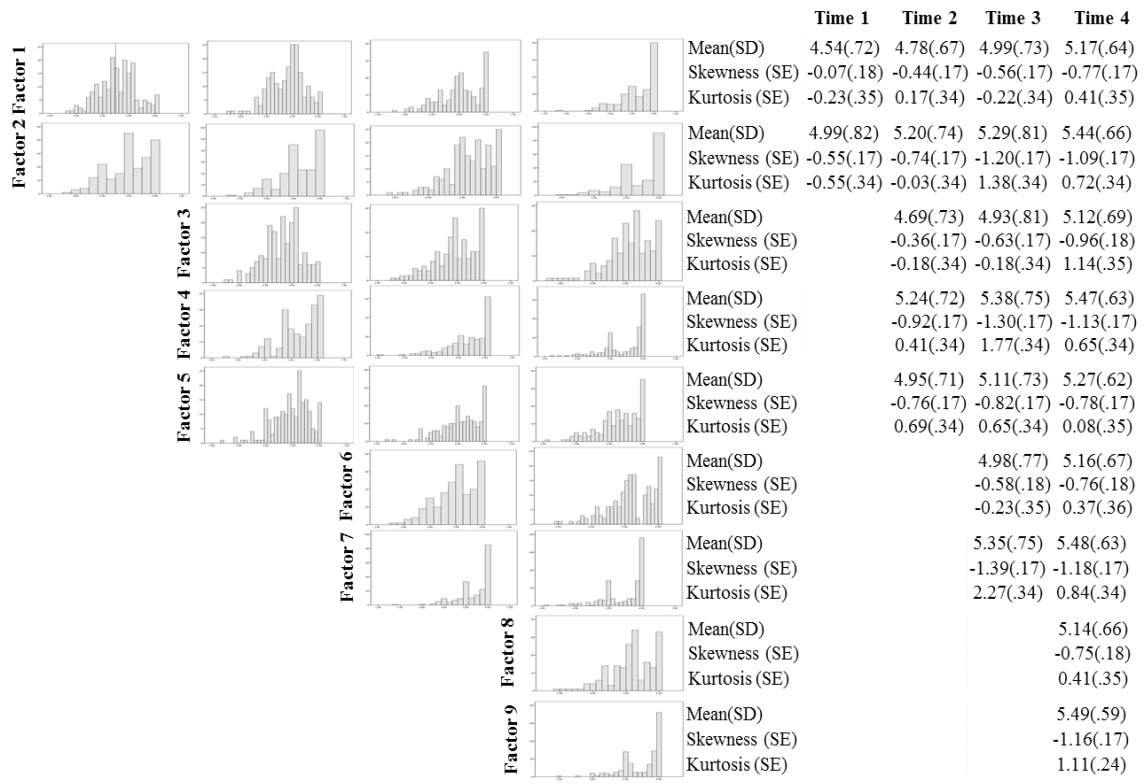


Figure 3. Supervisee's Factor Histograms, Mean, SD, Skewness & Kurtosis

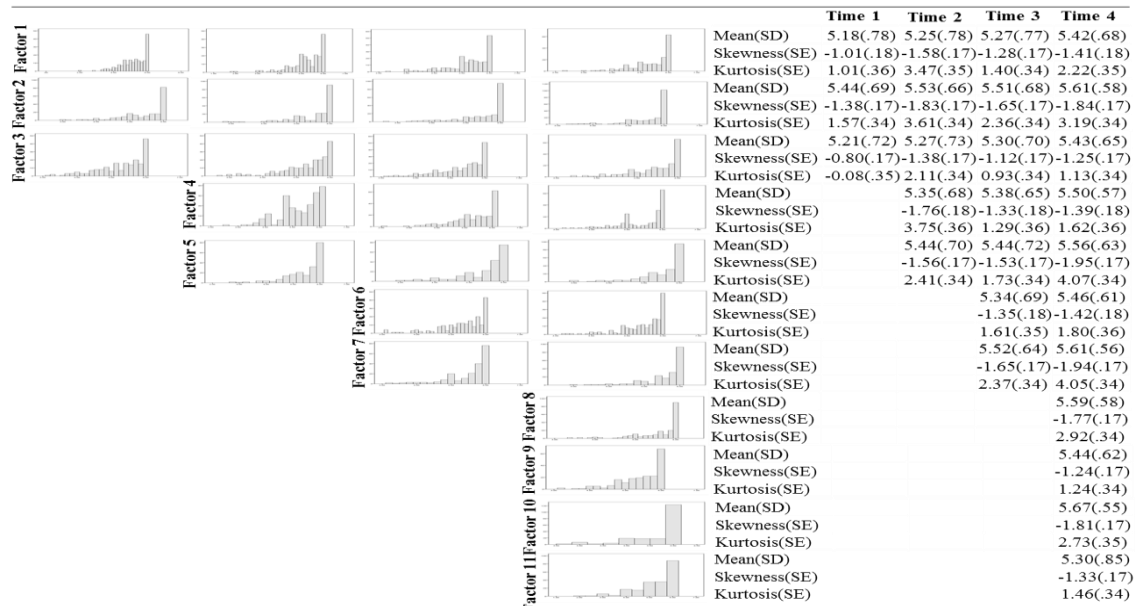


Figure 4. Supervisor's Factor Histograms, Mean, SD, Skewness & Kurtosis

With the previous evaluation of skewness tendencies, a subsequent analysis was conducted through an intra-class correlation (ICC) approach to further evaluate how factors remain stable or resemble each other from one time point to the next. The results of this analysis show factors of supervisee's to have an ICC average range of 0.66 to 0.80, and for supervisors an ICC average range of 0.69 to 0.84. Specific ICC average scores are presented in table 3.

Table 3. Supervisee's & Supervisor's Intra-Correlation Coefficient (ICC)

<u>Supervisee's</u>		<u>Supervisor's</u>	
	ICC Average		ICC Average
Factor 1	0.79	Factor 1	0.84
Factor 2	0.78	Factor 2	0.83
Factor 3	0.80	Factor 3	0.83
Factor 4	0.74	Factor 4	0.79
Factor 5	0.72	Factor 5	0.79
Factor 6	0.76	Factor 6	0.79
Factor 7	0.66	Factor 7	0.69
Factor 8	~	Factor 8	~
Factor 9	~	Factor 9	~
		Factor 10	~
		Factor 11	~

Discussion

This study sought to test the developmental stability of the DSE factor's (subscales) over time. Initial analysis through RMA indicated factor to be minimally unstable over time. However, as RMA significance and *F* values are often too conservative and often contested, especially in with-subjects RMA, evaluation of change was evaluated through effect size. Furthermore, given the study central aim to evaluate the stability rather than change in factors scores (Type II error) we conducted subsequent

analysis. Close evaluation of frequency distributions and histograms showed a consistent tendency to give higher ratings (scores) over time. This can be conceivable or reasonable given the developmental nature of the field. This is more evident when looking at factor 1 initial frequency distributions over time (see figure 2). Nonetheless, although RMA indicate minor levels of significant change ICC analysis has indicated good levels of reliability (.66 or greater) that factors remain developmentally stable. For recommended levels of intra-class correlational coefficients see Chinn, (1991). The differences in these results in these two analysis are due in that RMA analysis calculates changes in scores on the sample as a group, and ICC calculates changes at the individual level (Tabachnick & Fidell, 2013).

Evaluation of these analyses and results provide further evidence and support for the DSE psychometric properties. In particular, this study shows the DSE to have reliable test retest validity in factor stability over time. This is an important finding and imperative result in that it provides evidence in support for the DSE developmental conceptual frame. Clinically speaking developmental theory proposes that in order to develop greater levels of complexity previously mastered competencies necessitate to remain stable. In such way the DSE can evaluate the mentioned factors embedded in the supervisory relationship developmentally –at multiple levels of complexity at four time points during the first year of training and clinical supervision.

An interesting question that remains unanswered and subject of discussion is tendency to give higher ratings over time (consistent increase in negative skewnees). This tendency can be partially explained as a consequence in the developmental nature of the field (a theoretical implications), however it can also represent a matter of social

desirability given hierarchical nature embedded in during the first year in clinical supervision. It is also plausible that an extended longitudinal design may present a shift in how supervisor's and supervisee's rate themselves over time. However, what is more immediately visible in regards to this tendency is that it is relational. Said differently, both supervisor's and supervisee's tend to rate each other higher as time elapse, and therefore a systemic implication.

Although results are promising in terms of the overall purpose and objectives, this study is not without limitations. Among them is the sampling of the study, one program in southern California and sample size of $n = 205$. Although this sample can arguably be representative of the national makeup of MFT students, a more robust sample with broader characteristics can further the psychometric properties of the DSE. In this sense it would be necessary to further test the DSE with a different and greater sample, to test psychometric properties such as parallel reliability, content and criterion related validity. A wider sample can also facilitate testing the DSE for differences among gender, ethnicity, theoretical orientations, program characteristics, etc. This is necessary step in developing ample validity for this evaluation.

A broader implication of this study is the second step in developing developmental-systemic evaluation measurements in MFT. Even though this is a second step in a series of studies necessary to validate a measurement it provides a road map for how to design measures consistent with the principles of the field. Assessment tools design with this, or similar methodologies that account for the relational nature of the field and sound psychometric properties can advance the field research legitimacy and overall precepts.

A necessary next step in the validity of the DSE is in regards to its systemic-relational conceptual framework. As mentioned previously, the MFT field is limited in evaluation tools that fully embrace the systemic-relational processes precepts of the field not only in theory, but in the research design, statistical analysis approaches, and tested psychometric properties. As we proposed in the literature review, accounting for these properties can be addressed through approaches such as the Actor-Partner Interdependence Model. In this regard, structural equation modeling programs can be utilized to further evaluate causal effects (developmental), covariant or correlational effects (systemic interdependence), and cross effects (levels of influence and impact over time).

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Paper 3

Supervision Evaluation Device: An Actor-Partner Relational Model

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Abstract

This article presents the psychometric properties of the Dyadic Supervision Evaluation including its reliability, validity, measurement equivalence and causality. A structural equation modeling analysis was conducted utilizing the actor-partner relational model approach. The results provide empirical support for the causal and interdependent effects embedded in the Dyadic Supervision Evaluation, presenting a significant influence of supervisors upon trainee development during the first year of clinical training and supervision. Based on these findings, a model of clinical supervision evaluation which aims to capture the systemic and developmental progression of supervision and clinical training in Marital and Family Therapy is proposed and discussed.

Keyword: Development, Dyadic, Integrative, Supervision, Psychometric

Researchers in Marital and Family Therapy (MFT) are faced with the challenge of providing research methodologies that mirror and evaluate clinical work. Current research in MFT, for the most part, utilizes statistical approaches which target the individual rather than the relational level, with methodologies such multiple regression (e.g. Tabachnick & Fidel, 2006). This limits MFT's ability to explore the core systemic and developmental precepts of the field. Addressing such limitations is critical for the field to develop a supporting body of research and to distinguish the contributions of MFT among mental health professions (Sprenkle, 2010; Sprenkle & Piercy, 2005) and to build the case for research methodologies consistent relational principles such as process research, dyadic and sequential analysis (Oka, M. and Whiting, J. (2015).

This study continues to evaluate the psychometric properties of the Dyadic Supervision Evaluation (DSE) in an attempt to provide a conceptual and methodological road map for research that addresses the limitations mentioned above. The purpose of this study is twofold. The first goal is to utilize a dyadic analysis approach, specifically, an Actor-Partner Interdependence Model (APIM; add citation here) to evaluate the developmental (causal) and systemic (interdependence) validity of the DSE. This goal of the study builds on previous research by Avila, A. et. al (in review) on testing the psychometric properties of the DSE including the test- retest and internal consistency reliability, and the face and content validity.

The second goal of this study is to demonstrate the predictive validity of the DSE, a process that is consistent with the interdependence assumptions of MFT. To demonstrate this process three aims are proposed. The first aim tests the causal relationship between the developmental latent factors embedded in the evaluation over

four time periods (academic quarters) during therapists first year of training. The second aim examines the covariant-interdependence effect between supervisors and trainees in each quarter. Finally, the third aim tests the cross-over influence between supervisors and their respective trainees over multiple time points. Taken together, these aims will result in furthering the construct and predictive validity, and application of the DSE. In addition to validating the DSE, this study is designed to provide direction to MFT in developing measures and research designs that are dyadic and systemic in nature.

Although this article is not meant to present in-depth reviews of the DSE, methodologies that are systemic in nature, or the supervisory process, a review of these components is presented. For more in-depth reviews of these methodologies see (Oka, M. and Whiting, J., 2015). We believe this to be necessary to outline some of the complexities of the supervisory relationship and to present a rationale for this study.

Supervision

Sprenkle, Davis and Lebow (2009) outline eight underlying elements across MFT supervisory models. The first of these is (1) *ensuring the fit* between supervisor and trainee. A best-fit (match) approach would be more in line with the understanding that “no one model is so comprehensive that it precludes mastery of another” (Blow et. al., 2007, p.310). Considerations of (2) *human diversity* issues such as culture, gender, ethnicity, sexual orientation, religion, and others are also a critical component in the supervisory process. Some researchers assert that some supervisory models are likely better suited for some cultures, genders, and ethnicities than others (McGoldrick, Giordano, & Garcia-Prieto, 2005). Therapist (3) *resourcefulness*, is an important

characteristic that cannot be underestimated even at early stages of therapist development. Similar to the view that clients in therapy often overcome difficulties not mentioned or worked on in therapy, trainees can tap into personal resources not discussed in supervision. Trainee's guiding principles of (4) *change* rather than specific therapy models is another key factor. Understanding the central ideas underlying change across a variety of models facilitates conversations about between supervisor and trainee interventions, treatment plans, and goals in therapy.

The broad understanding of (5) *healthy functioning* relationships is essential, such as the alliance, engagement, hope, and reasonable expectations. This factor has parallel importance in supervisory and therapeutic relationships and is critical for any systemic-relational approach. With the understanding the no therapeutic approach is capable of addressing all issues it is important for therapists to be informed of (6) *Nonclinical related research*, such as human development, diversity issues, family studies, culture, religion, etc. The seventh principle consist of having a good (7) *working knowledge* of broad and specific aspects inherent in all therapeutic approaches. This includes the importance of the alliance across models, engagement in the therapeutic process regardless of theoretical orientation, and the positive influences and expectation of therapy in general. This is consistent with suggestion "that no one model of supervision could claim empirical superiority to any other" (Sprenkle, 1999, pg. 309). This suggestion is in line with the central principles of integrative family therapy supervision. The eighth element identified by the authors is the task of any reasonable professional to have their (8) *personal issues*, or self-of-the-therapist, well understood in preparation of and while conducting therapy. In addition, therapist in training necessitate to have a

strong support system, including own therapy and supervision. This is critically important to manage personal issues that may emerge while conducting therapy.

Consideration of these factors in the supervisory relationship facilitate a shift in paradigm, moving from a specific therapeutic approach to a *Meta* level evaluation of the supervisory process. In this light, questions about the levels of engagement, motivation, match or fit, directive vs. collaborative stances, alliance, credibility, and safety become of imperative nature to the supervisory process. Careful consideration of these factors in the supervisory process makes supervision more comprehensive in that specific factors can be evaluated from time to time.

Supervision serves multiple functions in attending to trainees' services and development. In their work, *The Integrative Family Therapy Supervisor* Robert Lee & Craig Everett (2004) present a comprehensive view of the integrative supervisors' functions. These functions include the following: (a) monitoring and evaluation, (b) instruction and advising, (c) modeling, (d) consultation, and (e) support and sharing of experiences. Tasks of supervision are typically referred to in terms of (a) intervention skills, (b) case conceptualization, (c) professional role, (d) emotional awareness, and (e) self-evaluation. It is important to note these functions and characteristics are not necessary executed in a linear fashion; rather they are circular in the sense that they are activated as needed. Most important for the focus of this study is the central role that the relationship between supervisor and trainee plays in the supervision process.

All integrative supervision models see as most important, and converge on is the view, that therapist's growth and competency is based on a developmental perspective (Todd & Storm, 2002). Integrative developmental models of supervision suggest that

trainees pass through a number of predictable, universal stages in their growth as clinicians and in their supervisory relationships. Each stage is characterized by particular needs, conflicts, or tasks that the clinician must resolve to continue her or his growth (Todd & Storm, 2002). The job of the supervisor then becomes recognizing the trainee's stage-based needs ("factors"), and adopting the focus, methods, or style of supervision to facilitate optimal development (Taibbi, 1990). In a very general overview, it is assumed that the beginning stages of trainee development flourish more so in a structured environment where the supervisor focuses on tasks. Later stages of trainee development move out of a task focus orientation into an increasing collaborative and conceptual orientation from the supervisor.

Much of the MFT supervision literature have called for supervisors to tailor their supervision to the specific developmental level of trainee's (Rigazio-DiGilio, 1997; York, 1997), following the notion that beginning therapists require a different supervisory focus than more experienced therapists (Flemons, Green, & Rambo, 1996). Although developmental perspectives are being validated in the literature, there is still a great deal of investigation that is needed before we have a more robust support for the tenants of the developmental perspective (Bernard & Goodyear, 1992; Storm et al., 2001). More specifically, empirically based research is necessary investigating the specific factors embedded in the supervisory process. Empirically based research can facilitate models of supervision that evidence based.

Dyadic Supervision Evaluation

In previous work Avila, et. al (2015, in review) examined the reliability of the

factor structures (subscales), and the developmental nature of the DSE. An exploratory factor analysis was conducted to inductively locate latent factors embedded in the evaluation over the course of four time periods and to test their consistent levels of reliability. Analysis resulted in 9 latent factors structures for trainees and 11 latent factor structures for supervisors. A representation of how these factors present over the four time points and levels of reliability is presented in figure 1.

However, further testing was necessary to provide supporting evidence of construct and predictive validity. Although sampling was conducted in dyads and in four time points, the DSE can only be conceive developmental and systemic at the conceptual level. In accordance with best practices in psychometric design, a measurement with sound psychometric properties needs to be tested in terms of construct and predictive validity to fully claim with supporting empirical evidence its conceptual framework. This is an important aspect of a measurement in that it provides support for the inferential validity in the interpretation value it proposes.

Time 1		Time 2		Time 3		Time 4	
F 1: Therapy Competency I (Systemic Assessment) $\alpha = 0.98$		F 3: Therapy Competency II (Documentation & Assessment) $\alpha = 0.96$		F 6: Therapy competency III (Alliance building, treatment planning & goal setting) $\alpha = 0.98$		F 8: Therapy competency III (Treatment Planning & Assessment) $\alpha = 0.93$	
F 2: Supervision I (Receptive to Supervision) $\alpha = 0.90$		F 4: Supervision II (Engagement in Supervision) $\alpha = 0.97$		F 7: Supervision III (Proactive in Supervision) $\alpha = 0.97$		F 9: Supervision IV (Proactive in Supervision) $\alpha = 0.93$	
		F 5: Professional Conduct & Diversity $\alpha = 0.95$					
				Trainee Factors			
Supervisor Factors							
F 1: Clinical Knowledge I (Systemic Assessment & Treatment Planning) $\alpha = 0.95$		F 4: Clinical Knowledge II (Assessment & Treatment Skills, & Negotiating Expectations) $\alpha = 0.96$		F 6: Clinical Knowledge III (Diagnosis and Treatment Skills) $\alpha = 0.93$		F 11: Clinical Knowledge V (Documentation & Diagnosis) $\alpha = 0.82$	
						F 10: Clinical Knowledge IV (Cultural Sensitivity in Treatment and Supervision) $\alpha = 0.88$	
F 2: Supervisor I (Supervisor Value & Support) $\alpha = 0.93$		F 5: Supervisor II (Supervisor Value) $\alpha = 0.91$		F 7: Supervisory Environment III (Supervisory Collaboration) $\alpha = 0.90$		F 8: Supervisor IV (Therapist Skill Building and Growth) $\alpha = 0.93$	
F 3: Therapeutic Skill Building & Support $\alpha = 0.91$						F 9: Supervisor V (Treatment Skills and Negotiating Expectations) $\alpha = 0.89$	

Note. α = Cronbach's Alpha

Figure 1. *Factors in Trainee Development, Factors in Supervisory Alliance, and Factor Reliability*

A second study by the author, Avila, A. et. al (in review) research was conducted to evaluate the stability of the latent factor structures over time. This was an important step in validating the DSE's construct validity in terms of meeting the developmental

assumptions. In other words, the study sought to evaluate if early stage factors (competencies) were stable over additional quarters of training. A Repeated Measures ANOVA (RMA) design was utilized to evaluate if factors were stable (i.e., did not change) over time. Results of the study provided good levels of reliability in terms of the developmental psychometric properties of the DSE. Said differently, factors present in the first three time points resulted to be stable, and thus allowing factors with higher levels of complexity to emerge at subsequent time points.

Dyadic Data Analysis

Empirical dyadic research design can include cross-sectional and longitudinal dyadic analytic methodologies, such as the standard dyadic design (SDD), in particular a SDD called the actor–partner interdependence model (APIM; Kenny & Winquist, 2001; Kenny et al., 2006). Characteristics that can be used to distinguish members of a dyad could include role (e.g., therapists and clients, fathers and daughters), gender (e.g., female and male), and age (e.g., older versus younger sibling) (Wittenborn, Dolbin-MacNab, & Keiley, 2013). The model proposes that when partner effects are accounted for, evaluation of a relationship process is possible (Kenny, Kashy & Cook, 2006). In APIM, partner and actor effects are examined simultaneously (Kenny & Winquist, 2001). According to Cook and Snyder (2005) an actor effect assesses the effect of a predictor variable for Partner A on an outcome variable for Partner A, while a partner effect assesses the effect of a predictor variable for Partner A on an outcome variable for Partner B. (Cook & Snyder, 2005).

Four derivative approaches of this model exist: actor-oriented (little effect of partner), partner-oriented (partner as a predictor), couple-oriented (both participants effects happen and are parallel), and social comparison (both effects parallel in size, but different in sign). These approaches are conducted through three methods: pooled regression, multilevel modeling (MLM), and structural equation modeling (SEM). When choosing to utilize one of these approaches attention to whether the study focuses on indistinguishable data (calling for MLM) or distinguishable data (calling for SEM). (Kenny, Kashy & Cook, 2006). The difference between indistinguishable and distinguishable data is in that within-dyads variables distinguishable data is non-arbitrary, for example supervisee-supervisor.

With respect to developmental longitudinal (over time) research, in dyadic analysis, a critical component is the concept of lagging (causal effect). This is a modeling terminology for calculating (through regression equations) the predictive explanatory value of a past, or prior variable on the future variable. Often times this is the process of autocorrelation (Cook & Kenny, 2005). Autocorrelation in the cross regression model, actor effects are often interpreted as stability effects and are similar to autocorrelation lag effects. Partner effects are measured after the actor or autocorrelation lag effect, and thus considered the true effect between the two individuals (partner to actor) (Cook & Kenny, 2005). For visual representations see figure 2 & 4. An important consideration when interpreting these types of models is that data points are not nested.

Such direction in research can represent a significant step in supporting the interactive and relational nature of the supervisory process. A next step would be to take a multiple level research approach to include the impact of supervision on therapeutic

outcomes. This can be accomplished with the same empirical designs previously mentioned. Creating measurement tools of supervision from a developmental and dyadic perspective, with good psychometric qualities, and capturing the greatest number of core competencies can optimize the efficiency of supervision as a distinct feature of marital and family therapy.

This study aims to further the systemic validation of the DSE by evaluating the causal relationship, covariant-interdependence and between supervisor and trainee effects. More specifically this study will evaluate whether the DSE provides a longitudinal effect in develop within the trainee and supervisor, but also the interdependent effect between trainee and supervisor as well as the cross quarter effect from the supervisor to the trainee. All three effects together capture the systemic and developmental assumption of the DSE.

Method

Participants

Participants in this study included 205 MFT trainees along with 205 corresponding supervisors from the trainees' clinical sites. Trainees in this program characteristics Trainees in this program demographic characteristics in terms of age, ethnicity and gender are presented in table 1; with a sample size of $n = 205$ dyads (ages ranging from 20 to 60 years, 78 % female, 22 % Male, 20 % African-American, 13 % Asian, 8 % other ethnicities). Further descriptions statistics of participants is limited given the nature of a secondary analysis de-identified data. (See Table 1). Students in this program are require to take two quarters of classes in multiple training areas including law and ethics, family systems theory, and psychological assessment before commencing

clinical training. Students in this program are required to complete 500 hours of clinical contact with clients over the course of a year or more. In correspondence with California legal requirements, trainees are required to have 1 hour of individual supervision for every 5 hours of clinical contact with clients. Clinical supervisors are required to be approved by the California Board of Behavioral Sciences as licensed to supervise. Students' contact with supervisors is standardized in 1 hour of individual supervision and 2 hours of group supervision. The study methods and design were approved by authors' University Internal Review Board (cert # 5140391).

Table 1. Demographic Characteristics

	Trainee
Age	
20-29	70%
30-39	22%
40-59	9%
Ethnicity	
African-American	11%
Hispanic	22%
Asian-American	15%
White	52%
Gender	
Female	86%
Male	14%

Measurement

The DSE was initially developed as an evaluation tool utilized in a southern California Master's degree program in MFT. This tool was instituted 15 years ago and revised numerous times until its current format at the end of 1999. The purpose of the

survey was to gather feedback of trainees' competence from their clinical site supervisors on a quarterly basis. In its current version, the trainee form consists of 39 Likert scale question items, assessing for trainee development in the areas of case management, therapeutic relationship with clients, clinical competency, assessment and diagnosis, supervision, and professional competencies. The trainee evaluation of supervisor form consists of 26 Likert scale question items, measuring areas of assessment and diagnosis, clinical competence, supervisory relationship, and professional competence.

During the first and second study by Avila, A. et.al (in review) the factor structure reliability Cronbach's alphas ranging from 0.90 to 0.98 for trainees' and from 0.82 to 0.96; for supervisors, for a details presentation see Avila et. al., (in review). In a second study, the test re-test reliability was assessed and both the trainee and supervisors evaluation forms were seen to offer strong test re-test reliability with factors associated with supervisee's having an ICC range of 0.66 to 0.80, and for the supervisor factors ranging in ICC = 0.69 to 0.8

Design

For this study, data was collected for student cohorts attending the Master's program between 2001 and 2012. Data collection consisted of completed the evaluation at the end of quarter session, for the first four quarters, or beyond depending on the time it took them to complete the required 500 hours of clinical work. Evaluation forms are given to students in their program manual are available at the program assistant administration office. Trainees complete their part of the survey and give the other form

to their consistent supervisor's. After completion, trainee's turn in both survey evaluations to the master's program clinical coordinator.

Procedures

This study utilizes a combination of Actor Partner Independence Modeling techniques and longitudinal cross lagged effects. Through this approach multiple levels of analysis are conducted by nesting constraints for causal relationship (lag effects), interdependent (supervisor to supervise), and cross effects in a longitudinal manner. Said differently, the study design aims to analyze the developmental (lagged) effects, the relational (interdependence) effects and the direct influence (cross) effects all contained into one model of analysis. The SEM models were built and analyzed in EQS (EQS 6.1: Bentler, 2006). Prior to beginning the analysis, all univariate assumptions were evaluated. This strategy is utilized as an alternative approach to address missing data imputation when missing answers is less than .05 (Schafer, 1997; Schafer & Olsen, 1998). A frequency analysis was first conducted in SPSS to evaluate missing answers. The analysis resulted with 0.039 of missing answers. Given this result data was transfer to EQS to conduct the imputation, once imputation was completed data was re transferred to SPSS. This strategy allowed for keeping the sample size at $n = 205$ supervisory relationships.

The modeling process progressed through 3 nested models. Model 1 (Aim 1) tests the construct and predictive validity of the DSE. More specifically this aim tests (a) the lag effect between the factors between time points. In this case this aim tests the measurement's developmental conceptual frame. In this case, those high on the first

quarter factors will be high on the second quarter factors and so forth. In terms of APIM modeling this is considered a lag effect (See Figure 2).

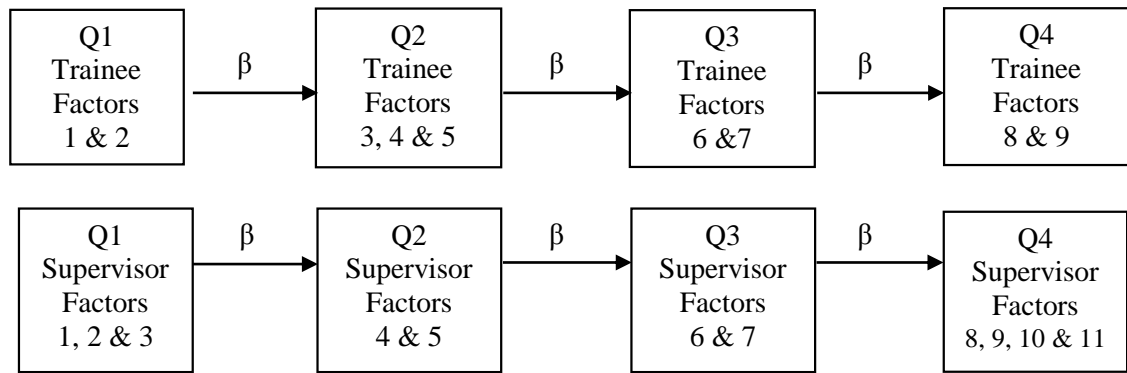


Figure 2. Lagged Effect Model for Factor Correlation or Predictability
 Note: β : lagged effect

Model 2 (Aim 2) tests the DSE’s assumption for interdependence between supervisor and trainee. It is hypothesized that there is a significant and positive interdependence in the relationship between supervisors and trainees. Consistent with the conceptual framework, this aim evaluates the level of alliance in the supervisory relationship across the four evaluated quarters. This hypothesis will provide further support for the dyadic nature of the evaluation in its ability to evaluate the measurement relationship nature rather than therapist development at the individual (independent) level. (See Figure 3).

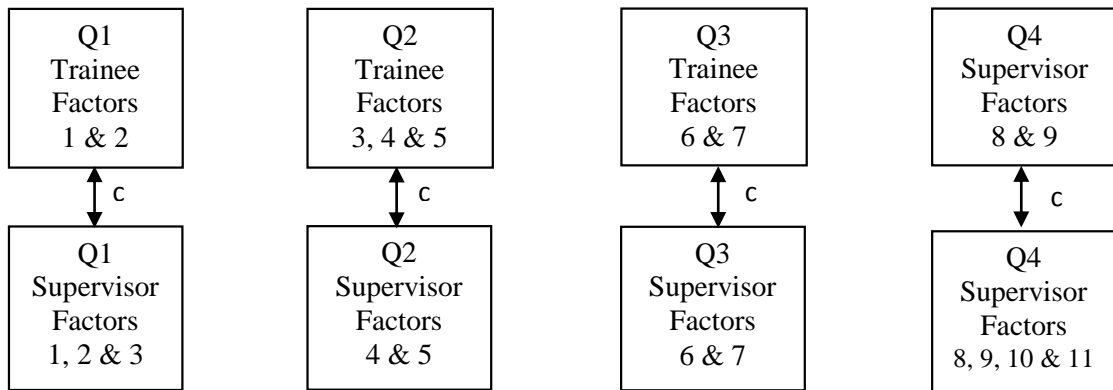


Figure 3. Actor-Partner Interdependence Model for Clinical Supervision
Interdependence Correlation.

Note. c: covariance

Aim 3 then evaluates the direct cross effect from supervisors on the trainee's progression over time. This is often referred to as the crossover or partner effect in APIM models. It is hypothesized that the DSE is able to measure, in a reliable and valid way, the levels of positive influence supervisors have on trainee's level of mastery over the course of a year. The implication of this finding can provide further empirical support for the value of supervision on therapists' development and progressive mastery of core competencies. (See Figure 4).

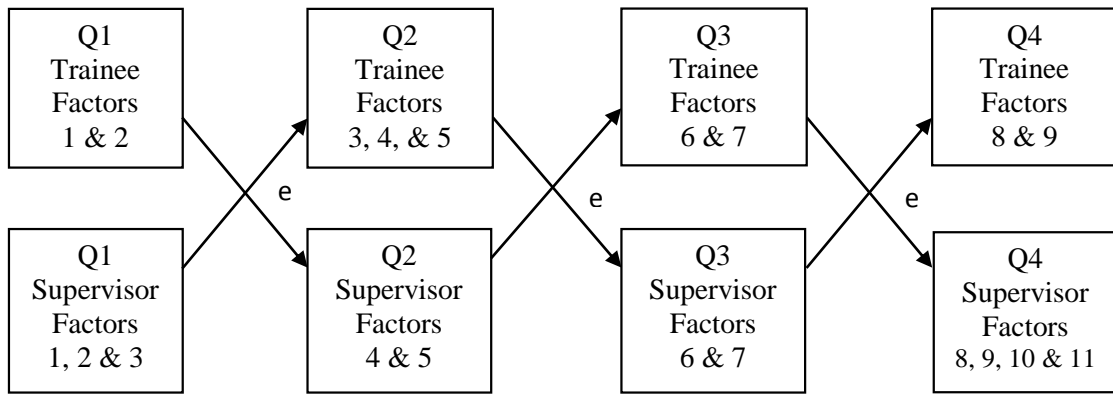


Figure 4. Actor-Partner Interdependence Model for Clinical Supervision Cross effects.
Note. e: cross effect

A baseline model was created by nesting all parameters under evaluation. This included nesting all lagged effect parameters from one time point to the next (see figure 2), the covariant effects parameters within supervisors and trainees, and between them (see figure 3), and the cross parameters between factors of supervisor's and trainee's over time (see figure 4) as a baseline model. The second step was to remove all cross effects resulting in model 1, with nesting only causal (lagged) and interdependent (covariant) parameters, figure 2 and 3. A second model consisted of removal of cross and covariant parameters, including only causal parameters, figure 2. A third model consisted of nesting causal and interdependent parameters, with removal of the resulting none significant parameters in model 1. This final model was conducted to evaluate a best model goodness of fit.

Table 2. Model Fits Statistics

	χ^2	<i>df</i>	$\chi^2\Delta$	CFI	GFI	RMSEA	RMSEA 95% CI
<i>Baseline</i>	164.237***	83	-	0.978	0.928	0.069	0.053- 0.084
<i>Model 1</i>	217.985***	117	1.581***	0.973	0.91	0.065	0.051- 0.078
<i>Model 2</i>	379.891***	141	137.906	0.936	0.854	0.091	0.080- 0.102
<i>Model 3</i>	230.621***	129	1.443***	0.973	0.904	0.062	0.049- 0.075

Notes. χ^2 = Chi-square test; *df* = degrees of freedom; $\chi^2\Delta$ = Chi-square difference; CFI = comparative fit index; GFI = goodness-of-fit index; RMSEA = root mean square error of approximation; RMSEA 95% CI = root mean square error of approximation 95% confidence interval. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Results

Analysis of the base model showed that it was a well-fitting model ($\chi^2=164.237$, $p < 0.00$, GFI=1.00, CFI=0.978, RMSEA= 0.069). Although in evaluation of the path estimates, this model estimated no significant cross effects for either trainee or supervisors, as well as several none significant lagged and covariant effects.

Continuing with evaluation of the study hypotheses, a subsequent model (model 1) was analyzed removing all cross effect parameters. Analysis of this model shows improvement of fit ($\chi^2=217.985$, GFI=0.910, CFI=0.973, RMSEA= 0.065) with a significant change from the baseline model ($\chi^2\Delta = 1.581$, $p < 0.001$). Also, this model presented with lagged and covariant parameters non-significant. Having these results, a subsequent model (model 2) was run. Model 2, including only lagged parameters, shows a fit of ($\chi^2=217.985$, GFI=0.854, CFI=0.936, RMSEA= 0.091). This model resulted with a non-significant change ($\chi^2\Delta = 137.906$, $p > 0.05$) as compared to baseline model. These

results show model 1 to be a better model, as model 1 presented lagged and covariant parameters non-significant path, a subsequent model (model 3) was run with removal of the lagged and covariant non-significant parameters. Analysis of model 3 resulted with a significant change ($\chi^2\Delta = 1.443$, $p < 0.001$), as compared to the baseline model. This model also presents an improvement goodness of fit ($\chi^2=217.985$, GFI = 0.904, CFI=0.973, RMSEA= 0.062). A comparison of these models is presented bellow in table 2.

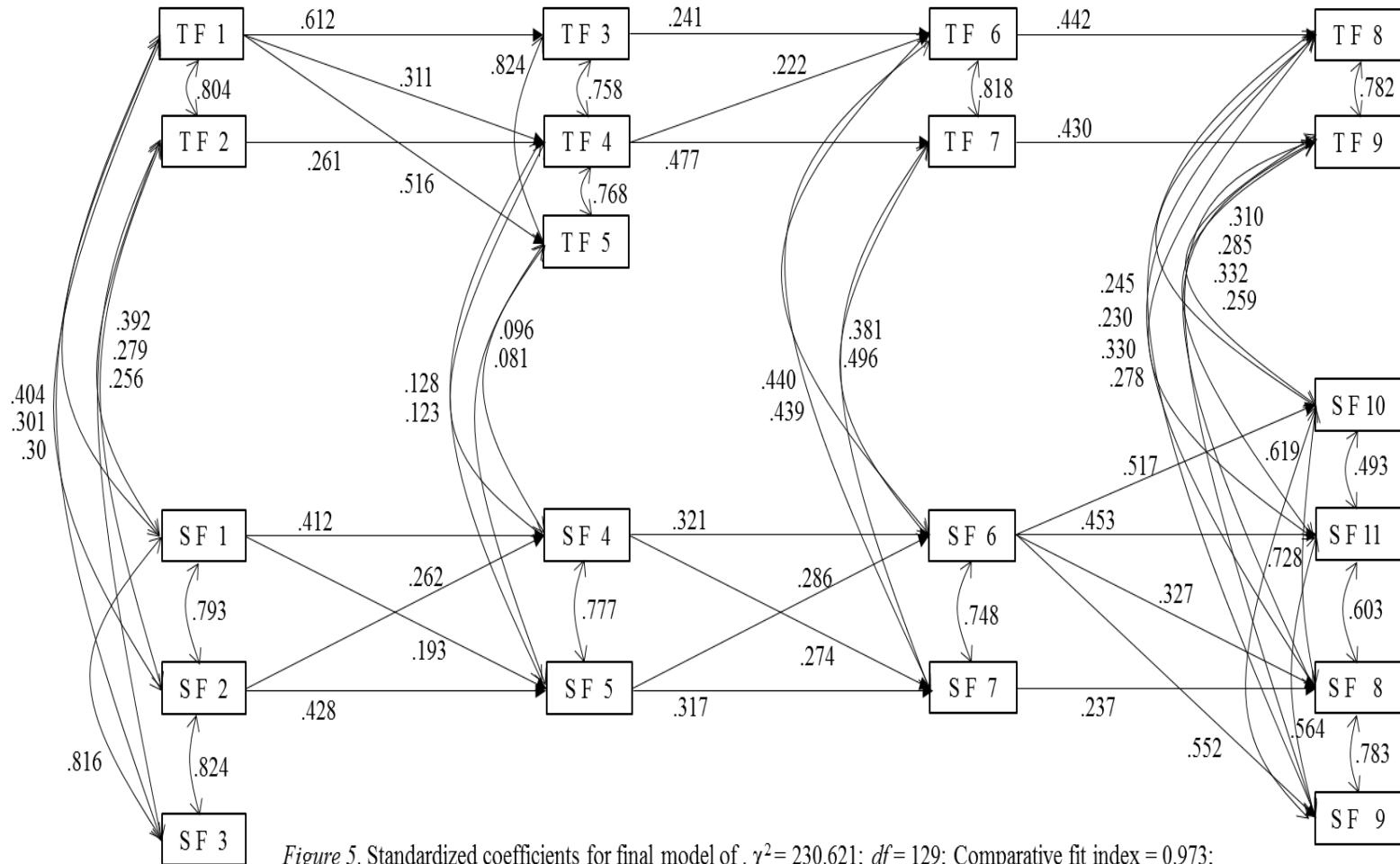


Figure 5. Standardized coefficients for final model of $\chi^2=230.621$; $df=129$; Comparative fit index = 0.973; Goodness-of-fit index = 0.904; Root mean square error of approximation = 0.062. * $p < 0.05$
 Note. Only significant parameters are displayed; T F # = Trainee Factor; S F # Supervisor Factor.

A figure of the resulting model is presenting bellow in figure 5. It is important to note that non-significant parameters of the model are not noted given the space available in the figure. In addition, factors in this figure are represented by T F (#) for trainees and S F (#) for supervisors. For a labels of each factor see figure 1, above.

The representation of the resulting model shows a range of standardize solutions ranging from .612 to .222, with none significant lagged effects in 7 parameters within trainees; from of TF2 to TF3 and TF4; from TF3 to TF7; from TF5 to TF6 and TF7; from TF6 to TF8 and TF9; and from TF7 to TF8 and TF9. In terms of within supervisors lagged parameters 5 presented without significance; from SF3 to SF4 and SF5; from SF7 to SF9, SF10, and SF11.

Covariant-interdependent effects presented with a wider range, from .824 to .081. Within supervisee and supervisor covariant effects presented with the highest levels of correlation, ranging from .824 to .493. Between supervisee and supervisor covariant effects range from .440 to .096. In such way, most factors present in the DSE present to show interdependence except supervisee factor 3 (TF3). This is an important point to consider, as the factor presenting non-significant interdependent effect (*F 3: Therapy Competency II; (Documentation & Tx. Planning)*) within same time point may signal an important aspect in the supervisory relationship to consider, and its interdependent effects to supervisors alliance factors in the same time point. It is important to note that although this factor present without significant direct relationship within time point a relationship of these factors is embedded in the model as a whole. Said differently, the relationship between these factors is indirectly related when considering previous time points and the developmental direction of factors over time. The nature of factor 3; *Therapy*

Competency II; (Documentation & Tx. Planning) may signal a need to re-evaluate the attention or emphasis given to this concept or practice for the supervisory relationship to produce different outcomes.

Discussion

In this study, we examined the causal, interdependent, and partner effects within the DSE. Evaluation of these effects were hypothesized to result significant based on the assumption of the developmental and systemic theoretical design of this study and the DSE. Said differently, this study aim to evaluate the predictive validity of the DSE on the grounds of presenting sound psychometric properties in terms of evaluating greater levels of complexity over time, while accounting for the relational nature of supervision. In such way, the examination of mentioned effects provided support for the development and systemic conceptual framework of the DSE. Because no significant cross effects (supervisor to trainee and vice versa from one point to another) further research is necessary to evaluate whether such effects are related to time or the presence of other factor beyond the scope of this study (trainee and/or supervisors theoretical orientation, clinical site targeted population or services offered, among others).

The longitudinal and dyadic data collection, and design of the study allowed testing of the developmental and relational psychometric properties of the DSE. In clinical terms, the DSE can be utilize to evaluate factors in the supervisory relationship development over four time points over a year in clinical training, with supporting evidence of sound psychometric properties.

The sample, arguably, is representative of national demographic characteristics of clinical supervisors and MFT trainees of MFT programs clinical training in the United

States. However, we believe further testing of the DSE with different program characteristics or samples may present different findings. It is important to note that although the sample meets the necessary size criteria future research with a larger sample can corroborate our findings.

Looking ahead to having a measurement tool that is systemic, dyadic, and with sound psychometric properties, research on the implication of the supervisory process can move to the next step: triadic implications. Having a sound measure of the characteristics and common factors associated with supervision, analysis can be conducted in terms of the triadic relationships between supervisor, trainee, and client. In other words, if we can capture the positive and negative workings of the supervisory relationship, the theoretical propositions suggest that what happens in supervision should parallel what happens in therapy. In this situation, it would be interesting to see if a supervisor who is rated highly by a trainee and a trainee rated highly by his/her corresponding supervisor really cascades into a high rating in the therapeutic relationship. In contrast, we could see if a negative rating of the supervisory relationship parallels into the therapeutic relationship. This can shed light on whether a match in therapeutic perspective influences not only the supervisory process alliance (e.g. do they conceptualize the problem similarly), but also the impact this has on therapeutic outcome.

In terms of the current version of the DSE, we recognize that validity of an assessment tool with heavily tested psychometric properties requires multiple studies within a variety of samples or populations. We believe that at the present time the DSE is supported by three studies with sound empirical support to be utilized to evaluate the supervisory process in MFT program with first year students in clinical training. We

encourage and call upon further research in a variety of mental health clinical masters and doctoral programs, as well as in clinical sites where clinical supervision is conducted with therapist with more experience (e.g. interns).

Conclusion

As a final point, the second purpose of this study propose to present a model for conducting research that mirror more closely the clinical practices of the field. With the current findings, and more important to this point, the longitudinal dyadic analysis design through the actor-partner interdependence modeling (APIM) approach we believe this study represents road map for conducting research the resembles the core principles in the field. The APIM allowed us to evaluate the developmental (process and complexity over time) and systemic (relational) in the supervisory relationship through empirical methodologies. This is one example of in the vast spectrum of relationships that are important the field of MFT, and other fields with systemic principles at their core.

In this way, the field of MFT can be advanced by programs of empirical research that are consistent with the central tenants of the field. Given the literature available, and the lack of measurements that are dyadic in nature, this study presents a road map on how to conduct research that is both empirical and relational. Research focused on interdependent (relationship) is perhaps one of the most significant ways to establish evidence, support, validity, and credibility in MFT, and is necessary given the competitive nature with other fields in mental health.

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CHAPTER SEVEN

REVIEW OF RESULTS

The overriding purpose of this dissertation is to evaluate the psychometric properties of the Dyadic Supervision Evaluation (DSE), a supervision evaluation tool congruent with the developmental and systemic principles of the field. To accomplish this goal, I conducted a series of studies and statistical analyses that followed best practices in assessment development systemic principles with the ability to assess relational phenomena over time. To capture the relational dynamics of the supervisor-supervisee relationship over time, I chose a structural equation modeling approach, specifically the actor partner interdependence model. This model was used to conduct the final steps of the analysis. These efforts resulted in a “road map” for creating future assessments and evaluations for fields interested in measures that are relational and developmental in nature and have sound psychometric properties.

In this chapter, I present the overall results of the study, including the modifications of the overall study after the proposal defense, results of the analytical approaches, conclusions, and recommendations.

Modifications from Original Proposal

Throughout this dissertation, several modifications from the original proposal were necessary to meet the goals of the study. The first modification entailed a revision of the latent factor structures embedded in the DSE. After reviewing the data collection procedures and preliminary analysis of the study on latent structures before the dissertation proposal defense, I concluded that the data and results needed to be revised.

Two key aspects needed revision, including the way in which data was structured in SPSS and the naming of the factors. The data set was re-structured consistent with the four time points of the longitudinal design. Overall, the Exploratory Factor Analysis (EFA) identified 20 latent factor structures, similar to the first analysis, with high levels of reliability. However, the results from the subsequent structuring and naming of factors reflected a change in item distributions for trainees and supervisors and different compositions in items and factor loadings from the previous analysis (than pre-proposal defense). This required a re-labeling of the factors to more accurately represent the results. Close attention was given to the items on each factor, and what they represented in reference to the developmental theoretical frame. Figures 7 & 8 present the changes in labels, with left side presenting previous labels and right side new labels. For more information see Chapter 6.

Time Point 1	
F 1: Participation in Supervision F 2: Beginning Level Systemic Therapists F 3: Therapeutic Relationship Development	F 1: Therapy Competency I; (Systemic Assessment) F 2: Supervision I; (Receptive to Supervision)
Time Point 2	
F 4: Developing Systemic Therapist F 5: Professional Collaboration	F 3: Therapy Competency II; (Documentation & Assessment) F 4: Supervision II; (Engagement in Supervision) F 5: Professional Conduct & Diversity
Time Point 3	
F 6: Developing Systemic Therapist F 7: Professional Respect	F 6: Therapy competency III; (Alliance building, treatment planning & goal setting) F 7: Supervision III; (Proactive in Supervision)
Time Point 4	
F 8: Skilled Systemic Therapist Skills F 9: Supervision and Professional Collaboration F 10: Therapeutic Relationships	Factor 8: Therapy competency III; (Treatment Planning & Assessment) F 9: Supervision IV; (Proactive in Supervision)

Figure 7. Supervisee’s Developmental Factors

Time Point 1	
F 1: Supervisory Outcome Satisfaction Fa 2: Supervisory Responsibilities, Assistance, & Clarity F 3: Investment in Trainee/Intern Development	F 1: Clinical Knowledge I; (Systemic Assessment & Treatment Planning) F 2: Supervisor I; (Supervisor Value & Support) F 3: Therapeutic Skill Building & Support
Time Point 2	
F 4: Supervisory Outcome Satisfaction F 5: Awareness & Respect of Contextual & Diversity Issues	F 4: Clinical Knowledge II; (Assessment & Treatment Skills, & Negotiating Expectations) F 5: Supervisor II; (Supervisor Value)
Time Point 3	
F 6: Awareness & Respect of Contextual & Diversity Issues F 7: Contribution in Trainee/Intern Development	F 6: Clinical Knowledge III; (Diagnosis and Treatment Skills) F 7: Supervisor III; (Supervisory Collaboration)
Time Point 4	
F 8: Investment in Trainee/Intern Development F 9: Professional Contribution and Clarity F 10: Attention to Supervisory Alliance & Legal Concerns	F 8: Supervisor IV; (Therapist Skill Building and Growth) F 9: Supervisor V; (Treatment Skills and Negotiating Expectations) F 10: Clinical Knowledge IV; (Cultural Sensitivity in Treatment and Supervision) F 11: Clinical Knowledge V; (Documentation & Diagnosis)

Figure 8. Supervisor’s Tasks and Alliance Factors

A second modification from the original dissertation proposal is the addition of an analytic approach for testing the stability of factors over time. An Intra-Class Correlation (ICC) was conducted based on the results found through the Repeated Measures ANOVA (RMA) analysis initially proposed. The results obtained through the RMA approach were inconclusive, which required a closer examination of the skewness of the data. As a consequence, I further analyzed factors over time through an intra-class correlation approach to test factor stability over time.

Summary of Dissertation Results

In my dissertation, I evaluated and advanced the statistical properties of the DSE. The results identified sound psychometric properties that can be utilized in relationally-based clinical programs and research. The dissertation was grounded in the developmental and systemic principles of the field of Marital and Family Therapy, and the Integrative Family Therapist Supervision Framework (see dissertation chapter 2). Several steps of statistical analyses achieved this goal, including: (a) the re-evaluation of the internal reliability of the latent factor structures identified through an exploratory factor analysis; (b) documenting the stability of the latent factors over time through an RMA approach and the evaluation of the distribution of factors over time (i.e., skeweness) using an Intra-Class Correlation analysis; and (c) applying a structural equation modeling to evaluate the longitudinal (developmental) and systemic (interdependent) properties of the SED through an actor-partner interdependence model approach. Below is a brief review of the most significant findings.

The EFA study resulted in nine distinct latent factor for the trainees and eleven latent factors for the supervisors. These factors showed strong internal consistency (e.g. reliability) for all of these factors. Given the concurrent dyadic data collection procedures, it can be hypothesize that supervisee and supervisor factors are influencing (correlated) with each other. For example, at time 1, S F 1: Clinical Knowledge I: (Assessment & Diagnosis) is likely influencing T F 1: Therapy Competency 1: (Crisis & Assessment), and vice versa (see figure 3). In addition, it can also be hypothesize that these factors are constant throughout time. This hypothesis points to the distinction between *emerging more complex* latent factors over time and the *sustainability* of factors

over time. This is an important principle in developmental theory. This means that factor Supervisee factor 1 (Therapy Competency 1) which emerged in the early stages of development is important to sustain in order for factors such as Supervisee factor 3 (Therapy Competency 2) with a higher level of complexity to develop in the following time point. Figure 9 presents the results of the developmental factor structures with the respective reliability Cronbach's alpha levels.

Time 1	Time 2	Time 3	Time 4
T F 1: Therapy Competency I $\alpha = 0.98$	T F 3: Therapy Competency II $\alpha = 0.96$	T F 6: Therapy competency III $\alpha = 0.98$	T F 8: Therapy competency III $\alpha = 0.93$
T F 2: Supervision I $\alpha = 0.90$	T F 4: Supervision II $\alpha = 0.97$	T F 7: Supervision III $\alpha = 0.97$	T F 9: Supervision IV $\alpha = 0.93$
	T F 5: Professional Conduct & Diversity $\alpha = 0.95$		
Supervisor Factors⁺		Trainee Factors⁺	
S F 1: Clinical Knowledge I $\alpha = 0.95$	S F 4: Clinical Knowledge II $\alpha = 0.96$	S F 6: Clinical Knowledge III $\alpha = 0.93$	S F 11: Clinical Knowledge V $\alpha = 0.82$
			S F 10: Clinical Knowledge IV $\alpha = 0.88$
S F 2: Supervisor I $\alpha = 0.93$	S F 5: Supervisor II $\alpha = 0.91$	S F 7: Supervisor III $\alpha = 0.90$	S F 8: Supervisor IV $\alpha = 0.93$
S F 3: Therapeutic Skill Building & Support $\alpha = 0.91$			S F 9: Supervisor V $\alpha = 0.89$

Note. α = Cronbach's Alpha

Figure 9. Factor Reliability Cronbach's Alpha

The second study applied a Repeated Measures ANOVA to evaluate the stability of factors over time. Again, this is a necessary step in testing the developmental assumptions of the evaluation. Factors in the first three time periods were tested in this

study to evaluate for significant change over time. Because a minimally significant change was present, further analysis was conducted. A review of the levels of skewness and a visual evaluation of the histogram at each time point indicated that the distribution was negatively skewed for both supervisees and supervisors, with a higher level of negative skewness for supervisors. This negative skewness suggests a tendency to rate each other more positively as time progresses. Participants' tendencies to rate each other higher over time is common and likely reflects social desirability. This led to the calculation of an intra-class correlations (ICCs) to which confirmed moderate to high levels of factor stability over time.

The aims of the third study were to: (a) test the factors' causal relationships over time within supervisees and supervisors dyads, (b) examine the interdependent relationships of factors within and between supervisees and supervisors at each point in time, and (c) test the level of direct influence-impact over time between supervisees and supervisors. The tests of these dyadic relationships were conducted using the actor-partner interdependence model. The analysis of the results of the initial baseline model (all relationships or parameters included) presented no significant cross effects, with multiple significant lagged and covariant effects, and a good model fit, indicating the opportunity for further analyses. The first model tested the model fit without the included cross effects that were non-significant in the baseline model. This model resulted in a better fit, with a significant change compared to the baseline model, and confirmed no cross effects to be present. A second model was evaluated removing all covariant parameters to evaluate a model fit without testing for interdependence. The resulting model presented with no significant change to the baseline model, and a decrease in

model fit. This indicated that a model with lagged and covariant effects resulted in a better model fit. A third model was evaluated with only significant lagged and covariant effects from the baseline model, and resulted in the best fit model as compared with the baseline model. Figure 4 shows the significant parameters paths with the standard coefficients, including the model fit indexes. For more details see chapter 6.

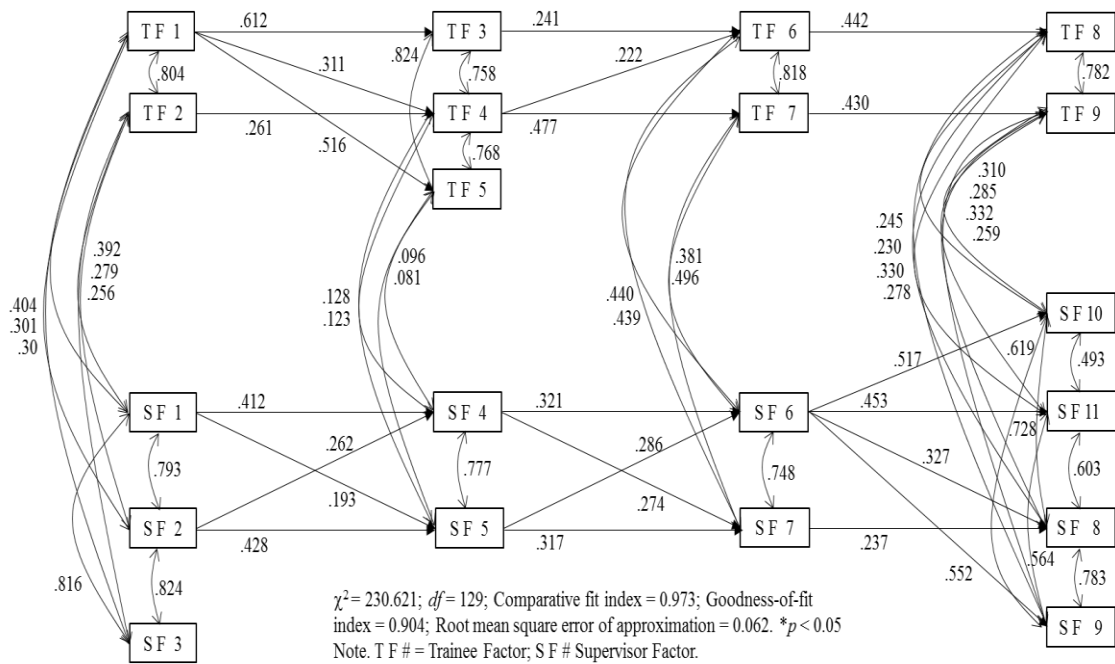


Figure 10. Final model

Taken together, the results of my dissertation provide initial and promising empirical evidence that the DSE has strong psychometric properties and is among the most reliable and valid evaluations in the MFT field. Consistent with Integrative Family Supervision Theory, the SED can capture the developmental growth of trainees and their relational interdependence with their supervisors over the first year of clinical training.

In addition to evaluating the DSE, my dissertation was designed to provide a methodological and statistical “road map” for developing and evaluating developmental and systemic evaluations of clinical training which are scarce in the field of MFT. Future work will assess the extent to which the DSE can assist the development of supervisors and trainees in sites well beyond Loma Linda University, and I look forward to this challenge. It is in this way that I can begin to bridge the gap between MFT science and practice.

Future Directions and Recommendations

In this section, I will outline future directions for my research and offer recommendations to strengthen this area of research including outlining the utility of the DSE, and further steps in the development of the DSE and other systemic evaluation tools. First, there is a need for gathering more and diverse data sets for future analyses of the DSE. An increased sample size will provide more statistical power in evaluating the significance and inferential power of a study yielding more precise results. In addition, evaluating clinical supervision processes across different clinics can provide further validity and/or generalizability of the results. Second, it is recommended that future iterations of the DSE include response descriptors which would anchor the endorsements of the Likert rating scale. Third, including a questionnaire to gather the demographic characteristics of supervisees and supervisors such as but not limited to a description of the clinical/practicum training site, and supervisors and trainees theoretical orientation, ethnicity, gender, age, etc.

Fourth, acknowledging that there are at least three stakeholders in the therapy system including supervisors, supervisees/therapists, and clients, future studies would benefit from designing studies that incorporate assessments of the therapy process and outcome as reported by clients. The results from all three stakeholders would greatly inform the training of supervision and training as measured by the DSE during the first year of clinical training. An example of such a measure is the Outcome and Session Rating Scale by Scott Miller (Miller, et. al. 2003; Duncan, et. al., 2003).

A fifth and related recommendation is the need to gather data from supervisors and supervisees using the DSE beyond the first year of clinical training. The timeline could include the 3,000 hours of pre-licensure supervision required for eligibility to take the MFT licensure exam. This longitudinal design would enable the examination of the impact of supervision training on the properties of the DSE during pre-licensure period.

In sum, I have outlined several strategies that can clarify the role of the supervisor-supervisee dosage effect as well as capture the relational and developmental changes over longer periods of time. All of these suggestions for future longitudinal studies are relational in nature by including the dyadic (i.e., supervisor-supervisee) or triadic (i.e., supervisor-supervisees-clients) stakeholders. Also, the longitudinal design will capture the development of the dyadic and triadic relationships over time. Finally, all of the studies I have outlined can be analyzed effectively using the APIM which was articulated and employed in my dissertation. It is the ideal approach for evaluating the supervisee-supervisor dyad over time and a tremendous statistical tool for documenting relational and developmental supervisory processes that are the hallmarks of MFT.

CHAPTER EIGHT

NEXT STEPS

Pursuing my doctoral degree in Marital and Family Therapy (MFT) at Loma Linda University has been the most significant and transformative time of my life. On a very personal note, I relocated to Redlands as a newlywed, and this is where my wife Zaira and I started our family with our beautiful daughter Monserrat. It was also a period of significant loss with the passing of my father. The values and mission of Loma Linda University, transmitted through the interactions with faculty and staff have made this experience especially meaningful.

As an academic student the knowledge transmitted to me has sharpened my professional competency as well as deepened my personal understanding of relationships. As young boy who came to the U.S. from Mexico I have been confronted by multiple challenges which have persisted, especially in my continued effort to learn English, and to become a proficient writer. Other challenges, no less significant, have included working with and through cultural norms, values, and ideals that are different than mine. Doctoral education has been a frontier I would have never imagined successfully crossing as a young adult. Embedded within the MFT field is the opportunity to collaborate closely with a largely female student population most of whom are just beginning to express their feminist values. Also, I was fortunate to navigate this journey with students and faculty of different ethnic, cultural and religious backgrounds such as Seventh-day Adventists. My educational and personal experiences during this time continue to challenge the ways in which I think about people, about life, about myself and my family. The community of Loma Linda University in particular has given me perspective on life

through its core values as a religious institution. As one who came into the program as a professional, as a married man, and as a spiritual person I am in deeply grateful to the University and professors who represent their faith from a course to course basis.

Research

My professional competency and development has sharpened dramatically throughout my doctoral studies and it is clearly expressed in my dissertation research. I have benefitted greatly from the mentoring and advice of my dissertation chair, committee members, and professors. I believe my dissertation has the potential to make a strong contribution to the field of MFT at multiple levels. My dissertation aims to bridge the gap between practice and research by advancing theory while improving pragmatic tools that can be easily implemented in academic as well as in community clinical settings. At the core of my dissertation is the use of cutting edge quantitative methodologies such as dyadic statistical analysis (specifically the actor-partner interdependence model) to demonstrate the validity of the ways we measure developmental and systemic change in the field.

Developing psychometric measurement tools for the field provides me with an initial foundation to expand my research in multiple directions. This includes evaluating and/or furthering the psychometric properties of assessments tools, studying differences and similarities among and within groups, and the ability to critique current statistical research in MFT.

I view my dissertation as the beginning chapter of my program of research. My initial interest coming into the doctoral program was to study therapist development

throughout personal and professional life span. By fully embracing a systemic and developmental view of personal and professional development in therapy, it became clear that studying therapist development must include the mentor or supervisor, and my work is now focused on the supervisory relationship. This relationship especially during the first year of clinical training is critical and in my experience often influences whether the trainee will survive, thrive and/or pursue the challenge to become a licensed MFT therapist. My efforts to validate the Dyadic Supervisor Evaluation (DSE) involves many steps. First, the dissemination of the instrument is key to ensure that it is published, available and utilized. Another form of dissemination is to presenting the articles in my dissertation at local, national and international professional conferences. Third, I will encourage and facilitate its use in MFT and perhaps counseling masters programs beginning in Southern California with the goal of collecting data for additional confirmatory factorial analyses which can support its external validity. A fourth goal that is already in motion is adding a triadic level to the evaluation which would consist of integrating the session process and outcome ratings as reported by clients and therapists to the analysis. This strategy allows for a broader and more systemic understanding of therapist-supervisor relationship development, and the impact on the therapeutic outcomes over time.

At a broader level, my research program is designed to improve the quality of mental health care services. The design and evaluation of measurement tools are essential to evaluate the delivery and outcome of mental health care services, and to document evidence-based practices. Agencies are increasingly required to provide evidence for program fidelity and outcomes to third party parties. My timing could not be better in

terms of applying what I learned during the doctoral program and dissertation and launching my career as a researcher. At the same time, I understand that as a beginning researcher I will benefit from further training, mentoring, education and experience to solidify my skills and to prepare for an academic position. I understand that becoming a well-rounded scholar is a life long journey and requires constant improvements in terms of my writing, research methodologies and team collaborations, all of which takes dedication, time and practice.

Practice

In regards to clinical practice I feel I have become more competent and confident as a clinician. As a licensed clinician I had experienced ups and downs, and felt my learning curve had flattened. I began to feel isolated and alone as a licensed clinician in a field I had worked so hard to achieve. However, through the interactions with professors and the graduate level learning environment I quickly realized there was so much to learn. Earning a doctorate requires a higher level of sophistication and quality of practice in terms of my depth of knowledge, expertise, and ability to integrate cutting edge peer reviewed research into my practice and my emerging role as a clinical supervisor.

There are many ways in which my practice has significantly improved. I can demonstrate these in several areas. This includes my clinical work with individuals, couples and families, as a clinician and supervisor, and recent work applying my concentration competencies in organizational development consulting. My clinical work with individuals, couples and families has been strengthened from deeper appreciation and understanding of systemic work, at both the conceptual and practical levels. I believe

I have improved exponentially given the resources and skills I have acquired. I am becoming more self-reflective, and informed through the variety of theoretical lenses I have been exposed to, and have been able to evaluate the quality of services that I and others provide. In addition, I have gained more clarity in developing my own integrative systemic developmental lens. With little but significant experiences in organizational development I am eager to further my competencies in this specialization. This enables me to intervene with more confidence and with a clear and congruent rationale for the interventions I select. In all, I have become a more confident and informed agent of change which has significantly strengthened my ability to participate in the transformation and improved relationships of the diverse populations that I serve.

Academic

My goal is to become a professor who is active in clinical research, teaching and training for therapists and counselors, while continuing to improve my clinical supervision skills and strategies. I would like to teach courses that focus on clinical issues such as problems in the family, highly conflictual couples and sociocultural issues (e.g., poverty, ethnicity, sexual orientation) that influence and challenge families. My teaching would place students in creative and interactive activities where they can discuss theory and analyze real life scenarios.

As new generations of MFTs are serving increasingly diverse and international populations I believe that representation of culturally diverse professors in the academy who can prepare students to address the needs of underserved communities of color and immigrants is critical. In a parallel way, it is necessary to expose students to international

issues and perspectives that affect families and communities worldwide. My experience as a foreign student in countries such as Peru, Japan, and Spain has shaped my sensitivity, cross-cultural competence, and attunement to cultural factors. As a second language learner who grew up with very few resources in the border region between Tijuana, Mexico and San Diego, USA, I am a testament that students with little more than their determination and hard work can attain the highest degree in the land, a Ph.D. Further, I have benefited greatly from the teacher-mentor model of graduate education and the multicultural education approach of many of my professors. The mentoring that I have received has deeply transformed me as a professional and as a person. I am inspired by the generosity of my mentors and plan to continue their legacy by mentoring my future students. In this way I will continue to bridge the gap between the science and practice of MFT.

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APPENDIX A

DYADIC SUPERVISION EVALUATION DEVICE, TRAINEE

To be filled by Supervisor

Name of Trainee:

Quarter & Year:

Name of Supervisor:

Site:

1 = POOR, well below acceptable 3 = ADEQUATE, at an acceptable 5 = VERY GOOD, significantly better acceptable

2 = FAIR, below acceptable 4 = GOOD, better than acceptable 6 = EXCELLENT, far exceeding an acceptable

Case Management

1	The trainee has the ability to write complete and quality case notes.	NA 1 2 3 4 5 6
2	The trainee completes quality paperwork in a timely manner.	NA 1 2 3 4 5 6
3	The trainee follows agency policies and procedures.	NA 1 2 3 4 5 6
4	The trainee treats staff with respect and works cooperatively with them.	NA 1 2 3 4 5 6

Therapeutic Relationship with Clients

5	The trainee treats clients with respect by conveying understanding, acceptance, warmth, and affirmation.	NA 1 2 3 4 5 6
6	The trainee acts in accordance with the clients' best interests.	NA 1 2 3 4 5 6
7	The trainee is cognizant of the therapeutic relationship during the course of therapy.	NA 1 2 3 4 5 6
8	The trainee displays his/her ability to use self in the therapeutic relationship.	NA 1 2 3 4 5 6
9	The trainee is able to maintain clients' investments in therapy so that clients continue in therapy when appropriate.	NA 1 2 3 4 5 6

Clinical Competency

10	The trainee addresses crisis issues appropriately.	NA 1 2 3 4 5 6
11	The trainee recognizes and addresses family and individual developmental stages.	NA 1 2 3 4 5 6
12	The trainee is aware of the cultural and ethnic backgrounds of his/her clients and shows sensitivity to cultural and ethnic issues.	NA 1 2 3 4 5 6
13	The trainee displays awareness of and sensitivity to gender issues.	NA 1 2 3 4 5 6
14	The trainee is sensitive to the spiritual issues of the clients.	NA 1 2 3 4 5 6
15	The trainee sets goals with clients and reviews progress toward those goals.	NA 1 2 3 4 5 6
16	The trainee formulates appropriate treatment plans and revises them when necessary.	NA 1 2 3 4 5 6
17	The trainee considers abuse issues in treatment	NA 1 2 3 4 5 6
18	The trainee considers sexual behavior issues in treating clients.	NA 1 2 3 4 5 6
19	The trainee displays competency in issues related to the treatment of adults.	NA 1 2 3 4 5 6
20	The trainee appropriately distinguishes between content and process in therapy sessions.	NA 1 2 3 4 5 6

Assessment and Diagnosis

21	The trainee employs a systemic view, assessing the entire system regardless of the number of persons presenting for therapy.	NA 1 2 3 4 5 6
22	The trainee has the ability to assess him / herself as part of the clients' system.	NA 1 2 3 4 5 6
23	The trainee employs the DSM IV accurately to make appropriate diagnoses.	NA 1 2 3 4 5 6
24	The trainee is able to identify a family systems.	NA 1 2 3 4 5 6
25	The trainee attends supervision regularly and on time.	NA 1 2 3 4 5 6
26	The trainee utilizes appropriate assessment methods.	NA 1 2 3 4 5 6
27	The trainee accurately identifies problem areas for clients upon which to base treatment approaches.	NA 1 2 3 4 5 6
28	The trainee applies his/her theory when making diagnoses, formulating hypotheses, and establishing goals.	NA 1 2 3 4 5 6
29	The trainee accurately assesses client strengths and resources.	NA 1 2 3 4 5 6
30	The trainee works with clients to assess family and community support networks available to them.	NA 1 2 3 4 5 6

Supervision

31	The trainee is prepared for supervision discussions.	NA 1 2 3 4 5 6
32	The trainee is an active participant in supervision discussions.	NA 1 2 3 4 5 6
33	The trainee provides supervisor with case notes, recordings, and other concrete information from which the supervisor can assess his/her work.	NA 1 2 3 4 5 6
34	The trainee effectively applies suggestions and concepts given by the supervisor and colleagues to the trainee's therapy.	NA 1 2 3 4 5 6
35	The trainee takes responsibility for his/her own learning.	NA 1 2 3 4 5 6
36	The trainee is willing to receive feedback on his/her therapy practice.	NA 1 2 3 4 5 6
37	The trainee has the ability to utilize feedback from his/her supervisor.	NA 1 2 3 4 5 6

Professional Competencies

38	The trainee recognizes ethical and legal issues and takes appropriate steps to address them.	NA 1 2 3 4 5 6
39	The trainee presents him/herself as a professional who is responsible to clients.	NA 1 2 3 4 5 6

APPENDIX B

DYADIC SUPERVISION EVALUATION DEVICE, SUPERVISOR

To be filled out by trainee

Name of Trainee: _____ Quarter & year: _____
 Name of Supervisor: _____ Site: _____
 1 = POOR, well below acceptable 3 = ADEQUATE, at an acceptable 5 = VERY GOOD, significantly better acceptable
 2 = FAIR, below acceptable 4 = GOOD, better than acceptable 6 = EXCELLENT, far exceeding an acceptable

Assessment & Diagnosis

1	The supervisor assisted me in learning methods for writing case notes and treatment plans.	NA 1 2 3 4 5 6
2	The supervisor contributed to my understanding and application of DSM diagnoses.	NA 1 2 3 4 5 6
3	The supervisor contributed to my understanding and application of systems diagnoses.	NA 1 2 3 4 5 6
4	The supervisor enhanced my assessment of interactions between couples and families,	NA 1 2 3 4 5 6

Clinical Competence

5	The supervisor offered useful suggestions to me in improving my skills as a therapist.	NA 1 2 3 4 5 6
6	The supervisor contributed to and encouraged my learning about my theory.	NA 1 2 3 4 5 6
7	The supervisor displayed knowledge of and adherence to ethical and legal guidelines.	NA 1 2 3 4 5 6
8	The supervisor was aware of and showed sensitivity to cultural and ethnic issues in therapy.	NA 1 2 3 4 5 6
9	The supervisor displayed awareness and sensitivity to gender issues and roles in therapy.	NA 1 2 3 4 5 6
10	The supervisor displayed sensitivity to spiritual issues	NA 1 2 3 4 5 6
11	The supervisor assisted my understanding of abuse issues in therapy.	NA 1 2 3 4 5 6

Supervisory Relationship

12	The supervisor clearly articulated (verbally or written) his/her expectations for my traineeship.	NA 1 2 3 4 5 6
13	The supervisor treated me with respect by conveying understanding, acceptance, and support.	NA 1 2 3 4 5 6
14	The supervisor encouraged my ideas and opinions, and listened attentively to my suggestions.	NA 1 2 3 4 5 6
15	The supervisor was aware of and showed sensitivity to cultural and ethnic issues in supervision.	NA 1 2 3 4 5 6
16	The supervisor displayed awareness of and sensitivity to gender issues and roles in supervision	NA 1 2 3 4 5 6
17	The supervisor recognized and commented upon my strengths as a therapist.	NA 1 2 3 4 5 6
18	How safe was the environment in supervision to allow you to discuss your cases and your own development?	NA 1 2 3 4 5 6
19	Overall, how well did your supervisor contribute to your learning this quarter?	NA 1 2 3 4 5 6
20	How valuable was the feedback you received from your supervisor?	NA 1 2 3 4 5 6
21	How would you describe the support you received from your supervisor this quarter in your journey of being a therapist?	NA 1 2 3 4 5 6

Professional Competence

22	The supervisor met with me for one hour per week (other than vacations) for supervision	NA 1 2 3 4 5 6
23	The supervisor encouraged me to discuss my expectations of supervision.	NA 1 2 3 4 5 6
24	The supervisor clearly articulated (verbally or written) his/her expectations for supervision.	NA 1 2 3 4 5 6
25	The supervisor enhanced my understanding of areas in which I desire to grow as a therapist.	NA 1 2 3 4 5 6
26	Overall, how has the experience of meeting with your supervisor been for you this quarter?	NA 1 2 3 4 5 6