Using Multivariate Concept Mapping to Examine Counselor Educators'
Implicit Model of The Profession's Functions

Janee Brooke Both Gragg, University of Redlands
Rod Goodyear, University of Redlands
Lawrence Scheier, LARS Research Institute, Inc.
Leslie Krafft, University of Redlands

Abstract

This study employed multivariate concept mapping to examine counselor educator's implicit conceptualizations of their possible professional functions. It was important as counselor educator's implicit and explicit understanding of the field affect both the curriculum of counseling programs and the attitudes they convey to their students in the classroom. This approach netted seven discrete clusters of counseling functions. These clusters arrayed on two dimensions that were labeled *cognitive versus affective* and *process focused versus structured interventions.* Implications for counselor educators include suggestions for using counselor educator's implicit maps of the professions many functions to individualize professional socialization, develop professional synergy and build social reciprocity.

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The term 'counselor' is a broad catchall for many professional functions. In the field, counseling is named for but one of the many functions its members perform. Counselors can engage in a wide array of professional activities, including but not limited to psycho-education, career development, crisis intervention, therapy, teaching and supervision. Counselors also participate in program evaluation, conduct research, and contribute to the larger body of scientific evidence revealing the efficacy of their professional functions (e.g., Chronister, Chou, & Chan, 2009; Fitzgerald & Osipow, 1986; Loesch & Vacc, 1993). There are many ways to "characterize" the work of counselors (Gazzola & Smith, 2007; Smith & Drodge, 2001) and members of related professions (Goodyear et al., 2008; Murdock, 2006; Norcross, Karpiak, & Santoro, 2005).

Perhaps more useful, but so far lacking, is an understanding of whether counselors sift through their professional activities and build these into a coherent whole; that is, engage in some systematic formulation that organizes their skills into an objective "mental map." This map is then used to construct professional boundaries based on some type of affinity or personal evaluation. For instance, a counselor that enjoys therapy may spend a good deal of time running sessions (group or individual) and less time spent in teaching or supervision. A different counselor, however, might spend a bulk of their time teaching and mentoring new therapists and considerably less time engaged in one-on-one client counseling. Both individuals ascribe their professional duties to "counseling" and both may belong to the same professional organizations

and even frequent the same vocational circles, if not teach in the same department. However, the differences between their relative vocational affinities can have important ramifications for training the next generation of counselors.

To better understand the basic fabric of how counselors formulate a cognitive map of their profession, we provided a sample of counselors with a variety of questions about how they spend their time professionally (i.e., typical function), and then examined their answers using concept mapping techniques. Like many cluster-based approaches, this technique searches for similarities or patterns in responses and then systematically organizes them into a 'coherent' and meaningful vocational map. We explain more about the technical basis of this approach in the Method section. Prior to presenting the empirical findings, we briefly review the literature on counselor professional functions and counselor identity.

The Roots of Counselor's Professional Identity

Based on the existing literature, we begin by assuming that anyone entering the counseling field possesses some type of cognitive "map" or schema that gives the lay of the land with regard to professional functions including roles, setting, and daily activities that comprise the counseling profession. Whether the attraction is to "help" people in times of emotional despair, run a crisis center, counsel students on their vocational choices, engage in research or teach, most individuals who are attracted to the counseling profession look for ways to optimize the congruence between their own aptitudes/interests and what they believe represents formidable characteristics of the work setting (see Holland, 1997). This is true not only for the counseling profession, but also for many other occupations where individuals have certain, identifiable characteristics as a group (e.g., stock brokers, medical doctors, veterinarians, car salesman). However, compared to the general population, counselors have higher Big-Five scores on openness (Thompson, Brossart, Carlozzi, & Miville, 2002) and they also score higher on emotional intelligence (Martin, Easton, & Wilson, 2004). The online Dictionary of Occupational Titles lists the two most characteristic Holland codes for counselors as Social, then Artistic (http://www.occupationalinfo.org/onet/31514.html), which is consistent with findings for rehabilitation counselors (Leierer, Blackwell, Strohmer, Thompson & Donnay, 2008).

Like any other profession, an individual's professional aspirations and their perceptions of work, duties, and job responsibility all play a central role in determining career choice and occupational satisfaction. The framework for understanding the confluence of these activities and the way certain professions represent themselves to the wider community has been termed "professional identity" (Calley & Hawley, 2008; Gibson, Dollarhide, & Moss, 2010; Mellin, et al., 2011). In recent years, there has been growing attention to the role of professional identity within the clinically minded helping professions (e.g., Luke & Goodrich, 2010; Pistole & Roberts, 2002). A consensus suggests that professional identity incorporates an individual's perceptions regarding their professional role (Dobrow & Higgins, 2005), their competency (Gibson et al., 2010), maturity and professional acumen (Auxier, Hughes, & Kline, 2003). For counselors, identity is essentially a reflection of how deeply an individual becomes immersed in their professional community, adopting the language of therapy, and gauging their adherence to the standards, expectations, and rules of the profession. Increasingly, scholars have suggested that professional identity requires mentoring (Kram, 1985); relational support (Nelson & Jackson, 2003; Higgins & Kram 2001); self-awareness (Hall, 2002); and exploration (Ibarra,

1999) as well as involvement in ongoing analysis and conversation about the collective identity and the future of counseling (Goodyear, 2000).

Counselors' mental maps of the profession will guide them to finer grained choices including specialization (Meir & Melamed, 2005) and reflect a growing need for congruence between work environments and personal interests (e.g., Blustein & Noumair, 1996). This search for work and personal harmony establishes a conduit for personal values and attitudes to influence a counselor's mental map. As one specific example, supervisors influence supervisees' theoretical orientation and values (Guest & Beutler, 1988), representing a broad form of "socialization" that transpires between faculty and student. Weidman, Twale and Stein (2001) noted that, "graduate students often enter a pre-professional curriculum holding stereotypes of their future role. Generally, faculty provide the most influential means to support or debunk such information" (p. 74).

There is considerable literature supporting that much of this "socialization" of counseling graduate students is deliberate (e.g., Miller, 2010) and is often accomplished through thoughtful mentoring (Clark, Harden & Johnson, 2000; Schnaiberg, 2005). Mentoring provides opportunities for students to adopt faculty as role models and learn vicariously from them, even when the faculty member may be unaware they are pedaling influence (Gibson, 2004). In effect, counselor educators develop cognitive maps that mirror their theoretical orientation and values, which inevitably influence aspiring mentees (Guest & Beutler, 1988). To illustrate this important point, the extent to which counselor educators perceive career counseling and psychotherapy as distinct functions (e.g., Hackett, 1993) likely determines the perceptions of their students regarding these vocational distinctions. This transmission of "values" in turn will affect how well a student or supervisee will integrate the two professional functions and provide a foundation for viewing clients' needs (Magee & Whiston, 2010; Spengler, Blustein, & Strohmer, 1990). The same argument can be posed for the research versus practice dichotomy (e.g., Sexton & Whiston, 1996) and likewise for the role of advocacy in the counseling profession (Myers, Sweeney, & White, 2002; Roysircar, 2009). A counselor choosing their respective vocation may be affected by the "distance" or lack of harmony that exists within the mental map of their respective faculty.

Focus of the Present Study

In the present study, we sought to examine counselor educator's cognitive organization of the professional functions available to them by employing the technique of concept mapping. Concept mapping is one of several cluster-based data summarization techniques and is described as "a methodological approach to understanding the concepts people use to understand and interpret their worlds… [it is] a broad term for a wide range of techniques, all of which are intended to delineate underlying cognitive structures" (Goodyear, Tracey, Claiborn, Lichtenberg, & Wampold, 2005, p. 236). One of the particularly useful aspects of concept mapping is that most of the programs employing this technique depict the statistical results visually; using spatial plots that make it relatively easy to see the underlying patterns in the data elements and their "latent" or unobserved relations.

Method

We employed a particular concept mapping method that relies on hierarchical cluster analysis and multidimensional scaling (MDS) as complementary analyses (see Bedi & Alexander, 2004; Goodyear, et al., 2005; Trochim, 1989). The first of these, hierarchical cluster analysis, creates categories, whereas MDS concerns the placement of the elements on underlying (and observed) dimensions. Using both approaches results in complementary results, which can be overlaid on one another to provide a visual map. This particular method of concept mapping has been used to examine clients' experience of depression (Daughtry & Kunkel, 1993), clients' understandings of counseling (Bedi & Alexander, 2009), the experience of giftedness (Kunkel, Chapa, Patterson, & Walling, 1995), supervisees' experiences of helpful events in group supervision (Carter et al., 2009), psychologist's understandings of common factors in psychotherapy (Tracey, Lichtenberg, Goodyear, Claiborn, & Wampold, 2003), clients' perspectives on the formation of alliances (Bedi, 2006), and even people's impressions and understanding of God (Kunkel, Cook, Meshel, Daughtry, & Hauenstein, 1999). In the present study, we were interested in counselor educators' impression of the various functions performed by counseling professionals.

One study (Thombs & Osborn, 2001) employed a variant of this method to cluster clinical orientations of chemical dependence counselors. As informative as this study is both methodologically and conceptually, it was specific to one counseling specialty and we have been unable to locate other relevant studies that have employed a similar method to study its members' conceptual map of the broad field of counseling. This, then, was a descriptive study driven by the question of how counselor educators cognitively represent the range of professional functions available to them.

Participants

Participants were 82 (63 female; 19 male) counselor educators who all reported having a doctoral degree. Their mean age was 41.87 ($SD = 12.63$) and they reported a mean of 12.56 ($SD = 11.05$) years professional experience. The racial composition of the sample was predominantly White Non-Hispanic (56; 68.3%), with the remainder reporting that they were Hispanic (13; 15.9%), African American (5; 6.1%), Asian (2; 2.4%), Native Hawaiian or Pacific Islander (1; 1.2%); and five individuals (6.1%) indicated "other."

Measures

Participants were provided a list of 21 professional service activities in which "counselors/therapists might engage." This list was developed through a rational process that involved consulting, for example, the domains being tapped by professional accreditation and licensure organizations for counselors and therapists; empirical task analyses that have been conducted (e.g., Fitzgerald & Osipow, 1986; Goldschmitt, Tipton, & Wiggins, 1981), and the authors' own professional acumen and rich understanding of the field.

It was not our intent to create a list that would be inclusive of the entire range of possible counseling functions, but rather one that would be reasonably representative of the broad domains of practice. The actual professional activities provided to participants are listed in Table 1. Participants were asked to "rate the extent to which you would enjoy doing each as part of your job," with response formats ranged from (1) Not at all to (7) Very much.

Table 1
Clusters and item coordinates for the obtained two-dimensional MDS solution.

		Dim 1	Dim 2
Cluster 1 (Specially Focused Counseling)			
Coefficient alpha = .78			
v1	Helping students/clients deal with developmental issues and transitions	1.08	.08
v2	Running a counseling group	1.36	-.03
v3	Facilitating conflict resolution	.86	.48
v14	Working with students/clients on issues of grief and loss	1.33	-.23
Cluster 2 (Psychoeducation and Advocacy)			
Coefficient alpha = .83			
v11	working with a student's/client's system to increase effectiveness of interactions with teachers & parents	.78	.89
v13	Providing resources to economically disadvantaged families	.70	.83
v15	Teaching a life skills course for severely mentally ill adolescents	.39	.49
Cluster 3 (Career Guidance)			
Coefficient alpha = .52			
v4	Coaching High School students/clients on their transition to college	.32	1.12
v12	Helping make career decisions	.13	1.22
v19	Helping to develop job search skills	.05	1.30
Cluster 4 (Counseling)			
Coefficient alpha = .79			
v10	Conducting psychological education workshops	.23	-.31
v16	Providing short-term counseling/psychotherapy	1.24	-1.15
v17	Providing long-term counseling/psychotherapy	.57	-1.58
v20	Conducting couples or family counseling	.43	-1.10
Cluster 5 (Assessment and Training)			
Coefficient alpha = .77			
v5	Scoring and interpreting psychological tests as part of counseling	-.66	-1.38
v18	Supervising counselor trainees	-.96	-1.48
Cluster 6 (Research and Evaluation)			
Coefficient alpha = .61			
v6	Creating and conducting research	-1.49	-.69
v7	Conducting program evaluation	-1.10	.25
v21	Providing lectures on topics related to your expertise	-1.52	-.59
Cluster 7 (Administrative Tasks)			
Coefficient alpha = .85			
v8	Assisting students/clients with their academic course scheduling	-1.60	1.29
v9	Engaging in program development	-2.18	.60

Procedures

Recruiting Participants. Upon receiving approval by the Institutional Review Board, we posted a request for participation on the Counselor Education and Supervision listserv (CESnet), including a URL where participants could access an online survey. The survey took approximately 10 minutes to complete. We then sent a follow-up message about a week later to maximize participation. Email requests for participation were also sent to approximately 15 counselor educators across the country with whom we were personally acquainted, asking them to distribute information about the survey to colleagues.

Data Preparation. Both hierarchical cluster analysis and multidimensional scaling employ similarity data: that is they rely on the extent to which any two variables are related to one another. Data input for both techniques used correlation matrices. The first step was to generate a matrix of every possible between-variable correlation of the respondents' ratings of the 21 activities.

<div style="text-align:center">Results</div>

As already noted, the concept mapping method we used employed hierarchical cluster analysis and multidimensional scaling (MDS) as complementary procedures. The former creates categories from the data whereas the latter plots the data along dimensions. When combined visually, the categorical and dimensional results allow a richer interpretation than would be possible with either analysis alone (Arabie, Carroll, & DeSarbo, 1987).

Hierarchical Cluster Analysis

Hierarchical cluster analysis begins with the premise that any two items in the correlation matrix will share some level of 'similarity.' The magnitude of association (between-function relations) for the 21 counselor functions in the correlation matrix provides an estimate of similarity for the aggregate group. We then applied the agglomerative or "bottom up" method in which each observation (i.e., counseling function) in the dataset begins as its own cluster and then is gradually combined with other counselor functions based on degree of similarity (as opposed to divisive, which is "top down" and relies on one central cluster, which is then split progressively). We used Ward's (1963) minimum variance method for determining the appropriate metric or measure of functional distance between clusters. This is an iterative algorithm that finds the minimum increase in total within-cluster variance that results from merging clusters as the sole criteria for assessing the efficiency of blending clusters. Determination of the functional "distance" or metric is based on a recursive single-linkage; the Lance-Williams clustering algorithm (e.g., Cormack, 1971), which uses the squared Euclidean distance between two points (objects or functions) within each cluster.

Although there are precise mathematical methods for deciding the point in the hierarchy to choose optimal clusters, the typical "eyeball" method uses the dendrogram – a figure that visually depicts the branching of clusters -- that make the most conceptual sense. The final pool of clusters, the names we gave those clusters, and a description of the counseling functions that comprised them are contained in Table 1.

In order to check the reliability or homogeneity of the "cluster" findings, we used the counselor educators' ratings of the professional functions to compute coefficient alpha for each cluster. Those results are also reported in Table 1, which shows that moderately high alphas were obtained for five of the clusters (1, 2, 4, 5, and 7 ranging from a low of $\alpha = .77$ to a high of $\alpha = .85$), with a slightly lower reliability obtained for Cluster 6 ($\alpha = .61$). Four of the clusters consisted of two items and still produced adequate reliability (e.g., Cortina, 1993). Only the two-item Cluster 3 demonstrated less than optimal internal consistency ($\alpha = .52$).

Multidimensional Scaling
        In step two of the analytic plan, the same data were analyzed using the Alternating Least Squares method of Scaling (ALSCAL) method of nonmetric MDS. The resulting two-dimensional solution (see far right hand column of Table 1) provided a good fit to the data, with an R2 (proportion of variance accounted for) of .94 and a stress value of .12; stress concerns the extent to which the data are well represented by the number of dimensions, with smaller numbers indicating better fit (Kruskal & Wish, 1978).

        Figure 1 contains a visual representation of the results from the MDS procedure. We named the horizontal dimension, *cognitive versus affect* as it was anchored on one end with functions like "research" and "delivering lectures" and on the other by "running a counseling group" and "working with students or clients on issues of grief and loss." We named the vertical dimension process *focused versus structured interventions* as it was anchored on one end by "conducting long term counseling or therapy" and "supervising counseling trainees."
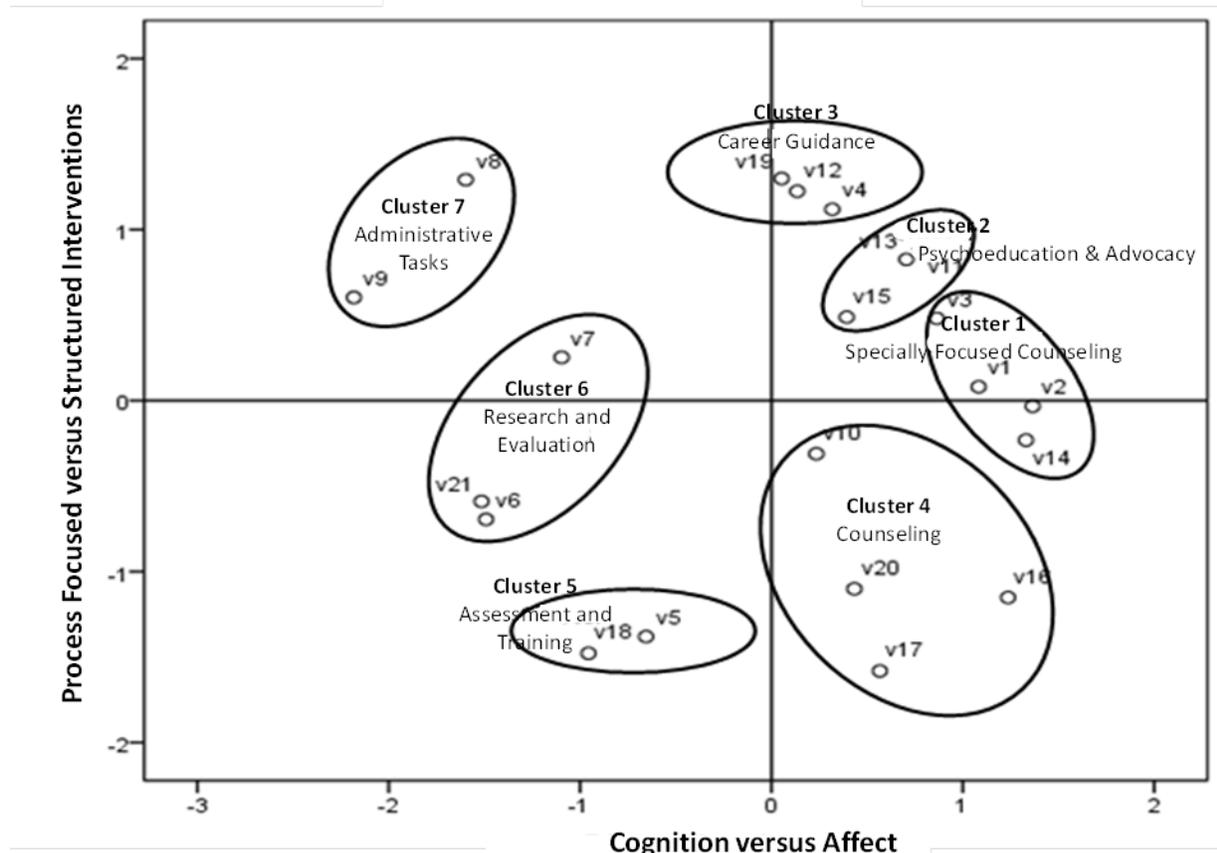
Discussion

This was the first study to examine the underlying cognitive structures or mental "maps" that counselor educators implicitly use to decode their professional and vocational landscape. In many respects the findings provide a "reality check" and confirm several assumptions many counselors already have. For example, what we term here for argument's sake "psychotherapeutic" counseling in its various forms was clearly distinct from other areas of professional functioning. Counseling appears in the lower right hand side of Figure 1 as cluster 4 comprised of variables 10, 16, 17 and 20. The clear demarcation between counseling "therapeutic" and other professional functions revolved primarily around two clusters, one of which included both long-term and marital and family therapy (cluster 4; variables 17 & 20). The other (cluster 1) falling in the center right hand side of the figure is comprised of: v1-Helping students/clients deal with developmental issues and transitions; v2-Running a counseling group; v3-Facilitating conflict resolution; and v4-Working with students/clients on issues of grief and loss. Visually, counseling specializations (cluster 1) are depicted as similar yet distinct from the traditionally conceived "therapeutic" counseling identified in cluster 4. This bundling of skills reinforces the vocational attraction of counselors to highly specialized functions that involve treating client populations seeking therapeutic remediation.

Concept mapping was helpful in identifying how counselor educators cognitively "organize" their functions. The results provide empirical confirmation of intuitions shared by many professionals who work in the field already. For example, despite arguments that career counseling and psychotherapy should not be regarded as different activities (e.g., Hackett, 1993) these data show that counselors do see those two functions as existing at opposite ends of a continuum. Cluster 3 (Career Guidance) for example, falls visually at the top of the vertical dimension, *process focused versus structured intervention*, with counseling falling on the lower end of the same dimension. One reasonable inference, supported by prior data (Gazzola & Smith, 2007; Hansen, 2003; Smith & Drodge, 2001), is that personal counseling or engaging psychotherapy is an activity that lies at the foundation of all counseling activities but is attractive for different reasons to different individuals.

One important dimension that emerged from the analyses encompassed work duties that ranged from cognitive to more affective functioning. Supervision certainly has affective components (e.g., Bernard & Goodyear, 2014). However, its close alignment with the research and training cluster in the bottom left quadrant of Figure 1 perhaps indicates that counselor educators perceive this acumen involves 'heady' or rational activity rather than drawing on heart-felt affective or emotional skills. This interpretation is made in light of the items that appear in the upper right hand quadrant, which are more affectively focused (e.g., the topmost item v14 is "Working with students/clients on issues of grief and loss"). It is noteworthy that, in general, both the career counseling and psychotherapy clusters were in the upper, more affectively focused quadrant.

It is important to note that whereas this study was not explicitly about professional identity (Calley & Hawley, 2008; Gibson, Dollarhide, & Moss, 2010; Hanna & Bemak, 1997; Mellin et al., 2011), research shows that inevitably the functions in which a counselor chooses to engage will be related to their professional and personal identity (Harmon, Hansen, Borgen & Hammer, 1994; Blustein & Noumair, 1996; Gottfredson, 1996). Once a counselor's identity

crystallizes, they may seek contexts that support their professional leanings. For example, counselors who state they prefer helping individuals resolve career choices and develop job search skills may seek employment in environments where they can work with students or within agencies that offer career counseling specifically. This supports that the tasks, then, in which a counselor is most frequently involved as part of their professional duties forms a recursive feedback mechanism that helps to shape their professional identity.

Implications

The field of counseling is vast and includes a multitude of potential tasks within numerous types of work environments. For counselor educators, the differences between their relative vocational preferences can have important implications for training the next generation of counselors. Identifying the implicit mental maps counselor educators have of the field's functions may shed light on the professional decision making processes that inspired their unique career trajectories. This would be especially helpful as students struggle to identify their niche within the field given their own interests and aptitudes and the extraordinarily broad profession of counseling.

First Know Thyself

Consideration of counselor educator's professional strengths and interests may begin to unpack core beliefs about the profession's functions that are inevitably communicated to counseling students both explicitly and implicitly. For instance, understanding one's professional aptitudes and personal preferences across various clinical settings allows for an explicating of how counselor educators themselves came to understand and make sense of the varied professional functions within the field. Making these mental maps explicit, may provide opportunities to increase congruency between how counselor educators view themselves professionally and how they represent the field and its many functions to their students.

Individualizing Professional Socialization

Personally and academically challenging students to identify for themselves not only their personal strengths related to the counseling profession but also their own implicit understanding of the profession's functions is a process that could enhance the individualization of professional socialization and mentoring. Counselor educators can challenge misperceptions of student's cognitive maps in ways that accurately educate about the profession's functions. In addition, counselor educators can aim to enhance student preparedness for the profession while nurturing and capitalizing on a student's identified strengths.

Challenging students to move past their comfort zone to master skill sets for which they might normally shy away safeguards against students choosing tasks and interventions based on preference alone in the absence of intentionality, thereby limiting the ability to skillfully meet clients where they are (Cowan & Presbury, 2000; Schmidt, 1994). Counselor educators can work to identify cognitive maps of the profession's functions and work to modify the student's skill set to best fit with their desired professional role. Students on the other hand can focus on determining and forming a personalized career trajectory, making the most of their time in formal academic training.

Professional Synergy and Social Reciprocity

Engaging in the process of making explicit the notions we have about the field and its available functions, students and faculty collaboratively, allows for a co-creation of sorts. Finding congruency between skill sets and professional roles and tasks is only one side of the career trajectory formation story. Perhaps more radical is the notion that at their best concept maps of the profession's functions, once made explicit, should aim for a state of fluidity. This type of professional reinventing of oneself ideally would be ecologically grounded in the needs and circumstances of the larger environment requiring that counselors gain not only competence and skill across both affective and cognitive tasks and process versus structured interventions but the confidence to move easily and fully between them (Goleman, Bennett & Barlow, 2012). Such confidence is developed and facilitated by innovative counselor education mentoring and leadership that allows for relational synergy and social reciprocity (Barreto, 2009, 2010). Promoting a diversity of skill development that pushes beyond the boundaries of one's comfort zone may well become an explicit goal in training counseling students.

Matching the standard of care expected by counselors currently working in environments that require engaging in a depth and breadth of counseling tasks may support counselor training programs shifting from a training regimen that values certain perceptions of the field's functions over others. At the very least, leaders in counselor education can reflect on their own mental maps of the field's functions and acknowledge how these may have shaped their own professional training, career choices and development of expertise.

Study Limitations

There are several limitations to this study worth noting. First, our sampling frame did not permit estimating response rates and we are thus unable to report the efficacy of our sampling frame. Extending this premise, the sampling method recruited participants using a professional listserv as well as through emails sent to counselor education colleagues. One could conceivably use alternative recruitment methods including compiling a list of counselor education programs nationally and sending requests directly to all or a randomly selected subset, asking that their faculty respond. This latter methodology would provide a useful replication as a check on the representativeness of our sample. Regardless of approach used to garner responses, the select nature of the final set of respondents perhaps represents a unique cognitive map of the field, which might be different with a more heterogeneous and representative sample.

Second, although our list of professional functions was not exhaustive by any means, we made every effort to include activities that had face validity. Having an exhaustive list of counselor functions was not essential for this task. During the initial stages of scale preparation, one question asked would be "Do the items chosen adequately capture the desired construct?" The goal here would be to select the best representation of items rather than saturate the construct with more items than necessary and sacrifice degrees of freedom and model complexity. Notwithstanding, future work should make it a point to broaden the set of items used to assess counselor functions and determine through cross-validation whether the cluster solution changes contingent on the functions assessed.

Finally, given the nature of our recruitment procedures and the inevitable variability across individuals, results are not generalizable. Rather, outcomes provide a snapshot of how

some professionals within the field of counseling make sense of the possible functions available to them. In the end, we are left to consider how these findings may or may not be relevant to counselor educators more broadly.

Future Directions

Several important questions are raised by studying counselor affinities to professional functions. For one thing, we do not know much about how formulating a "mental map" of professional functions influences final choice of educational curriculum. In effect, if a counselor education academic department is replete with counselors that desire a role in training and mentorship, will the curriculum downplay research or minimize much valued scientific functions? Likewise, is it possible to characterize counseling programs based on the relative "identity" of the teaching/training staff, so that the department takes on a particular philosophical bent through its teaching/training practices? In other words, does the department make sacrifices of certain requisite course material in order to cater to the faculty interests? Here, it would be useful to extend the concept mapping approach to include items that tap into counselor educators' implicit map of curriculum and results of this study. Overall, we benefit greatly from using the concept mapping approach, which provides a unique perspective on the professional functions of counselors through the lens of counselor educators.

References

Arabie, P., Carroll, J. D., & DeSarbo, W. S. (1987). *Three-way scaling and clustering*. Newbury Park, CA: Sage.

Auxier, C. R., Hughes, F. R., & Kline, W. B. (2003). Identity development in counselors-in-training. *Counselor Education and Supervision, 43*(1), 25-39.

Barreto, A. (2009). *Transformational leadership for enterprise management based on the management of knowledge and innovation* (Unpublished master's thesis). University of Zulia, Maracaibo, Venezuela.

Barreto, A. (2010). *The leader of the human organizational energy: An innovating manager, educator and motivator*. Paper presented at the First Congress of Organizational Management and Leadership, Barquisimeto, Venezuela.

Bedi, R. (2006). Concept mapping the client's perspective on counseling alliance formation. *Journal of Counseling Psychology, 53*, 26–35

Bedi, R. P., & Alexander, D. A. (2004). Using multivariate concept mapping for assessing client understandings of counseling and psychotherapy. In B. D. Zumbo (Ed.), *Developments in the theories and applications of measurement, evaluation, and research methodology across the disciplines* (Vol. 2), BC: Vancouver, University of British Columbia Press.

Bedi, R. P., & Alexander, D. A. (2009). Using multivariate concept-mapping for assessing client understandings of counseling. *Canadian Journal of Counseling, 43*, 76 - 91.

Bernard, J. M., & Goodyear, R. K. (2014). *Fundamentals of clinical supervision*. (5th edition). Boston, MA: Merrill.

Blustein, D. L., & Noumair, D. A. (1996). Self and identity in career development: Implications for theory and practice. *Journal of Counseling & Development, 74,* 433 - 44

Calley, N. G., & Hawley, L. D. (2008). The professional identity of counselor educators. *The Clinical Supervisor, 27,* 3-16.

Carter, J. W., Enyedy, K. C., Goodyear, R. K., Arcinue, F., Puri, N. N., Getzelman, M. A. (2009). Concept mapping of the events supervisees find helpful in group supervision. *Training & Education in Professional Psychology, 3,* 1–9.

Chronister, J., Chou, C. C., & Chan, F. (2009). The roles and functions of professional counselors. In I. Marini & M. A. Stebenicki (Eds.), *The professional counselor's desk reference* (pp. 15-25). New York, NY: Springer Publishing.

Cormack, R. M. (1971). A review of classification. *Journal of the Royal Statistical Society, Series A, 134*, 321–367.

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology, 78,* 98–104.

Cowan, E. & Presbury, H. (2000). Meeting client resistance and reactance with reverence. *Journal of Counseling and Development*, *78*, 411–419.

Daughtry, D., & Kunkel, M. A. (1993). Experience of depression in college students: A concept map. *Journal of Counseling Psychology, 40,* 316– 323.

Dobrow, S. R., & Higgins, M. C. (2005). Developmental networks and professional identity: A longitudinal study. *Career Development International. 10*(6/7), 567-583.

Fehr, B. (2004). Intimacy expectations in same-sex friendships: A prototype interaction-pattern model. *Journal of Personality and Social Psychology, 86*, 265–284.

Fitzgerald, L. F. & Osipow, S. H. (1986). An occupational analysis of counseling psychology: How special is the specialty? *American Psychologist, 41,* 535-544.

Freshman, B., & Rubino, L. (2002). Emotional Intelligence: A core competency for health care. *Health Care Manager, 20*, 1-9.

Gazzola, N., & Smith, J. (2007). Who do we think we are? A survey of counselors in Canada. *International Journal for the Advancement of Counseling, 29*, 97-110.

Gerdes, H. & Mallinckrodt, B. (1994). Emotional, social, and academic adjustment of college students: A longitudinal study of retention. *Journal of Counseling and Development*, *72*, 281–288.

Gibson, D. M., Dollarhide, C. T., & Moss. J. M. (2010). Professional identity development: A grounded theory of transformational tasks of new counselors. *Counselor Education & Supervision, 50*, 21-38.

Goleman, D., Bennett, L., & Barlow, Z. (2012). *Ecoliterate: How educators are cultivating emotional, social, and ecological intelligence.* San Francisco: Jossey-Bass.

Goodyear, R. K., Murdock, N., Lichtenberg, J. W., McPherson, R., Koetting, K., & Petren, S. (2008). Stability and change in counseling psychologists' identities, roles, functions, and career satisfaction across 15 years. *The Counseling Psychologist, 36*(2), 220-249.

Goodyear, R. K., Tracey, T. J. G., Claiborn, C. D., Lichtenberg, J. W., & Wampold, B. E. (2005). Ideographic concept mapping in counseling psychology research: Conceptual overview, methodology, and an illustration. *Journal of Counseling Psychology, 52,* 236–242.

Gottfredson, L. S. (1996). Gottfredson's theory of circumscription and compromise. In D. Brown & L. Brooks (Eds.), *Career choice and development* (3rd ed., pp. 179-232). San Francisco: Jossey-Bass.

Guest, P. D., & Beutler, L. E. (1988). Impact of psychotherapy supervision on therapist orientation and values. *Journal of Consulting and Clinical Psychology, 56*(5), 653 – 658.

Hackett, G. (1993). Career counseling and psychotherapy: False dichotomies and recommended remedies. *Journal of Career Assessment, 1*, 105–117.

Hall, D. T. (2004). Self-Awareness, Identity and Leader Development. In Day, D. V., Zaccaro, S .J. & Halpin, S. M. (Red). *Leader Development for Transforming Organizations*. London: Lawrence Earlbaum Associates

Hanna, F. J., & Bemak, F. (1997). Quest for identity in the counseling profession. *Counselor Education and Supervision, 36,* 194 – 206.

Hansen, S. S. (2003). Career counselors as advocates and change agents for equality. *The Career Development Quarterly*, *52*, 43-53.

Harden, S. L., Clark, R. A., Johnson, W. B., & Larson, J. (2009). Cross-gender mentorship in clinical psychology doctoral programs: an exploratory survey study. *Mentoring & Tutoring: Partnership in Learning, 17*(3), 277-290.

Harmon, L. W., Hansen, J. C., Borgen, F. H., & Hammer, A. L. (1994). *Strong Interest Inventory: Applications and technical guide.* Stanford, CA: Stanford University Press.

Higgins, M. C., & Kram, K. E. (2001). Reconceptualizing mentoring at work: A developmental network perspective. *Academy of Management Review. 26*(2), 264-288.

Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd ed.). Odessa, FL: Psychological Assessment Resources.

Ibarra, H. (1999). Provisional selves: Experimenting with image and identity in professional adaptation. *Administrative Science Quarterly, 44*(4), 764-791.

Kram, K. E., & Isabella, L. A. (1985). Mentoring alternatives: The role of peer relationships in career development. *Academy of Management Journal, 28*(1), 110-132

Kruskal, J. B., & Wish, M. (1978). *Multidimensional scaling*. Sage University paper series on Quantitative Applications in the Social Sciences, 07–011. Beverly Hills, CA: Sage.

Kunkel, M. A., Chapa, B., Patterson, G., & Walling, D. D. (1995). The experience of giftedness: A concept map. *Gifted Child Quarterly, 39,* 126–134.

Kunkel, M. A., Cook, S., Meshel, D. S., Daughtry, D., & Hauenstein, A. (1999). God images: A concept map. *Journal for the Scientific Study of Religion, 38,* 193–202.

Kruskal, J. B., & Wish, M. (1978). *Multidimensional scaling.* Sage University paper series on Quantitative Applications in the Social Sciences, 07–011. Beverly Hills, CA: Sage.

Loesch, L. C., & Vacc, N. A. (1993). *A work behavior analysis of professional counselors*. Greensboro, NC; Muncie, IN: National Board of Certified Counselors; Accelerated Development, Inc.

Luke, M., & Goodrich, K. M. (2010). Chi Sigma Iota chapter leadership and professional identity development in early career counselors. *Counselor Education and Supervision, 50*(1), 56-79.

Magee, I. M., & Whiston, S. C. (2010). Casting no shadow: Assessing vocational overshadowing. *Journal of Career Assessment*, *18*, 239–249.

Martin, W. E., Easton, C., & Wilson, S. (2004). Salience of emotional intelligence as a core characteristic of being a counselor. *Counselor Education and Supervision, 44,* 17–30.

Meir, E. I., & Melamed, S. (2005). Occupational specialty congruence: New data and future directions. *Journal of Vocational Behavior, 67*(1), 21-34.

Mellin, E. A., Hunt, B., & Nichols, L. M. (2011). Counselor professional identity: Findings and implications for counseling and interprofessional collaboration. *Journal of Counseling & Development, 89,* 140-147.

Myers, J. E., Sweeney, T. J., & White, V. E. (2002). Advocacy for counseling and counselors: A professional imperative. *Journal of Counseling & Development*, *80*, 394–402.

Norcross, J. C., Karpiak, C. P., & Santoro, S. O. (2005). Clinical psychologists across the years: The division of clinical psychology from 1960 to 2003. *Journal of Clinical Psychology, 61,* 1097–4679.

Parsons, F. (1909). *Choosing a vocation.* Boston, MA: Houghton Mifflin.

Pistole, M. C., & Roberts, A. (2002). Mental health counseling: Toward resolving identity confustions. *Journal of Mental Health Counseling, 24*(1), 1 – 19.

Rosch, E. H. (1973). Natural categories. *Cognitive Psychology, 4*, 328–350.

Rosch, E. (1999). Principles of categorization. In E. Margolis & S. Laurence (Eds.). *Concepts: core readings*, (pp. 189-206). Boston: MIT Press.

Roysircar, G. (2009). The big picture of advocacy: Counselor, heal society and thyself. *Journal of Counseling & Development*, *87*(3), 288-294.

Schmidt, J. J. (1994). *Counselor intentionality and effective helping*. ERIC Clearinghouse on Counseling and Student Services Greensboro NC.

Schnaiberg, A. (2005). Mentoring graduate students: Going beyond the formal role structure. *The American Sociologist, 36*(2), 28-42.

Sexton, T. L., & Whiston, S. C. (1996). Integrating counseling research and practice. *Journal of Counseling & Development*, *74*, 588–589.

Smith, J. D., & Drodge, E. N. (2001). A portrait of counseling: Counselors' work roles and career satisfaction. *Canadian Journal of Counseling, 35*, 237–249.

Smith, J. D., & Drodge, E. N. (2007). A Portrait of Counselling: Counsellors' Work Roles and Career Satisfaction. *Canadian Journal of Counselling and Psychotherapy/Revue canadienne de counseling et de psychothérapie, 35*(3). Available at: <http://cjc-rcc.ucalgary.ca/cjc/index.php/rcc/article/view/188>.

Spengler, P. M., Blustein, D. L., & Strohmer, D. C. (1990). Diagnostic and treatment overshadowing of vocational problems by personal problems. *Journal of Counseling Psychology*, *37*, 372-381.

Takane, Y., Jung, S., & Oshima-Takane, Y. (2009). *Multidimensional scaling. Handbook of quantitative methods in psychology*. London: Sage Publications, 219-242.

Thombs, D. L., & Osborn, C. J. (2001). A cluster analytic study of clinical orientations among chemical dependency counselors. *Journal of Counseling & Development, 79,* 450–458.

Thompson, R. L., Brossart, D. F., Carlozzi, A. F., & Miville, M. L. (2002). Five-Factor Model (Big Five) personality traits and universal-diverse orientation in counselor trainees. *The Journal of Psychology: Interdisciplinary and Applied, 136*, 561–572.

Tracey, T. J. G., Lichtenberg, J. W., Goodyear, R. K., Claiborn, C. D., & Wampold, B. E. (2003). Concept mapping of therapeutic common factors. *Psychotherapy Research, 13,* 401–413.

Trochim, W. (1989). An introduction to concept mapping for planning and evaluation. *Evaluation and Program Planning, 12,* 1–16.

Ward, J. H. (1963). Hierarchical grouping to optimize an objective function. *Journal of the American Statistical Association, 58,* 236–244.

Weidman, J. C., Twale, D. J., & Stein, E. L. (2001*). Socialization of graduate and professional students in higher education: A perilous passage?* ASHE-ERIC Higher Education Report, Volume 28, Number 3. Jossey-Bass Higher and Adult Education Series. Jossey-Bass, Publishers, Inc.: San Francisco