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ORIGINAL ARTICLE

Centers for independent living and secondary transition collaboration: characteristics for enhanced service delivery for adolescents in the United States

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ABSTRACT

Introduction: Research involving secondary transition practices indicates a growing implementation of interagency collaboration to maximize service delivery to support students transitioning from school to adult life. Centers for Independent Living (CILs) are often excluded from collaborative partnerships and denied the opportunity to contribute as a valued stakeholder in the transition process.

Method: A total of 189 CIL professionals representing represented 38 states completed the online survey to (a) identify to what degree does the factor structure of Thompson's Collaboration Survey holds for CIL professionals and (b) explore what specific CIL professional and agency characteristics predict greater collaboration between CILs and local education agencies (LEAs). Additionally (c) researchers sought to determine the degrees to which greater self-reported collaboration predicts more frequent transition services provided to transition-age youth by CIL professionals.

Results: Results indicated that the factor structure proposed by Thompson was confirmed in a sample of CIL professionals. None of the agency or individual characteristics (i.e., number of high schools partnered with, number of students served, amount of training in transition services, and importance of collaboration between high schools and agencies for transition) predicted greater collaboration with LEAS. When analyzing the effects of degree of collaboration on the services provided, high ratings on three of the five collaborative dimensions predicted a higher likelihood of providing services to transition-age youth.

Conclusion: This study suggests that more training and experience of CIL professionals does not necessarily lead to greater collaboration. Additionally, the findings suggest that collaborative team structure is more important than social capital collaborative dimensions in leading to frequent services from CILs to transition-age youth.

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➤ IMPLICATIONS FOR REHABILITATION

- Extant literature suggests that secondary transition collaborative partnerships are critical to ensure students with disabilities have smooth transitions to adult life environments;
- The literature base calls for greater involvement from Centers for Independent Living (CILs) with local education agencies to maximize the benefit of youth with disabilities;
- This study suggests that more training and experience of CIL professionals does not necessarily lead to greater collaboration; and
- Collaborative team structure (i.e., Governance and Administration) is more important than social capital collaborative dimensions (i.e., Trust & Mutuality) in leading to frequent services from CILs to transition-age youth.

Introduction

Significant disparities continue to exist between the post-school employment and community living outcomes of students with disabilities and their peers without disabilities.[1] Young adults with disabilities are more likely than their peers without disabilities to live below the poverty line and be financially dependent on government programs or family.[2] To address these disparities, over the last three decades, policy and research efforts have been directed to improving the quality of supports and services provided to youth as they transition from school to adult life. The Individual with Disabilities Education Improvement Act (IDEA; 2004) defines transition services as "a coordinated set of activities for a child with a disability. . .focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities". The law further states that services should be based on a child's strengths, preferences and interests, and include instruction, related services, community experiences, the development of employment and other post-school adult living objectives and, if appropriate, acquisition of daily living skills and functional vocational evaluation (34 CFR 300.43 (a)).

IDEA requires transition planning begin for students no later than age 16, and underscores the critical importance of interagency collaboration to address the diverse instruction and support needs of students as they plan for and transition to post-school environments and activities. Representatives of any agency that is likely to be responsible for providing or paying for transition services should be invited to transition planning meetings.

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Specifically, local education agencies (LEAs) are required to identify transition service needs and identify interagency responsibilities and linkages. The emphasis on collaboration is also reflected in the Rehabilitation Act (1973) and it's Amendments (1992; 1998) as well the recently authorized Workforce Innovation and Opportunity Act (WIOA, 2014). WIOA contains a number of important changes to the Rehabilitation Act aimed at elevating access to high quality workforce services to prepare people with disabilities for integrated and competitive employment post-school. Specifically, WIOA promotes accessibility to employment and training services, which means greater need for agencies, such as vocational rehabilitation, to collaborate with LEAs during transition planning.

Researchers have defined recommended transition planning practices (e.g., student centered planning, employment experiences during high school, family involvement and interagency collaboration; National Collaborative on Workforce and Disability/Youth [NCWD/Y]) and linked many of these practices to positive post-school outcomes.[3,4] Best practices and outcomes associated with interagency collaboration although identified as a critical part of transition planning, continues to be the least documented domain in the literature.[4,5] This is troubling due to important role of interagency collaboration in ensuring that students are exposed to and leave school with the most appropriate post-school supports.[6]

The research that does exist, however, suggests that interagency collaboration within the secondary transition context must involve communication and coordination between schools and adult service agencies to support students transitioning from school to adult life. Collaborative activities between such agencies, LEAs, and students and their families are an ongoing process that should maximize service delivery and ensure a seamless transition from school to adult activities.[7,8] Unfortunately, collaboration has been challenging for various transition stakeholders [9] and there are limited vehicles or mechanisms that are implemented to improve collaboration.[6] The differences between school-based entitlement systems and the adult service eligibility-driven systems where professionals with different training operate under different funding streams have compounded these challenges. Additionally, the collaborative models that do exist primarily focus on how to include vocational rehabilitation professionals,[6,10,11] yet have overlooked the contribution of other valuable adult service agencies who are gaining momentum in focusing on employment related services, such as Centers for Independent Living (CILs).

CILs are community agencies that support people with disabilities; they grew out of the disability rights and independent living movement,[12,13] and are authorized under the Rehabilitation Act to provide four core services: (a) individual and systems advocacy; (b) peer counseling; (c) independent living skills training; and (d) information and referral.[13,14; 8, Rehabilitation Act Amendments, 1998] CILs have recently adopted a fifth core area that focuses on transition, namely the transition from high school to adult life and the transition from nursing homes/institutions to the community. Thus, CILs are a natural collaborator in the secondary transition process, particularly as they have established community relationships, expertise in disability rights and self-advocacy and are staffed primarily by individuals with disabilities.[15] However, only a handful of secondary transition studies mention the utilization of CILs in a way to promote effective transition services [9,16] and even fewer have included CILs in research exploring collaborative activities in transition.[8,15,17] Even with the lack of coordination with schools, many CILs offer transition services. Lattin and Wehmeyer [17] surveyed CILs across the country and discovered that nearly half of the CILs surveyed provided transition services, specifically self-advocacy and employment related training. With CILs putting more focus on areas that align with transition services since the Lattin and Wehmeyer survey, CILs could potentially have an even greater role in interagency collaboration and impact on transition outcomes.

Literature focusing on interagency collaboration is vast across many disciplines, such as public health, business and education. Unfortunately, there is a lack of coherence regarding interagency collaboration across these disciplines.[18] Lack of understanding and the lack of agreed upon definition intensifies the confusion. Much of the transition literature examines the sequential stages of collaboration. For example, Noonan and colleagues have conducted several studies exploring state-level transition team's collaborative strength over time using Frey's five stages of collaboration: networking, cooperation, coordination, coalition and collaboration. In this study, we attempt to further the knowledge base of the role of CILs in interagency collaboration by focusing on Thomson's multi-dimension collaborative framework (See Table 1 for a description of the dimension of this framework). This collaborative framework has emerged from the literature on inter-organizational behavior [19] and the extensive research base surrounding collaboration,[20–24] which strongly support an integrative view of collaboration as a process to go beyond individual's own limited vision of what is possible.[18,20] These dimensions, despite distinct variables, are interdependent in the sense that movement from one dimension to another does not necessarily occur sequentially.[18] The application of this model to the secondary transition area could deepen our understanding of collaboration among transition stakeholders.[7,9]

In addition to exploring the application of multi-dimension collaborative framework, it is also important to examine the individual and agency factors that could influence collaboration. The literature has identified factors, such as commitment, strong leadership and good communication [25] as critical, but other factors related to individual training and the organizational structure of agencies have not been examined. This study explores if greater opportunity (i.e., number of partnering schools and number of students served) predicts greater collaboration. Additionally, we explored if individual preparation (i.e., professional development specific to transition) predicted greater collaboration and if perceived importance of CIL/LEA collaboration leads to greater collaboration. We also examined if higher self-reported ratings of the collaboration dimensions (Table 1) predicted more frequent transition services, specifically eight CIL transition services (i.e., information and referral, peer mentoring, self-advocacy training, job placement, goal building, independent living skills training, disability rights education and advocacy services in IEP/504 meetings). Thus, our primary research questions were:

1. To what degree does the factor structure of Thomson's Multidimensional Collaboration Survey (collaborative governing; collaborative administration; mutually beneficial relationships; trust and reciprocity and organizational autonomy) hold for CIL professionals?
2. What CIL professional and agency characteristics predict greater collaboration between CILs and LEAs?
3. To what degree does greater self-reported collaboration predict more frequent transition services provided to transition-age youth by CIL professionals?

Methods

Procedures and sample

To obtain a list of potential participants for this study, three steps were taken. First, the researchers accessed the summary of

Table 1. Descriptions of collaboration dimensions.

Dimension	Dimension description and sample survey item
Governance	In order to collaborate successfully, an organization must collectively make rules and guidelines to adhere to for the betterment of the group. This includes formatting a specific set of rules for how concerns are presented, discussed, and solved within the group. Rules would provide a realistic framework for reaching general agreement when conflict occurs. Example items: Partner LEAs take your organization's opinions seriously when decisions are made about the collaboration. Example items: *Your organization brainstorms with partner LEAs to develop solutions to mission-related problems facing the collaboration.*
Administration	Collaborative groups work efficiently with clear and organized communication. A structure exists within the group with assigned roles for each member and clear expectations of their specific role within the group. This allows for successful management of the organization and the implementation of its goals, while taking into consideration the needs of individuals and the collective needs of the whole. Even though collaborative organizations are often voluntary, there is integral need for a central point of contact to facilitate cooperation, communicate with all stakeholders, and uphold the mutually agreed upon governance of the group. Example item: *You, as a representative of your organization in the collaboration, understand your organization's roles and responsibilities as a member of the collaboration.*
Autonomy	Conflict may arise when a stakeholder feels that the action of the collaborative group does not align with the purpose of their parent organization. It can be difficult to balance the unified needs of individual entities with the philosophy of an organization. All parties must maintain accountability to their parent organization and the collaborative group, and this can be solved by creatively managing conflicts of interests into an acceptable solution that fulfills the needs of all. Example item: *You, as a representative of your organization, feel pulled between trying to meet both your organization's and the collaboration's expectations.*
Mutuality	Groups must produce mutually beneficial outcomes in order to establish a sense of interdependence. Collaboration partners may have differing interests and resources that other partners may benefit from, despite the latter's conflict of interest. If both parties can satisfy each other without hindering their own progress, collaboration can occur. Conversely, if two parties are at odds and commit to action at the detriment of the other, collaboration will be unsuccessful. Example item: *You feel what your organization brings to the collaboration is appreciated and respected by partner LEAs.*
Trust	Establishing trust and effective cooperation is necessary for successful collaboration. All stakeholders must be willing to adopt an attitude that they are willing to put forth equal effort that is exhibited by others in the group. Over time, good faith efforts to contribute to the mission of the group will result in building trust amongst all stakeholders. In order to develop trust, time is needed to repeatedly interact as a group and members tend to move away from a reciprocal attitude to a collaborative commitment to a cause, in which they are willing to do whatever is necessary for the good of the group. Interorganizational relationships are then formed on the foundation of confidence in a shared commitment to success. Example item: *The people who represent partner LEAs in the collaboration are trustworthy.*

performance report with the Rehabilitation Services Administration at the U S Department of Education for all CILs (https://rsa.ed.gov/quick-tables.cfm) to generate a list of names of CIL professionals. Second, this list was cross-referenced with the 2013 Independent Living Research Utilization (ILRU) Directory of Centers & State Independent Living Centers (http:/www.ilru.org/html/publications/directory/index.html), to identify additional CIL professionals. Finally, an individual search of each state that has its own website with a list of CIL agencies was used to add names to the master list. The http://www.virtualcil.net/cils/website was used to verify the e-mails identified. Emails that included a link to the electronic survey, consent form and a letter outlining the study were sent by the first author to the 929 identified CIL professionals, asking them to either fill out the survey or have a representative from their CIL to complete the survey who provides services regularly to adolescent clients. The survey was administered online through Survey monkey (www.surveymonkey.com). A follow-up survey was sent three weeks later, which thanked individuals for participating and served as a reminder to participate for those who did not respond. A final email reminder was sent out another three weeks after the first follow up email. The Institutional Review Board at the University of South Carolina approved the study protocol.

A total of 189 CIL professionals representing represented 38 states, including Puerto Rico and the Virgin Islands consented to participate in the study and completed the survey. Statistical Package for the Social Sciences (SPSS) was used to analyze the data compiled from surveys. Approximately, half of the participants were executive directors (48%) of CIL agencies and approximately 19% were comprised the independent living specialists (13%) and assistant directors (6%), respectively. Twenty-seven percent of the sample did not answer this question while 6% reported other titles. More females than males participated (72%), and the majority of the participants (57%) were over 50 years of age. The vast majority of the respondents reported that they were Caucasian (91%) followed by African American participants (4%). In terms of level of education, most respondents held a bachelor's degree (40%), followed by masters (28%), associates (12%), masters plus hours (11%), high school diploma/GED (7%) and doctoral (3%). Participants reported that that CIL's they worked within served either 1–3 counties (33%) or 4–7 counties (31%). The remaining 33% of the sample reported serving more than eight counties while 3% did not answer the question.

Fifty-three percent of the participants reported receiving one day or less of training related to transition-related issues. Thirty-five percent reported receiving between 2 and 4 d and 12% reported more than 5 d of transition related training. Approximately 99% of the participants reported that CIL/LEA coordination is extremely important (i.e., 73%) or important (i.e., 26%). When asked, ''how many schools they partner with''? A total of 31% reported more than seven schools. Twenty percent of the participants reported partnering with 5–6 schools and 19% reported partnering with 3–4 schools. Approximately, 31% reported partnering with fewer than two schools. When asked how many students/youth were served by the CIL, 22% reported more than 40 students. Forty percent reported serving between 11 and 30 and fewer than 10, respectively. Full details about the participant characteristics are provided in Table 2.

Survey

The online survey that was utilized for this project consisted of three sections: demographics, secondary transition practices and interagency collaboration. The first section collected information about participants including demographic information, work background, questions regarding professional development and current employment characteristics, such as how many schools and students they serve.

Section 2 of the survey included items developed for the purposes of this study. Participants were asked to report on the degree to which their CIL (a) collaborated with local education agencies; (b) believed serving transition-age youth is a priority; and (c) the frequency they delivered eight specific transition-services to youth (i.e., information and referral, peer mentoring, self-advocacy training, job placement, goal building, independent living skills training,

Table 2. Descriptive statistics for participants' characteristics.

	Frequency	Percent
Job title		
Executive director	91	48.2
Case manager	2	1.1
Independent living specialist	25	13.2
Information and referral specialist	1	0.5
Advocacy coordinator	6	3.2
Assistant director	12	6.3
No answer	52	27.5
Total	189	100
Counties served		
1–3	63	33.3
4–7	59	31.2
8–11	30	15.9
12 or more	24	12.7
Whole state	8	4.2
No answer	5	2.7
Total	189	100
Gender		
Male	49	25.9
Female	137	72.5
No answer	3	1.6
Total	189	100
Age group		
20–30	19	10.1
31–40	28	14.8
41–50	32	16.9
51–60	63	33.3
Over 60	45	23.8
NA's	2	1.1
Total	189	100
Ethnicity		
African American	8	4.2
Caucasian	172	91
Hispanic	2	1.1
Native American/Alaskan Native	3	1.6
Asian/Pacific Islander	1	0.5
No answer	3	1.6
Total	189	100
Educational degree		
High school diploma/GED	13	6.9
Associates	22	11.6
Bachelors	76	40.2
Masters	53	28
Masters plus hours	20	10.6
Doctoral	5	2.7
Total	189	100
How many schools you partner with		
None	29	14.6
1–2	30	15.2
3–4	37	18.7
5–6	40	20.2
7+	62	31.4
Total	198	100.1
How many youth served (caseload)		
None	25	12.6
1–10	52	26.3
11–20	53	26.8
21–30	25	12.6
40+	43	21.7
Total	198	100
How much training per year in transition related issues		
One day or less	105	53
2–4 d	69	34.8
5–8 d	16	8.1
9 or more days	8	4.0
Total	198	99.9
Satisfaction with transition training last year		
Very satisfied	9	5.0
Satisfied	102	51.5
Dissatisfied	81	40.9
Very dissatisfied	6	3.0
Total	199	99.7
Importance of CIL-LEA coordination		
Extremely important	144	72.7
Important	51	25.8
Unimportant	3	1.5
Extremely unimportant	–	–
Total	198	100

disability rights education and advocacy services in IEP/504 meetings). The eight specific transition activity areas were generated from existing literature and feedback from two content-level experts who serve as the executive director of a CIL was integrated into the activity descriptions. It is important to note that although we identified eight service areas, there have been traditionally four core services areas that CILs provide: Advocacy services, Peer Mentoring, Information and Referral and Independent Living Skills Training. Of the eight identified areas in this study, six of the areas fell under one of the four core areas. Advocacy services is discussed in the literature as both self-advocacy (represented by self-advocacy training and disability rights training in this study) and system advocacy (represented by advocacy in IEP/504 meetings), thus having three services listed under this core service. The two service areas that were included but do not fall under one of the four traditional core services are goal building and job placement which were included based on the literature and content-level experts. Study participants were asked to rank the eight identified activity areas based on the degree to which they used them in their practice, using a 5-point Likert scale (e.g., 1 = never to 5 = always).

Section 3 included an adapted version of Thomson's [18] multidimensional collaboration survey. Thomson and colleagues conducted a comprehensive review of the literature across multiple disciplines and qualitative research study where they interviewed 20 organizational directors about collaboration to generate a 56-item survey. After surveying 440 organizational directors and engaging in a series of factor analyses, the authors reduced the scale to 17 items representing five key dimensions, including two structural dimensions (governance and administration), two social capital dimensions (mutuality and norms) and one that involves agency (organizational autonomy). Of the 17 times, 11 had lambda coefficients of 0.80–0.95 whereas and additional three items had coefficients of 0.75 or greater. The remaining three items had coefficients of 0.66 or 0.67. The three items with lower standardized lambda coefficients were kept based on their theoretical importance.[18] For the purposes of this study, the items were adapted to reflect secondary transition services. For example, the term "partnering organizations" were specified to include "LEAs." All questions were rated on an ordinal scale, with four response options ranging from "1 = not at all" to "4 = to a great extent".

Missing data

There was a small amount of missing data; with the percent missing varying across survey questions (range: 6–27% missing). Because some variables in the data set were able to predict missingness, the information is considered missing at random,[MAR; 26] and multiple imputation was used to impute missing values for the 189 observations. Variables in the data set that were able to predict missingness were included as auxiliaries in the imputation process in order to reduce bias and increase power in the final analysis model; this set of variables included job title, highest level of education, age and gender.

Because the survey items were ordinal, multiple imputation using chained equations (MICE) approach in the mice package [27] in R 3.2.0 [28] was used. The MICE approach allows for the type of variable that will be imputed to be specified. In addition to the demographic questions that had been identified as predicting missingness, the remaining questions in the survey were retained during imputation. The process generated 100 imputed data sets. Convergence plots indicated a lack of trends in the final imputed data sets, indicating that sufficient iterations had been used, so the imputed data sets were exported for analysis in Mplus version 7.2 (Muthén & Muthén, Los Angeles, CA).[29]

Analysis

All models used to address the three research questions were estimated in Mplus 7.2 [29] with the robust weighted least squares mean and variance estimator (WLSMV) and theta parameterization with all endogenous indicators being specified as categorical. Since this survey has not been utilized with this study's population (i.e., CIL professionals), it is important to analyze if the proposed factor structure fit the data from CIL professionals well. Therefore, to address the first research question, regarding the fit of the Multidimensional Collaboration Survey in CIL professionals, a confirmatory factor analysis (CFA) model was fit with indicators loaded on the appropriate collaboration domain (collaborative governing; collaborative administration; mutually beneficial relationships; trust and reciprocity; and organizational autonomy). Fixed factor scaling was selected for all models, meaning that the variance of all latent variables was fixed to one and latent means were by default zero. Any constructs that contained two indicators had loadings constrained to equality for model identification purposes. Model fit was evaluated with three global fit indices and examination of standardized factor loadings. Acceptable fit was defined by a root mean square error of approximation (RMSEA) hours that does not exceed 0.09, and comparative fit index (CFI) and non-normed fit index (NNFI) values greater than 0.90.[30] Weighted root mean square residual (WRMR) was reported as it provides information about residuals, but there are few guidelines on its use other than values less than one, generally, indicate good model fit. All standardized factor loadings should exceed 0.30 though values greater than 0.70 are preferred.

To examine the CIL professional and agency characteristics that predicted higher collaboration ratings, several variables were identified and examined. These covariates included the number of high schools partnered with, amount of training in transition services, number of students served, years providing transition services, and importance of collaboration between high schools and agencies for transition. These covariates were selected based on the potential impact they could have on collaboration: number of partnering schools and number of students served (opportunity); years involved with transition (experience); and the perceived importance of CIL/LEA coordination (value). Each of these as covariates was tested in step two of the analysis. The same criterion for model fit that was used in the first step was used in the second step of the analysis. Following guidance by Raab and colleagues [31] all covariates were retained in the model so as to not introduce bias into the final model estimates.

To address the final research question, the outcome indicators (i.e., ratings of the extent each of the eight CIL services were provided to transition-age youth with disabilities on a five point ordinal scale of never, rarely, sometimes, very often and always) was added to the model. Non-significant paths were pruned based on the Wald test with $p < 0.05$ serving as the cutoff point for retention in the model. The MODEL TEST option in Mplus was utilized in this step of the analysis with the WLSMV estimator and theta parameterization. This analysis produces probit regression coefficients with the results represented as z-score coefficients.[29,32] Simply put, we examined if high or low ratings of the five interagency collaboration dimensions predicted a higher frequency of service delivery for each of the eight CIL activity areas (i.e., information and referral, peer mentoring, self-advocacy training, job placement, goal building, independent living skills training, disability rights education and advocacy services in IEP/504 meetings). Each of the three questions in the Autonomy dimension was reverse scaled. For example, a question asked negative items, such as "collaboration hinders your organization from meeting its own organizational mission". Rather than reverse coding these items, we decided to present lower scores in the autonomy dimension as high levels of organizational autonomy.

Results

Confirmation of factor structure

To examine if the established factor structure [18] held for CIL professionals, we conducted a CFA of the 5-factor model of interagency collaboration. Global model fit was acceptable. In the last stage of the analysis, the standard error for question 37 ("My school/adult agency can count on each partner organization to meet its obligations made during the collaboration") on the norms construct/dimension could not be accurately estimated, and this problem was likely due to the small sample size. The CFA was revisited so the model could be estimated without the problem indicator. Once again, global model fit was found to be acceptable. The RMSEA value was 0.086, CFI was 0.951 and TLI 0.940. Factor loading ranged from 0.608 to 0.856 with more than half exceeding 0.70 indicating that overall more variance is being explained by the factor structure than is left unexplained. Imputations averages and standard deviations for χ^2 and WRMR are reported with the other global fit indices, model factor loadings, standard errors and R^2 in Table 3. Thus, with the exception of question 37, the fit of the factor structure proposed by Thompson [18] was confirmed in a sample of CIL professionals.

This findings means the theoretical constructs that make up Thomson's Multidimensional collaboration structure (collaborative governing; collaborative administration; mutually beneficial relationships; trust and reciprocity; and organizational autonomy) holds as independent markers/constructs for this specific population of CIL professionals.

Factors predicting enhanced collaboration and transition services provided

When examining CIL professional and agency factors that predict greater collaboration, the results suggest that none of the variables analyzed (i.e., number of high schools partnered with, number of students served, amount of training in transition services, years providing transition services and importance of collaboration between high schools and agencies for transition) significantly predicted any dimension of collaboration; the analysis resulted in an RMSEA of 0.066, down from 0.086 in the model without the covariates. CFI and TLI were stable. Although, none of the covariates were significant, they explained some of the variance in the model as is seen in the changes in factor loadings listed in Table 3, which suggests that the factors did influence the model and collaboration. Standardized factor loadings ranged from 0.625 to 0.894.

To determine the degree that the five latent dimensions of collaboration predict the provision of types of transition services provided, all outcomes variables (i.e., information and referral, peer mentoring, self-advocacy training, job placement, goal building, independent living skills training, disability rights education and advocacy services in IEP/504 meetings) were introduced to the model, and not non-significant paths were pruned one path at a time. We first examined the correlations between the services provided; the responses were highly correlated, suggesting that if CILs provides one service they were also likely to provide another service. The lowest correlations were between ($r = 0.31$) job placement and providing advocacy services at IEP/504 meetings and the highest correlation ($r = 0.86$) between self-advocacy training

Table 3. Model fit and factor loadings with and without covariates in the model.

		χ^2 (σ)	DF	RMSEA (σ)	CFI (σ)	TLI (σ)	WRMR (σ)
Five factor CFA		231.51 (25.97)	96	0.086 (0.008)	0.095 (0.010)	0.940 (0.013)	0.989 (0.071)
Five factor with covariates		335.50 (25.83)	184	0.066 (0.006)	0.950 (0.009)	0.933 (0.012)	0.910 (0.048)
	CFA λ (SE)	Standard λ (SE)	R^2		Covariate λ (SE)	Standard λ (SE)	R^2
Governance							
Q22	1.271 (0.199)	0.783 (0.047)	0.387		1.195 (0.191)	0.790 (0.045)	0.376
Q23	1.271 (0.199)	0.783 (0.047)	0.387		1.195 (0.191)	0.790 (0.045)	0.376
Administration							
Q24	0.959 (0.152)	0.690 (0.057)	0.524		0.858 (0.138)	0.670 (0.059)	0.551
Q25	0.951 (0.165)	0.686 (0.063)	0.529		0.952 (0.163)	0.706 (0.060)	0.502
Q26	1.405 (0.246)	0.811 (0.048)	0.342		1.549 (0.276)	0.850 (0.041)	0.278
Q27	1.651 (0.308)	0.851 (0.043)	0.276		1.565 (0.303)	0.851 (0.044)	0.276
Autonomy							
Q28	1.563 (0.548)	0.832 (0.077)	0.308		1.349 (0.374)	0.811 (0.072)	0.342
Q29	1.782 (1.099)	0.856 (0.080)	0.267		2.148 (2.163)	0.894 (0.078)	0.201
Q30	0.775 (0.172)	0.608 (0.086)	0.630		0.769 (0.169)	0.625 (0.084)	0.609
Mutuality							
Q31	0.993 (0.165)	0.701 (0.060)	0.509		1.008 (0.160)	0.732 (0.056)	0.464
Q32	1.319 (0.198)	0.794 (0.044)	0.370		1.253 (0.194)	0.801 (0.045)	0.358
Q33	1.422 (0.222)	0.815 (0.042)	0.336		1.331 (0.213)	0.817 (0.043)	0.333
Q34	1.006 (0.154)	0.707 (0.054)	0.500		1.015 (0.158)	0.735 (0.052)	0.460
Q35	1.420 (0.256)	0.814 (0.048)	0.337		1.362 (0.236)	0.823 (0.045)	0.323
Norms							
Q36	0.975 (0.175)	0.694 (0.064)	0.518		1.051 (0.187)	0.731 (0.059)	0.466
Q38	0.975 (0.175)	0.694 (0.064)	0.518		1.051 (0.187)	0.731 (0.059)	0.466

Table 4. Correlations between the extent to which agency provides different types of transition services.

	1	2	3	4	5	6	7	8
1. Information and referral	1.00							
2. Peer mentoring	0.70	1.00						
3. Self-advocacy training	0.80	0.82	1.00					
4. Job placement	0.43	0.51	0.33	1.00				
5. Goal building	0.67	0.72	0.86	0.57	1.00			
6. Independent living skills training	0.75	0.63	0.77	0.56	0.80	1.00		
7. Disability rights education assistance	0.59	0.48	0.76	0.39	0.67	0.67	1.00	
8. Advocacy services in IEP/504 meetings	0.49	0.36	0.53	0.31	0.49	0.53	0.66	1.00

and goal building. Polychoric correlations between all service types are listed in Table 4.

In terms of the degree to which the five domains of collaboration predicted services provided, high ratings on the Administration scale and low ratings on Autonomy scale (higher collaborative autonomy) predicted higher services provision for half of the service types (Figure 1). High ratings in Governance predicted the extent to which the CIL provided two types of services, self-advocacy training and job placement, while high ratings on Mutuality and high ratings on the Norms scale did not predict any service offerings. The pattern of results is shown in Figure 1.

Predicted probabilities for each service provided based on the ordered probit regression are presented in Table 5. The eight outcome variables had responses of "Never", "Rarely", "Sometimes", "Very often", and "Always". The predicted probabilities were computed for the four thresholds between the six categories at based on coefficients for predictive constructs at −1 standard deviation below the mean (−1 SD), a latent mean of 0, and 1 standard deviation above the mean (+1 SD). Lower ratings in the autonomy dimension results in lower probabilities of providing services to transition-age youth. For example, an average score on autonomy predicts a 50% probability of responding "Rarely" about offering peer mentoring, disability rights/educational assistance and advocacy services. Those respondents reporting higher ratings in autonomy (−1 SD probabilities) had a higher probability of answering "Sometimes" while those with lower ratings in autonomy (+1 SD) was more likely to report "Rarely" for all services. Information and referral was the one exception regarding the autonomy scale in

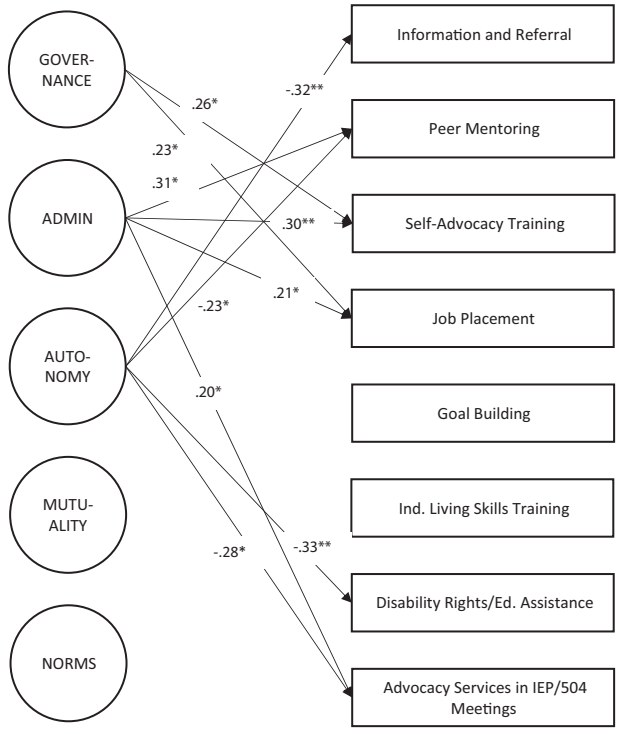

Figure 1. Predictors of amount of service delivery to transition-age youth. The only paths reported in this diagram where those probit regression results that were significant at $p < 0.05$.(*) or $p < 0.01$.(**). Negative numbers on autonomy domain reflect high collaborative autonomy.

Table 5. Predicted probabilities of extent to which a service provision as predicted by latent constructs.

	Never to rarely	Rarely to sometimes	Sometime to very often	Very often to always
Information and referral and autonomy				
−1 SD	0.03	0.12	0.58	0.88
0 Mean	0.07	0.19	0.70	0.93
+1 SD	0.12	0.29	0.80	0.96
Peer mentoring and administration				
−1 SD	0.31	0.64	0.89	0.98
0 Mean	0.21	0.52	0.82	0.96
+1 SD	0.13	0.39	0.73	0.92
Peer mentoring and autonomy				
−1 SD	0.15	0.42	0.76	0.93
0 Mean	0.21	0.52	0.82	0.96
+1 SD	0.28	0.61	0.88	0.98
Self-advocacy training and governance				
−1 SD	0.27	0.61	0.92	0.98
0 Mean	0.19	0.51	0.87	0.97
+1 SD	0.13	0.41	0.81	0.95
Self-advocacy training and administration				
−1 SD	0.28	0.63	0.92	0.99
0 Mean	0.19	0.51	0.87	0.97
+1 SD	0.12	0.39	0.80	0.95
Job placement and governance				
−1 SD	0.36	0.74	0.93	0.99
0 Mean	0.28	0.66	0.89	0.98
+1 SD	0.21	0.57	0.84	0.96
Job placement and administration				
−1 SD	0.35	0.73	0.92	0.99
0 Mean	0.28	0.66	0.89	0.98
+1 SD	0.21	0.58	0.84	0.96
Disability rights/ed. assistance and autonomy				
−1 SD	0.18	0.38	0.82	0.96
0 Mean	0.27	0.51	0.89	0.98
+1 SD	0.39	0.64	0.94	0.99
Advocacy services in IEP/504 meetings and administration				
−1 SD	0.40	0.72	0.92	0.99
0 Mean	0.32	0.65	0.89	0.98
+1 SD	0.25	0.57	0.84	0.96
Advocacy services in IEP/504 meetings and autonomy				
−1 SD	0.23	0.54	0.82	0.96
0 Mean	0.32	0.65	0.89	0.98
+1 SD	0.43	0.74	0.93	0.99

that all respondents had a 50% chance of "Sometimes" providing this service.

Governance predicted responses for both self-advocacy training and job placement with 50% probability of responding "Rarely". High levels of Governance (+1 SD) did move the average response from "Rarely" to "Sometimes" for self-advocacy training. Similarly, higher Administration responses predicted with 50% probability a response of "Rarely" on peer mentoring, self-advocacy training, job placement and advocacy services but higher levels of administration (+1 SD) had a higher probability of responding "Sometimes" for both peer mentoring and self-advocacy training.

Discussion

With the increasing focus on supporting students with disabilities to successfully transition into adult environments, there is an increasing interest on promoting the collaboration of multiple adult service stakeholders in transition planning and the development of post-school supports for youth with diverse needs. There is also a growing interest on how transition teams can best work together to maximize service delivery to youth. The application of Thompson's collaborative framework [18] can prove relevant to CIL professionals as partners in the secondary transition process. Governance requires the collective decision of an organization or team to adopt and adhere to the guidelines put in place to manage the group's initiatives. CIL professionals must be familiar with the processes in place within the framework of the collaborative effort. If all stakeholders, including CIL professionals are to operate efficiently in providing services for an individual, they must all operate within the same boundaries and follow similar procedures for implementation. Likewise, CIL professionals must acknowledge and operate with efficient Administrative structure, acting within the role they have been assigned, under a central point of contact that facilitates cooperation and communication among all parties. Oftentimes, LEA representatives who serve as administrators during the transition process hold this role.

While CILs are unique in their ability to serve clients, it is important that CIL professionals recognize the need for increasing the collaborative Autonomy by combining the goals of the transition team with the goals of their parent organization to create dynamic solutions to philosophical conflicts that satisfy all entities. In maintaining autonomy, CIL professionals must find value in mutuality and trust. When working as a collective group, Mutuality proves itself to be a formative element in collaboration, requiring CIL professionals to create interdependence among organizations, specifically LEAs, so that the relationship is seen as mutually beneficial in terms of outcomes and sharing resources. Additionally, Trust requires CIL professionals to adopt a commitment to putting forth their best effort to collaborate and engage other stakeholders in the secondary transition process, with the hopes of creating a familiar, reciprocal relationship that continues to evolve over time.

This study focuses on CILs and their collaboration with LEAs, given the limited research examining the role of CILs in the transition planning process. The findings suggest that certain individual and agency characteristics, such as years' experience with secondary transition and number of schools and students served explained some of the variance in collaboration domains, although these findings were not statistically significant. Perhaps the lack of statistically significant results from experience and opportunities alone not being enough to increase ratings across dimensions, without other agency supports. These findings underscore that collaboration is a complex process that changes over time due to varying team members and make-up of the teams and administration in LEAs. The make-up (i.e., team members) of these community teams is variable and depends on the community and stakeholders within the community. Stakeholder roles are critically important; however, skills such as general collaboration knowledge, leadership and commitment [25] are also vital. Transition teams must go beyond simply including CILs on community transition teams. Teams must function where all members are contributing in a way that maximizes supports for youth. There are numerous state initiatives (e.g., Transition Alliance of South Carolina), that are focusing on developing infrastructure to ensure not only inclusion of CIL professionals, but to support team collaborative functioning and synergy.

Collaborative administration describes structures that exist within the collaborative group with assigned roles for each member and clear expectations of their specific role within the group. A central point of contact is assigned to facilitate group meetings, communicate with all stakeholders and uphold the governance, as determined by the organization. This dimension is associated with a higher likelihood to deliver four services: peer mentoring, self-advocacy training, job placement and advocacy services in IEP/504 meetings. Administration indicates a high degree of organization and requires a person designated to follow through on group initiatives, which may influence its relationship with service provision. With two entities, such as CILs and LEAs, ensuring effective communication and commitment to roles increases the likelihood that CILs will reach more students.

Autonomy refers to a stakeholder or potential partnering agency maintaining its original identity and mission upon merging with another collaborative organization. Low collaborative autonomy indicates an inability of organizations to effectively consolidate whereas high collaborative autonomy indicates no conflict between partnership and individual team members own agency. CILs professionals may demonstrate low autonomy when faced with a scenario that does not programmatically align with one or either entity's (i.e., LEA) objective. The findings indicated that when CIL professionals feel the collaboration partnerships did not hinder their own organization's mission, they were more likely to deliver four out of the eight services: Information and Referral, Peer Mentoring, Disability Rights/Ed. Assistance and Advocacy Services in IEP/504 Meetings. Higher collaborative autonomy implies that all stakeholders are working together toward a common goal, not as separate entities. Greater collaborative autonomy can contribute to increase in information and referrals because as LEAs and CILs work together more consistently, LEAs are more likely to refer future clients and provide information regarding CIL services. Disability rights and advocacy services in IEP/504 meetings may increase with lower autonomy because as an interdependent relationship forms between LEAs and CILs, CILs will be more present in secondary transition meetings, where they are able to elaborate on the rights of potential clients and advocate on behalf on the client for services that will make the transition to a CIL more efficient.

Governance, or the collective rules and guidelines for how concerns are presented, discussed and solved within the group to provide a realistic framework for reaching general agreement when conflict occurs, is an important component of collaboration. Organized processes within the entity facilitate goal attainment efficiently through predetermined standards for operation. The collaboration of CILs and LEAs requires processes such as referrals, standards for communication and a set of mutually agreed upon goals in order to conjointly serve transitioning youth. Higher ratings in this dimension led to higher frequency of two services. In turn, this cooperation solidifies trust and the sense of a shared mission, which lead to an increased number of the two services: job placement and self-advocacy training. Although there are many potential explanations for this, it is important to know that team governance can potentially lead to adult agency partners to delivering more services.

It is interesting to note that the dimension of Mutuality and Norms did not result in higher delivery of services. Because both domains pertain to establishing trust and commitment to work toward a mutually beneficial outcome, it is possible that this is a foundation of collaboration and could be evenly associated with all services. It is also interesting that these were two social capital dimensions that did not lead to increased service delivery. One could suggest that the characteristics of these two social capital dimensions form the foundation of teaming. However, these two, albeit important, do not provide teams with the opportunity to function efficiently and effectively in certain situations that are complex. The two structural domains (i.e., governance and administration) and the organizational autonomy dimension were found to have the most effect on increasing service delivery that potentially indicate collaborative structures are essential to maximize collaboration and that trust and mutuality alone do not lead to more frequent service delivery.

Limitations and future directions

Due to a limited sample size ($n = 189$), the results should be interpreted with caution. Though the ordinal data was modeled in accordance with the type of information that was collected, a sample size of 200 is considered small when using the robust weighted least square estimation because the estimator may lead to Type I errors for large models with small samples.[33] Rather than paying attention to specific outcomes, more attention should be given to larger patterns identified in the analysis, such as the role of autonomy in service provision. This analysis should also be repeated with a larger sample.

Executive directors were most largely represented in the sample, which also includes Independent Living Specialists and Assistant Directors. While 6% reported other titles, it is important to note that 27% of the sample did not provide their role within their CIL. The demographic not represented by the sample includes various other employees and stakeholders within the CIL that contribute to collaboration within the organization as well. Additionally, 91% of the sample was Caucasian, indicating a lack of diversity among the sample. Further, with many survey studies and obtaining a relatively low response rate, the issue of non-response bias is an important factor to consider. Many CILs that were contacted are not represented in the survey results and it is impossible to know if their answers would skew the results.

This study was designed to contribute to the understanding of CILs and how their collaboration with LEAs predict their involvement with transition-age youth. Limitations of the study suggest directions for future research. First, this study focused on only the perspectives CIL professionals, therefore getting LEA perspectives is also important. Further, the majority of the perspectives (i.e., almost half) were of executive directors, which may or may not be working directly with the LEAs. Future research should examine those who work directly with transition teams and/or transition-age youth, especially with the influx of collaborative vehicles at the local and state level that facilitate greater adult agency participation. Second, the survey data for this study was collected in summer of 2014, which is before the WIOA regulations have been implemented. These data are likely to shift drastically as WIOA is being adopted across the country. Future research should focus on LEAs and transition team characteristics that lead to more frequent and intense service delivery to transition-age youth.

Conclusion

Extant literature suggests that secondary transition collaborative partnerships are critical to ensure students with disabilities have smooth transitions to adult life environments. Further, the literature base calls for greater involvement from CILs.[9] This study suggests that more training and experience of CIL professionals does not necessarily lead to greater collaboration. Additionally, collaborative team structure (i.e., Governance and Administration) is more important than social capital collaborative dimensions (i.e., Trust & Mutuality) in leading to frequent services from CILs to transition-age youth.

Compliance with ethical standards

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

Disclosure statement

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