

Examining the Social Networks of Special Educators Supporting Transition-Aged Students: An
Explanatory Sequential Mixed Methods Study

By

Jennifer Lynn Bumble

Dissertation

Submitted to the Faculty of the

Graduate School of Vanderbilt University

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

In

Special Education

May 10, 2019

Nashville, Tennessee

Approved:

Erik W. Carter, Ph.D.

Alexandra Da Fonte, Ph.D.

Robert Hodapp, Ph.D.

Elise McMillan, J.D.

Deborah Rowe, Ph.D.

TABLE OF CONTENTS

	Page
LIST OF TABLES	iii
Chapter	
I. Introduction	1
Current Postschool Outcomes	1
Transition and Collaboration	3
Measuring Collaboration using Transition Networks	12
II. Method	15
Participants	15
Recruitment	18
Survey Design and Measures	21
Interview Design and Measures	27
Data Analysis Procedures	29
III. Results	38
What are the Characteristics of Transition Networks?	38
Do Network Size and Communication Frequency Differ Urbanicity, School Type, or Student Disability Group?	42
What Factors are Associated with Transition Network Size?	45
What do Special Educators Perceive as the Core Components of an “Effective” Transition Network?	48
What do Special Educators Identify as Barriers and Facilitators to Establishing an Effective Transition Network?	53
What do Special Educators Describe as the Benefits of Effective Transition Networks?	61
IV. Discussion	64
Limitations and Future Research	70
Implications for Practice	73
Conclusion	77
Appendix	
A. Collective Orientation Scale	79
B. Semi-structured Interview Protocol	80

REFERENCES 83

LIST OF TABLES

Table	Page
1. Survey Participant Information by Student Disability Group and School Type	16
2. Interview Participant Information	17
3. School Subnetworks Across Participants	22
4. Service Subnetworks Across Participants	23
5. Community Subnetworks Across Participants	23
6. Participant Perceptions of Transition Network Partnerships.....	26
7. Correlations Among Predictor Variables and Outcome Variable	34
8. Network Members by Student Disability Group and School Type.....	39
9. Differences in Network Size and Communication Frequency by School Type.....	43
10. Differences in Network Size and Communication Frequency by Student Disability Group	44
11. Summary of Regression Analyses for Transition Network Size.....	45
12. Quotes Related to Significant Regression Variables.....	47

Chapter I

Introduction

The transition to adulthood is marked with new experiences, responsibilities, and challenges as youth navigate postschool environments (e.g., higher education, employment, community). Youth with disabilities often face additional challenges as they shift from an entitlement-based education system to an eligibility-based system in which they must seek out and secure adult services. Ideally, students and their families connect to postschool services and supports while still in high school, setting the stage for a seamless transition to community life. However, many families report having limited information on service options and eligibility requirements as well as encountering fragmented, duplicated, or delayed services (Blustein, Carter, & McMillan, 2016; Schuster, Timmons, & Moloney, 2003). These barriers inhibit community inclusion, and contribute to poor postschool outcomes in the areas of employment, education, and independent living (Prince, Hodge, Bridges, & Katsiyannis, 2017; Sanford et al., 2011; Wehman et al., 2014).

Current Postschool Outcomes

Although transition planning and services (beginning at age 14) have been legally mandated for more than 20 years, many youth with disabilities are still leaving high school unprepared for the future. Postsecondary education enrollment has increased (26% in 1990 vs. 60% in 2009) since the Individuals with Disabilities in Education Act of 1990 (Newman, Wagner, Cameto, Knokey, & Shaver, 2010; Newman et al., 2011), however, employment and

independent living rates have not significantly improved. Further, disparate postschool outcomes persist between youth with and without disabilities. Recent data indicate that 40.5% of youth with disabilities ages 20-24 are employed in the community compared with 72.1% of youth without disabilities (U.S. Bureau of Labor Statistics, 2018). Adults with more severe disabilities who are employed often work minimal hours, have access to limited benefits, receive fewer opportunities for advancement, and are placed in sheltered or segregated settings (Bates-Harris, 2012; Lustig, Strauser, & Donnell, 2003). Further, only 29% of youth with disabilities who enroll in postsecondary schools report completing their program (Sanford et al., 2011), and only 46.4% (compared with 60.8% of their peers in the general population) report living independently or semi-independently in the community up to eight years after graduation.

Postschool outcomes also differ by disability group (Rusch, Hughes, Agran, Martin, & Johnson, 2009; Trainor, Lindstrom, Simon-Burroughs, Martin, & Sorrells, 2008; Wagner, Newman, Cameto, Garza, & Levine, 2005). Grigal, Hart, and Migliore (2011) conducted a secondary analysis of the National Longitudinal Transition Study 2 (NLTS2), and found that transition-age youth with intellectual disability (ID) were less likely than other youth with disabilities to have post-high school goals for employment and postsecondary education as part of their Individualized Education Program (IEP). Further, they were less likely to have worked after high school (71% of youth with ID vs 90% other youth with disabilities) or attended a postsecondary program after high school (30% of youth with ID vs 56% other youth with disabilities). Also using the NLTS2 dataset, Newman et al. (2011) identified disparities in employment rates, hours worked per week, and earnings between youth with multiple disabilities or ID and youth with other disabilities including: learning disabilities, other health impairments, speech/ language impairments, and emotional disturbance. In a review of the IEPs of 4,572

graduating high school students with disabilities; Baer, Daviso, Queen, and Flexer (2011) found that compared with their peers, significantly fewer students with multiple disabilities had postschool goals for work or college.

Transition and Collaboration

One essential practice linked to improved postschool outcomes of youth with disabilities is collaboration (Kohler & Field, 2003; Oertle & Trach, 2007; Test, Mazzotti, et al., 2009). Collaboration is the exchange of resources between two individuals to generate solutions to a shared issue or concern (Cook & Friend, 2010; Idol, Paolucci-Whitcomb, & Nevin, 1995). Collaboration exists on a continuum from networking and collecting basic information to shared decision-making and interdependence (Frey, Lohmeier, Lee, & Tollefson, 2006). For example, special education teachers might collaborate by calling an adult agency to ask questions about service offerings, partnering with an employer to provide student internship experiences, or working with a general education teacher to write transition goals and objectives. Together, these collaboration partners act as a network; exchanging, borrowing, and mobilizing resources to achieve common goals (Bourdieu, 1986). For special education teachers supporting students who are transition-aged, I refer to this network as a “transition network.”

Transition networks. Transition networks are the individuals (within and beyond the school system) with whom educators communicate to access resources (e.g., information, advice, or direct assistance) that might help them better support transition-aged students and their families or lead to improved postschool outcomes for transition-aged students. The number of individuals (i.e., network partners) and resources exchanged is likely to vary across special

educators; strongly influenced by their level of knowledge, school roles and responsibilities, background and experiences, and the specific transition goals of their students (Trainor, 2008). However, building networks with a wide range of partners provides more access to valuable resources that might help teachers perform their role more effectively and support successful employment, independent living, and postsecondary outcomes (Trach, 2012).

Transition networks can be comprised of partners from three subnetworks: school systems, service systems, and communities. Ideally, educators engage partners across all three subnetworks. In addition, family members and students should play a lead role in the network. School subnetworks include special educators and all school and district personnel (e.g., general educators, related service providers, administrators, school nurse). Service subnetworks include agencies, organizations, and supports explicitly charged with serving individuals with disabilities and their families (e.g., The Arc, Vocational Rehabilitation, inclusive recreation programs). Community subnetworks include agencies, organizations, and supports serving all community members regardless of disability status (e.g., local employers, local transportation providers, the Chamber of Commerce). These partners are engaged in different ways throughout the transition process based on their roles and the resources they provide. For example, Vocational Rehabilitation counselors might attend an IEP meeting to meet with a student and their family to discuss service options while the Chamber of Commerce might work with an educator to arrange for businesses to attend a school-sponsored job fair. Regardless of the form of engagement, each partner introduces novel resources to the network that might improve postschool outcomes for students with disabilities and their families.

Legislative support for collaboration. Special education legislation mandates

collaboration. The Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 describes transition as “a coordinated set of activities for a student with a disability that is designed within a results-oriented process.” The Act states that transition plans must be developed by IEP teams consisting of: a special educator, a general educator, individuals who have special knowledge or expertise about the student (e.g., occupational therapist, reading specialist), an individual who can interpret evaluation results (e.g., school psychologist), and a representative of the local education agency (e.g., administrator). Further, the Act mandates involvement in the transition planning process any agencies that are likely to provide transition services to support students in their goals for continuing education, vocational training, integrated employment, community participation, or independent living. Other key legislation also mandates collaboration between school systems and outside agencies. The Rehabilitation Act (1973) and its amendments outline the coordination of services across local education agencies, state education agencies, and Vocational Rehabilitation to facilitate pre-employment and vocational rehabilitation services. The Workforce Innovation and Opportunity Act of 2014 (WIOA; U.S. Department of Education, 2014) expands this mandate, requiring early coordination between Vocational Rehabilitation and the school system to deliver pre-employment transition services. In addition to legislation, multiple professional teaching standards recognize collaboration between special educators, general educators, and other professionals as a necessity in the field (Council for Exceptional Children, 2015a, 2015b; National Board for Professional Teaching Standards, 2016; National Council for Accreditation of Teacher Education, 2008).

Collaboration with school systems. The benefits of school-based collaboration during

transition are well-documented (e.g., Kohler & Field, 2003; Michaels & Ferrara, 2006; Trach, 2012; Webb, Repetto, Seabrooks-Blackmore, Patterson, & Alderfer, 2014). Adopting a team approach to transition planning allows for shared responsibility, shared decision-making, and the inclusion of diverse perspectives. Each member of the team contributes unique resources and expertise, potentially leading to delivery of more effective and targeted transition programming (Peterson et al., 2013). Multiple perspectives become particularly beneficial when conducting transition assessments. Enlisting varied school personnel (e.g., general educators, related service providers, paraprofessionals) to conduct transition assessments can help special educators gain a comprehensive view of a student, and understand their strengths across multiple contexts and domains (Carter, Brock, & Trainor, 2014; Carter, Trainor, Sun, & Owens, 2009). Together, IEP teams can incorporate these diverse perspectives when identifying postsecondary goals, creating IEP goals that align with and support those postsecondary goals, and evaluating and adjusting goals over time (Mazzotti et al., 2009).

Beyond participation in IEP teams, research highlights the potential benefits of transition collaboration between special education teachers and specific school-based roles. School counselors assist with career counseling, college planning, and assessments—services beneficial for students with and without disabilities (McEachern, 2003; Milsom, Goodnough, & Akos, 2007). School psychologists can work alongside special educators to promote self-determination as well as consult on postsecondary planning and preparation (National Association of School Psychologists, 2010; Wilczenski, Cook, & Regal, 2017). Adapted and general physical education teachers provide valuable insight into the planning and implementation of lifetime fitness goals as well as opportunities for inclusive recreation and leisure in the community (Folsom-Meek, Nearing, & Bock, 2007). Occupational therapists can help write and support goals to increase community access and inclusion (Michaels & Orentlicher, 2004). Career and technical education

teachers are familiar with potential career tracks and opportunities for vocational training programs (Schmalzried & Harvey, 2014). Finally, general educators and special educators can collaborate to address inclusion in general education settings, select appropriate transition assessments, and discuss modifications and accommodations the student might need to access the general education curriculum (Da Fonte & Barton-Arwood, 2017).

Collaboration with service systems. There is also an evidence-base for the benefits of collaboration between school systems and service systems (i.e., interagency collaboration). In a systematic review of secondary transition literature, Test, Mazzotti, et al. (2009) identified interagency collaboration as an evidence-based predictor of improved outcomes in postsecondary education and employment; and Test, Fowler, et al. (2009) found interagency collaboration to be an evidence-based transition practice for increasing high school graduation rates. Bullis, Davis, Bull, and Johnson (1995) found that deaf students who had an interagency team with 3-6 agencies compared with a control group who had only 0-2 agencies were more likely to be enrolled in postsecondary programs or employed in the community after graduation. Balcazar et al. (2012) conducted a multi-component intervention study using case management to facilitate interagency collaboration with 164 minority students with high-incidence disabilities. They found that up to 14 months post-graduation, 82% of participants in the intervention group compared with 50% of participants in the control group were enrolled in postsecondary programs. Of those participants in the intervention group, 53% successfully completed their postsecondary education programs compared to 0% in the control group. Additionally, Flowers et al. (2018) designed a service delivery model to help schools implement interagency collaboration. Of the 877 high school students with disabilities included in the study, those in the

intervention group showed higher levels of self-determination and greater IEP participation. In research conducted by Noonan, Erickson, McCall, Frey, and Zheng (2014), a state-level interagency network deepened their levels of collaboration (i.e., frequency and direction of interactions) over the course of one year through joint planning, joint training, and frequent site visits. With this increased collaboration, network members reported better communication, more defined roles and responsibilities, and better understanding of the offerings of each agency within the network. It is reasonable to assume that these same benefits might be seen within highly collaborative transition networks.

Collaboration in communities. Research outlining the benefits of collaboration between special educators and communities focuses mostly on strategies for establishing these partnerships. Community mapping is one collaborative strategy with potential to improve student outcomes (Crane & Skinner, 2003; Tindle, Leconte, Buchanan, & Taymans, 2005). Through mapping, educators collaborate with local community members to identify existing resources in the community that might benefit transitioning youth including: businesses, housing, religious institutions, recreational facilities, and key transportation landmarks. This collaboration increases educator awareness of community assets and resources, expands their social capital within the community, and helps to identify potential barriers that might have implications for transition planning (Carter, Swedeen, Moss, & Pesko, 2010). Further, special educators are acquainted with diverse community cultures that might inform more culturally responsive transition planning (Crane & Mooney, 2005).

Another area of research explores the value of having special educators facilitate collaboration across multiple stakeholders. Parker-Katz, Cushing, and Athamanah (2018)

examined the experiences of 23 special educators leading “community conversations”—two-hour events in which a range of community stakeholders (e.g., educators, employers, family members, civic leaders) come together to identify solutions to local concerns—to address issues in transition. Through these events, special educators developed partnerships with adult agencies and community supports, increased their knowledge of transition resources in their community, and identified “out-of-the box” ways to enhance transition education. Other research using the “community conversation” approach to address transition topics emphasizes the importance of bringing together community stakeholders in collaborative environments (Carter & Bumble, 2018; Trainor, 2018). Together, these community members can build personal networks, increase awareness and action in the community, share diverse resources and expertise, and identify solutions that might streamline and improve the transition process (Bumble, Carter, Bethune, Day, & McMillan, 2018; Raynor, Hayward, Semenza, & Stoffmacher, 2018). Molfenter et al. (2018) recommended community conversations as a strategy to help educators meet the collaboration mandates of IDEA (2004) as well as the pre-employment transition services requirements of WIOA.

One research group brought both of these strategies—community mapping and community conversations—together. As part of a multicomponent intervention, Carter, Trainor, Ditchman, Swedeen, and Owens (2009) used community mapping, community conversations, “community connectors,” and “employer liaisons” to increase summer employment of students with severe disabilities and emotional and behavioral difficulties (Carter, Trainor, Ditchman, & Owens, 2011). Community connectors (primarily special educators) and employer liaisons (primarily employers and chamber of commerce directors) collaborated—drawing on their own personal networks as well as individuals they met through community conversations—to identify

summer employment opportunities for each student. Connectors and liaisons also attended planning meetings with students, families, and local employers to share ideas and resources. Although youth included in the studies attended the same schools and lived within the same communities, those in the intervention groups were employed at higher rates. For youth with emotional and behavioral difficulties, a higher proportion of youth in the intervention group were employed during the summer than those in the comparison group (57% vs. 33%). For students with severe disabilities, students in the intervention group were four times more likely than those in the comparison group to obtain paid jobs in the community. These studies demonstrate that with focused collaboration across school and community networks, even students with the most complex support needs can access competitive employment. Moreover, it is plausible that these same collaborative efforts might lead to similar outcomes across postsecondary education, independent living, and community inclusion.

Current state of collaboration. Although the benefits of collaboration are known and upheld by legislation and professional organizations, the frequency and quality of collaboration varies widely (Agran, Cain, & Cavin, 2002; Carlson, Brauen, Klein, Schroll, & Willig, 2002; Oertle & Trach, 2007; Ronfeldt, Farmer, McQueen, & Grisson, 2015; Trach, 2012). Several barriers to transition collaboration surface in the literature. First, most special educators feel unprepared for collaborative responsibilities. School systems depend on special educators to coordinate the involvement of outside partners in the transition planning process (Oertle & Seader, 2015). It is the educator's responsibility to understand existing services and supports, foster relationships with internal and external partners, and educate families on the best supports for their child based on their disability and strengths (Noonan, McCall, Zheng, & Erickson,

2012; Riesen, Schultz, Morgan, & Kupferman, 2014). Although most teacher preparation programs address collaboration generally, few programs explicitly teach collaborative skills, leaving educators and their colleagues to learn these skills on-the-job (Carlson et al., 2002; Harvey, Yssel, Bauserman, & Merbler, 2010; Morningstar, Kleinhammer-Tramill, & Lattin, 1999; Weiss, Pellegrino, & Brigham, 2017). In a multistate survey of 557 special educators assessing their transition preparation (i.e., preparation in instructional planning, curriculum and instruction, transition planning, assessment, and collaboration), educators reported the lowest levels of preparedness and satisfaction with their training in collaboration (Benitez, Morningstar, & Frey, 2009). Second, special educators report having little time for collaborative activities during the work day due to: lack of administrative support, misaligned schedules, and excessive paperwork and responsibilities (Hartas, 2004; Johnson, Zorn, Tam, Lamontagne, & Johnson, 2003; Noonan, Morningstar, & Erickson, 2008). Third, special educators might work in school cultures that hold outdated views of special education. They might face resistance to collaboration required to support students in inclusive classrooms or be expected to provide individualized services and supports in segregated settings. Fourth, the potential for collaboration can vary based on the disability category of students and the perceived expectations of other professionals. For example, in a secondary analysis of data from the National Longitudinal Transition Study-2, Shogren and Plotner (2012) found that students with intellectual disability or autism were significantly less likely than students with high-incidence disabilities to have an academic general education teacher involved in their IEP team. Overcoming these barriers requires increasing the capacity of special educators and addressing attitudinal obstacles within the school system.

Measuring Collaboration using Transition Networks

Current research investigating network-based transition collaboration is limited. First, research primarily examines networks at the community (Noonan, Erickson, & Morningstar, 2013), district (Noonan et al., 2008), and state level (Noonan et al., 2014; Noonan et al., 2012). This higher-level approach adds to the research base by providing information about how collaboration occurs within a network (e.g., the levels of collaboration, collaborative behaviors of individuals within the group), but because educators are typically responsible for initiating and facilitating collaboration during the transition process, it is essential to understand educator-level networks. One study (Plotner, Mazzotti, Rose, & Teasley, 2018) has examined the communication patterns and levels of collaboration of special education teachers with varied district-level providers, but the study included a very limited scope of partners from the school and service subnetworks (i.e., secondary vocational coordinator, transition-focused school-based rehabilitation counselor, postsecondary education professional). There is a lack of research addressing the full range of partners teachers communicate with throughout the transition process and the resources each might introduce into the “transition network.” This information will allow for enhanced understanding of which potential partners might be overlooked or under-accessed.

Second, existing measures of collaboration are limited. Recent studies (Noonan et al., 2012; Noonan et al., 2014) measure levels of collaboration using an adaptation of the “Levels of Collaboration Survey” by Frey et al. (2006), which identifies five levels of collaboration including: networking, cooperation, coordination, coalition, and collaboration. Although the scale provides insight into the perceived levels of collaboration across network partners, multiple aspects of collaboration (i.e., decision-making, communication, roles and responsibilities, exchange of resources) are compressed into each level. For example, level one is characterized as

little communication and independent decision making while level three is characterized as frequent communication and some shared decision making. However, it is possible to have very frequent communication while still making all decisions independently. Collecting multidimensional measures of collaboration across a wide range of partners is critical to understanding how networks form, operate, and are maintained over time.

Third, the characteristics of transition networks and the factors that influence them have primarily been explored qualitatively through interviews and focus groups (Noonan et al., 2012; Povenmire-Kirk et al., 2015). Variables related to teacher demographics (e.g., age, race/ethnicity, gender) and background (e.g., years of experience, number of students on caseload) might influence a teachers' experiences with, perceptions of, and knowledge about collaboration. School characteristics (e.g., rural or urban area, middle or high school) might impact the number of partners that are available for collaboration locally or the support teachers receive in their collaborative efforts. Further, student disability labels likely influence the types of adult agencies and community entities within an educator's social network. Quantitative data are needed to identify how educator- and school-level factors might influence the characteristics of the transition networks of special educators.

The purpose of this mixed methods study was to examine the transition networks of middle and high school special educators in one state. Both quantitative and qualitative methods were combined to capitalize on the inherent strengths of each methodology and to promote cross-validation of the findings. This study addressed the following research questions:

1. What are the characteristics of the transition networks of middle and high school special educators?

2. Do network size and communication frequency differ by student disability group, urbanicity, or school type?
3. What factors are associated with transition network size?
4. What do special educators supporting students with moderate/severe disabilities perceive as the core components of an “effective” transition network?
5. What do special educators supporting students with moderate/severe disabilities identify as barriers and facilitators to establishing an effective transition network?
6. What do special educators supporting students with moderate/severe disabilities describe as the benefits of effective transition networks?

Chapter II

Method

This mixed methods sequential explanatory design consisted of two distinct phases: a statewide survey of middle and high school special educators (quantitative) followed by semi-structured interviews with a subset of survey participants (qualitative; Creswell & Plano Clark, 2017). The first phase examined the characteristics of transition networks and explored factors associated with network size. The second phase complemented and cross-validated these data by addressing educators' perspectives and experiences related to their transition networks. For this study, I chose to focus the second phase on educators primarily supporting transition-aged students with moderate/severe disabilities because (a) students with moderate/severe disabilities experience the most dismal postschool outcomes compared with other disability groups and (b) survey findings indicated that educators primarily supporting transition-aged students with moderate/severe disabilities (compared with mild disabilities) had significantly larger transition networks. I connected the qualitative and quantitative phases during the intermediate stage in the research process; selecting participants for the semi-structured interviews based on survey responses. I mixed the quantitative and qualitative approaches at the design stage and while interpreting the outcomes of the study.

Participants

The sample included 509 middle and high school special educators in Tennessee who (a) worked at a public middle school or high school (including community-based classrooms), and

(b) supported at least one student with a disability on their caseload aged 14 or older. Participant demographics are displayed in Table 1.

Table 1. Survey Participant Information by Student Disability Group and School Type

Variables	All	Student disability group		School type	
	(N = 509)	Mild (n = 342)	Moderate/severe (n = 167)	Middle (n = 171)	High (n = 319)
Age ^b	45.3 (11.5)	44.6 (11.3)	46.7 (11.8)	43.2 (12.0)	46.5 (11.1)
Experience ^b					
Years teaching transition-aged students	10.6 (8.5)	10.5 (8.6)	10.8 (8.2)	8.6 (7.4)	11.6 (8.9)
Years teaching in current district	10.3 (9.0)	9.5 (8.7)	11.9 (9.4)	9.2 (8.5)	10.8 (9.1)
Full caseload	26.2 (33.6)	29.9 (29.7)	18.9 (39.6)	27.1 (46.0)	26.4 (25.6)
Transition caseload ^b	20.4 (31.9)	22.7 (26.2)	15.6 (40.8)	11.5 (38.5)	25.7 (27.3)
Gender ^a					
Male	13.6	14.9	10.8	10.5	14.1
Female	85.3	83.6	88.6	87.7	85.8
Prefer not to say/not listed	1.2	1.5	0.6	1.8	0.0
Race/ethnicity ^a					
White	90.0	89.8	90.4	88.3	90.6
African American	5.9	5.8	6.0	7.6	5.3
Hispanic	0.8	1.2	0.0	0.6	0.6
Native American	0.6	0.6	0.6	0.6	0.6
Asian	0.6	0.9	0.0	1.8	0.0
Prefer not to say/not listed	3.3	3.5	3.0	2.9	3.7
Education ^a					
Bachelor's	32.8	34.2	29.9	31.6	33.5
Master's or higher	67.2	65.8	70.1	68.4	66.5
Urbanicity of school ^a					
Rural	61.5	64.6	55.1	65.5	60.5
Urban	24.4	25.1	22.8	25.7	23.8
Suburban	14.1	10.2	22.2	8.8	15.7

Note. CB = community-based; Transition caseload = students who are aged 14 or older.

^aPercentage

^bMean (SD)

A subset of 10 survey participants were selected for the qualitative interviews who (a) had larger than average transition networks with partners across all three subnetworks (i.e., school, service, and community subnetworks) and (b) primarily supported transition-aged students with moderate/severe disabilities (see Table 2).

Table 2. *Interview Participant Information*

Participant	Educator characteristics					School characteristics		Network size			Total
	Gender	Age	Race/ethnicity	Years teaching	Caseload	Grades	Urbanicity	School system	Service system	Community	
Deanne	F	46	W	15	11	High school	Suburban	13	3	1	17
Mickey	F	27	W	3	28	High school	Rural	13	7	3	23
Frida	F	50	W	10	7	High school	Rural	12	8	3	23
Lorne	F	45	W	23	21	High school	Suburban	13	2	8	23
Wilma	F	50	W	26	11	High school	Urban	12	7	5	24
Ruth	F	52	W	29	8	High school	Urban	15	8	5	28
Trent	M	32	W	9	9	High school	Urban	13	8	8	29
Uma	F	54	AI	29	14	High school	Rural	14	5	4	23
Sonny	F	31	AA	7	10	High school	Urban	12	9	3	24
Esther	F	27	W	5	17	Middle school	Urban	13	5	7	25

Note. F = female; M = male; W = White; AI = American Indian; AA = African American

The Tennessee Department of Education currently estimates that there are 5,095 middle and high school special education teachers in the state; indicating a survey participation rate of 10.0%.

Participants reported a mean age of 45.3 ($SD = 11.5$), an average of 13.7 ($SD = 9.9$) years of teaching experience, 10.6 ($SD = 8.5$) years of teaching experience with transition-aged students, and 10.3 ($SD = 9.0$) years working in their current district. Most participants (65.8%) reported having a “transition coordinator” or “transition coach” at their school or district who was responsible for connecting students and families to adult agencies and post-school supports. Special education teaching certifications were Early Childhood PreK-3 (3.5%), Modified K-12 (65.8%), Comprehensive K-12 (49.3%), Vision PreK-12 (2.4%), Hearing PreK-12 (2.0%), Interventionist K-8 (6.3%), and Interventionist 6-12 (6.5%). A small number of participants (1.0%) reported having emergency certification. Some participants (22.4%) reported having other certifications (e.g., general education, administration, gifted, work-based learning). Participants could select more than one certification area. Participants worked at middle schools (33.6%) and high schools (62.7%; including community-based classrooms) in rural (61.5%), urban (24.4%), and suburban areas (14.1%). Nineteen participants (3.7%) reported working in other school environments (e.g., homebound, itinerant, mental health facility, K-12 school).

Participants also described their “transition caseloads” (i.e., the subset of students on a special educator’s caseload aged 14 or over). Participants reported a mean of 20.4 students ($SD =$

31.9) on their transition caseload and a total overall caseload mean of 26.2 students ($SD = 33.6$). Transition caseloads included at least one student who qualified for special education services under the following disability categories: autism (76.4%), specific learning disabilities (75.2%), other health impairments (73.9%), intellectual disability (58.0%), emotional disturbance (48.9%), multiple disabilities (35.0%), functional delay (30.5%), developmental delay (23.6%), visual impairment (16.5%), hearing impairment (16.1%), traumatic brain injury (15.3%), intellectually gifted (14.9%), orthopedic impairment (13.4%), or deaf-blindness (5.3%). Participants could select more than one disability category.

Beyond specific disability categories, participants indicated if the majority of students on their transition caseload were best described as students with mild disabilities (67.2%) or moderate/severe disabilities (32.8%). On the survey, I defined *mild disabilities* as: “students who require minimal or intermittent supports to participate in daily activities. They may require accommodations or additional supports to access the general education curriculum, but typically participate in traditional state assessments.” I defined *moderate/severe disabilities* as: “students who require ongoing and intensive supports to participate in daily activities. They typically require modifications to access the general education curriculum, and might participate in alternate state assessments. They might have limited communication as well as medical or physical conditions that impact their movement, vision, or hearing.”

Recruitment

Survey recruitment. Survey participants represented 127 of the 141 (90.1%) Tennessee school districts serving middle and high school students and 91 of the 95 (95.8%) counties across

the state. Recruitment and data collection took place over 11 weeks in the fall semester. I used publicly available contact information from the Tennessee Department of Education website to identify district special education coordinators across the state. I contacted each coordinator up to three times by phone and email to inquire about survey dissemination. Fifty-seven districts preferred for emails to be sent from the special education coordinator to special educators. For these districts, I provided a flyer and email template. Eight districts required prior dissemination approval through their internal research committee; five districts approved participation and three did not respond to my requests. For the remaining districts, I emailed special educators directly using information from each school's website or using email addresses provided by the district. Recruitment emails included the purpose of the survey, instructions for accessing the survey, a survey flyer, and researcher contact information (i.e., phone number, email address). Throughout data collection, I sent emails to coordinators of any districts from which there were no completed surveys to encourage participation. In addition to district outreach, I sent email invitations to educators who had recently attended an inclusive service-learning training hosted by a state University Center for Excellence in Developmental Disabilities (UCEDD), attended one of 12 transition-focused community events recently conducted by an Administration on Intellectual and Developmental Disabilities-funded project, or completed a recent transition survey disseminated by a Tennessee Department of Education-funded project.

Overall, I sent emails to 2,814 (55.2%) of the estimated 5,095 middle and high school special educators across the state. Given the multi-pronged recruitment approach, I cannot determine the total number of special educators who received the survey. Further, many educator email addresses were not publicly available or were outdated. Although 901 educators started the survey, only those with no missing data were included in the final sample. Further, thirty surveys

were removed from the sample due to duplication (i.e., one participant completed multiple surveys). I took several measures to obtain a large and diverse pool of participants. First, all surveys were anonymous unless participants chose to link their responses with their contact information to be eligible for follow-up interviews. Second, 100 participants were randomly selected to receive a US\$25 gift card. They provided contact information on a separate form not linked to participant responses. Third, the questionnaire was relatively short (approximately 30 min) and available online through REDCap (Harris et al., 2009). Fourth, every teacher who completed the survey received a one-page informational handout about Vocational Rehabilitation and a link to a free online training module on community supports and partnerships.

Interview recruitment. Interview recruitment and data collection took place over three weeks following the close of the survey. As part of the survey, participants could provide contact information to be considered as an interview participant. Participants were informed that providing this information would link their personal information with their survey responses. The majority of participants ($n = 396$) chose to provide contact information. Because a primary focus of this study was on the size of transition networks, I used a combination of intensity and criterion sampling (Patton, 1990). I included educators who (a) reported a transition network size of at least 17 partners (the mean network size across all special educators) with at least one partner from school systems, service systems, and communities; and (b) described the majority of students on their transition caseload as having moderate/severe disabilities (compared with mild disabilities; preliminary analyses indicated that these transition networks were larger). I sent an email to all educators meeting these two criteria including: the purpose of the interviews, a description of the interview process, and researcher contact information. I selected participants to

maximize variation across school (i.e., urbanicity, school type) and demographic (i.e., gender, race/ethnicity, age, years of teaching experience) variables. Each participant who completed the interview received a US\$50 gift card.

Survey Design and Measures

I developed the survey tool based on literature focused on collaboration (Cook & Friend, 2010; Frey et al., 2006), social capital (Bourdieu, 1986; Trainor, 2008; Van Der Gaag & Snijders, 2005) and transition collaboration (Benitez et al., 2009; Noonan et al., 2008; Oertle & Trach, 2007; Povenmire-Kirk et al., 2015; Trach, 2012). The survey tool underwent multiple rounds of revisions based on feedback from my advisor, colleagues, and doctoral committee. In addition, I piloted the tool with 12 middle and high school teachers; incorporating recommendations for clarity and efficiency. The final tool focused on the characteristics of transition networks and three subnetworks: school (i.e., special educators and all school and district personnel), service (i.e., agencies, organizations, and supports explicitly charged with serving individuals with disabilities and their families), and community (i.e., agencies, organizations, and supports serving all community members regardless of disability status). Additional measures addressed educator characteristics, school characteristics, educator perceptions, and educator propensity to work in teams.

Transition network characteristics. The survey used a resource generator—a fixed roster of specific resources, each representing social capital across varied domains—to measure the characteristics of transition networks (Snijders, 1999; Van Der Gaag & Snijders, 2005). The fixed roster included 45 roles across the three subnetworks (see Tables 3, 4 and 5) and two

additional roles (i.e., families of transition-aged students on their caseload and transition-aged students on their caseload).

Table 3. *School Subnetworks Across Participants*

Role or entity	Network partners (%)				Communication frequency (%) ^a				Who initiates communication (%) ^a			Communication contributes to improved student outcomes (%) ^a			Preferences for future communication (%) ^a		
	None	Known	Communicating (N)	(N)	Few times			Educator	Partner	Both	Agree	Disagree	Unsure	Increase	Decrease	Same	
					per year	Monthly	Weekly										Daily
Other special education teacher	0.4	3.3	96.3	(490)	10.2	22.0	30.2	37.6	9.2	1.2	89.5	88.6	3.5	8.0	38.7	0.4	60.8
Special education supervisor	1.2	4.3	94.5	(481)	19.8	38.5	29.9	11.9	9.6	2.3	88.1	85.3	6.2	8.5	45.6	1.4	53.0
Administrator	1.0	8.4	90.6	(461)	18.7	31.9	27.8	21.7	17.4	0.2	82.5	84.1	5.7	10.2	42.3	1.1	56.6
Guidance counselor	3.3	8.1	88.6	(451)	17.5	35.5	30.4	16.6	18.2	0.7	81.1	82.8	4.5	12.9	44.6	0.7	54.8
General education teacher	2.9	8.8	88.2	(449)	18.0	29.0	23.2	29.8	23.4	0.4	76.1	80.2	5.3	14.5	42.7	0.4	56.8
School psychologist	3.7	8.6	87.6	(446)	26.7	41.9	24.0	7.4	14.6	0.9	84.5	77.8	4.2	17.9	34.9	1.1	63.9
Paraprofessional	8.1	10.2	81.7	(416)	17.8	17.3	22.1	42.8	20.2	0.7	79.1	77.9	5.8	16.3	30.5	0.7	68.8
Speech language pathologist	7.5	15.1	77.4	(394)	34.8	31.7	26.4	7.1	16.0	1.8	82.2	76.9	5.3	17.8	33.8	0.5	65.7
School nurse	11.0	17.9	71.1	(362)	35.9	27.1	18.0	19.1	23.5	1.4	75.1	64.7	9.9	25.4	27.6	0.6	71.8
Career and technical education teacher	18.9	12.2	69.0	(351)	20.5	34.2	26.5	18.8	17.9	0.3	81.7	81.2	4.8	14.0	51.8	0.3	47.9
Physical or occupational therapist	16.7	21.2	62.1	(316)	39.2	32.6	23.7	4.4	18.7	1.9	79.4	76.9	2.8	20.3	35.7	0.6	63.6
Transition coordinator	34.0	6.7	59.3	(302)	17.5	34.8	31.1	16.6	9.3	3.0	87.7	89.1	3.3	7.6	52.0	0.3	47.7
School social worker	29.1	20.0	50.9	(259)	41.3	35.1	18.9	4.6	21.6	2.7	75.7	74.1	6.6	19.3	42.5	0.4	57.1
Assistive technology specialist	34.8	20.4	44.8	(228)	43.4	39.0	13.6	3.9	23.2	2.2	74.5	73.2	3.5	23.2	42.6	0.0	57.5
Orientation and mobility specialist	60.1	17.9	22.0	(112)	47.3	33.9	13.4	5.4	16.1	7.1	76.7	78.6	8.1	13.4	29.5	0.9	69.6

Note. N = 509. None = educators reported not knowing anyone in that role; Known = educators reported knowing someone in that role but not communicating with them about transition topics in the last two years; Communicating = educators reported knowing someone in that role and communicating with them about transition topics in the last two years. Other = Educators had the option of listing additional partners not listed on the roster, but did not answer additional questions about these partners.

^aPercentage based on the number of educators who reported they were "communicating" with each role/entity about transition topics in the last two years.

Table 4. Service Subnetworks Across Participants

Role or entity	Network partners (%)			Communication frequency (%) ^a	Who initiates communication (%) ^a			Communication contributes to improved student outcomes (%) ^a			Preferences for future communication (%) ^a						
	None	Known	Communicating (N)		Few times				Educator	Partner	Both	Agree	Disagree	Unsure	Increase	Decrease	Same
					per year	Monthly	Weekly	Daily									
Vocational Rehabilitation	30.0	17.5	52.3 (266)	47.0	34.2	16.5	2.3	30.8	1.5	67.7	71.8	14.3	13.9	79.0	0.4	20.7	
Recreational services and supports for youth with disabilities	34.6	24.2	41.3 (210)	44.3	37.1	13.3	5.2	16.2	9.0	74.7	73.8	7.6	18.6	65.2	0.5	34.3	
Mental health services and supports	48.3	22.0	29.7 (151)	45.7	31.1	17.2	6.0	21.2	7.3	71.5	70.2	7.9	21.9	65.6	1.4	33.1	
Higher education programs for youth with disabilities	55.4	19.6	25.0 (127)	63.8	29.1	5.5	1.6	33.1	1.6	65.4	67.8	11.8	20.5	79.5	2.4	18.1	
TRC	58.3	17.5	24.2 (123)	68.3	21.1	9.8	0.8	39.0	4.1	56.9	67.5	11.4	21.1	75.6	1.6	22.8	
Disability advocacy groups or legal services (e.g., The Arc)	54.4	23.6	22.0 (112)	66.1	28.6	4.5	0.9	27.7	12.5	59.8	68.8	12.5	18.8	69.7	0.9	29.5	
Supported employment providers	63.9	16.1	20.0 (102)	43.1	35.3	16.7	4.9	31.4	2.9	65.7	77.4	7.8	14.7	81.4	1.0	17.6	
Support groups/training centers for parents or family members	63.3	18.9	17.9 (91)	54.9	30.8	11.0	3.3	25.3	5.5	69.3	72.6	12.1	15.4	75.9	1.1	23.1	
Social Security/SSI	61.5	20.8	17.7 (90)	67.8	25.6	5.6	1.1	23.3	24.4	52.3	53.3	15.6	31.1	48.9	7.7	43.3	
DIDD	68.2	19.2	12.6 (64)	65.6	28.1	4.7	1.6	31.3	6.3	62.6	59.4	9.4	31.3	62.5	4.7	32.8	
Group homes or supported living providers	70.7	17.1	12.2 (62)	59.7	21.0	16.1	3.2	41.9	3.2	54.8	66.2	8.0	25.8	71.0	1.6	27.4	
Adult day programs	70.5	17.5	12.0 (61)	63.9	27.9	6.6	1.6	27.9	4.9	67.3	67.2	11.5	21.3	67.2	0.0	32.8	
Disability-specific agencies (e.g., Autism Tennessee)	68.4	20.6	11.0 (56)	62.5	32.1	5.4	0.0	25.0	7.1	67.9	64.3	14.2	21.4	80.3	0.0	19.6	
Sheltered workshops	80.7	12.8	6.5 (33)	60.6	27.3	6.1	6.1	27.3	6.1	66.7	60.6	9.1	30.3	66.7	0.0	33.3	
CIL	82.9	12.0	5.1 (26)	73.1	11.5	15.4	0.0	50.0	0.0	50.0	69.2	3.8	26.9	69.2	0.0	30.8	

Note. N = 509. CIL = Center for Independent Living; TRC = Tennessee Rehabilitation Center; DIDD = Department of Intellectual and Developmental Disabilities. None = educators reported not knowing anyone in that role; Known = educators reported knowing someone in that role but not communicating with them about transition topics in the last two years; Communicating = educators reported knowing someone in that role and communicating with them about transition topics in the last two years. Other = Educators had the option of listing additional partners not listed on the roster, but did not answer additional questions about these partners.

^aPercentage based on the number of educators who reported they were "communicating" with each role/entity about transition topics in the last two years.

Table 5. Community Subnetworks Across Participants

Role or entity	Network partners (%)			Communication frequency (%) ^a	Who initiates communication (%) ^a			Communication contributes to improved student outcomes (%) ^a			Preferences for future communication (%) ^a						
	None	Known	Communicating (N)		Few times				Educator	Partner	Both	Agree	Disagree	Unsure	Increase	Decrease	Same
					per year	Monthly	Weekly	Daily									
Local employers	28.5	28.3	43.2 (220)	42.7	34.1	17.3	5.9	40.0	1.4	58.6	75.9	10.0	14.1	80.9	1.4	17.7	
Other vocational training programs	41.5	20.6	37.9 (193)	44.0	40.4	10.9	4.7	31.6	3.1	65.2	87.0	4.2	8.8	81.9	0.5	17.6	
2-year colleges	38.5	28.5	33.0 (168)	57.7	33.3	5.4	3.6	36.3	3.6	60.1	78.5	7.2	14.3	74.4	1.8	23.8	
Faith communities	47.5	23.2	29.3 (149)	40.3	40.9	12.8	6.0	30.9	3.4	65.8	64.5	6.7	28.9	58.4	1.4	40.3	
4-year colleges and universities	44.2	29.1	26.7 (136)	61.8	28.7	4.4	5.1	30.9	4.4	64.7	64.0	13.9	22.1	63.9	1.4	34.6	
U.S. Armed Forces	53.0	23.0	24.0 (122)	73.8	16.4	7.4	2.5	30.3	5.7	64.0	63.1	9.0	27.9	51.7	2.4	45.9	
Leaders from local government	52.8	25.3	21.8 (111)	52.3	34.2	8.1	5.4	37.8	2.7	59.4	56.7	7.2	36.0	63.9	1.8	34.2	
Recreational or social organizations	55.0	24.0	21.0 (107)	51.4	36.4	7.5	4.7	36.4	1.9	61.7	69.2	12.2	18.7	67.3	1.9	30.8	
Service organizations (e.g., Kiwanis Club)	61.3	21.2	17.5 (89)	61.8	22.5	9.0	6.7	37.1	3.4	59.6	62.9	9.0	28.1	67.4	2.2	30.3	
Local transportation providers	63.5	19.6	16.9 (86)	54.7	26.7	10.5	8.1	29.1	3.5	67.4	72.1	5.8	22.1	66.2	1.2	32.6	
Craft apprenticeship programs (e.g., carpentry)	69.0	15.5	15.5 (79)	46.8	38.0	12.7	2.5	35.4	1.3	63.3	79.7	6.3	13.9	75.9	2.5	21.5	
Juvenile Justice Center	67.6	18.5	13.9 (71)	52.1	42.3	4.2	1.4	22.5	8.5	69.0	53.5	12.7	33.8	35.2	11.3	53.5	
Chamber of Commerce	62.9	24.4	12.8 (65)	66.2	27.7	4.6	1.5	43.1	4.6	52.4	58.5	7.7	33.8	58.4	3.0	38.5	
Job Corps	79.4	14.1	6.5 (33)	67.9	27.3	3.0	0.0	42.4	9.1	48.5	51.5	12.2	36.4	57.6	0.0	42.4	
American Job Centers	84.7	9.2	6.1 (31)	54.8	32.3	12.9	0.0	19.4	9.7	71.0	64.5	12.9	22.6	67.7	0.0	32.3	

Note. N = 509. None = educators reported not knowing anyone in that role; Known = educators reported knowing someone in that role but not communicating with them about transition topics in the last two years; Communicating = educators reported knowing someone in that role and communicating with them about transition topics in the last two years.

^aPercentage based on the number of educators who reported they were "communicating" with each role about transition topics in the last two years.

I selected roles based on existing recommendations for collaborative transition planning (e.g., Noonan et al., 2008; Oertle & Trach, 2007; Povenmire-Kirk et al., 2015; Trach, 2012) and

research focused on community engagement to improve transition outcomes (Bumble et al., 2018; Bumble, Carter, McMillan, Manikas, & Bethune, 2017; Carter et al., 2016; Parker-Katz et al., 2018). Each role represented a potential partnership that might introduce diverse resources (e.g., information, advice, direct assistance) into the special education teacher's transition network.

Participants were presented with each role and asked if they knew at least one person in each role. Response options were: (a) no; (b) yes, but I have not communicated with anyone in this role about transition topics in the last two years; and (c) yes, and I have communicated with someone in this role about transition topics in the last two years. If participants knew more than one person in each role, I asked them to only record responses related to whoever they communicated with most often about transition topics. I defined *transition topics* broadly as: anything that relates to the instruction, services, supports, and experiences educators provide to improve student outcomes in the areas of employment, postsecondary education, and community inclusion. I also provided examples (e.g., meeting with a general education teacher to write goals for a student's transition plan) and non-examples (e.g., downloading a pamphlet about Vocational Rehabilitation from their website). Although the purpose of the survey was to measure "collaboration" across an educator's transition network, I used "communication" as a proxy because of the wide array of preconceived notions or opinions educators might have related to the term "collaboration."

For each network partner (i.e., educators reported communicating with an individual in that role in the previous two years about transition topics), participants were presented with a series of questions to indicate (a) communication frequency, (b) who initiated communication, (c) if they felt the partnership contributed to improved outcomes for students, and (d) their

preferences for future communication. Educators rated communication frequency using a 4-point, Likert-type scale: 1 = rarely/a few times per year, 2 = sometimes/monthly, 3 = frequently/weekly), 4 = very frequently/daily. They rated who initiated transition-related communication (a proxy for reciprocity) using a 5-point, Likert-type scale: 1 = I always initiate, 2 = I mostly initiate, 3 = we initiate about equally, 4 = they mostly initiate, 5 = they always initiate. Educators rated if the partnership contributed to improved outcomes for their students using a 5-point, Likert-type scale: 1 = strongly disagree, 2 = somewhat disagree, 3 = unsure, 4 = somewhat agree, 5 = strongly agree. Educators rated their preferences for future communication with each role using a 5-point, Likert-type scale: 1 = greatly decrease, 2 = somewhat decrease, 3 = stay the same, 4 = somewhat increase, 5 = greatly increase.

Educator characteristics. Educators provided their (a) gender, (b) age, (c) race/ethnicity, (d) years of experience as a special educator, (e) years of experience working with transition-aged youth, (f) years working in their current school district, (g) highest level of education, (h) current state teaching certifications, (i) the number of transition-aged students on their caseload, (j) the special education categories under which the transition-aged students on their caseload qualified for special education services (i.e., autism, specific learning disabilities, other health impairments, intellectual disability, emotional disturbance, multiple disabilities, functional delay, developmental delay, visual impairment, hearing impairment, traumatic brain injury, intellectually gifted, orthopedic impairment, or deaf-blindness), and (k) the disability group that described the majority of the transition-aged students on their caseload (i.e., mild disabilities or moderate/severe disabilities).

School characteristics. Educators identified the (a) type of school (i.e., middle school, high school), (b) urbanicity of the school (i.e., rural, urban, suburban), and (c) if the school or district had a staff member (e.g., a transition coordinator or transition coach) who was responsible for connecting students and families to adult agencies and post-school supports. Nineteen participants selected “other” for school type and listed alternate responses (e.g., homebound, itinerant for entire district, and mental health facility).

Educator perceptions. Educators rated their agreement with statements referring to collaboration with school, service, and community subnetworks using a 5-point, Likert-type scale (1 = strongly disagree, 2 = somewhat disagree, 3 = unsure, 4 = somewhat agree, 5 = strongly agree; see Table 6).

Table 6. Participant Perceptions of Transition Network Partnerships

Statement	All (%)	Student disability group (%)		School type (%)	
	N= 509	Mild (n = 342)	Moderate/severe (n=167)	Middle (n = 171)	High (n = 319)
I am able to achieve better post-school outcomes for my students than I could achieve working alone by collaborating with...					
School and district professionals	4.25	4.23	4.30	4.26	4.26
Disability agencies, services, and supports	4.27	4.19	4.43	4.18	4.34
Community agencies, services, and supports	4.31	4.24	4.47	4.26	4.36
I know how to establish collaborative partnerships with...					
School and district professionals	4.11	4.07	4.20	4.08	4.14
Disability agencies, services, and supports	3.48	3.41	3.63	3.23	3.61
Community agencies, services, and supports	3.49	3.43	3.62	3.26	3.61
My administrator/supervisor supports my efforts to collaborate with...					
School and district professionals	4.23	4.20	4.28	4.27	4.21
Disability agencies, services, and supports	4.09	4.04	4.21	4.01	4.14
Community agencies, services, and supports	4.10	4.06	4.18	4.04	4.14

Note. Ratings based on 5-point Likert-type scale (1 = strongly disagree, 2 = somewhat disagree; 3 = unsure, 4 = somewhat agree; 5 = strongly agree).

Statements included: I am able to achieve better post-school outcomes for my students than I could achieve alone by collaborating with [school systems, service systems, communities], I know how to establish collaborative partnerships with [school systems, service systems,

communities], and My administrator/supervisor supports my efforts to collaborate on transition topics with [school systems, service systems, communities]. Ratings were averaged across subnetworks).

Collective Orientation Scale. Driskell, Salas, and Hughes (2010) designed the Collective Orientation Scale to measure individual variances in collective orientation and examine the extent to which they predict performance on team tasks requiring (a) decision-making, (b) negotiation or conflict resolution, (c) generating ideas or alternatives, and (d) manual or psychomotor execution (see Appendix A for items). They defined collective orientation as “the propensity to work in a collective manner in team settings” (p. 317). The Collective Orientation Scale is composed of 15 Likert-scale items with five response options (i.e., 1 = definitely disagree, 2 = somewhat disagree, 3 = no opinion, 4 = somewhat agree, 5 = definitely agree). The scale is composed of two factors: affiliation (i.e. the preference of working alone vs. with others, 10 items) and dominance (i.e., control and self-interest vs. cooperation and other-interest, five items). Higher scores indicate higher preference or readiness for teamwork. Ratings across items were averaged for final analysis. Cronbach’s alpha was .75 for the full scale, .64 for the affiliation scale, and .77 for the dominance scale.

Interview Design and Measures

I conducted semi-structured interviews to cross-validate, confirm, and expand on the quantitative findings. First, I explored what special educators viewed as the core components of an “effective” network to (a) learn if educators confirmed the attributes measured in the survey (i.e., network size, communication frequency, and communication initiation) as critical to

effective networks, and (b) identify any additional network attributes unexamined in the survey. Second, I explored educator views of the barriers and facilitators of effective networks to (a) understand what factors might influence how transition networks are established and maintained, and (b) identify any educator, school, or district variables that might be unaccounted for in the regression model. Third, I asked educators what they viewed as the benefits of effective transition networks to better understand how transition networks are leveraged within the transition process. Fourth, I asked educators to share their insights into why transition networks might be larger for (a) those educators primarily supporting students with moderate/severe disabilities and (b) educators working in a high school (these topics were explored based on preliminary analyses of the quantitative data).

My primary reason for using semi-structured interviews was to facilitate clarification of ideas and to allow for exploration of participant experiences and perceptions. The in-person interviews were also conducive to observing participant gestures, body language, and demeanor (Berg, 2004). I recorded field notes following each interview to note any questions I had about interviews or any concerns I had that participants might be withholding information or presenting an inauthentic image (Seidman, 1998). I included field notes in the data analyses.

Throughout the research process, I considered my personal biases about disability, collaboration, and teaching practices alongside my previous middle school teaching experience which may have afforded me insider perspectives. I also noted how I might be perceived as being in a position of power because of my association with a prominent local university and statewide grant that provided professional development to many middle and high school teachers across the state. To attempt to address this power differential, I took considerable efforts to make participants feel comfortable in their own space. They had full control over the time, location,

and length of the interview. I also took care to adopt the communication preferences and nomenclature of each participant. Lastly, I emphasized that (a) confidentiality of the data would be maintained, (b) they could choose not to answer any questions, (c) there were no “right” answers, and that (d) they would have the opportunity to review the manuscript including any quotations integrated into the narrative.

All interviews occurred within three weeks following the closing of the survey, and I conducted each interview. All interviews occurred in the educator’s classroom, and ranged from 33 min to 81 min ($M = 61$ min). I audio-recorded, transcribed, and de-identified all interviews and field notes. The full interview protocol is included as Appendix B. Although the protocol covers a wide range of information, I only analyzed data addressing the research questions for this dissertation.

Data Analysis Procedures

Quantitative analyses. I used descriptive statistics to summarize the characteristics of transition networks (i.e., network size, frequency of communication, who initiates communication, perceived contributions to student outcomes, preferences for future communication; research question 1). All percentages and summary statistics were calculated based on the number of participants who reported communicating with individuals in each role about transition topics in the previous two years. I used a series of one-way ANOVAs and MANOVAs to examine differences in network size and communication frequency based on student disability group (i.e., mild disabilities, moderate/severe disabilities), urbanicity (i.e., rural, urban, or suburban locale), or school type (i.e., middle school or high school; research

question 2). I used correlations and regression analyses to identify which educator- and school-level factors were associated with larger transition networks (research question 3). Because of fundamental differences in how (a) *families of transition-aged students on caseload* and (b) *transition-aged students on caseload* participate in transition networks (i.e., primarily drawing resources from networks as opposed to introducing resources to the network) these roles were not included in ANOVA and regression analyses. However, characteristics of these partnerships are reported using descriptive statistics.

Power analyses. Using GPower3.1 (Faul, Erdfelder, Buchner, & Lang, 2009), I conducted power analyses for research questions 2 and 3. For research question 2, based on values for an ANOVA with three groups, the study was powered at 99% to detect a medium effect size of $f^2 = 0.25$ (Cohen's f^2 ; Cohen, 1988) with an alpha level of probability of Type 1 error of .05. For research question 3, based on values for a multiple regression analysis with 15 predictor variables, the study was powered at 99% to detect a medium effect size of $f^2 = .15$ (Cohen's f^2 ; Cohen, 1988) with an alpha level of probability of Type 1 error of .05.

Missing data. To limit missing data, each item included in the online survey required a response to move on to subsequent sections. Further, only surveys with 100% of items completed were included in the analysis ($N = 509$). For questions concerning gender and race/ethnicity, participants could select "prefer not to say." Six participants selected "prefer not to say" for gender, and 13 participants selected "prefer not to say" for race/ethnicity. For the item addressing school type, 19 participants selected "other" and listed alternate responses (e.g., homebound, itinerant for entire district, and mental health facility). Responses to these items were included in the analysis as missing data. Two participants listed their age as 99. These responses were considered an error and analyzed as missing data.

Assumptions. I conducted several tests on key assumptions. First, I performed Levene's test for equality of variances for each independent variable (i.e., school type, student disability group, urbanicity) included in the ANOVAs and MANOVAs. For groups violating the assumption of homogeneity of variances, I conducted a Welch ANOVA and used the Games-Howell test to follow-up on any significant results. Second, I included collinearity diagnostics with the regression models to assess the extent to which multicollinearity was present among the independent variables. Regression tolerance ratings were all above .49, and variance inflation factors were all lower than 2.1, indicating no potential for multicollinearity in these variables. Third, I used the Shapiro-Wilk test to assess the extent to which the residuals of the regression model violated the assumption of normality. Although the assumption of normality was not met, ordinary least squares (OLS) and ANOVAs have a robustness to the normality assumption (e.g., van Belle, 2008). Fourth, I examined the unstandardized regression coefficients, standard errors, and significance of each variable in the regression model to isolate the correlational value and weight of each variable, holding other variables in the model constant. Fifth, I checked the final regression model for outliers using Mahalanobis' distance and Cook's distance. Seven cases with a Mahalanobis' distance that exceeded the critical chi-square value of 37.70 for a regression model with 15 independent variables were identified. Without these cases, the *transition caseload* variable was no longer significant in the model (other significant predictors were significant for both models). Because the outliers were having undue influence on the model, they were removed from the final analysis. Although casewise diagnostics identified an additional three outlying cases, the Cook's distance for the model did not exceed the critical value (i.e., 1.0), indicating that these outliers were not having undue influence on the results of the model as a whole.

Analyses of variance. I conducted a series of ANOVAs to examine if transition network size (i.e., the sum of partners from school, service, and community subnetworks) and transition network communication frequency (i.e., the average communication frequency across school, service, and community subnetworks) differed based on school type (i.e., middle school vs. high school), student disability group (i.e., mild disabilities vs. moderate/severe disabilities), and urbanicity (i.e., rural vs. urban vs. suburban). For the ANOVA comparing communication frequency x school type, the data did not meet the homogeneity of variances assumption (Levene's statistic = 19.12, $p < 0.01$) so I conducted a Welch ANOVA.

In the case of significant ANOVAs at the level of the transition network, I conducted MANOVAs to evaluate differences across school, service, and community subnetworks. This decision was made *a priori*. Because the groups for each subnetwork were unequal and violated assumptions of homogeneity of variance-covariance, I used Pillai's Trace criterion to determine significance and the Games-Howell test for follow-up comparisons. For each mean comparison, I calculated an effect size using Hedge's *g* (small, medium, and large effect sizes are comparable to Cohen's *d*). This measure is appropriate for comparing groups with different sample sizes, and provides a measure of effect size weighted according to the relative size of each sample ($g =$

$$\frac{M_1 - M_2}{SD_{pooled\ and\ weighted}}).$$

I hypothesized that special educators working in high schools (compared with middle schools) would have larger transition networks because they are involved in the later stages of the transition process and likely: (a) have a larger number of transition-aged students on their caseloads which necessitates increased collaboration and a potentially wider range of partners, (b) receive targeted training on existing services and supports from district coordinators, and (c) connect with more outside partners due to increased time in the community participating in

community-based instruction and early work experiences. I hypothesized that special educators working primarily with students with moderate/severe disabilities would have larger transition networks because (a) more adult service providers focus on the needs of youth with more intensive support needs, and (b) the more intensive support needs of these individuals likely necessitate a wider range of agencies and organizations to be engaged in the transition process to access post-secondary education, employment, and independent living (Certo et al., 2008). I hypothesized that special educators in urban areas would have larger transition networks because of the centralization of disability-focused agencies, organizations, and resources in more populated areas (World Health Organization, 2011).

Correlations and regression. I explored which educator- and school-level factors might be associated with transition network size. Because I collected school district names as part of the survey, I tested a multilevel model to investigate whether network size varied significantly across school districts. I used an intercept-only model which is equivalent to a random effects ANOVA. Results indicated that the average network size was 17.2. The intercept variance for network size was not significant $\tau_0^2 = 1.67, p > .05$. Based on these results, I used a traditional multiple regression model. Before finalizing which variables to include in the model, I computed correlation coefficients to examine the relation between the dependent and independent variables. Specifically, I computed Pearson correlation coefficients to examine associations between continuous variables and used point-biserial correlation coefficients for combinations of continuous and dichotomous variables (see Table 7).

Table 7. Correlations Among Predictor Variables and Outcome Variable

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Transition network size	17.19	8.33	-															
2. Transition caseload	18.83	21.94	.20**	-														
3. Years working in the district	10.32	8.96	.15**	-.02	-													
4. Years of transition experience	10.55	8.46	.18**	.03	.63**	-												
5. Age of educator	45.29	11.47	.11*	.04	.51**	.57**	-											
6. High school or community-based teacher	0.66	.47	.39**	.34**	1.00*	.17**	.14**	-										
7. Perceived level of administrative support	4.14	.96	.20**	.05	.02	.08	-.01	.03	-									
8. Perceived knowledge of how to establish partnerships	3.69	.96	.40**	.11*	.06	.12**	.05	-.13**	.47**	-								
9. Perceived contribution of partnerships to improved student outcomes	4.23	.88	.13**	-.08	-.04	-.02	-.07	.04	.36**	.20**	-							
10. Transition coordinator	0.66	.48	.13**	.01	.01	.05	.03	.09*	.22**	.13**	.09*	-						
11. Moderate/severe disabilities	0.33	.47	.20**	-.22**	.13**	.02	.09	.07	.06	.09*	.10*	.09*	-					
12. Male	0.14	.34	.09*	-.01	-.01	.06	-.00	.05	.03	.07	-.10*	.08	-.06	-				
13. White	0.90	.30	.03	.024	-.01	.02	.01	.04	-.06	-.04	-.02	-.05	.01	.05	-			
14. Rural	0.61	.49	-.06	.06	.04	-.06	.02	-.03	-.09*	.13**	-.04	-.04	-.09*	.03	.15**	-		
15. Bachelor's degree	0.33	.47	-.07	-.01	-.08	-.08	-.10*	.02	-.08	-.11*	-.01	.01	-.04	.03	.08	.11*	-	
16. Orientation to Collaboration Scale	3.03	.42	-.03	-.01	-.08	-.08	-.06	-.06	.18**	.03	.13**	.03	-.02	.00	-.07	.11*	.05	-

Note. N = 509. Transition coordinator (1 = has a transition coordinator); Moderate/severe disabilities (1 = primarily supports transition-age students with moderate/severe disabilities); Male (1 = male); White (1 = White); Rural (1 = works at a rural school); Bachelor's degree (1 = bachelor's degree); *p < .05. **p < .01.

No variables displayed high bivariate correlations (i.e., above .7). Among the independent variables included in the regression model, none had correlations with each other that exceeded .63.

The regression model included 15 predictor variables. The dependent outcome variable was a continuous measure of overall transition network size (range 0-45 partners). Independent variables comprised binary and continuous variables. I used the following binary variables: (a) high school (1 = *high school or community-based program*, 0 = *middle school program*); (b) transition coordinator (1 = *has a staff member who is responsible for connecting students and families to adult agencies and post-school supports who might be called a “transition coordinator” or “transition coach”*, 0 = *does not have a staff member who...*); (c) moderate/severe disabilities (1 = *most transition-aged students currently on caseload have moderate/severe disabilities*, 0 = *most transition-aged students currently on caseload have mild disabilities*); (d) male (1 = *male*, 0 = *female*); (e) White (1 = *White*, 0 = *non-White*); (f) rural (1 = *rural*, 0 = *non-rural*); and (g) bachelor's (1 = *bachelor's degree*, 0 = *master's degree or higher*). Continuous variables included (h) number of transition-aged students currently on special education caseload (range, 1-205 students); (i) number of years working in the current school district (range, 0-42 years); (j) years of experience working with transition-aged students (range,

0-43 years); (k) educator age (range, 22-73 years); (l) Collaboration Orientation Scale score (range, 1-5; higher scores represent higher propensity to collaborate); (m) perceived level of administrator support (possible range = 1-5; higher scores represent higher levels of agreement with the statement *my administrator/supervisor supports my efforts to collaborate on transition topics with [school systems, service systems, communities]*; variable represents the average score across each subnetwork); (n) perceived knowledge of how to establish collaborative partnerships (possible range = 1-5; higher scores represent higher levels of agreement with the statement *I know how to establish collaborative partnerships with [school systems, service systems, communities]*; variable represents the average score across each subnetwork); and (o) perceived student outcomes (possible range = 1-5; higher scores represent higher levels of agreement with the statement *I am able to achieve better post-school outcomes for my students than I could achieve alone by collaborating with [school systems, service systems, communities]*; variable represents the average score across each subnetwork).

I hypothesized that larger transition networks would be strongly associated with an educator's education level (i.e., higher for educators with advanced degrees), gender (i.e., higher for females), student disability group (i.e., higher for educators who work with students with moderate/severe disabilities), caseload size (higher for educators with larger caseloads) and years of experience (i.e., higher for educators who had more years of experience).

Qualitative analyses. Qualitative data from semi-structured interviews were audio-recorded and transcribed. Transcriptions of semi-structured interviews were completed by an outside agency with experience transcribing social science research. I transcribed all field notes

and interview reflections. I conducted 10 interviews. Theoretical saturation occurred after seven interviews; with no new themes emerging from the data.

Data analyses occurred in three phases (i.e., open-coding, axial coding, and selective coding) using the constant comparative method (Corbin & Strauss, 2008). First, I divided each interview transcript into “meaning units” that contained a main idea (i.e., a phrase, sentence, or group of sentences) and labeled each unit with terms used by participants (e.g., holding others accountable, collaboration makes me a bridge). I labeled each of the 10 interviews resulting in an initial set of 56 axial codes. Second, I met with a second coder to apply the codes to one interview transcript. During this initial meeting we refined coding definitions, added new codes, and discussed larger descriptive categories. We then independently coded the remaining transcripts; meeting periodically to discuss coding decisions to consensus, revise coding definitions, collapse clusters of codes, and add new codes as they emerged from the data. This phase resulted in a final coding framework including 35 descriptive categories and 11 core themes. This framework as well as transcripts, coding products, and any meeting notes were shared with a peer debriefer to help uncover any underlying biases, perspectives, and assumptions of the coding team. Third, based on feedback from the peer debriefer, we developed a final coding framework and reread each transcript to selectively code data that related to each core theme.

I used several approaches to enhance the trustworthiness of the qualitative findings. To address the inherent biases of individual researchers in the interpretation of the data, I adopted a team-based approach to coding. I also sought out negative cases to identify even small instances of outlying data or alternate explanations (Patton, 1999). Following analysis, participants received a copy of the completed results section including quotes to affirm that their views were

represented accurately. I incorporated participant feedback into the results or noted participant views in the final manuscript. Throughout the research process, I engaged in frequent reflective discussions with a peer debriefer (a special education faculty member) to affirm, challenge, and inform my thinking (Guba, 1981). In addition, I triangulated interview and survey data to provide additional support or explanations for the study findings.

Chapter III

Results

What are the Characteristics of Transition Networks?

The mean transition network size was 17.2 with a mean of 10.8 school system partners, 3.1 service system partners, and 3.3 community partners. Communication across networks occurred about monthly ($M = 2.0$; 1 = a few times per year, 2 = monthly, 3 = weekly, 4 = daily). The school subnetwork had the highest mean frequency of communication ($M = 2.3$); frequencies were the same across the service and community subnetworks ($M = 1.6$). A large proportion of transition network partnerships were considered to be reciprocal ($M = 74.6\%$; i.e., communication was initiated by both partners). The school subnetwork had the largest average proportion of reciprocal partnerships ($M = 81.0\%$) with similar proportions for service and community subnetworks ($M = 65.8\%$ and $M = 60.9\%$, respectively). Special educators reported most transition network partnerships ($M = 74.7\%$) as contributing to improved student outcomes (school system, $M = 79.0\%$; service system, $M = 65.3\%$; community, $M = 68.2\%$) and preferred to increase communication with about half of the partners ($M = 50.6\%$) in their transition network (school subnetwork, $M = 41.8\%$; service subnetwork, $M = 73.7\%$; community subnetwork, $M = 71.4\%$). Transition network partners reported by student disability group and school type are provided in Table 8.

Table 8. Network Members by Student Disability Group and School Type

Roles	All (%)	Student disability group (%)		School type (%)	
	(N = 509)	Mild (n = 342)	Moderate/severe (n = 167)	Middle (n = 171)	High (n = 311)
School system network					
Other special education teacher	96.3	95.6	97.6	92.4	98.7
Special education supervisor	94.5	93.0	97.6	88.3	97.8
Administrator	90.6	87.7	96.4	81.3	95.9
Guidance counselor	88.6	89.2	87.4	76.6	95.3
General education teacher	88.2	88.0	88.6	83.0	92.2
School psychologist	87.6	85.4	92.2	80.7	91.2
Paraprofessional	81.7	78.1	89.2	69.0	88.7
Speech language pathologist	77.4	72.8	86.8	67.8	82.8
School nurse	71.1	67.5	78.4	55.6	79.9
Career and technical education teacher	69.0	68.7	69.5	40.4	86.2
Physical or occupational therapist	62.1	52.3	82.0	61.4	62.7
Transition coordinator	59.3	54.1	70.1	45.0	66.8
School social worker	50.9	49.7	53.3	41.5	55.8
Assistive technology specialist	44.8	41.5	51.5	37.4	48.9
Orientation and mobility specialist	22.0	16.7	32.9	14.6	25.1
Service system network					
Vocational Rehabilitation	52.3	46.8	63.5	17.0	72.1
Recreational services and supports for youth with disabilities	41.3	30.4	63.5	29.8	48.9
Mental health services and supports	29.7	30.1	28.7	19.3	34.8
Higher education programs for youth with disabilities	25.0	21.6	31.7	13.5	31.7
Tennessee Rehabilitation Center (TRC)	24.2	19.3	34.1	6.4	33.9
Disability advocacy groups or legal services	22.0	18.4	29.3	12.3	27.6
Supported employment providers	20.0	14.0	32.3	6.4	27.3
Support groups/ training centers for parents or family members	17.9	13.7	26.3	13.5	20.4
Social Security/ SSI	17.7	14.0	25.1	12.9	19.7
Department of Intellectual and Developmental Disabilities	12.6	8.2	21.6	4.1	16.9
Group homes or supported living providers	12.2	8.8	19.2	5.8	15.4
Adult day programs	12.0	7.3	21.6	3.5	16.3
Specific disability agencies	11.0	9.6	13.8	6.4	12.5
Sheltered workshops	6.5	4.4	10.8	2.9	8.5
Center for Independent Living	5.1	3.5	8.4	2.3	6.9
Community network					
Local employers	43.2	38.0	53.9	21.6	54.9
Other vocational training programs	37.9	35.4	43.1	15.8	49.5
2-year colleges	33.0	36.5	25.7	17.0	41.4
Faith communities	29.3	24.0	40.1	20.5	34.2
4-year colleges and universities	26.7	27.8	24.6	15.8	32.6
U.S. Armed Forces	24.0	26.9	18.0	9.9	32.3
Leaders from local government	21.8	20.2	25.1	15.8	25.4
Recreational or social organizations	21.0	17.3	28.7	16.4	23.5
Service organizations	17.5	15.5	21.6	13.5	19.4
Local transportation providers	16.9	13.7	23.4	10.5	19.4
Craft apprenticeship programs	15.5	17.0	12.6	8.8	19.7
Juvenile Justice Center	13.9	14.0	13.8	7.6	16.6
Chamber of Commerce	12.8	12.9	12.6	7.0	16.0
Job Corps	6.5	6.7	6.0	2.9	8.8
American Job Centers	6.1	6.7	4.8	1.8	8.5

Note. Percentages are based on the number of special educators who reported they had communicated with someone in that role in the previous two years about transition topics.

School subnetwork. The most common school partners were other special education teachers (96.3%), special education supervisors (94.5%), and administrators (90.6%; see Table 3). The least common partners were school social workers (50.9%), assistive technology specialists (44.8%), and orientation and mobility specialists (22.0%). The following percentages are based on the number of educators who reported “communicating” with each partner about transition topics in the last two years. Daily communication occurred most often with paraprofessionals (42.8%), other special educators (37.6%), and general education teachers

(29.8%). Partnerships with the highest rates of reciprocity (i.e., those in which both the partner and the special educator initiated communication) were with other special education teachers (89.5%), special education supervisors (88.1%), and transition coordinators (87.7%). Across partners, the majority of special educators agreed that their communication contributed to improved student outcomes (range, 64.7% – 89.1%). Special educators most preferred to increase future communication with transition coordinators (52.0%), career and technical education teachers (51.8%), and special education supervisors (45.6%).

Service subnetwork. The most common service partners were Vocational Rehabilitation (52.3%), recreational services and supports for youth with disabilities (41.3%), and mental health services and supports (29.7%; see Table 4). The majority of special educators (range, 54.4% - 82.9%) reported the remaining partners as “none” indicating they did not know a person in that role. Most special educators reported communicating with partners a few times per year (range, 43.1% - 73.1% across partners); the highest rates of daily communication occurred with sheltered workshops (6.1%), mental health services and supports (6.0%), and recreational services and supports for youth with disabilities (5.2%). Partners with the highest rates of reciprocity, or both partners initiating communication, were recreational services and supports for youth with disabilities (74.7%), mental health services and supports (71.5%), and support groups/training centers for parents or family members (67.4%). Across partners, the majority of special educators agreed that their communication contributed to improved student outcomes (range, 53.3% - 77.4%). Special educators most preferred to increase future communication with supported employment providers (81.4%), disability-specific agencies (80.3%), and higher education programs for youth with disabilities (79.5%).

Community subnetwork. The most common community partners were local employers (43.2%), vocational training programs (37.9%), and two-year colleges (33.0%; see Table 5). A large number of special educators (range, 44.2% - 84.7%) reported that they did not know anyone in the remaining roles. For most partnerships, special educators reported communicating a few times per year (range, 40.3% - 73.8%). The greatest number of special educators reported communicating daily with local transportation providers (8.1%), service organizations (6.7%), and faith communities (6.0). Reciprocal communication was most often reported for American Jobs Centers (71.0%), the Juvenile Justice system (69.0%), and local transportation providers (67.4%). Most special educators reported that their partnerships contributed to improved student outcomes (range, 51.5% - 87.0% across partners), and the largest percentage of educators preferred to increase future communication with vocational training programs (81.9%), local employers (80.9%), and craft apprenticeship programs (75.9%).

Students and families. A large majority of special educators reported families of transition-aged students and transition-aged students on their caseloads as transition partners (90.6% and 93.9%, respectively). A small percentage of educators reported not knowing family members of students with disabilities on their caseload (5.1%) or not communicating with any family members in the previous two years about transition topics (4.3%). Communication with families occurred about monthly ($M = 2.40$; daily = 13.0%, weekly = 31.1%, monthly = 34.6%, a few times per year = 20.0%), and most educators (76.6%) identified family partnerships as being reciprocal. Remaining educators reported initiating all communication (22.3%) or reported families as the sole initiators (1.1%). Communication with families was mostly viewed as contributing to improved student outcomes (88.0% of educators) with a small number of

educators reporting they were unsure (8.5%) or disagreed (3.5%). More than half of educators preferred for future communication with families to increase (58.3%; stay the same = 32.2%, decrease = 0.4%).

Communication with students occurred about weekly ($M = 2.97$; daily = 43.1%, weekly = 23.8%, monthly = 19.7%, a few times per year = 13.4%), with a small percentage of educators reporting not knowing any students with disabilities on their caseload (3.1%) or not communicating with any students in the previous two years about transition topics (2.9%). A large proportion of student partnerships were considered to be reciprocal (70.5%); 28.4% of educators reported they were the sole initiators of communication or students were the sole initiators (1.3%). Most educators (88.9%) viewed student partnerships as contributing to improved student outcomes; 8.0% of educators were unsure, and 3.1% disagreed. More than half of educators preferred for future communication with families to increase (52.6%; stay the same = 47.1%, decrease = 0.4%).

Do Network Size and Communication Frequency Differ Urbanicity, School Type, or Student Disability Group?

I used a series of ANOVAs to examine differences in transition network size and communication frequency based on school urbanicity (i.e., rural, urban, suburban), school type (i.e., middle school, high school), and student disability group (i.e., mild disabilities, moderate/severe disabilities; see Tables 9 and 10).

Table 9. Differences in Network Size and Communication Frequency by School Type

Variables	Multivariate tests				ANOVA			Middle (n = 171)		High (n = 311)		Effect size
	PT	F	df	η^2	F	df	R ²	M	SD	M	SD	
Network size												
Transition network					89.73**	(1, 488)	.16	12.76	7.41	19.63	7.78	.90
Individual networks	.16	31.17**	(3, 486)	.16								
School system					54.67**	(1, 488)	.10	9.35	4.12	11.68	2.81	.70
Service system					70.93**	(1, 488)	.13	1.56	2.28	3.93	3.27	.80
Community					47.84**	(1, 488)	.09	1.85	2.78	4.02	3.57	.65
Communication frequency												
Transition network ^a					14.59**	(1, 269.23)	.04	1.84	.79	2.10	.58	.40
Individual networks	.01	1.34	(3, 296)	.01								

Notes. PT = Pillai's Trace; Communication frequency based on 4-point Likert-type scale (1 = few times per year, 2 = monthly; 3 = weekly, 4 = daily). Effect size calculated using Hedge's *g*. ** $p < .01$

^aWelch ANOVA

Differences by school urbanicity. ANOVAs yielded no significant differences based on school urbanicity for transition network size, $F(2, 506) = .77, p > .05$ or communication frequency, $F(2, 506) = 1.40, p > .05$. Therefore, I did not interpret any additional comparisons.

Differences by school type. Results of the ANOVA comparing transition network size by school type indicated statistically significant differences between groups, $F(1, 488) = 89.73, p < .001, R^2 = 15.5\%$ with high school teachers having significantly larger transition networks than middle school teachers (see Table 9). The Welch ANOVA (used due to violations of homogeneity of variances) comparing communication frequency by school type indicated statistically significant differences between groups, $F(1, 269.23) = 14.59, p < .001, R^2 = .04$ with high school teachers communicating significantly more frequently (see Table 9 for means, SDs, and effect sizes).

Because I found significant differences for network size and communication frequency for the transition network, I conducted MANOVAs to evaluate differences across subnetworks (i.e., school, service, and community subnetworks). For network size, the multivariate result was significant across subnetworks, Pillai's Trace = .161, $F(3, 486) = 31.17, p < .001, \eta^2 = .161$ with high school teachers having significantly larger school, service, and community subnetworks

(see Table 9 for means, *SDs*, and effect sizes). For communication frequency, the multivariate result was not significant across subnetworks. Pillai's Trace = .014, $F(3, 296) = 1.34$, $p > .05$, $\eta^2 = .01$. Therefore, I did not interpret univariate ANOVAs.

Differences by student disability group. Results of the ANOVA comparing transition network size by student disability group indicated that transition networks of teachers who primarily served transition-aged students with moderate/severe disabilities were significantly larger than networks of educators who primarily served transition-aged students with mild disabilities $F(1, 507) = 21.06$, $p < 0.001$, $R^2 = .04$. Communication frequencies were not significantly different across student disability groups $F(1, 507) = 2.50$, $p > .05$ (see Table 10 for means, standard deviations, and effect sizes).

Table 10. Differences in Network Size and Communication Frequency by Student Disability Group

Variables	Multivariate tests				ANOVA			Mild (n = 342)		Moderate/severe (n = 167)		Effect size
	PT	F	df	η^2	F	df	R ²	M	SD	M	SD	
Network size												
Transition network					21.06**	(1, 507)	.04	16.03	8.20	19.57	8.14	.43
Individual networks	.10	19.58**	(3, 505)	.10								
School system					16.60**	(1, 507)	.03	10.40	3.65	11.74	3.06	.39
Service system					38.68**	(1, 507)	.07	2.50	2.84	4.30	3.48	.59
Community					1.59	(1, 507)	.00	3.13	3.48	3.54	3.45	.12
Communication frequency												
Transition network					2.497	(1, 507)	.01	1.97	.67	2.08	.68	.15

Note. PT = Pillai's Trace. Communication frequency based on 4-point Likert-type scale (1 = few times per year, 2 = monthly; 3 = weekly, 4 = daily). Effect size calculated using Hedge's *g*. ** $p < .01$

I conducted MANOVAs to evaluate differences in subnetwork size by student disability group. The multivariate result was significant, Pillai's Trace = 0.104, $F(3, 505) = 19.58$, $p < .001$, $\eta^2 = 0.10$. Educators who primarily supported transition-aged students with moderate/severe disabilities had significantly larger school and service subnetworks compared to educators who primarily supported transition-aged students with mild disabilities (see Table 10 for means, standard deviations, and effect sizes).

What Factors are Associated with Transition Network Size?

I used correlational analyses and linear regression to understand the factors contributing to transition network size. Transition network size had significant positive correlations with all predictor variables except race/ethnicity, urbanicity, level of education, and scores from the Orientation to Collaboration scale (see Table 7). I used the 15 predictor variables to construct a linear regression analysis demonstrating the factors associated with transition network size. A summary of the unstandardized regression coefficients and standard errors of each of the fifteen variables is provided in Table 11.

Table 11. *Summary of Regression Analyses for Transition Network Size*

Independent variable	β^a	SE ^b
Intercept	1.41	3.45
Transition caseload	.04	.02
Years working in the district	.07	.05
Years of transition experience	.04	.05
Age of educator	-.02	.04
High school or community-based teacher	4.72**	.77
Perceived level of administrative support	.21	.42
Perceived knowledge of how to establish partnerships	2.65**	.39
Perceived contribution of partnerships to improved student outcomes	.17	.41
Transition coordinator	.72	.70
Moderate/severe disabilities	3.03**	.73
Male	1.25	.95
White	.41	1.12
Rural	-.10	.68
Bachelor's	-.71	.69
Orientation to Collaboration Scale	-.03	.05
R^2	= .32	
F-Ratio	= 14.39**	

Note. $N = 502$; ** $p < .001$ (two-tailed test).

^a Unstandardized regression coefficient.

^b Standard error of unstandardized coefficient.

The regression model accounted for 32.2% of the variance in transition network size, $R^2 = .322$, $F(15, 454) = 14.35$, $p < .001$. Larger transition networks were associated with special educators who worked in a high school setting; reported having knowledge of how to establish partnerships with individuals in school systems, service systems, and communities; and whose special education caseloads mostly included transition-age students with moderate/severe disabilities.

Most variables included in the regression model were emphasized as important to collaboration during the semi-structured interviews. As one of the final questions, I asked educators about the “one factor” they felt might contribute to having a larger transition network. They primarily affirmed the importance of *perceived knowledge of how to establish partnerships*, and also focused on being “willing” to establish partnerships. Mickey said, “Number one [factor contributing to a larger network], I think it's that teachers want to participate and want to continue their education about transition and continue their communication within their network to establish those relationships for their students.” Frida agreed, “I guess [the biggest factor is] their willingness to reach out to the resources and the agencies around them.” Other variables from the model mentioned as critical factors were: caseload size, years of teaching experience, administrative support, and working in an urban school. Educators also mentioned factors not included in the model including: size of the school district, school culture, educator’s ability to multitask, and wealth of the school district.

I triangulated findings from the regression analysis with data from semi-structured interviews (see Table 12).

Table 12. Quotes Related to Significant Regression Variables

Regression variables	
High school or community-based teacher	<ul style="list-style-type: none"> • “I mean, we [high school teachers] should have a bigger network, but there should still be a network established at the middle school level and not just left for the high school teachers to have to do.” -Mickey • “I feel like the networks [of middle and high school teachers] should be similar, but I talked to... a few friends that are middle and high school teachers and they’ve never heard of VR [Vocational Rehabilitation]. So I feel like part of my role is to educate middle school and high school and even elementary school teachers about transition into, yeah. Because it’s not something far away, it’s going to happen, and you’ve got to get them ready at an early age.” -Trent • “High school is going to have a larger network I would think. Just because we think this way... you have to work on the stuff where they are, and you have to start prioritizing when you get to be 15 years old, and my outlook is that once you get to be a freshman, we’re looking at what you’re going to do when you’re 22. Transition should be my focus.” -Lorne • “I would think there would be more connections in high school just because they’re getting older and needing to make those connections more than there might be in middle school.” -Frida
Perceived knowledge of how to establish partnerships	<ul style="list-style-type: none"> • “With me, setting up an effective collaboration network starts with me. I’ve got to know what my goals are, I’ve got to know what my needs are, I’ve got to know who can help me with those goals and I’ve got to know that it’s someone that I feel comfortable working with.” -Wilma • “I guess, first of all, being willing to come to the table and collaborate. I think you have to develop relationships with the people. I think there has to be somewhat of a common vision or you’re not ever going to get anything done.” -Uma • “I do initiate most of our relationships. I would like that to change. It would be nice if there were things that were already in place, cause last year was my first year teaching high school and so you’re new and you don’t know how to get in contact with everybody. It would be nice if there were programs that were already in place where the collaboration didn’t take as much effort. Because sometimes it does feel like it takes a lot of effort on my part.” -Sonny • “I think a lot of it honestly falls on the teacher just because our field is so new. We’re still figuring out what resources are helpful, what people in our network are helpful. And so, because all of our kids are so different, every time something new pops up, a lot of times it’s on me to send an email and say, ‘Hey I have this question,’ or, ‘I need this,’ or, ‘I have an idea for you.’ Because with our students... just because of the undeniable way that they’re seen in the world, it’s not always natural for others to come to us with questions about how to serve them.” -Esther
Moderate/severe disabilities	<ul style="list-style-type: none"> • “I think they [network sizes] might be relatively the same [for students with mild and moderate/severe disabilities]. There might not be as much of a presence of support groups necessarily... and then some of these related services probably wouldn’t be present in their network. But if they were, I feel like it could only help because a lot of the barriers that students with severe disabilities face really aren’t that different than students with mild disabilities.” -Esther • “I don’t think they’d be the same. I think actually those with low-incidence disabilities would have a larger network just because there’d be more available to them... but I definitely think low-incidence teachers would have a larger network because they would be able to communicate with more individuals and more resources. They would, they could seek more for their students I feel like.” -Mickey • “I think the low-incidence teachers [would have larger transition networks]... because they’re [students with moderate/severe disabilities] going to need more services.” -Lorne • “I definitely think like with adult programs [moderate/severe disabilities] probably smaller [transition network size] because it is the minority of the students... I think often we focus on them [students with mild disabilities] and then the ones that are lower, they tend to like kind of get lost in the system.” -Sonny

Note. Larger transition networks were associated with special educators who worked in a high school or community-based setting; reported having knowledge of how to establish partnerships with individuals in school systems, service systems, and communities; and whose special education caseloads mostly included transition-aged students with moderate/severe disabilities.

I sought out quotes that provided potential explanations or support for significant predictors in the model. Some quotations also highlighted educator perspectives that diverged from the findings or revealed the nuance underlying the variables (e.g., the multiple facets of “establishing partnerships”). Special educators cited immediacy of graduation and knowledge of disability services as primary reasons *high school teachers* might have larger transition networks compared with *middle school teachers*. They also felt that middle school teachers could be doing more to establish network partners earlier in the transition process. Trent indicated that networks between middle and high school teachers should be similar in size.

Most educators confirmed that teachers with a transition caseload comprised mostly of students with *moderate/severe disabilities* (compared to mild disabilities) should have larger transition networks due to the wider availability of services and supports for students with moderate/severe disabilities and the greater need those students might have for services after

graduation. Esther thought that transition network sizes were similar regardless of student disability group; although they might vary in the composition of partners. Sonny suggested that teachers with a transition caseload comprised mostly of students with mild disabilities might have larger transition networks because students with moderate/severe disabilities were such a small proportion of the student population.

Although educators did not explicitly discuss *knowledge of how to establish partnerships* and its relation to network size; they did identify multiple facets of establishing partnerships including: determining appropriate partners, initiating communication, gauging attitudes and willingness to collaborate, and setting shared goals. They also pointed out that initiating partnerships often fell to the teacher, providing a potential explanation for the association between knowledge of how to establish partnerships and larger transition networks.

What do Special Educators Perceive as the Core Components of an “Effective” Transition Network?

Educators identified three core themes related to effective transition networks including: having the right partners, robust communication, and an emphasis on student outcomes.

The right partners. When asked what made a transition network “effective,” special educators primarily listed traits of individual partners including: invested, respectful, trusting, knowledgeable, and diverse. All educators emphasized the need for *invested* partners who were “willing to put the time in” and were enthusiastic about improving student outcomes. Deanne, a high school teacher, defined being invested as, “...just coming to the table with ideas or the ability to brainstorm and find creative ways to overcome any obstacles. It’s just trying to find

ways to make sure our kids are successful.” Trent affirmed the need for investment by discussing his own declining motivation to collaborate, “I’m almost burnt out now and I thought I would never get burnt out. I was going to save the world and get every person a job...I’ve done a lot and collaborated a lot and it can be draining...I think sometimes teachers can get complacent.”

Almost all educators articulated the importance of partners who were *respectful* in their communication including the delivery and acceptance of feedback. Half of educators also discussed *trust* as the foundation of good collaboration. Esther, a middle school teacher, shared that when collaborating with general education teachers, “there has to be a history of trust [for effective collaboration].” She went on to describe the challenges of having a strong understanding of student support needs paired with limited academic content knowledge in areas like high school math—and the vulnerability required to “admit those things and ask questions.”

Knowledgeable emerged as a desirable trait for Wilma and Uma. Uma focused on knowledgeable partners “who actually know the answers” while Wilma talked about effective collaboration starting with her own level of knowledge, “I’ve got to know what my goals are, I’ve got to know what my needs are, I’ve got to know who I know that can help me with those goals and I’ve got to know that it’s someone that I feel comfortable working with.” All but Uma cited *diversity* in resources, backgrounds, and perspectives as necessary for effective collaboration. Some educators also connected diversity to the need for mutual respect and valuing the contributions of everyone involved. Sonny said, “...that’s [diverse partners] the cool thing about collaborating, everybody brings something different to the table. It’s like, you know, the goal of diverse teams is they work to bring everything together to create this beautiful piece and so I don’t think anyone’s more important than the other because no matter how small the contribution is, it’s huge for these kids.”

The benefits of diversity within transition networks led to discussions about the ideal number of partners. Most educators echoed, “the more the merrier,” emphasizing that students with diverse needs require a diverse group of partners. In contrast, Lorne mentioned there was a point where “too many chef’s spoil the pot.” Uma also shared that it might be difficult to come to consensus with a large group. Esther bridged these two viewpoints, highlighting the importance of having a core group of collaborators—similar to a professional learning community—who could hold each other accountable and be reflective while still maintaining a “wider network of surface-level relationships.”

Robust communication. Communication was a universal component of effective transition networks, and they highlighted their ideas about communication accessibility, reciprocity, and frequency. Most educators mentioned the benefits of an “open-door policy” or “open lines of communication.” However, when asked if “who initiated communication” mattered in effective networks, educators had differing perspectives. Trent said that reciprocity, or both partners initiating communication, was critical and was a “sign that collaboration was going well.” However, about half of educators indicated that who initiated communication wasn’t important so long as communication was happening. While they believed that initiation was primarily their responsibility as the special educator, they still had hopes that this might change—particularly at the beginning stages of a partnership. Mickey stated, “I don’t [think that who initiates matters]. As long as someone initiates interaction. But I would like for the other party to initiate an interaction to begin with, because it’s really hard for me to seek out the proper parties—like who I’m supposed to talk to and what organization I need to reach out to.” A few educators shared that who should initiate depended on the purpose of the communication and an

individual's role. For example, Frida willingly initiated communication with outside agencies, but expected school partners to share in the responsibility. Similarly, a large student caseload required Esther to rely on general education teachers to reach out to her first, particularly around students who needed additional supports or scaffolding with academic content. She said, "I think the essence of it [collaboration] is it doesn't matter as long as it's an effective partnership and you're working together well. But I think there are some instances where it is the responsibility of one person or the other to take ownership over that collaborative relationship. And it depends on what the purpose of it is."

This mindset of "it depends" also emerged when discussing communication frequency. Although most educators promoted ongoing communication, frequency was dependent on the role of the other partners (e.g., paraprofessional, parent), if they were within or beyond the school system, and the level of familiarity or history of the relationship. Almost half of educators described effective networks as requiring "constant" communication. Sonny encompassed their views well, "Communication has to be constant. The minute you stop communicating, the relationship is ineffective." In contrast, Wilma stated that frequency was not important to having an effective network. Due to differing personalities, goals, and expertise, she didn't have any expectations of how often she might communicate with other partners—more important for her was just "knowing that the other person is there if you need them."

Emphasis on outcomes. Almost all educators focused on positive student outcomes as a hallmark of "effective networks." Most spoke about outcomes generally while others cited examples such as follow-through from disability agencies and organizations, obtaining paid employment, living independently, and accessing public transportation. While Wilma thought

outcomes were important, she said that transition networks should not be completely “results-oriented;” noting that the complexities of the transition process required flexibility in timelines and expectations. In addition to student outcomes, Mickey also considered the exchange of resources to be a measure of efficacy, stating, “You’re actually seeing the communication come to life [in an effective transition network]. They attend meetings, they’ll give you resources, they can give advice. You’re seeing it [collaboration] come about...and it makes a difference.”

To achieve positive outcomes, the majority of educators necessitated setting a common goal or vision for the transition network with clearly defined roles and responsibilities for each partner. Within her own network, Wilma ensured there were “checks and balances” so that no one person had more influence on the direction for the group and all partners “felt heard.” She also emphasized the importance of a good leader so that networks weren’t “pulling the rope in eight different directions.” Frida and Esther also called for networks that tracked progress and reflected on their collective efforts. Esther touched on each of these when she shared her suggestions for establishing an effective transition network,

“You shouldn’t just be like, let’s collaborate, and nobody shows up with a plan...know who is going to impact the kids that you serve, and at what intensity it may be. And then reach out, decide, would it be helpful for you all to work together and set some goals, whether it be academic goals, communication goals between you, participation goals for the kid. So, reach out, set some goals, set up some times to meet regularly. Or if you're not going to meet, sometimes still touch base via phone or send emails, some way to track what you're doing. And then I'd say, determine what kind of product or evidence you're going to have to show what the outcome of your collaborative relationship was, and then set a time to talk about what's going well, what could be done better, and then maybe set up some action steps to do it differently if you need to.”

What do Special Educators Identify as Barriers and Facilitators to Establishing an Effective Transition Network?

Special educators identified five overarching themes related to collaboration barriers and facilitators: time, knowledge, school culture, family involvement, and attitudes.

Time. All educators listed time as essential to having an effective transition network. Myriad responsibilities prevented educators from devoting enough time to establishing and maintaining their networks including: instructing students with a wide range of abilities, completing student paperwork, attending IEP meetings, and managing support staff. Half of educators also cited growing student caseloads as a looming challenge; they reported having to give up planning periods to attend their numerous IEP meetings, and receiving little to no time during the school day to collaborate with other professionals. Many admitted that collaboration was often the last thing to be addressed—they were simply overworked, and collaboration required overwhelming effort on their part. Uma echoed this feeling of defeat stating,

“This system is very much they want you to stay in your lane and probably nothing [is holding me back from collaborating] except I don't have time to coordinate all these people. As you can see, I have multiple roles within the school... If I had more time and I wasn't so tired...if I'd get a wild hair, I will. You know? Phew! But, yeah, that's pretty much it. It's just because the same people end up doing the same thing and it's just hard. And I know it's important, but I'm tired.”

Further, educators outlined the time constraints of their network partners including general education teachers, transition coordinators, and Vocational Rehabilitation (VR) counselors. Uma said, “The biggest constraint is time. We have all got so much on our plates, it is hard to devote the time... everybody who contributes the most is burned out. They're just keeping their own little balls in the air over here and can't grab one of ours.”

Facilitators of collaboration that might counter time barriers were seldom mentioned, but centered on having designated times for collaboration each week or events such as transition fairs where educators might connect with partners outside the school system. Educators also recommended that service and community partners schedule meetings during the school day or on school campuses to encourage educator attendance. Other time-related facilitators were embedded within conversations about *school culture*.

Knowledge. All educators discussed knowledge as essential to establishing an effective transition network. Educators mostly wanted to know “who to call first.” They needed information on potential network partners, what services and supports they offered, the process for obtaining those services and supports, and best practices in collaboration. No educators reported having explicit training in collaboration or existing services and supports during their postsecondary education programs or in their current position. However, a few mentioned attending trainings focused on career and technical education that were helpful for “sparking ideas” about potential job sites and employers to connect with. The most popular approach to addressing this knowledge gap was through in-service trainings (for both special educators and paraprofessionals), but a few educators also discussed the benefits of learning through mentorship. Lorne attributed her collaborative success to a mentor she reached out to early in her career. She had been teaching 18 years before she started in transition, but she still needed, “a friend who had been doing this a while.” She said, “I called the lady and I said ‘I want to know what it is you're doing, because we're going to do that in my building.’ She literally came one afternoon and sat down with me and went over everything they did. Because she helped me I try to help the other ones.” Wilma agreed that mentors were critical for new transition teachers,

“Find a good mentor. Find someone that knows how to do paperwork, find someone that is patient and that will support you as you figure out all this stuff that goes with it because there's a lot, it's not just like teaching a regular class.”

Almost half of educators also shared that their jobs would be “a lot easier” if they had a centralized list of resources so they could “create a plan of who to reach out to.” Deanne expressed a need for, “the beginner book of if you need this service, these are your people and here's the contact.” Mickey said,

“I think if I knew who to contact and what collaboration I needed to make, it would be a lot easier. But starting with a blank slate is really difficult. And so, if we had sort of a guideline or an outline to go by... maybe just having a list of resources that's distributed every school year or on the state education website in plain view where we can find it.”

Educators shared that even if they have a good understanding of who to connect with—partners change quickly. VR counselors were of particular concern because their large client caseloads were thought to be contributing to high turnover rates. Half of educators discussed their networks being negatively impacted by agency turnover. Frida summed up the group’s frustrations well, “You know, we’ll have one VR provider and then another VR provider and then another, so there’s a lot of turnover in some of those positions. So, it’s hard to make those connections if they’re constantly changing.”

In addition to their own knowledge, educators discussed the importance of making sure transition network partners were well-informed. Esther described creating folders for general educators who instructed students on her caseload with information about student support needs and strengths to inform their meetings. Trent thought it was important to share student interests and goals with potential employers and job sites because, “it makes it [collaboration] easier when they have knowledge of the student, knowledge of appropriate goals for them, realistic

expectations for them.” Lorne discussed taking parents on a trip to a vocational training program to make sure they knew about future options for their child. As a barrier to these efforts, educators also expressed frustration getting the information they needed to share with other partners. For example, educators were concerned about waiting far into the semester to obtain access to student IEP folders, needing to ask general educators repeatedly about upcoming class content and student progress, and having difficulty connecting with parents to create transition plans for students. Further, educators often encountered individuals “in charge” providing little support. Uma recalled attending a state special education conference to learn more about a Vocational Rehabilitation initiative,

“Nobody can tell you anything. I was like, ‘that’s the only reason I came to this stupid conference to begin with is because I need to know. This is the most important thing for our kids and if I don’t know it, nobody else is going to know it.’ It was frustrating to sit in there with the state people and get the runaround.”

School culture. School cultures that facilitated effective transition networks were characterized as: open minded, team-focused, inclusive, and backed by strong administrators who understood the benefits of collaboration. All but Uma and Wilma described their administrator as supportive of their collaborative efforts, but this support looked different across schools. Frida, Uma, and Esther participated in professional learning communities (PLCs) on their campuses that they described as effective. Frida talked about the impact of administrators leading by example,

“I think that if they’re pro-collaborative then it’s just going to encourage it that much more and the same thing with PLC’s...I think the more they encourage that, the more they encourage the communication, the fact that we’re all working together, I think that helps in the whole environment of the school and teachers will kind of follow.”

For Lorne and Esther, administrative support meant the freedom to pursue opportunities that really fostered networking and relationship-building. Lorne valued being able to attend meetings with service providers or take students to worksites individually as long as she had another teacher cover her class stating that he [the administrator], “just signs off on that and never flinches a lick.” Esther valued opportunities she didn’t think were available to most teachers including: hiring paraprofessionals, attending conferences, and conducting trainings for other school staff. She attributed these to “the incredible, immeasurable support of my admin.” Despite limited administrator support, Uma and Wilma still seemed to develop expansive transition networks. Uma had recently experienced a quick succession of multiple administrators with wildly divergent goals—leaving the school staff with low morale and little motivation to collaborate. Wilma seemed more self-reliant, stating, “It's not that I don't feel supported, I feel like I just do what I do. I do what I do and as long as I don't cause trouble, it's okay.”

Beyond support from principals, educators expected transition coordinators and special education supervisors to “act as a liaison” with service system and community partners. However, individuals in these roles were often called on to “put out fires” and were unable to consistently contribute to their collaborative efforts. Mickey highlighted the lack of coordination between middle school and high school teachers and the limited efforts of middle school teachers to establish transition networks prior to high school as substantial barriers. About half of educators also had a hard time establishing partnerships because of bureaucracy. For example, Sonny was reprimanded for reaching out directly to a VR counselor because she was not following the proper channels of communication.

Inclusive school culture surfaced as a necessary facilitator for effective transition networks for about half of educators. Educators discussed both “feeling included” and their

students being physically included in school activities and general education classes. Wilma's classroom existed within a high school, but her students were all over 18. She talked about her class being "tolerated," but ultimately feeling "uninvited," and how the large age difference made it inappropriate for the students to attend common activities like pep rallies. This greatly reduced Wilma's collaboration with other school professionals. Sonny also experienced limited collaboration with other school partners, but her concerns were related to students only being included in specials such as Physical Education (PE) and Art. This limited inclusion led to difficulty engaging general educators in the IEP process because they had little understanding of the student's strengths, support needs, and goals. Mickey's students also experienced limited inclusion, and she said this caused general education teachers to be, "at the bottom of my list of people that I need to get my kids in contact with." She described needing more opportunities for students to meaningfully engage with school staff beyond PE and the school recycling program. In contrast, Uma thought of the separation of her students as a positive. She said it kept potentially negative aspects of the school culture from impacting them, and was happy to collaborate with a smaller group of school staff.

Family involvement. Although family involvement wasn't explicitly discussed as a facilitator of effective transition networks, families emerged throughout the interviews as critical to successful collaboration and, ultimately, student outcomes. All educators cited a range of important information families provided that might inform which partners to involve in the transition process including: student strengths, preferences, and interests; financial and logistical barriers that might need to be addressed; and the families' vision for employment, postsecondary education, and independent living. Input was particularly important from students. Frida said,

“Anything that we’re doing that has to do with you [the student] and your planning and your future and your education, involves you and so you need to be there. You need to be at that meeting. You need to be telling what we can do as an education system to better support you. What skills are we not teaching you that you need? Be open and honest with me about where you want to be after high school and what you want to do and work toward that goal to get you there.”

Conversations also focused on the benefits of ongoing communication with families throughout the transition process to prepare them for life after graduation. Educators emphasized in-person meetings and “face-to-face time,” but also recognized that those weren’t the only ways to get involved. Trent said, “There’s a student—this is his third year and I still haven’t met his mom, but I know that I can call her and she’s going to pick up every time I call, and she’s going to text me back and she’s going to email back right away. So, that investment from the parents goes a long way.”

When partnerships with families were lacking, educators also noted the barriers that emerged. Ruth described having all of her “players on the team,” but often not being able to achieve positive postschool outcomes because of a lack of student and parent involvement. Frida expressed that onus was on the special educator to engage families stating, “How dare we think that they’re going to follow this plan if they’re not a part of creating that plan.” Wilma described a recurring scenario in which she helped to establish a transition network, but had difficulty shifting the ownership to the parent leading up to graduation. She attributed this barrier to improperly preparing families for the realities of the service system. She said,

“The biggest barrier is that the education system is not set up like the adult system, and we’ve trained the parents [to assume they are similar] for 17 years. The education system is going to do everything you ask them to, but the post-school [system] is not going to do that. The parents have to make the calls, the parents have to follow through, the parents have to fill out the paperwork, the students have to ask for things, and I find that [to be] the biggest barrier because I can give information...but then they don’t follow up. It’s not that anybody is not

wanting to help, it's just that there's a disconnect between [the school system and the service system]... We've raised these kids and we raised these parents to think things are going to be done and then all of a sudden, they're not, and everything falls apart.”

All educators recognized that while family involvement was ideal, families often faced the same barriers they did in their efforts: lack of transportation, knowledge, time, and support.

However, not all educators experienced a lack of family engagement. Esther, a middle school teacher working in an affluent neighborhood, highlighted the overwhelming involvement of parents and students in the transition process. She credited families with expanding her transition network. For example, families recently connected her to an inclusive baseball league and inclusive faith programs that might be beneficial for other students.

Attitudes. When discussing attitudes as a facilitator to effective transition networks, educators focused on their own attitudes and approaches. Conversations centered on the need for transition teachers to often step out of their comfort zone; acting as the primary initiator of communication, connecting with unknown partners, and being assertive when partners were unresponsive. Most educators reported feeling very comfortable in this role, but Mickey still thought this was an area for growth stating,

“I forget that there's such a huge network of individuals and groups that can help me out, that I just usually fall back on what I know. And that's definitely a downfall of mine. I don't expand my horizons and try to step out of my comfort zone. But that's something that I definitely have to do.”

Similarly, Trent talked about how his feelings had changed over time, “I mean, my first couple years teaching, I wouldn't have said that I was, no [comfortable initiating partnerships]. But yeah, now that I've established in the disability community here and getting to know people and just broaden my network I'm super comfortable.”

Attitudes also emerged as a barrier that prevented willing partners from coming to the table. Participants cited general stigmas about disability persistent across other special educators, general educators, employers, local government leaders, and communities. Further, Lorne and Ruth mentioned how negative school district reputations contributed to lower levels of support from community partners. However, Lorne recently saw a change in attitudes as the school's athletic performance improved. She said, "Because they've been better we have had more support. I used to think 'that's crazy' but I saw it. The better they do, the more likely they [service system and community partners] are to be willing to work with your school." Esther, a middle school special educator, discussed how negative perceptions impact her own collaboration and the inclusion of her students,

"I think sometimes the way that the population of students that we work with is seen in our world in general translates into how valuable others find it to collaborate with the person that teaches them. Does that make sense? I get to see my kids every day. I know them really well. I know what their gifts are and what their strengths are and why they are valuable, not just in my room but in every class in this building if they were to choose that. But I think because of the direct history that surrounds our very young field, others, specifically people who have been working in education for a long time, still see this idea of partnering with me or including my students in their class as something novel and experimental."

Only one educator, Ruth, discussed how to combat negative attitudes to maintain partnerships over time. She thought the answer was, "PR [public relations]. It's being kind. It's making people feel like they're valued...I'm real big on saying, 'Hey, I appreciate you. Together we're serving the students.' Life works a whole lot better when we work together."

What do Special Educators Describe as the Benefits of Effective Transition Networks?

Effective transition networks provided benefits for educators, other network partners, and ultimately students and their families. The greatest benefit to educators was access to information

and resources they could share with families. Frida said, “I mean, I may have a great bag of tools and tricks, but when you get 10 people together that have 10 bags of tools and tricks-it’s just that much more valuable for the students. I think the benefit is in the numbers and in the resources.” Effective networks also led to shared responsibility which eased the demands on some educators. Wilma said, “I have a hard time letting go of control and so with collaboration, sometimes I don't feel the pressure to make all the decisions or come up with all the ideas. It's very exhausting to feel like you have to be the one all the time that does everything, collaboration is good for that.” Esther shared that her transition network had shifted her mindset from “because this child is on my caseload I need to do everything for them,” to thinking of her role as more of a “support” or “bridging the gap.” For Uma and Sonny, the diverse perspectives were an asset. Uma said, “I’m old school, so it’s very nice to have different perspectives not only on what the problems are, but problem solving how we can work together to make sure that all of our kids are having their needs met.”

Educators also discussed mutual benefits for transition network partners through the exchange of information and ideas. Lorne recalled attending district meetings where educators and employers worked together to identify critical industry-specific skills. She then integrated those skills into her transition program; creating a pipeline to potential employees who were well-prepared for the job. Lorne also highlighted her relationship with VR which helped her by connecting students to jobs, but also benefitted VR by familiarizing them with potential clients and providing access to new and existing evaluation data. Other educators mentioned mutual benefits, but their responses were less explicit. When asked how network partners benefitted from their relationship, Deanne said, “I'm hoping that I'm able to give them just as many good

ideas as they have given me, or helped them think in different way, creatively, on how to solve a problem or an issue.”

All educators noted that effective transition networks contributed to positive student outcomes. Although educators didn't provide specific examples, they shared anecdotes and their own perspectives. Wilma thought that bringing partners from outside the school system into the network was a great opportunity for families to get a glimpse of “real life” and the partners they would come to depend on after graduation. Trent described his “strong circle of support” as a pathway to “paid jobs, independent living situations, and services that provide a pathway to happiness and a good quality life.” Mickey shared that her transition network produced real results for students, “You see your kids reach goals and find their worth in different programs available to them. Whether it be a job or post-secondary education or just different programs available to them that they didn't know about. You see results from the process and that makes a difference.” Finally, Frida knew that her network was effective because, “You see the benefits. You see that the cooperation of working together and your providing additional services or additional information that they would not get otherwise if you were trying to do it alone. So, I think the benefit to the collaboration is just seeing the students grow.”

Chapter IV

Discussion

Successful transition outcomes for youth with disabilities necessitate collaboration within and beyond the school system (Kohler & Field, 2003; Oertle & Trach, 2007; Test, Mazzotti, et al., 2009). This collaboration entails many professionals with expertise in varied services and supports coming together with special educators to form a “transition network” for individual students. Ideally, special educators develop transition networks early on, drawing from partners across school systems, service systems, and communities. This mixed methods study examined the transition networks of middle and high school special education teachers in one southeastern state to identify (a) who special educators list as transition network partners, (b) how they communicate with those partners, (c) which school- and educator-level factors were associated with larger networks, (d) educator perceptions about the value of individual partnerships to student outcomes, and (e) educator perceptions about establishing “effective” transition networks. These findings provide important insights into the transition networks of special educators.

First, special educators reported communicating with a wide range of partners during the transition process. The average transition network included 17 partners (educators could select from a list of 45 potential partners); with an average of 11 partners drawn from school subnetworks. For service and community subnetworks, educators typically communicated with three partners from each network. Within schools, communication frequency varied widely based on role. For example, daily communication occurred most often with paraprofessionals

and other teachers. Communication was typically reported as monthly for supervisors and administrators; and a few times per year for related service providers and the school nurse. Communication within service and community subnetworks was more consistent. Across all partners, most educators reported communicating a few times per year. Communication was described as mostly reciprocal (i.e., both parties initiated communication) for all 45 partners. These findings suggest that educators draw on a range of partners throughout the transition process. As transition networks increase in size (and the diversity of roles represented), educators gain access to additional resources they might mobilize to improve postschool outcomes. Further, educators are able to connect youth with disabilities and their families to a wider range of partners that might provide services and supports after graduation.

Second, network members from beyond the school system were much more limited. For example, 17.5% of special educators reported networks void of both service system and community partners. Further, 10.0% of special educators reported not knowing anyone from the service subnetwork and 12.2% reported not knowing anyone from the community subnetwork. These findings align with previous research indicating that the majority of active participants in transition planning are school personnel and that there is limited involvement of outside agencies and supports (Shogren & Plotner, 2012). Although expected, these narrow transition networks contribute to persistently dismal postschool outcomes, particularly for students with moderate/severe disabilities, who will have more extensive support needs after high school. Educators must connect with partners from service systems and communities early on in the transition process to allow families and students sufficient time to build relationships, identify necessary postschool supports, develop strategies to address these support needs, and facilitate a streamlined shift to life after graduation.

The literature outlines myriad barriers contributing to limited transition collaboration including: prohibitive school culture, lack of administrative support, limited knowledge of available services and supports, and low family involvement (Benitez et al., 2009; Morningstar, Kleinhammer-Tramill, & Lattin, 1999; Noonan et al., 2008; Povenmire-Kirk et al., 2015). Participants from this study echoed these same barriers, and highlighted additional challenges more specific to external partners including: negative attitudes of external partners, limited knowledge of external partners about disability and transition, and excessive turnover rates for service providers (e.g., Vocational Rehabilitation counselors). Future interventions are needed to begin to address these barriers and encourage the participation of a wide range of partners in the transition process.

Third, the perceived value of partnerships varied across school, service, and community subnetworks. For all 45 transition partners, at least half of educators agreed that their communication contributed to improved student outcomes. However, rates of agreement were about 10% higher for school partners; with more than 85% of educators recognizing that their communication with other special education teachers, special educator supervisors, and transition coordinators contributed to improved student outcomes. Only one partner from outside the school system, vocational training programs, had a similarly high rate of agreement (87.0%). When asked about their preferences for future communication, the majority of educators preferred for communication frequency with school partners to remain the same. The only outliers were transition coordinators and career and technical education teachers with 52.0% and 51.8% of educators, respectively, hoping for an increase in future communication. In contrast, the majority of educators preferred for communication to increase in the future across all 30 service and community partners. Educators most wanted to increase communication with

vocational training programs, supported employment providers, local employers, and disability-specific agencies (e.g., Autism Tennessee, The Down Syndrome Association). Although I cannot evaluate the specific nature of each partnership, it may also be that educators attach different value to partnerships based on student goals, strengths, disability labels, and transition timelines. More research is needed to link the participation of specific transition partners or clusters of partners to student outcome data across employment, post-secondary education, and independent living.

Fourth, many take-aways from this study identified new factors that may influence transition network size. Although administrator support, years of experience, and having a transition coordinator were cited as critical to collaboration in previous studies (e.g., Benitez et al., 2009; Noonan et al., 2008; Taylor et al., 2016), they were not associated with larger transition networks in this study. Instead, the most salient factors that emerged were: working in a high school, having a transition caseload with mostly students with moderate/severe disabilities, and knowing how to establish collaborative partnerships within school systems, service systems, and communities. High school teachers reported significantly larger and more communicative transition networks than middle school teachers. They not only identified more overall partners, but also more partners from each subnetwork (i.e., school, service, and community). During interviews, some special educators called for increased efforts by middle school teachers to establish transition networks. However, they also recognized that middle school teachers faced considerable barriers to collaboration including: limited understanding of available services and supports, lack of knowledge of student and family goals for the future, and limited time for collaboration stemming from a focus on academic instruction. To date, there is little information on the transition practices of middle school special educators and their

perspectives on transition collaboration. Although the benefits of early transition planning and preparation are emerging in recent research (Cimera, Burgess, & Wiley, 2013; Kohler & Field, 2003), it is unclear how larger transition networks in middle school might (a) influence the networks of high school teachers as students move through the transition process and (b) shape post-school outcomes for students.

Special educators with transition caseloads comprised primarily of students with moderate/severe disabilities (compared to mild disabilities) reported larger overall networks as well as more partners from school and service subnetworks. Participant interviews pointed to some potential explanations including larger caseload size for teachers of students with mild disabilities, a lack of outside services and supports designed specifically for students with mild disabilities, and a focus on academic instruction and meeting graduation requirements that leaves little time for transition planning and collaboration. Teachers of students with moderate/severe disabilities also likely spend more time in the community participating in work-based learning and community-based instruction which help foster partnerships beyond the school walls. Beyond network size, educators serving these two groups appear to communicate with different network partners. For example, in the mild disability group, teachers were more likely to communicate with the Armed Forces, 2- and 4-year colleges, and craft apprenticeship programs. For the moderate/severe disability group, teachers were more likely to communicate with local employers, faith communities, and service organizations. More research is needed to identify the source of these differences in network size, which partners might be most important for specific groups of students, and how the composition of transition networks might influence student outcomes.

Knowledge of how to establish partnerships was also associated with larger transition

networks. Although these results support previous research highlighting the importance of increasing educator preparation in collaboration and building understanding around the roles and responsibilities of collaborative partners (Benitez et al., 2009; Noonan et al., 2012; Plotner et al., 2018), it is unclear what “knowledge of how to establish partnerships” encompasses. Interview findings pointed to multiple facets of establishing partnerships including: determining appropriate partners, initiating communication, gauging attitudes and willingness to collaborate, and setting shared goals. As a malleable, teacher-level factor, future research should begin to identify the multiple components of establishing and maintaining collaborative partnerships and the most effective ways of disseminating this information to special educators.

Fifth, special educator views on transition collaboration converge with and diverge from previous research. To date, limited research on transition collaboration has focused on special educator perspectives (e.g., Benitez et al., 2009; Plotner et al., 2018; Taylor, Morgan, & Callow-Heusser, 2016). Instead, collaboration has been explored through the lenses of transition coordinators, district personnel, and state agencies (e.g., Noonan et al., 2012; Noonan et al., 2008; Povenmire-Kirk et al., 2015). Many of the facilitators of effective collaboration identified in this study aligned with views from these other stakeholders including: time, clear roles and responsibilities, knowledge of existing services and supports, family involvement, administrative support, and the involvement of transition coordinators. However, participants also identified some novel barriers to collaboration including: turnover of agency representatives and bureaucratic district policies that limit communication with external partners.

Beyond discussing how to promote collaboration, educators also addressed communication and what might make communication within transition networks “effective.” Current studies evaluating levels of collaboration use communication frequency as a primary

measure (Flowers et al., 2018; Noonan et al., 2012; Plotner et al., 2018). More frequent communication is assumed to be more indicative of deeper or more “effective” collaboration. In contrast, participants in this study emphasized that communication frequency alone was unimportant. They expressed that communication frequency was dependent on the purpose of the collaboration and the role of the collaboration partner. For example, educators would not expect to communicate with Vocational Rehabilitation or local employers as often as paraprofessionals or general education teachers. They also shared that communication frequency would likely vary depending on the student’s graduation timeline (i.e., they might communicate with outside partners more often as students near graduation). Further, educators did not feel that reciprocal communication was necessary. Although they desired for other partners to initiate communication more often, they did not anticipate that outside partners would initiate communication as often as school-based partners. And again, they felt that who initiated communication would depend on the topic and purpose of collaboration. In addition to communication, educators raised other critical aspects of collaboration—some of which are included in existing collaboration measures—such as shared decision making, clearly defined roles, and sharing of resources. However, findings suggest that more nuanced measures integrating collaboration purpose, quality of interactions, and the value of resources exchanged are necessary to truly capture this complex construct.

Limitations and Future Research

This study has a number of limitations which should be considered when interpreting results. First, the study relied on self-reporting by special educators. The transition network partners identified by participants and the descriptions of their relationships (i.e., communication

frequency, who initiated communication, if the partnership contributed to improved outcomes for students, preferences for future communication) were not evaluated for accuracy and may be inaccurate or incomplete. Further, network partners might characterize their relationships with special educators differently. To assess the validity of self-report data, future studies should collect network data at multiple time points and from multiple transition network partners to compare ratings within dyads (i.e., do both partners rate the same frequency of communication).

Second, the study used a fixed roster of transition network partners. Although the list of partners was informed by a review of the literature and reviewed by the pilot group, it is possible that critical partners might be missing from the roster or that the broad roles included in the roster (e.g., specific disability agencies, supported employment providers) were interpreted differently across participants. Further, the fixed roster did not provide opportunities to identify and describe partnerships with multiple individuals in each role (e.g., partnerships with multiple general education teachers) which might have provided a clearer understanding of the size of transition networks. Although I included an option to write-in additional roles, few novel roles were listed. Most additional roles were duplicated in the roster. The survey design did not allow for capturing further information on these novel partners. Another concern of using fixed rosters is that participants might overestimate their network partners due to susceptibility for socially desirable answers (Van der Gaag & Snijders, 2005).

Although fixed rosters allow for convenient and low-cost data collection, future researchers should consider shifting toward more open approaches to data collection such as name generators (McCallister & Fischer, 1978). Using this approach, educators would list all of the partners they communicate with about transition topics—regardless of role. Using name generators combined with more network-centered questions, researchers could then collect data

on the characteristics of each partner and their relationships to other partners in the network. (e.g., does the transition coordinator know and communicate with the VR counselor). Further, extending the same questions to each network partner might provide a more comprehensive and detailed estimate of transition network size (Van der Gaag & Webber, 2008).

Third, I conducted semi-structured interviews with a subset of survey respondents who primarily supported students with moderate/severe disabilities and reported having a large transition network which limits the transferability of the findings. The perceptions of this subset of participants might not fully reflect the views of the full survey sample, particularly those educators primarily supporting students with mild disabilities. This sample could be enhanced with the inclusion of teachers of students with mild disabilities, additional middle school teachers, teachers from other race/ethnicity groups, and teachers with smaller transition networks. These educators might provide a broader range of collaborative experiences and approaches that inform and build on the qualitative coding framework. Further, diverse perspectives would facilitate identifying patterns or core themes that emerge across the sample.

Fourth, although the purpose of the study was to examine the transition networks of special educators, I discovered through interview recruitment that a small number of participants were employed as special education supervisors or transition coordinators. Due to the status, roles, and responsibilities of individuals in these roles; they might have notably larger transition networks and transition caseloads compared with classroom teachers. The design of the survey did not allow for the identification and removal of these participants. Future studies should use additional items beyond special education caseload and special education certification (e.g., How many students do you currently write IEPs for?, How many students do you provide direct instruction to?) to identify the target population. These distinctions are critical as special

educators in multiple roles (e.g., special education supervisor, transition coordinator) might continue to support a small caseload of students or might consider all students that are included in a school or district as part of their caseload.

Fifth, a primary variable in the study was student disability group (i.e., mild disabilities, moderate/severe disabilities). Although participants selected the group that represented “most” of the transition-age students on their caseload, it is very likely that their caseloads included a mix of students from each category. Further, the use of only two categories (and their definitions) oversimplified the complexities of disability and did not provide opportunities to capture the wide range of strengths and support needs across students. Additional research is needed addressing how student disability labels (e.g., autism, intellectual disability, visual impairment) as well as belonging to marginalized groups (e.g., low-income, English language learners) might influence the composition and characteristics of transition networks. Further how those networks are associated with student outcome data across employment, post-secondary education, and independent living to determine which partners or network characteristics might be associated with improved student outcomes.

Implications for Practice

Findings from this study have important implications for practice. Identifying who educators include in their transition networks and how they engage with those partners is an important first step in understanding how the social capital of middle and high school special educators contributes to successful postschool outcomes for students. Further, analyses of both the qualitative and quantitative data point to actions that educators, administrators and districts

might take to expand transition networks and facilitate collaboration throughout the transition process.

Special educators. Although educators interviewed for this study had larger transition networks than average, most of their networks were still lacking critical service and community partners. As part of individual interviews, educators viewed visual representations of the partners they reported being within and outside of their transition networks. Throughout the interviews, many educators began to reflect on with whom they collaborated, what resources each partner provided, and where they might begin to expand their networks based on the needs and strengths of individual students. By engaging in mapping exercises using the roles included in this study, the transition literature, and personal experiences, educators can begin to develop a plan for their collaborative efforts. Although a larger network was not always viewed as “more effective” by participants, establishing partnerships with a wide range of individual across schools, service systems, and communities provides educators with access to information, resources, and assistance that might streamline the transition process for students and their families. Participants identified several strategies for establishing new partnerships including (a) connecting with service and community partners early in the transition process, (b) creating a plan of action and setting network goals related to who to reach out to and how often, (c) and working with students and their families early on to identify postschool goals that might require the involvement of specific partners.

Participants also recognized that collaboration was extremely time-intensive and they often felt pressured to initiate partnerships and communication—particularly with partners outside the school system. Special educators should seek out assistance from their colleagues, supervisors, and administrators to find feasible ways they might support collaborative efforts.

Working to together to create list of existing services and supports, connect with potential mentors, or identify 1-2 hours per week of time that might be committed to collaboration are all practical strategies to begin expanding a transition network.

Administrators. Although perceived administrative support of collaboration did not emerge as a significant factor associated with network size, educators cited school culture as a primary facilitator of effective collaboration. Administrators play a large role in setting the tone for school culture, but are often detached from the transition process. Recommendations for administrators from this study mirrored those of previous research including (a) providing flexible scheduling for educators to meet with outside partners, (b) modeling collaboration through interactions with teachers and school staff, and (c) offering professional development related to existing transition services and supports (Noonan et al., 2012; Noonan et al., 2008). Educators also expanded on these recommendations; highlighting the need for professional learning communities (PLCs). While PLCs have widely been used to increase school-based collaboration and academic achievement for students (Vescio, Ross, & Adams, 2008), creating PLCs focused on transition planning and postschool outcomes is a novel approach to increasing the efficacy of school-based transition networks. Further, they can be expanded to reflect emerging models for interagency collaboration such as CIRCLES (Flowers et al., 2018; Povenmire-Kirk et al., 2015) which utilizes school-level teams comprised of school and service system partners who meet monthly to address the post-school goals of students and their families.

Another area administrators might focus their efforts is inclusion. Educators from this study called for increased inclusion not only to address the academic needs of students, but to

allow for more productive collaboration with general educators around transition planning and IEP meetings. Further, educators in this study described their physical proximity from other school staff as a barrier to collaboration; often residing in classrooms far from other colleagues which prevented them from building relationships and staying informed of school happenings. Those educators with students older than 18 also desired opportunities to be more included in the community as they felt that was more age-appropriate. Granting opportunities for transition teachers to attend off-site locations with students for community experiences and community-based instruction is a well-established strategy to connect students and educators to community partners and the wealth of resources they might bring to the transition process.

Districts. Participants mentioned two primary facilitators of effective transition networks that might be best addressed at the district level. First, participants depended on transition coordinators to provide them with information on existing services and supports and to connect them with potential partners in the community. For educators who had classrooms in the community, they also worked with coordinators to identify potential jobsites for internships and postschool opportunities. Although having a transition coordinator did not emerge as a significant factor associated with larger transition networks, all of the educators discussed the benefits of having a transition coordinator—even if they currently did not have one. The positive contributions of transition coordinators to information dissemination, managing relationships with service system partners, and working alongside families and students are also noted in previous research (Noonan et al., 2008). Survey results indicated that only 59.3% of special educators had communicated with a transition coordinator in the previous two years about transition topics. Further interviews revealed that when transition coordinators are working for

the district, they are often preoccupied with administrative issues or “putting out fires.” One educator noted that their transition coordinator had to return to the classroom because of a teacher shortage. Although additional staff require a significant investment by a school system, districts should consider options to employ coordinators—even if resources only allow for part-time employment.

Second, caseload size was a major concern for special educators. Within this study, the average caseload size was 26.2 students; for interview participants the average caseload size was 13.6 students. Large caseloads and the required planning, paperwork, and case management associated with those caseloads were attributed to less time and effort educators could devote to collaboration. Although caseloads per campus are unlikely to change, districts should consider policies and practices to equitably distribute students among special educators and provide supports at the campus level to assist with the considerable paperwork and planning that accompany large caseload sizes.

Conclusion

Collaboration between school systems, service systems, and communities is essential to effectively streamlining the transition of students with disabilities and their families to life after graduation. The results of this mixed methods study provide insight into the “transition networks” of middle and high school special educators and how they engage partners both within and beyond the school system to provide services and supports to their transition-aged students. Findings suggest that while special educators communicate with a wide range of partners in the transition process, most partnerships are concentrated within the school system. Further, data indicated that larger transition networks were associated with working in a high school, primarily

supporting students with moderate/severe disabilities, and reporting high levels of knowledge about how to establish collaborative partnerships. Educators shared their perspectives related to collaboration, provided myriad recommendations for establishing effective transition networks, and outlined practical considerations for special educators, administrators, and school districts. Future research is needed to develop interventions to expand the transition collaboration of secondary special educators and evaluate how the characteristics of transition networks might influence postschool outcomes for students with disabilities.

Appendix A

Collective Orientation Scale

15 items on a 5-point scale. Please indicate agreement with each of the following statements.

1 = Definitely agree

2 = Somewhat agree

3 = No opinion

4 = Somewhat disagree

5 = Definitely disagree

1. I find working on team projects to be very satisfying.

2. I would rather take action on my own than wait around for others' input.

3. I prefer to complete a task from beginning to end with no assistance from others.

4. Teams usually work very effectively.

5. I think it is usually better to take the bull by the horns and do something yourself, rather than wait to get input from others.

6. For most tasks, I would rather work alone than as part of a group.

7. I find it easy to negotiate with other who hold different viewpoints than I hold.

8. I can usually perform better when I work on my own.

9. I always ask for information from others before making any important decision.

10. I find that it is often more productive to work on my own than with others.

11. When solving a problem, it is very important to make your own decision and stick by it.

12. When I disagree with other team members, I tend to go with my own gut feelings.

13. When I have a different opinion than another group member, I usually try to stick with my own opinion.

14. It is more important to stick to your own decisions, even when others around you are trying to get you to change.

15. When others disagree, it is important to hold one's own ground and not give in.

Affiliation items: 1-10; Dominance items: 11-15

6 items should be reverse coded: 2, 3, 5, 6, 8, 10

Appendix B

Semi-structured interview protocol

Today we will talk about collaboration—who you currently collaborate with on transition topics and a little bit about your relationships. Our conversation today and any direct quotes from this interview will be anonymized so that you cannot be identified. Additionally, you can choose to stop the interview or not respond to specific questions at any time. Let's start by stating your name, age, and the number of years you have been teaching.

Section I Educator Background

- How did you get your start in transition?
 - *Were there any specific events or individuals that influenced you?*
- Within your school/ district what are your responsibilities related to transition?
- What are the primary disabilities of transition-age students on your caseload?
 - *Mild/ moderate/ severe?*
- How would you describe the likely postschool outcomes of your transition-age students related to: Employment? Post-secondary education? Independent living?
 - *Where do you think most of your students will live after graduation? Where will they work? Will they attend higher education programs? What factors most impact their outcomes?*
- What training have you received during school or on-the-job specific to transition? Specific to collaboration?
- What does collaboration mean to you?
- How do you know when collaboration is effective? What are the characteristics of effective collaboration?
 - *How does how often you communicate impact effectiveness?*
 - *How does who initiates interactions impact effectiveness?*
 - *How do the specific resources you bring to the relationship impact effectiveness?*
 - *How does school culture impact collaboration?*
 - *How does administrative support impact collaboration?*
 - *How does knowing how to collaborate impact collaboration?*
 - *How does the number of people you collaborate with impact effectiveness?*
- What are the steps involved in starting a collaborative partnership?
- What is involved in maintaining a collaborative partnership?
- What are the benefits of collaboration?
 - *What are the benefits to you?*
 - *What are the benefits to your students and their families?*
 - *What are the benefits to those you collaborate with?*
- Describe your collaboration with families during the transition process
- Describe your collaboration with students during the transition process

Section II Survey Responses

- Looking at your responses about your school network...
 - *These are the partners you identified in your survey. Can you place them into these circles based on how important you feel their collaboration is to improved outcomes for your students.*

- So let's briefly talk about these partners. We can start with disability agencies and providers. You can talk about them as a group or if answers are different across partners, we can discuss each one individually
 - How did your relationships with these partners start?
 - How have these partners been included in your IEP/ transition planning process (valuable? What was their role?)
 - When you collaborate about transition, what are their roles?
 - When you collaborate about transition, what are your roles?
 - Of these partners, tell me more about
 - *direct assistance with transition tasks they provide -tell me more*
 - *guidance or advice on transition topics-tell me more*
 - *information about transition topics-tell me more*
 - How do you typically communicate with these partners?
 - Do you feel these partnerships are effective? What makes them effective/ ineffective?
 - What are the benefits of collaborating with disability agencies and providers?
 - What are the barriers to collaborating with disability agencies and providers?
 - What would make collaborating with disability agencies and providers easier or more effective?
 - *How does time impact your collaboration with agencies and providers? How much time would you need?*
 - *How do you feel supported to collaborate with agencies and providers? Who would you need support from? Colleagues, administrators, supervisors? How could they help support your efforts?*
 - *How comfortable are you initiating partnerships with agencies and providers? What knowledge/ support would you need to feel comfortable?*
 - *How much knowledge do you feel you have about how to purposefully and meaningfully collaborate with agencies and providers?*
 - *What attitudes or behaviors might need to change to make collaboration with agencies and providers easier?*
 - *What opportunities do you have to meet these partners and build relationships? What could facilitate this?*
- Are there any of these partners that you don't know or haven't collaborated with that you would like to?
 - *What do you think they might contribute?*
 - *What's holding you back?*

Section III Views on Collaboration

- Has your approach to collaboration changed since you first started teaching/ in recent years?
 - *If it did change, why did it change? (e.g., policy, knowledge, training, admin support)*
- Can you tell me about a time when collaboration really helped one of your students or the families you support?
- Can you tell me about a time that collaboration really helped you in your role as a transition teacher?
- Looking at your transition network that you have built...

- What do you think are the key ingredients or characteristics of an effective transition network?
- What are the barriers to building effective transition networks? What gets in the way?
- What are the facilitators of building effective transition networks?
- How do you benefit from this transition network directly?
- How do the students and families you work with benefit from this transition network?
- What kind of differences in transition networks would you expect across teachers of students with mild and mod/severe disabilities?
- Why do you think teachers with students with more severe disabilities might have larger transition networks?
- What kind of differences in transition networks would you expect across rural and urban teachers?
- What kind of differences in transition networks would you expect across middle and high school teachers?
- Why do you think high school teachers might have larger transition networks than middle school teachers?
- What do you think is the biggest factor in how large a teacher's transition network is?
- What advice would you give a novice teacher about collaboration?

References

- Agran, M., Cain, H. M., & Cavin, M. D. (2002). Enhancing the involvement of rehabilitation counselors in the transition process. *Career Development for Exceptional Individuals, 25*, 141-155. doi:10.1177/088572880202500204
- Baer, R., Daviso, A., Queen, R., & Flexer, R. (2011). Disproportionality in transition services: A descriptive study. *Education and Training in Autism and Developmental Disabilities, 46*, 172-185.
- Bates-Harris, C. (2012). Segregated and exploited: The failure of the disability service system to provide quality work. *Journal of Vocational Rehabilitation, 36*, 39-64. doi:10.3233/JVR-2012-0581
- Balcazar, F. E., Taylor-Ritzler, T., Dimpfl, S., Portillo-Peña, N., Guzman, A., Schiff, R., & Murvay, M. (2012). Improving the transition outcomes of low-income minority youth with disabilities. *Exceptionality, 20*, 114-132. doi:10.1080/09362835.2012.670599
- Benitez, D. T., Morningstar, M. E., & Frey, B. B. (2009). A multistate survey of special education teachers' perceptions of their transition competencies. *Career Development for Exceptional Individuals, 32*, 6-16. doi:10.1177/0885728808323945
- Berg, B. L. (2004). *Qualitative research methods for the social sciences* (5th ed.). Long Beach, CA: Pearson Education.
- Blustein, C. L., Carter, E. W., & McMillan, E. D. (2016). The voices of parents: Post-high school expectations, priorities, and concerns for children with intellectual and developmental disabilities. *The Journal of Special Education, 50*, 164-177. doi:10.1177/0022466916641381

- Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). New York, NY: Greenwood.
- Bullis, M., Davis, C., Bull, B., & Johnson, B. (1995). Transition achievement among young adults with deafness: What variables relate to success?. *Rehabilitation Counseling Bulletin, 39*, 130-150.
- Bumble, J. L., Carter, E. W., Bethune, L. K., Day, T., & McMillan, E. D. (2019). Community conversations on inclusive higher education for students with intellectual disability. *Career Development and Transition for Exceptional Individuals, 42*, 29-42.
doi:10.1177/2165143418781303
- Bumble, J. L., Carter, E. W., McMillan, E., Manikas, A. S., & Bethune, L. K. (2017). Community conversations on integrated employment: Examining individualization, influential factors, and impact. *Journal of Disability Policy Studies, 28*, 229-243.
doi:10.1177/1044207317739401
- Carlson, E., Brauen, M., Klein, S., Schroll, K., & Willig, S. (2002). *Study of personnel needs in special education*. Rockville, MD: Westat Research Corporation.
- Carter, E. W., Brock, M. E., & Trainor, A. A. (2014). Transition assessment and planning for youth with severe intellectual and developmental disabilities. *The Journal of Special Education, 47*, 245-255. doi:10.1177/0022466912456241
- Carter, E. W., Blustein, C. L., Bumble, J. L., Harvey, S., Henderson, L., & McMillan, E. (2016). Engaging communities in identifying local strategies for expanding integrated employment during and after high school. *American Journal on Intellectual and Developmental Disabilities, 121*, 398-418. doi:10.1352/1944-7558-121.5

- Carter, E. W., & Bumble, J. L. (2018). The promise and possibilities of community conversations: Expanding opportunities for people with disabilities. *Journal of Disability Policy Studies, 28*, 195-202. doi:10.1177/1044207317739408
- Carter, E. W., Swedeen, B., Moss, C. K., & Pesko, M. J. (2010). "What are you doing after school?" Promoting extracurricular involvement for transition-age youth with disabilities. *Intervention in School and Clinic, 45*, 275-283. doi:10.1177/1053451209359077
- Carter, E. W., Trainor, A. A., Ditchman, N., & Owens, L. (2011). A pilot study connecting youth with emotional or behavioral difficulties to summer work experiences. *Career Development for Exceptional Individuals, 34*, 95-106. doi:10.1177/0885728810395745
- Carter, E. W., Trainor, A. A., Ditchman, N., Swedeen, B., & Owens, L. (2009). Evaluation of a multicomponent intervention package to increase summer work experiences for transition-age youth with severe disabilities. *Research and Practice for Persons with Severe Disabilities, 34*, 1-12. doi:10.2511/rpsd.34.2.1
- Carter, E. W., Trainor, A. A., Sun, Y., & Owens, L. (2009). Assessing the transition-related strengths and needs of adolescents with high-incidence disabilities. *Exceptional Children, 76*, 74-94. doi:10.1177/001440290907600104
- Certo, N. J., Luecking, R. G., Murphy, S., Brown, L., Courey, S., & Belanger, D. (2008). Seamless transition and long-term support for individuals with severe intellectual disabilities. *Research and Practice for Persons with Severe Disabilities, 33*, 85-95. doi:10.2511/rpsd.33.3.85
- Cimera, R. E., Burgess, S., & Wiley, A. (2013). Does providing transition services early enable students with ASD to achieve better vocational outcomes as adults?. *Research and Practice for Persons with Severe Disabilities, 38*, 88-93. doi:10.1177/1540796914534633

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Prentice-Hall.
- Cook, L., & Friend, M. (2010). The state of the art of collaboration on behalf of students with disabilities. *Journal of Educational and Psychological Consultation, 20*, 1-8.
doi:10.1080/10474410903535398
- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.
- Council for Exceptional Children. (2015a). *CEC special educator transition specialist standards*. Retrieved from: <http://community.cec.sped.org/dcdt/cec-transition-standards>
- Council for Exceptional Children. (2015b). *What every special educator must know: Professional ethics and standards*. Arlington, VA: CEC.
- Crane, K., & Mooney, M. (2005). *Essential tools: Community resource mapping*. Minneapolis, MN: University of Minnesota, National Center on Secondary Education and Transition.
- Crane, K., & Skinner, B. (2003). *Community resource mapping: A strategy for promoting successful transition for youth with disabilities*. Minneapolis, MN: University of Minnesota, National Center on Secondary Education and Transition.
- Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage
- Da Fonte, M. A., & Barton-Arwood, S. M. (2017). Collaboration of general and special education teachers: Perspectives and strategies. *Intervention in School and Clinic, 53*, 99-106. doi:10.1177/1053451217693370

- Driskell, J. E., Salas, E., & Hughes, S. (2010). Collective orientation and team performance: Development of an individual differences measure. *Human Factors, 52*, 316-328.
doi:10.1177/0018720809359522
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149-1160. doi:10.3758/BRM.41.4.1149
- Flowers, C., Test, D. W., Povenmire-Kirk, T. C., Diegelmann, K. M., Bunch-Crump, K. R., Kemp-Inman, A., & Goodnight, C. I. (2018). A demonstration model of interagency collaboration for students with disabilities: A multilevel approach. *The Journal of Special Education, 51*, 211-221. doi:10.1177/0022466917720764
- Folsom-Meek, S., Nearing, R. J., & Bock, R. E. (2007). Transitioning children, youths, and young adults with disabilities. *Journal of Physical Education, Recreation & Dance, 78*, 38-45,51. doi:10.1080/07303084.2007.10597988
- Frey, B. B., Lohmeier, J. H., Lee, S. W., & Tollefson, N. (2006). Measuring collaboration among grant partners. *American Journal of Evaluation, 27*, 383-392.
doi:10.1177/1098214006290356
- Grigal, M., Hart, D., & Migliore, A. (2011). Comparing the transition planning, postsecondary education, and employment outcomes of students with intellectual and other disabilities. *Career Development for Exceptional Individuals, 34*, 4-17.
doi:10.1177/0885728811399091
- Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Resources Information Center Annual Review Paper, 29*, 75-91.

- Harris, P., Taylor, R., Thielke, R., Payne, J., Gonzalez, N., & Conde, J. (2009). Research electronic data capture (REDCap) – A metadata-driven methodology and workflow process for providing translational research informatics support, *Journal of Biomedical Informatics*, *42*, 377-381. doi:10.1016/j.jbi.2008.08.010
- Hartas, D. (2004). Teacher and speech-language therapist collaboration: Being equal and achieving a common goal?. *Child Language Teaching and Therapy*, *20*, 33-54. doi:10.1191/0265659004ct262oa
- Harvey, M. W., Yssel, N., Bauserman, A. D., & Merbler, J. B. (2010). Preservice teacher preparation for inclusion: An exploration of higher education teacher-training institutions. *Remedial and Special Education*, *31*, 24-33. doi:10.1177/0741932508324397
- Idol, L., Paolucci-Whitcomb, P., & Nevin, A. (1995). The collaborative consultation model. *Journal of Educational and Psychological Consultation*, *6*, 329-346. doi:10.1207/s1532768xjepc0604_3
- Individuals with Disabilities Education Improvement Act of 2004, 20 U.S.C. § 1400 et seq. (2004)
- Johnson, L. J., Zorn, D., Tam, B. K. Y., Lamontagne, M., & Johnson, S. A. (2003). Stakeholders' views of factors that impact successful interagency collaboration. *Exceptional Children*, *69*, 195-209. doi:10.1177/001440290306900205
- Kohler, P. D., & Field, S. (2003). Transition-focused education: Foundation for the future. *The Journal of Special Education*, *37*, 174-183. doi:10.1177/00224669030370030701
- Lustig, D. C., Strauser, D. R., & Donnell, C. (2003). Quality employment outcomes: Benefits for individuals with disabilities. *Rehabilitation Counseling Bulletin*, *47*, 5-14. doi:10.1177/00343552030470010201

- Mazzotti, V. L., Rowe, D. A., Kelley, K. R., Test, D. W., Fowler, C. H., Kohler, P. D., & Korterling, L. J. (2009). Linking transition assessment and postsecondary goals: Key elements in the secondary transition planning process. *Teaching Exceptional Children, 42*(2), 44-51. doi:10.1177/004005990904200205
- McCallister, L., & Fischer, C. S. (1978). A procedure for surveying personal networks. *Sociological Methods & Research, 7*, 131–148. doi:10.1177/004912417800700202
- McEachern, A. G. (2003). School counselor preparation to meet the guidance needs of exceptional students: A national study. *Counselor Education and Supervision, 42*, 314-325. doi:10.1002/j.1556-6978.2003.tb01822.x
- Michaels, C. A., & Ferrara, D. L. (2006). Promoting postschool success for all: The role of collaboration in person-centered transition planning. *Journal of Educational and Psychological Consultation, 16*, 287-313. doi:10.1207/s1532768xjepc1604_4
- Michaels, C. A., & Orentlicher, M. L. (2004). The role of occupational therapy in providing person-centred transition services: Implications for school-based practice. *Occupational Therapy International, 11*, 209-228. doi:10.1002/oti.212
- Milsom, A., Goodnough, G., & Akos, P. (2007). School counselor contributions to the individualized education program (IEP) process. *Preventing School Failure: Alternative Education for Children and Youth, 52*, 19-24. doi:10.3200/psfl.52.1.19-24
- Molfenter, N., Hartman, E., Swedeen, B., Neugart, J., Huff, S., Roskowski, M., & Schlemilch, A. (2018). Harnessing the power of community conversations to expand opportunities for youth with disabilities. *Journal of Disability Policy Studies, 28*, 216-228. doi:10.1177/1044207317739406

- Morningstar, M. E., Kleinhammer-Tramill, P. J., & Lattin, D. L. (1999). Using successful models of student-centered transition planning and services for adolescents with disabilities. *Focus on Exceptional Children, 31*(9), 1-19. doi:10.17161/fec.v31i9.6770
- National Association of School Psychologists. (2010). *Model for comprehensive and integrated school psychological services, NASP practice model overview*. Retrieved from: <https://www.nasponline.org/x40589.xml>
- National Board for Professional Teaching Standards. (2016). *What teachers should know and be able to do*. Retrieved from: <http://accomplishedteacher.org/wp-content/uploads/2016/12/NBPTS-What-Teachers-Should-Know-and-Be-Able-to-Do-.pdf>
- National Council for Accreditation of Teacher Education. (2008). *Professional standards accreditation of teacher preparation institutions*. Retrieved from: <http://www.ncate.org/~media/Files/caep/accreditation-resources/ncate-standards-2008.pdf?la=en>
- Newman, L., Wagner, M., Cameto, R., Knokey, A. M., & Shaver, D. (2010). *Comparisons across time of the outcomes of youth with disabilities up to 4 years after high school. A report of findings from the National Longitudinal Transition Study (NLTS) and the National Longitudinal Transition Study-2 (NLTS2) (NCSE 2010-3008)*. Menlo Park, CA: SRI International.
- Newman, L., Wagner, M., Knokey, A.-M., Marder, C., Nagle, K., Shaver, D., . . . Schwarting, M. (2011). *The post-high school outcomes of young adults with disabilities up to 8 years after high school. A report from the National Longitudinal Transition Study-2 (NLTS2) (NCSE 2011-3005)*. Menlo Park, CA: SRI International.

- Noonan, P., Erickson, A. G., McCall, Z., Frey, B. B., & Zheng, C. (2014). Evaluating change in interagency collaboration of a state-level interagency education team: A social network approach within a utilization-focused framework. *Educational Assessment, Evaluation and Accountability, 26*, 301-316. doi:10.1007/s11092-014-9193-2.
- Noonan, P. M., Erickson, A. G., & Morningstar, M. E. (2013). Effects of community transition teams on interagency collaboration for school and adult agency staff. *Career Development and Transition for Exceptional Individuals, 36*, 96-104. doi:10.1177/2165143412451119
- Noonan, P. M., McCall, Z. A., Zheng, C., & Erickson, A. S. (2012). An analysis of collaboration in a state-level interagency transition team. *Career Development and Transition for Exceptional Individuals, 35*, 143-154. doi:10.1177/2165143412443083
- Noonan, P. M., Morningstar, M. E., & Erickson, A. (2008). Improving interagency collaboration: Effective strategies used by high-performing local districts and communities. *Career Development for Exceptional Individuals, 31*, 132-143. doi:10.1177/0885728808327149
- Oertle, K. M., & Seader, K. J. (2015). Research and practical considerations for rehabilitation transition collaboration. *Journal of Rehabilitation, 81*, 3-18.
- Oertle, K. M., & Trach, J. S. (2007). Interagency collaboration: The importance of rehabilitation professionals' involvement in transition. *Journal of Rehabilitation, 73*, 36-44.
- Parker-Katz, M., Cushing, L. S., & Athamanah, L. (2018). Fostering transition leadership to promote partnerships with families and communities. *Journal of Disability Policy Studies, 28*, 244-254. doi:10.1177/1044207317739407
- Patton, M. Q. (1990). *Qualitative evaluation and research methods*. Thousand Oaks, CA: Sage.

- Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health Services Research, 34*, 1189-1208.
- Peterson, L. Y., Burden, J. P., Sedaghat, J. M., Gothberg, J. E., Kohler, P. D., & Coyle, J. L. (2013). Triangulated IEP transition goals: Developing relevant and genuine annual goals. *Teaching Exceptional Children, 45*(6), 46-57. doi:10.1177/004005991304500606
- Plotner, A. J., Mazzotti, V. L., Rose, C. A., & Teasley, K. (2018). Perceptions of interagency collaboration: Relationships between secondary transition roles, communication, and collaboration. *Remedial and Special Education*. Advance online publication. doi:10.1177/0741932518778029
- Povenmire-Kirk, T., Diegelmann, K., Crump, K., Schnorr, C., Test, D., Flowers, C., & Aspel, N. (2015). Implementing CIRCLES: A new model for interagency collaboration in transition planning. *Journal of Vocational Rehabilitation, 42*, 51-65. doi:10.3233/JVR-140723
- Prince, A. M. T., Hodge, J., Bridges, W. C., & Katsiyannis, A. (2017). Predictors of postschool education/training and employment outcomes for youth with disabilities. *Career Development and Transition for Exceptional Individuals, 41*, 77-87. doi:10.1177/2165143417698122
- Raynor, O., Hayward, K., Semenza, G., & Stoffmacher, B. (2018). Community conversations to increase employment opportunities for young adults with developmental disabilities in California. *Journal of Disability Policy Studies, 28*, 203-215. doi:10.1177/1044207317739405
- Rehabilitation Act of 1973, 29 U.S.C. § 701 et seq

- Riesen, T., Schultz, J., Morgan, R., & Kupferman, S. (2014). School-to-work barriers as identified by special educators, vocational rehabilitation counselors, and community rehabilitation professionals. *Journal of Rehabilitation, 80*, 33-44.
- Ronfeldt, M., Farmer, S. O., McQueen, K., & Grissom, J. A. (2015). Teacher collaboration in instructional teams and student achievement. *American Educational Research Journal, 52*, 475-514. doi:10.3102/0002831215585562
- Rusch, F. R., Hughes, C., Agran, M., Martin, J. E., & Johnson, J. R. (2009). Toward self-directed learning, post-high school placement, and coordinated support constructing new transition bridges to adult life. *Career Development for Exceptional Individuals, 32*, 53-59. doi:10.1177/0885728809332628
- Sanford, C., Newman, L., Wagner, M., Cameto, R., Knokey, A.-M., & Shaver, D. (2011). *The post high school outcomes of young adults with disabilities up to 6 years after high school. Key findings from the National Longitudinal Transition Study-2 (NLTS2) (NCSE 2011-3004)*. Menlo Park, CA: SRI International.
- Schmalzried, J. E., & Harvey, M. W. (2014). Perceptions of special education and career and technical education collaboration and communication. *Career Development and Transition for Exceptional Individuals, 37*, 84-96. doi:10.1177/2165143412467666
- Schuster, J. L., Timmons, J. C., & Moloney, M. (2003). Barriers to successful transition for young adults who receive SSI and their families. *Career Development for Exceptional Individuals, 26*, 47-66. doi:10.1177/088572880302600104
- Seidman, I. (1998). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (2nd ed.). New York, NY: Teachers College Press.

- Shogren, K. A., & Plotner, A. J. (2012). Transition planning for students with intellectual disability, autism, or other disabilities: Data from the National Longitudinal Transition Study-2. *Intellectual and Developmental Disabilities, 50*, 16-30. doi:10.1352/1934-9556-50.1.16
- Snijders, T. A. (1999). Prologue to the measurement of social capital. *La Revue Tocqueville, 20*, 27-44.
- Taylor, D. L., Morgan, R. L., & Callow-Heusser, C. A. (2016). A survey of vocational rehabilitation counselors and special education teachers on collaboration in transition planning. *Journal of Vocational Rehabilitation, 44*, 163-173. doi:10.3233/JVR-150788
- Test, D. W., Fowler, C. H., Richter, S. M., White, J., Mazzotti, V., Walker, A. R., . . . Kortering, L. (2009). Evidence-based practices in secondary transition. *Career Development for Exceptional Individuals, 32*, 115-128. doi:10.1177/0885728809336859
- Test, D. W., Mazzotti, V. L., Mustian, A. L., Fowler, C. H., Kortering, L., & Kohler, P. (2009). Evidence-based secondary transition predictors for improving postschool outcomes for students with disabilities. *Career Development for Exceptional Individuals, 32*, 160-181. doi:10.1177/0885728809346960
- Tindle, K., Leconte, P., Buchanan, L., & Taymans, J. (2005). Transition planning: Community mapping as a tool for teachers and students. *Improving Secondary Education and Transition Services through Research, 4*, 1-5. doi: 10.1177/1476718X18818205
- Trach, J. S. (2012). Degree of collaboration for successful transition outcomes. *Journal of Rehabilitation, 78*, 39-48.

- Trainor, A. A. (2008). Using cultural and social capital to improve postsecondary outcomes and expand transition models for youth with disabilities. *The Journal of Special Education, 42*, 148-162. doi:10.1177/0022466907313346
- Trainor, A. A. (2018). Community conversation as a method of gathering and analyzing qualitative data. *Journal of Disability Policy Studies, 29*, 2-6.
doi:10.1177/1044207317739403
- Trainor, A. A., Lindstrom, L., Simon-Burroughs, M., Martin, J. E., & Sorrells, A. M. (2008). From marginalized to maximized opportunities for diverse youths with disabilities. *Career Development for Exceptional Individuals, 31*, 56–64.
doi:10.1177/0885728807313777
- U.S. Bureau of Labor Statistics (2018). *Monthly youth labor force participation rate and unemployment rate*. Retrieved from: <https://www.dol.gov/odep/stats/index.htm>
- U.S. Department of Education (2014). The Workforce Innovation and Opportunity Act overview of Title IV: Amendments to the Rehabilitation Act of 1973. Retrieved from <https://www2.ed.gov/about/offices/list/osers/rsa/publications/wioa-changes-to-rehab-act.pdf>
- van Belle, G. (2008). *Statistical rules of thumb (Vol. 699)*. New York, NY: Wiley-Interscience.
- Van Der Gaag, M., & Snijders, T. A. (2005). The resource generator: Social capital quantification with concrete items. *Social Networks, 27*, 1-29.
doi:10.1016/j.socnet.2004.10.001
- Van der Gaag, M., & Webber, M. (2008). Measurement of individual social capital. In I. Kawachi, S. V. Subramanian, & D. Kim (Eds.), *Social capital and health* (pp. 29-29). New York, NY: Springer.

- Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education, 24*, 80-91. doi:10.1016/j.tate.2007.01.004
- Wagner, M., Newman, L., Cameto, R., Garza, N., & Levine, P. (2005). *After high school: A first look at the postschool experiences of youth with disabilities. A report from the National Longitudinal Transition Study-2 (NLTS2) (NCSE 2011-3005)*. Menlo Park, CA: SRI International.
- Webb, K., Repetto, J., Seabrooks-Blackmore, J., Patterson, K. B., & Alderfer, K. (2014). Career development: Preparation, integration, and collaboration. *Journal of Vocational Rehabilitation, 40*, 231-238. doi:10.3233/JVR-140688
- Wehman, P., Sima, A. P., Ketchum, J., West, M. D., Chan, F., & Luecking, R. (2014). Predictors of successful transition from school to employment for youth with disabilities. *Journal of Occupational Rehabilitation, 25*, 323–334. doi:10.1007/s10926-014-9541-6
- Weiss, M. P., Pellegrino, A., & Brigham, F. J. (2017). Practicing collaboration in teacher preparation: Effects of learning by doing together. *Teacher Education and Special Education, 40*, 65-76. doi:10.1177/0888406416655457
- Wilczenski, F. L., Cook, A. L., & Regal, C. P. (2017). Rethinking college: Roles for school psychologists in transition planning for students with intellectual disability. *Contemporary School Psychology, 21*, 71-79. doi:10.1007/s40688-016-0112-z
- World Health Organization, & World Bank. (2011). *World report on disability*. Geneva, Switzerland: World Health Organization.

