

Embedding Networks in Fields:
Toward an Expanded Model of Relational Analysis in Education

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Education is an activity constituted by relationships. These relationships define the ways that people, practices, and ideas are brought together and kept apart in processes of learning, teaching, and policymaking. To understand the factors that shape educational policies and practices thus necessitates an investigation into the entire constellation of relationships in which these activities are embedded. In essence, this is the central objective of relational sociology. Given this emphasis, it is not surprising that researchers are increasingly looking to relational sociology for theoretical insights about education across a variety of contexts (see Kolluri & Tierney, this volume, for an extensive discussion).

The application of insights from relational sociology in education research has primarily come in the form of social network analysis (Daly, 2010). Social network analysis (SNA) refers to an entire family of theories and methods that seek to formally measure the positions and structures of networks, how such configurations emerge, and the extent to which they influence access to material and non-material resources (Borgatti, Everett, & Johnson, 2013; Wasserman & Faust, 1994). To date, education researchers have utilized SNA to examine a wide variety of topics and, in the process, have illustrated how an emphasis on social relations can inform theory, practice, and policy in educational contexts (see Kalamkarian et al., McCabe in this volume for examples).

While the use of SNA in education research continues to grow, this approach is only one of many possible tools that make use of the intuitions from relational sociology. In this paper, I draw from recent advances in field theory to argue for a broader understanding of relational approaches to education research. In particular, I maintain that it is necessary to embed networks

within the social arenas (i.e., fields) that define the rules, conflicts, and boundaries within and through which actors strive to acquire resources. In addition, I extend the emphasis on relational structures such as networks and fields to concepts that define the experiential and contingent aspects of these structures from the perspective of actors. Taken together, this approach to relational analysis maintains an inherent interest in dynamic relations over fixed attributes, while also offering potential insights that network concepts alone are not always equipped to provide.

Following the theoretical argument outlined above, I then discuss a set of empirical considerations ranging from the development of a research agenda to issues concerning methodology and practical application. Studies that draw upon relational theories and methods are often messier and less outcome-oriented than more traditional variable-based approaches to research, and this can make it difficult for researchers to translate their work into tangible recommendations. This consideration is especially relevant for education researchers whose work is increasingly expected to directly inform policy and practice.

Relational Sociology: From Attributes to Relations

The perspectives that make up relational sociology are diverse and draw upon a wide range of theoretical traditions. Nevertheless, these perspectives all share in common the assumption that dynamic relationships are the fundamental units of social reality (Emirbayer, 1997). That is, the aspects of our lives that are deemed “social” derive meaning through relationships that are in a constant state of motion and negotiation across time and space (Abbott, 1997). This understanding of social reality is accompanied by a corresponding set of assumptions about how such relationships can be understood in both practical and theoretical terms. Indeed, relational sociologists have been relentlessly concerned with developing methodological tools

that adequately simulate the relationships that serve as the foundation of all social phenomena (Abbott, 2004; Bourdieu, Passeron, & Chamboredon, 1991).

That social life is made up of dynamic relationships likely presents as a redundant statement to virtually any sociologist (and most social scientists in general) regardless of their sympathies toward explicitly relational theories. The divergence of relational sociology appears not through this basic assumption, but rather in the way researchers interpret it through their work. In the field of sociology of education, for example, the dominant approach to examining educational questions is rooted in the status attainment model of social mobility and stratification (Kerckhoff, 1976; Sewell, Haller, & Ohlendorf, 1970; Warren & Hauser, 1997). To be sure, this model depicts educational outcomes as a dynamic interplay between ascribed (e.g., family income) and achieved (e.g., academic performance) characteristics. However, these characteristics (or attributes) are assigned, at least implicitly, primary agency in the process of status attainment. Attributes of individuals, such as ‘ability’ and ‘female,’ are at the center of social action, and these attributes are assumed to independently influence attainment outcomes. This assumption is on full display in the use of statistical tools that treat the variable attributes of people as having stable and predictable qualities independent of the actors to whom the attributes are associated (Abbott, 1988; Lieberman, 1985).

The implication of assigning attributes primary agency in social action is that relational qualities such as family income and race are treated as static essences (or substances, see Cassirer, 1953) of people and thus as proxies of the social relations in which action is embedded. Yet, this does not mean that such models are without merit. To the contrary, arguably the most substantial work on inequality in education has emerged from the status attainment model of social stratification (Schneider, 2003). For instance, a long tradition of stratification researchers

focusing on the social organization of schooling have compiled mounds of evidence that convincingly illustrates how curricular tracks systematically structure unequal outcomes across socioeconomic and racial categories (e.g., K. L. Alexander, Cook, & McDill, 1978; Domina & Saldana, 2012; Gamoran, 1987; Lucas, 1999; Lucas & Berends, 2002). This body of work has been instrumental in placing social inequality at the center of education policy debates.

Nevertheless, while the theoretical assumptions driving this work have illuminated important aspects of inequality in education, the social relationships that create, sustain, and transcend inequality are largely obscured from view (Bourdieu, 1998).

Social Network Analysis and Education

What, then, is a researcher to do if they are primarily concerned with understanding the relational contexts of education beyond simply examining the attributes of actors or organizations? To date, the answer has been social network analysis. Social network analysis (SNA) embodies the core assumptions of relational sociology by emphasizing that the relations between actors serve as the medium through which social action is influenced. Whereas traditional models of academic achievement or degree attainment focus on the attributes of students (e.g., ability, parental education), network models assume that these outcomes are influenced through the structure of relations in which students are embedded (i.e., their networks). Such relations can vary widely, including interactions (e.g., seeks advice from), flows (e.g., acquires information from), or kinship (e.g., sibling of) (Borgatti & Ofem, 2010).

Attributes remain an important component of SNA, but take on a decidedly different role in both theory and analysis. For example, network researchers have found that actors tend to form ties with those sharing similar attributes (i.e., homophily, see McPherson, Smith-Lovin, & Cook,

2001). In addition, network analysts conceptualize attributes in terms of relationships between actors (e.g., “same gender as”) rather than as qualities of individuals (e.g., “female”).

The proliferation of SNA in education has occurred alongside similar developments in other applied fields (e.g., health, see Valente, 2010). Much of the work thus far has been concentrated in the literature on teachers, school leaders, and reform implementation at the K12 level (e.g., Coburn & Russell, 2008; Daly, 2010; Daly & Finnigan, 2011; Daly, Moolenaar, Bolivar, & Burke, P., 2010; Jabbar, 2015; Keuning, Van Geel, Visscher, Fox, & Moolenaar, 2016; Penuel, Riel, Krause, & Frank, 2009; Siciliano, 2016). One of the central insights emerging from this work is that, despite the bureaucratic structure of the education system, informal social networks have a profound impact on educational change – whether at the level of practice or policy. As a result, scholars working within this area of the literature argue that network theory is not simply a tool to understand policy and practice, but it is also the theory of action that should drive educational change (Daly & Finnigan, 2010).

In addition to the work on reform implementation, two other areas of the education literature have seen an increase in the use of SNA. First, researchers focusing on postsecondary education are turning to SNA to investigate the network context of student persistence and degree completion (e.g., Biancani & McFarland, 2013; Chambliss & Takacs, 2014; Grunspan, Wiggins, & Goodreau, 2014; McCabe, 2016; Rios-Aguilar & Deil-Amen, 2012; Thomas, 2000). This work is a logical expansion of the popular social integration model of postsecondary persistence and departure (Braxton, Shaw Sullivan, & Johnson Jr., 1997; Tinto, 1975). Second, scholars interested in policy change across all levels of the education system have begun using SNA to describe the ways that networks of foundations and intermediary organizations are transforming the education policy landscape (Au & Ferrare, 2014, 2015; Ball & Junemann, 2012;

Ferrare & Reynolds, 2016; Ferrare & Setari, 2018; Kretchmar, Sondel, & Ferrare, 2014, 2016; Reckhow, 2012; Reckhow & Snyder, 2014; Janelle Scott, 2015; Janelle Scott & Jabbar, 2014). Taken together, these areas of the literature have helped add new insights to old questions, as well as to adapt to the changing contexts of educational practice and policy.

Although SNA has been the most important medium through which insights from relational sociology have influenced education research, it has largely overshadowed the broader set of conceptual developments that have emerged from this tradition. In particular, advances in field theory have provided a foundation for extending relational insights beyond the observable network of ties in which actors are embedded (Fligstein & McAdam, 2012), as well as the aesthetic experiences of social life (Martin, 2011) and the system of meanings that emerge through relational social structures (Mohr, 2013). That is, alongside the task of embedding actors within the structure of relations that constitute the contexts of their actions, relational scholars have pushed for a deeper understanding of the ways actors perceive constraints and affordances in the qualities of these contexts. In this sense, just as it is necessary to embed actors in structures of relations, a more expansive relational project involves simultaneously examining those relations within the realm of individual and group experience. Building on this existing body of work, I argue that this is best accomplished through a field-theoretical framework that encompasses but extends beyond network concepts.

Embedding Networks in Fields

Relational sociologists have long maintained an interest in the relationship between mental structures and social structures. In an insightful work of intellectual history, Mische (2011) points out that significant advancements in relational sociology occurred in the mid-1990s when a group of scholars from interpretive and positivist orientations converged at a number of

New York City-based universities. During this time, well known scholars such as Charles Tilly and Harrison White were pushed to adapt their theories to account for the role of language, identity, and meaning-making, while at the same time emerging interpretive scholars were considering how cultural analysis might benefit from the insights derived from the SNA literature (see, e.g., Emirbayer & Goodwin, 1994). In the years that followed, scholars continued to advance theoretical perspectives that accounted for the dynamic interplay between social networks and culture (DiMaggio, 2011; Mische, Diani, & McAdam, 2003; Mohr & Rawlings, 2012). Appropriately, then, some of the most important advances in relational sociology emerged through a set of interactions that closely simulated the theoretical assumptions that were simultaneously being constructed.

During a similar timeframe, Bourdieu was arguing that social and mental structures are intricately tied through a dialectical relationship in which objective social divisions between actors correspond to the subjective “principles of vision and division” through which actors experience these boundaries (see, e.g., Bourdieu, 1984, 1995, 1996). The “objective social divisions” to which Bourdieu was referring are properties of social fields, understood as “structured spaces of positions (or posts) whose properties depend on their position within these spaces and which can be analyzed independently of the characteristics of their occupants (which are partly determined by them)” (Bourdieu, 1993, p. 72). Meanwhile, Bourdieu understood the “subjective principles of vision and division” through the concept of *habitus* – the set of dispositions through which actors interpret and anticipate possible actions from the point of view of their position in social fields.

The relational point of view in Bourdieu’s field theory is relentless. Fields are structured spaces of social relations, made up of positions that derive their properties in relation to other

positions from which actors make sense of the world. Sensemaking is also understood relationally as both a product shaped by the accumulated conflicts and boundaries of fields, as well as a structuring force that gives form to these divisions. It was this relational view of relations that led to Bourdieu's skepticism toward SNA:

The task of science is to uncover the structure of the distribution of species of capital which tends to determine the structure of individual or collective stances taken, through the interests and dispositions it conditions. In network analysis, the study of these underlying structures has been sacrificed to the analysis of the particular linkages...and flows...through which they become visible... (Bourdieu & Wacquant, 1992, p. 114)

Thus, for Bourdieu, it was not enough to examine the structure of network ties, or even the role of culture within this context. Rather, the project of relational sociology, he argued, is to identify the underlying rules and resources that structure the social arenas (i.e. fields) that encompass network ties and cultural practices.

Ties to Positions

Bourdieu's critical view of networks was rooted in a broader concern for identifying structures of domination and symbolic violence that are not always immediately visible through observable network ties. Yet, his dismissal of SNA as a viable tool for relational analysis was misguided (Mohr, 2013) – especially toward the efforts of fostering a relational sociology of education. Indeed, networks are crucial to such a project because they are the medium through which educational actors (students, teachers, policy-makers, etc.) traverse between and maintain boundaries around positions in social fields. In this sense, networks do not simply constitute ties between actors, but also between positions. Embedding networks in fields is thus a process of situating ties between actors within a broader (and admittedly more abstract) set of relations

structured by the rules, boundaries, and resources that define a given social space. However, this does not mean that ties in networks are simply a reflection of some invisible social force. Rather, ties and positions are co-constitutive and must be considered as inter-dependent sets of social relations.

In a typical Bourdieuan field analysis, actors are positioned in a multidimensional space structured by the volume, composition, and temporal trajectory of capital germane to the field (Bourdieu, 1984). *The volume of capital simply refers to the total amount of resources available to an actor in a given social arena, while the composition speaks to the specific type(s) of resources that make up the total volume (e.g., scientific prestige v. administrative power in the academic field, see Bourdieu, 1988).* The qualities of positions are established relationally vis-à-vis other positions in the field (Bourdieu, 1993). This means that positions in fields are inter-dependent even when separated by great distances (i.e., volume and composition of capital). However, networks play a crucial role in these spaces because they link and separate actors within and between positions. For example, when actor *i* in position *K* establishes a tie to actor *j* in position *L* (see Figure 1), the tie not only links actors but also the broader contexts (i.e., positions) in which they are situated. These ties then serve as a medium through which material and non-material resources can be transferred across field positions.

<Figure 1 about here>

Conceptualizing the embeddedness of networks in this way not only contextualizes networks, but also fields. The absence of ties across positions, for instance, reinforces boundaries between positions and serves as a potential site of conflict over resources. Meanwhile, the presence of network ties across positions can expose these boundaries and instigate or mitigate conflicts within fields. These processes are precisely what drive both stability and change in

social fields (Fligstein & McAdam, 2012). The tie between actors *i* and *j* – and, subsequently, the affiliation between positions *K* and *L* – introduce the potential to challenge or reinforce boundaries. This is especially important in education fields, which serve as sites of social reproduction and mobility.

A hypothetical example is warranted. Imagine that actor *i* in Figure 1 is a first-generation college-going student *majoring in psychology* and person *j* is a *tenured professor of psychology* at a university. Each actor is embedded in a network(s) at the same time as they are situated in a position within the field of higher education. *As indicated above, these positions are determined by the total amount (i.e., volume) and type(s) of field-relevant capital that each actor possesses vis-à-vis others.* If student *i* enters into an advice-seeking relationship with professor *j*, this not only provides *i* with access to potentially valuable resources (i.e., *the professor's social or scientific capital*), but it also serves as a passage for each actor to “travel” to another region of a social field and to experience the meaning systems and identities through which actors in those regions define the field and its rules. There is, then, a duality of influence between networks and fields. That is, although the underlying structure of a social field shapes the formation of ties (e.g., first-gen students may be uncomfortable establishing a connection with a professor), once established, such ties may exert a force of change upon the field (e.g., the student experiences social mobility or the professor changes her practice to be more responsive to other first-generation students).

The primary advantage of embedding networks in fields is that it pushes scholars to look for multiple layers of relations – both observable ties and affiliations as well as latent social positions. I have argued that embedding networks in fields illuminates the underlying structure of social space that shapes and is shaped by the ties between actors. Ties between actors create

affiliations between positions, which can reinforce or disturb the rules and conflicts governing the distribution of capital that structures a given field of action. While network theory tends to conceptualize influence locally (i.e., through direct or indirect ties), field theory allows for influence at a distance even in the absence of an observable network path. But there remains another important component to this story concerning the ways actors perceive and experience constraints and affordances in networks and the broader fields in which they are situated. An adequate accounting of this process necessitates a view of the individual level from the perspective of first-person experience, a view that sociologists of education often neglect.

Positions and Perceptions

Thus far, I have conceptualized multiple layers of social relations that shape action locally and at a distance. By itself, though, this perspective presents action as largely determined by exogenous “forces,” which, in effect, means that the actor’s affective relationship to the structural environment is assumed to be of little importance. Such a view misses out on a crucial component of action (Sayer, 2011). Consider the following scenario. I recently considered proposing a new undergraduate program at my university. As I sought advice from colleagues, though, I was struck by the weight of red tape I would have to fulfill in order to turn this idea into a reality. I also perceived this work as a form of service that could potentially distract from research and teaching – the tasks that define whether or not I will be granted tenure. Soon enough, I had dropped the idea entirely. The set of relationships that constitute the governance structure of my university had exerted an exogenous influence on my action. However, my Department Chair was not so easily defeated. She is not naïve to the red tape, of course. Rather, her position is endowed with a greater composition of administrative capital, which facilitated her to view university governance as an opportunity where I saw constraint. Furthermore, what I

conceptualized as the distraction of service could be viewed as an administrative opportunity for someone in this position. After a conversation with my Chair, whom I have grown to trust, I (skeptically) agreed that it might be worth a try.

The above example illustrates that the task of embedding networks in fields also requires that we link these inter-dependent social relations to the perceptions that shape the ways actors interpret trajectories of action. As noted above, Bourdieu was deeply concerned with this relationship. However, he often conceptualized actors' mental structures as mere reflections of positions in social fields (Bourdieu, 1990). More recently, relational sociologists working to build upon Bourdieu's field theory have sought to clarify this assumption. In particular, Martin (2003, 2011) has argued that actors directly perceive possibilities and constraints in social relations, and that these perceptions are contingent on how actors are positioned in the situation. To make his case, Martin builds from early work in field theory that had advanced relational understandings of individual perception (see also Mohr, 2013). This work was initially undertaken by Gestalt psychologists (Koffka, 1935; Kohler, 1947; Wertheimer, 1944) and later expanded by the social-psychologist Kurt Lewin (1951).

Martin's engagement with social-psychological field theory focused primarily on the concepts of valence (Lewin, 1951) and affordance (Gibson, 1986), or what the Gestalt psychologists referred to as the "demand character" of objects in an actor's environment. Objects, that is, contain information that is interpreted by actors as either enabling or constraining certain actions. For instance, a tree affords a shady spot to sit on a hot summer day and is thus experienced as having a positive valence. One of Martin's (2011) key contributions has been to extend the concepts of valence and affordance in objects in the environment to positions in social fields. Positions, he argues, contain information about possible action

trajectories through social space (see also Ferrare & Apple, 2015). In effect, this information serves as a set of instructions, albeit with a contingent range of outcomes (cf. Hutchins, 1995). Recall that, as an assistant professor with limited administrative capital, my read of university governance literally repelled me to retreat from the idea of creating a new program and to resume research activities – an action trajectory more appropriate to the position. In short, my social position served as a heuristic for action (Martin, 2011). However, the social tie I have to my Department Chair offered a glimpse into the information set contained in her position (i.e., a more favorable read of university governance and administrative power). Thus, network ties across field positions – and perceptions of affordances in both sets of relations – co-constituted action in this scenario. This is, in essence, what it means to embed networks in fields.

Empirical Considerations

To this point, I have attempted to articulate an expanded model of relational sociology for education research, one that incorporates the insights of SNA into a field theory of action attentive to the structure and experience of social life. Admittedly, the expanded model offered above introduces a great deal of complexity into relational analysis. In particular, the model calls attention to three inter-related sets of relations through which researchers can interpret and explain practices and policies in education: 1.) observable networks; 2.) the set of rules, resources, and boundaries that structure network activity (i.e., fields); and 3.) the constraints and affordances actors experience in these social relations. Although it will not always be feasible (or necessary) to simultaneously address all three components, ongoing developments in research design and analytic techniques are making this integrative task increasingly accessible. In this section, my objective is to identify the areas of the literature most amenable to this framework, as well as to identify methodological tools that researchers can use to address empirical questions.

Even though educational practices and policymaking are relational activities by definition, there are specific segments of the literature in which this framework can be most relevant. The first is in the area of studies dealing with the role of education in social mobility and stratification. This body of work is primarily concerned with identifying the structures through which students' motivations and abilities interact with their family backgrounds and ascribed identities in ways that enable and constrain educational attainment. As noted above, much of this work is grounded in the status attainment model (Kerckhoff, 1976; Sewell et al., 1970; Warren & Hauser, 1997). Although the work that has emerged through this tradition has been very successful at identifying social mobility and stratification, the practices by which these outcomes arise have seen less attention.

Recent ethnographic work has begun to fill in these gaps, especially as it relates to the role of social class in shaping advantages and disadvantages across the K-16 levels (e.g., Armstrong & Hamilton, 2013; Calarco, 2014a, 2014b; Lareau, 2000, 2002; Weis, Cipollone, & Jenkins, 2014). These works offer excellent examples of integrating two of the three components to the model outlined above. In *Paying for the Party*, for example, Armstrong and Hamilton (2013) identify the rules, boundaries, and resources that differentially structure opportunities among a cohort of women at a flagship research university. In addition, they provide powerful narratives of how students directly experience constraints and affordances in these opportunity structures in ways that reproduce social inequality. While work like this must continue, it is also important to understand how some students manage to transcend social class positions across generations. Integrating formal SNA into this work may facilitate such insights, as this form of social mobility necessitates the formation of ties across disparate positions in social space. Thus,

a perspective that embeds networks in fields is well adapted to unpack the moving parts of these processes.

The social organization of schools and universities is another area of research for which this perspective is well suited. Educational organizations are bounded structures characterized by formal and informal positions. Not surprisingly, then, it is this area of the literature where relational sociologists of education have had the greatest impact thus far. In particular, researchers have used network and field theory to examine social positions that emerge through students' coursetaking patterns at the secondary level (Ferrare, 2013; Frank, Muller, & Schiller, 2008; Friedkin & Thomas, 1997) and persistence and degree-seeking patterns at the postsecondary level (Bourdieu, 1996; McCabe, 2016; Rawlings & Bourgeois, 2004). These works offer an example of new insights that relational perspectives can contribute to long-standing questions of interest in education. Most notably, McCabe's (2016) analysis in *Connecting in College* illustrates the processes by which students form social networks in college settings, including an in-depth look at the ways they perceive possibilities in the structure of their networks. Future studies can build on these insights by situating the latter processes within the broader set of organizational rules, boundaries, and resources that support and interfere with the types of network formation that lead to academic and professional success.

A field-theoretical perspective as outlined above may also open up new understandings concerning persistent patterns of gender segregation in academic and occupational trajectories (Mann & DiPrete, 2013; Morgan, Gelbgiser, & Weeden, 2013). For example, recent evidence from psychology suggests that gender disparities in the sciences are shaped by the interplay of distal (i.e., broad contexts) and proximal (i.e., attitudes and perceived strengths) factors (Stoet & Geary, 2018). Field theory anticipates that the latter perceptions are formed in relation to the

information embedded in academic fields of study. That is, gender is not only an individual identity, but also an identity that is situated in the system of tacit rules, boundaries, and resources that structure institutions and organizations. Future work should examine whether or not certain types of social networks are able to mediate the ways actors perceive gender-appropriate roles and positions. Recent evidence in organizational studies suggests this may be productive line of work in educational settings (Brands & Mehra, 2018).

Finally, the politics of education reform and policy change is a broad area of the literature where a field theory of educational action can have immediate impact. Whether one is examining local reforms (e.g., school closures), state-level policies (e.g., school choice), or nation-wide trends (e.g., competency-based education), such analyses involve identifying coalitions (i.e., networks and positions) of actors and the rules and resources shaping the collective struggles and competitions germane to the policy sub-system (i.e., field). This perspective has gained momentum in recent years, as policy network analysis (Rhodes, 2006) from political science has taken hold in education policy studies (Au & Ferrare, 2015; Ball & Junemann, 2012; Reckhow, 2012). Whereas traditional models of policy change emphasize vested interests and incremental changes (e.g., punctuated equilibrium, see Baumgartner & Jones, 1993), policy scholars are increasingly pointing to the crucial role of networks in illuminating these processes – especially in the context of market-based reforms that traverse the public and private spheres. However, this body of work has yet to fully embed these networks within the broader strategic action fields that influence policy network formation and change (Fligstein & McAdam, 2011, 2012). In an era of education policy defined by shifting alliances and dramatic transformation (Galey, 2015), field theory is likely to offer a powerful tool to anticipate these changes and identify possible coalitions that can foster durable policy changes.

Methods for Relational Analysis

If the theoretical framework of embedding networks in fields is complex, it is reasonable to expect the task of empirically capturing these constellations of relations to be out of reach. Relational sociologists have generally been critical of the familiar tools in the sociologist's toolkit (most notably general linear models, see Abbott, 1988), and have instead sought to identify techniques that have internal logics consistent with relational theories (Abbott, 2004; Ferrare, 2009). This is especially true among those working within a field-theoretical framework. A key challenge for this body of work is that relational methods such as social network analysis are often excluded from graduate training programs. However, the growing popularity of SNA in education (including dedicated textbooks, see Carolan, 2014) provides the potential to build a broader tradition of relational analysis in education and the social sciences more generally. In addition to SNA, relational sociologists have also been hard at work developing new techniques to measure field effects, such as case-based regression analysis (Breiger & Melamed, 2014) and spatial models of fields (Martin, Slez, & Borkenhagen, 2016).

The perspective outlined in this chapter requires tools that not only identify structural patterns of fields and networks, but also the aesthetic qualities of these spaces as experienced by actors. In this regard, recent advances in relational ethnography can be especially helpful. Desmond (2014), for example, distinguishes relational ethnography from traditional forms of ethnographic work in multiple ways. Most notably, he argues that relational theorists should emphasize fields, boundaries, processes, and conflicts over places, bounded groups, processed people, and shared group cultures (see Tichavakunda, Lanford in this volume). This approach to ethnography builds upon the Bourdieuan tradition (1979, 1990; Bourdieu et al., 1991) of

constructing the object(s) of research as relational processes rather than fixed qualities and substances (see also Mische, 2008).

There are also some available strategies specifically attuned to simultaneously embedding actors' networks in fields in relation to their perceptions of constraints and affordances in these structures. For example, combining SNA, case-based (or Q-mode, see Bartholomew, Steele, Moustaki, & Galbraith, 2008) clustering or scaling methods, and concept coding of qualitative data (e.g., interview transcripts, archival documents) offers a parsimonious illustration of a complex, multidimensional data space. Suppose, for example, researchers have collected academic advice-seeking network data among students at a university in an effort to better understand how they persist toward their academic objectives. Typically, researchers would calculate a range of measures related to the structure (e.g., density, effective size) and composition (e.g., homophily) of these students' personal networks. Field theorists can take this $n \times m$ (students by network measures) matrix and employ clustering techniques (Everitt, Landau, Leese, & Stahl, 2011) to partition students into groups based on the degree to which they share network characteristics in common. In fact, there are a wide range of strategies in SNA that produce similar outcomes, such as blockmodeling and equivalence (for an introduction, see Borgatti et al., 2013). These techniques can reduce the data space from a set of individual actors and their personal networks to a set of latent groups sharing ties to similar field positions (cf. Faust, 1988).

With the network measures transformed into a set of positions, the next step involves accounting for the constraints and affordances that our hypothetical students experience through their positions in relation to their academic objectives. For this purpose, relational researchers can conduct interviews with participating students and code the transcripts using any number of

coding strategies (see, e.g., Corbin & Strauss, 2008; Glaser & Strauss, 1967; Saldana, 2013).

Once coded, the data can be embedded into the structure of relations toward which they are directed through any number of scaling approaches, such as multidimensional scaling (Borg & Groenen, 2005; Kruskal & Wish, 1978) or correspondence analysis (Greenacre, 2007).

Multidimensional scaling and correspondence analysis are similar to cluster analysis, only instead of partitioning objects into mutually exclusive groups, these analytic techniques represent differences between objects as distances in a two-dimensional space. For example, Ferrare (2013) used both multidimensional scaling and correspondence analysis to analyze the latent course-taking patterns associated with various postsecondary trajectories (for additional examples of these techniques, see Ferrare & Hora, 2014; Rawlings & Bourgeois, 2004). When applied to interview data, one can plot the emergent themes in relation to the clusters of network qualities as described above. The resulting plot would offer a full representation of the relational structures and perceptions through which students navigate and interpret possible actions as they pursue their academic objectives.

There are, then, a wide variety of methodological tools available to those seeking to undertake relational projects in education. As noted above, one challenge is that these techniques are (at least perceived as) less accessible than more traditional approaches to social science research. Another obstacle concerns the ways that relational theories and methods can have a direct influence on policy and practice. This is especially important in education research given the strong association to practitioners in schools, universities, and policymaking institutions. Relational scholarship typically eschews designs that predict outcomes such as test score growth or degree attainment. Increasingly, such questions are the exclusive domain of experimental and quasi-experimental designs (Murnane & Willett, 2011). While it may be fruitful to consider how

relational approaches can illuminate these outcome-based questions, I argue that it is at least as important to consider alternative models of work relevant to the public sphere beyond academia. Recent examples of these alternatives using relational techniques to tell first-person stories of inequality are available (Bourdieu, 2006; Desmond, 2016), but these should not be considered exhaustive. Just as relational sociology reflects a departure from traditional conceptions of the social world, the vision of how this work can influence the public sphere must be at least as radical.

Conclusion

The primary objective of this chapter was to establish a foundation for unifying multiple relational concepts into a single framework based in a field theory of educational action. In particular, I argued that networks should be situated within the social arenas that define the rules, boundaries, and conflicts around which educational actors struggle for resources. In the process, following recent work in relational sociology, I pushed this structural argument into the terrain of individual perception and experience. I then highlighted some areas of the literature where this framework may offer the potential to illuminate new insights, and introduced some analytical techniques that extend beyond the current emphasis on social network analysis. Moving forward, the framework offered in this chapter – and others grounded in relational sociological theory – needs to be further developed and revised through rigorous empirical studies that integrate a wide variety of data and analytical tools. Indeed, I have merely scratched the surface of the theoretical, methodological, and communicative work that is needed to push this perspective into the center of educational research agendas.

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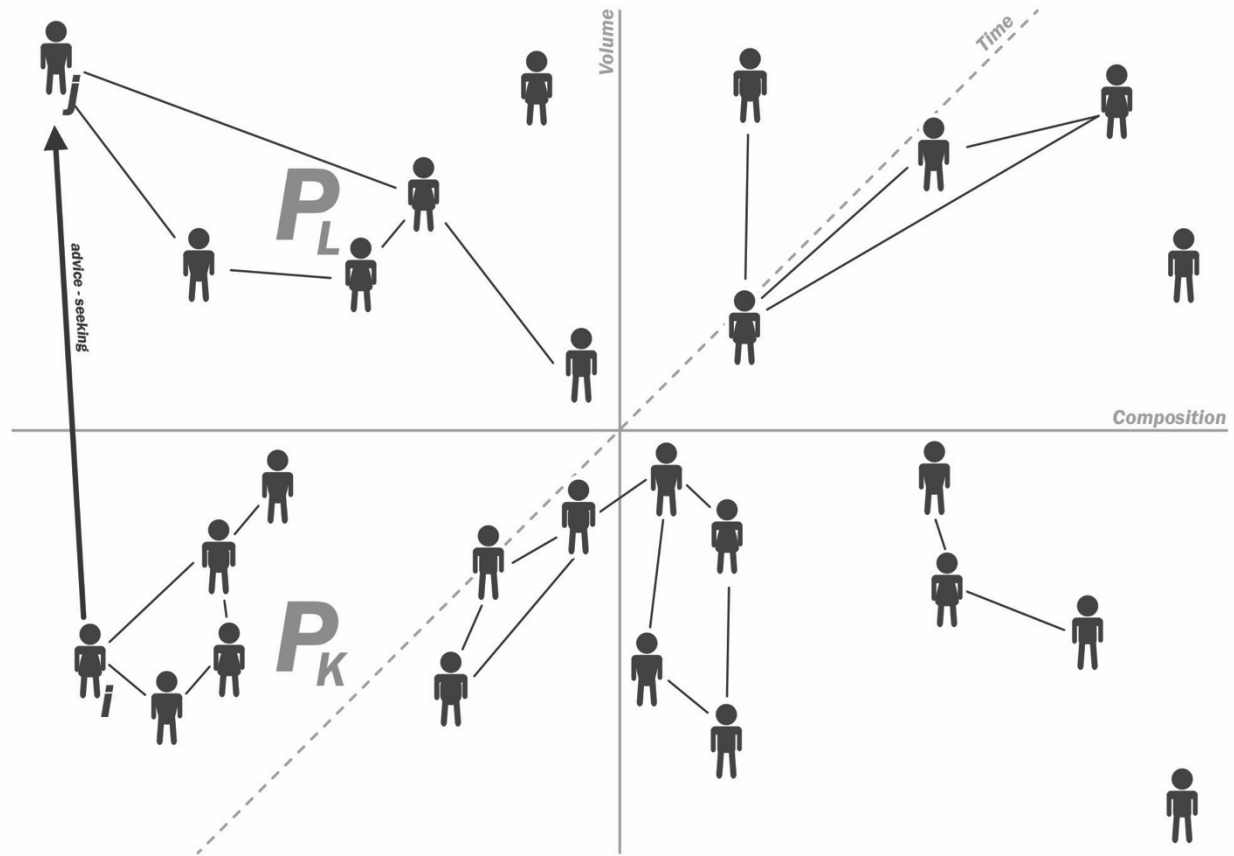


Figure 1. Hypothetical advice-seeking tie, $i \rightarrow j$, across positions, $P_K \rightarrow P_L$, embedded in a Bourdieuan field space

Note. Volume refers to the total amount of field-relevant capital that defines a given position and composition refers to the specific types of capital that make up the total volume.