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The Influence of Leadership Facilitation on Relational Coordination among Primary Care Team Members of Accountable Care Organizations

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Abstract

Background: Teamwork is a central aspect of integrated care delivery and increasingly critical to primary care practices of Accountable Care Organizations (ACOs). While the importance of leadership facilitation in implementing organizational change is well documented, less is known about the extent to which strong leadership facilitation can positively influence relational coordination among primary care team members.

Purpose: To examine the association of leadership facilitation of change and relational coordination among primary care teams of ACO-affiliated practices and explore the role of team participation and solidarity culture as mediators of the relationship between leadership facilitation and relational coordination among team members.

Methodology/Approach: Survey responses of primary care clinicians and staff (n=764) were analyzed. Multilevel linear regression estimated the relationships among leadership facilitation, team participation, group solidarity, and relational coordination controlling for age, time, occupation, gender, team tenure, and team size. Models included practice site random effects to account for the clustering of respondents within practices.

Results: Leadership facilitation ($\beta = 0.19, p < 0.001$) and team participation ($0.18, \beta = p < 0.001$) were positively associated with relational coordination, but solidarity culture was not associated. The association of leadership facilitation and relational coordination was only partially mediated (9%) by team participation.

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Conflict of Interest
The authors declare that there are no conflicts of interest.

Conclusions: Leadership facilitation of change is positively associated with relational coordination of primary care team members. The relationship is only partially explained by better team participation, indicating that leadership facilitation has a strong direct effect on relational coordination. Greater solidarity was not associated with better relational coordination and may not contribute to better team task coordination.

Practice Implications: Leadership facilitation of change may have a positive and direct impact on high relational coordination among primary care team members.

Keywords

Leadership Facilitation; Relational Coordination; Solidarity Culture; Team Participation; Accountable Care Organization; Primary Care Practice Teams

Introduction

The National Academy of Medicine (NAM) identified care coordination as one of twenty national priorities to improve health by making healthcare delivery safer, more effective, patient-centered, timely, efficient, and equitable (Kohn, Corrigan, & Donaldson, 2000). Front line clinical teams, patient centered medical homes, clinical microsystems, and interprofessional care teams all describe the importance of team communication and relationships among diverse healthcare professionals as a critical factor linked to care coordination and performance outcomes (Rodriguez et al., 2014). While many configurations exist for capturing front line care delivery teams, our study focuses on 16 primary care practices in two large ACO's in the United States.

Leadership facilitating behaviors have been shown to make a difference for front-line changes to practice (Hackman, 2002). We extend this work by examining whether leadership facilitation of change can enable relational coordination among primary care team members. Relational coordination consists of seven dimensions including frequent, timely, accurate, and problem-solving communication, as well as shared goals, shared knowledge, and mutual respect with mutually reinforcing elements of communication and relationships for the purpose of task integration (Gittell & Logan, 2015). Understanding whether leadership facilitation can help promote relational coordination is important in regard to improving patient outcomes. This is particularly true for patients with chronic illness that require a high degree of task coordination among caregivers. As noted below, we also examine the possibility that the relationship between leadership facilitation and relational coordination may be mediated by team participation in decision making and by the extent to which there is a culture of solidarity within the team.

Theory

Relational Coordination

Primary care practices strive to deliver coordinated care by multi-disciplinary team members to a panel of diverse patients with acute and chronic care needs (Wagner et al., 2001). Given the diverse nature of the patient population and the different professional groups (i.e., medicine, nursing, and medical assistants), the primary care practice environment can be

characterized as one of uncertainty of tasks, interdependence of team members, and time constraints, all relevant to examining relational coordination.

Relational coordination was first conceptualized when studying flight departure task coordination among team members and has been subsequently examined in many contexts including; healthcare, criminal justice, consulting, education, pharmaceuticals (Gittell & Logan, 2015). Relational coordination is based on mutually reinforcing relational and communication dynamics among team members in complex and rapidly changing environments like primary care practices (Gittell, Godfrey, & Thistlethwaite, 2012). Both the quality of the relationships as well as the quality of the communication determines the strength of relational coordination among team members.

There is an extensive literature in relational coordination in healthcare, but relatively little research has been conducted in primary care practices or Accountable Care Organizations (ACOs) (Gittell & Logan, 2015). Human factors like leadership facilitating behaviors, team participation, and group solidary have not been examined empirically (Gittell, Seidner, & Wimbush, 2010) as influences on relational coordination.

Leadership Facilitation

There is an extensive literature that examines the impact of leadership on healthcare team performance (Gilmartin & D'Aunno, 2007). Clear direction, and guidance from leaders is needed when implementing a new change (Rodriguez et al., 2014). Leadership sets the vision, and through facilitating behaviors such as rewarding innovation and creativity, soliciting input from staff for change, and ensuring time and space for improving care, supports the team during organizational change and redesign (A. S. Frankel, Leonard, & Denham, 2006).

There is also evidence that leadership is positively and significantly associated with a supportive organizational climate (Gilmartin & D'Aunno, 2007). Studies of leadership and communication have found a significant and positive relationship with certain leadership styles and spans of control (Hackman, 2013) Thus, the relational aspects of leadership, including how leaders facilitate organizational change have the potential to lead to better relational coordination among team members. Leadership is instrumental in setting the vision for the organization and facilitating an environment for change, employee communication and engagement. Given the evidence of leadership facilitation associated with supportive organizational climate and the positive association with both team member communication and relational components in prior studies, we hypothesize that; *(H1) Leadership facilitation of change is associated with better relational coordination among team members.*

Team Participation

Leaders may facilitate improved relational coordination among members by fostering the participation of team members, irrespective of their professional status, in decision-making (Katz & Kahn, 1978). To achieve the benefits of improved care coordination and enhanced performance outcomes, reduced hierarchies and active team member participation are needed (Nutting et al., 2009; Shaw, 1990). A study of 40 cross-functional teams in 16

hospitals showed a positive relationship between team participation and patient outcomes (Jeffrey A. Alexander et al., 2005). Research also suggests that team participation in decision-making along with the presence of a team champion, achievement orientation, and involvement of physicians are positively associated with team effectiveness (Shortell et al., 2004). Team participation can foster coordination among team members by building a shared understanding and the development of group norms with more frequent interactions (Homans, 1974). Indeed, interprofessional teams have been found to make better decisions than regular teams and have enhanced performance outcomes, shared learning, creative solutions, professional growth for members, and empowerment(Edmondson, Bohmer, & Pisano, 2001). Hence, we hypothesize that: *(H2) Team participation is positively associated with relational coordination.*

Team Participation as Mediator

Denti and Hemlin argue that *how* leaders shape "the various processes and mechanisms of influence" impact relational coordination, which suggests that the effects of leadership facilitation on relational coordination may be mediated by team participation (Denti & Hemlin, 2012). The indirect or context-providing aspects of leadership both gives shape and is shaped by the environment of how the team does their work, such as in rewarding innovation, soliciting input from staff, or promoting an enjoyable environment. Team participation can create an open and supportive communication environment for leaders to enact their vision, resulting in greater satisfaction among co-workers (Lichtenstein et al., 2004). Leadership facilitation can improve sharing of information among team member and participative decision making (Manser, 2009). Thus, we hypothesize that: *(H3) team participation partially mediates the relationship of leadership facilitation and relational coordination.*

Group Solidarity

Group solidarity within organizations can be both the product and process that shapes human interaction as well as the interaction outcome (Jelinek, Smircich, & Hirsch, 1983). Understanding solidarity is important at the team level in that it helps explain human relationships and power structures that ultimately impact performance outcome characteristics(Bloom, Alexander, & Nichols, 1992). Solidarity has been shown to accurately reflect the ability of a practice to come together in the care delivery process (Kralewski, Wingert, & Barbouche, 1996). We thus hypothesize that: *(H4) practices with a culture of high solidarity have better relational coordination among team members.*

Previous research also found that highly collegial cultures rely on informal peer review mechanisms to assure quality rather than any structural programs (Kaissi, Kralewski, Curoe, Dowd, & Silversmith, 2004). Positive team climate, a concept closely related to culture, and multi-disciplinary team meetings both support social interactions where members are more likely to share openly and feel respected by other professions(Boon, Verhoef, O'Hara, & Findlay, 2004). Team members that work in cultures of high solidarity defined by a supportive and enjoyable environment with frequent inter-disciplinary team meetings have also been found to increase coordination and communication and are more willing to share their expertise (West & Anderson, 1996). Given these previous studies that have shown

positive associations between multidisciplinary team meetings and care coordination, team cohesion and improved social interactions, group solidarity, and increased communication, and coordination linked to sharing of expertise, we hypothesize that: *(H5) having a culture of high solidarity partially mediates the relationship of leadership facilitation and relational coordination.*

Figure 1 displays the logic model of relationships among leadership facilitation and relational coordination and the hypothesized mediating effect of team participation and solidarity culture on the relationship between leadership facilitation and relational coordination.

Method

We examine the association of leadership facilitation, solidarity culture, and team participation with relational coordination in 16 primary care practices from two Accountable Care Organizations (ACOs) –HealthCare Partners in Los Angeles, CA and Advocate Health Care in Chicago, IL. Primary care team membership for the 16 practices was defined using administrative designations from each ACO. Practice size ranged from 11 to 155, with a mean of 48. A total of 764 practice member responses from 16 randomly selected practices. 54% of the responses obtained (N=353) in the first survey wave, 2015, and the remaining responses (N=411) obtained in the second survey wave, 2016. The overall participant response rate was 86%. Practice members included physicians, nurses (RN, Care Manager, LVN), diabetes educators, dieticians, medical assistants, receptionists, and social workers. (for additional descriptive characteristics of the practice sites, see (Shortell et al., 2017).The participants completed a 41-question practice survey using a 5-point Likert scale (1 = low, 5 = high). The survey included validated measures of leadership facilitation, relational coordination, team participation, and solidarity culture. All composite measures were scored using the unweighted average of items comprising the composite. Demographic questions included how long individuals have worked in the practice and the team, how many hours per week the person spends in the practice, age, sex, and race/ethnicity (Shortell et al., 2017).

The dependent variable, *relational coordination,* consists of a seven-item validated survey ($\alpha = 0.87, M = 3.95, SD = 0.78$) that measures on a Likert scale (1 = low, 5 = high) the coordination of work with four communication dimensions, including frequency, accuracy, timeliness, and problem-solving, as well as three relational dimensions, including shared goals, shared knowledge, and mutual respect (Gittell et al., 2000). Respondents were asked for example, how frequently other care providers and staff, e.g., doctors, nurses, medical assistant, receptionist, communicate with them about providing care to patients with diabetes and/or cardiovascular disease.

The *Leadership Facilitation* composite consists of a validated 7-item subscale using a 5-point Likert scale ($\alpha = 0.96, M = 3.71, SD = 1.11$). Leadership facilitation of change reflects perceived behavior of leaders and was originally conceptualized as a subscale of the Organizational Readiness for Change Assessment (ORCA) instrument, which is based on the Promoting Action on Research in Health Services (PARIHS) framework (Helfrich et al.,

2011). Leadership facilitation captures how leaders *support teams in ways that impact the front-line practice* (Hagedorn & Heideman, 2010; Helfrich, Li, Mohr, Meterko, & Sales, 2007). Moreover, it captures how clinicians and staff perceive leadership support in healthcare delivery and therefore "*reflects how management supports the practice in improving patient care, creates a positive environment, solicits feedback, and supports changes in the practice*" (Helfrich, Li, Sharp, & Sales, 2009). Seven of the eight leadership facilitation behaviors define *how* leaders influence the work environment, including the environment for accomplishing goals, enjoyable and positive culture, supportive practice change efforts, and making sure there is time and space for care improvement. The leadership facilitating behaviors assessed include rewarding creativity, soliciting input from staff for improvement, and promoting a supportive change-oriented atmosphere.

The *Team Participation* measure is a validated 7-item subscale measure using a 5-point Likert scale ($\alpha = 0.92, M = 3.81, SD = 1.02$) developed by Alexander(Jeffrey A Alexander et al., 2005) and measures how practice members engage with others, promote healthy communication, and shared understandings of teamwork. Team participation includes measures of how practice members feel about contributing information, feel supported in decision making, team-sharing of decision making processes, and the ability to voice alternatives (A. Frankel, Gardner, Maynard, & Kelly, 2007).

Solidarity culture, as conceptualized by Kralewski, focuses both on the predictive power that links solidarity to outcomes, like coordination among team members, as well as organizational technical or task requirements (Kralewski, Dowd, Kaissi, Curoe, & Rockwood, 2005). The *Solidarity Culture* measure is comprised of a validated and reliable 4-item subscale using a 5-point Likert scale drawn from the validated Kralewski "Group Practice Organizational Culture Instrument" (Kralewski et al., 1996), and has an internal consistency of ($\alpha = 0.81, \mathrm{M} = 3.74, \mathrm{SD} = 1.05$). The measure was specifically developed for primary care practices that assess a "sense of belonging and cohesiveness". The team solidarity measure was adapted and developed for healthcare by Kralewski from Reynold's original 12-dimension culture framework model (Kralewski et al., 1996; Reynolds, 1986). Kralewski defines a solidarity culture as a culture where team members have "*a sense of belonging to the group practice, attachment to the group or cohesiveness, and open sharing of views among group members" (Kralewski et al., 1996)*. Practice *solidarity* measures cohesiveness in primary care practices under conditions of uncertain decision making and examines topics, such as how freely members share their views during meetings and if they have a sense of belonging to the team (Kralewski et al., 1996).

The data were examined using two-level hierarchical mixed effects linear regression models to test study hypotheses. The models assume that each practice has a different starting level for the study variables, while any changes in these variables are consistent across the practices (i.e., a mixed effects model with random intercepts). The regression equation modeled follows;

$$\begin{aligned} &Relational\ Coordination_{ij} \\ &\quad = (\gamma_{00} + \mu_{0j}) + \beta_1 Solidarity_{ij} + \beta_2 Participation_{ij} + \beta_3 Leadership_{ij} \\ &\quad + \beta_4 Demographics_{ij} + \beta_5 Time_{ij} + \epsilon_{ij}. \end{aligned}$$

Where i indicates the particular practice member response from j practice; γ represents a vector of random practice level intercepts with a μ error; and *Time* indicates the year the survey was administered. *Demographics* is a vector of variables for individual age, occupation, gender, and years of experience in their team. ϵ is the error term for the coefficients estimated for individual practice members. The regression coefficients for covariates represent the effect of each variable on relational coordination scores, holding the other covariates constant.

To address our hypotheses about the potential mediating effects of team participation and solidarity culture on the relationship between leadership facilitation and relational coordination, path models were estimated in STATA. For these analyses, we estimated unstandardized and standardized models and tested the statistical significance of direct and indirect effects. Goodness of fit was assessed using Structure Equation Modeling (SEM) (Acock, 2013).

Results

Table 1 shows the overall mean and overall standard deviation, both between-practice standard deviation and within-practice standard deviation scores, for relational coordination, leadership facilitation, solidarity, and team participation. All the variables have greater within-practice variation than between-practice variation. Pairwise deletion correlation of the key study variables shows that solidarity and leadership facilitation are correlated at 0.77, whereas other variables were not highly correlated. Pairwise deletion correlation of the main variables shows that solidarity and leadership facilitation are correlated at 0.69, whereas other variables were not highly correlated (Table 1). We ran a Variance Inflation Factor analysis and found solidarity with VIF = 1.93, leadership VIF = 1.92, and an overall VIF of 1.63 so quite low levels of collinearity and thus kept both variables in the model (O'brien, 2007).

Descriptive statistics for the study variables are summarized in Table 2. The means for key study variables were: relational coordination (M=3.95), leadership (M=3.74), solidarity culture (M=3.78), team participation (M=3.91). Responses were primarily from respondents who were in the 25–34 age category and medical assistant role. They were also mostly female and had approximately 6 years of tenure with the team on average.

Table 3 presents the regression estimates for the unconditional HLM model without study covariates, and the model with all study variables Model 2. For Model 1, the null model showed little variation between teams $(Variance\ of\ (\mu_{0j}) = 0.04, SE = 0.07)$, and greater variation between individuals $(Variance\ of\ (\epsilon_{ij} = 0.78), SE = 0.21)$. The likelihood ratio estimates the test statistic for the null hypothesis that $Variance\ of(\mu_{0j}) = 0$, where there is no cross-team variation in relational coordination scores. The null was not rejected (*p-value* =

0.35) – that is, there is no evidence of cross-team variation in relational coordination scores. The estimated intra-class correlation was low at 0.003, which can be interpreted as only 0.33% proportion of variation in relational coordination was explained at the practice-level, with the remaining 99.67% proportion of variation attributable to individual practice member differences.

Results from Model 2 suggest that, accounting for demographic covariates and practice-level clustering, solidarity measured by β_1 was not statistically significant in this model. The coefficient β_2 for leadership is estimated as 0.19 and statistically significant ($p<0.01$), which means that relational coordination is estimated to increase by 0.19 per unit increase in leadership facilitation, controlling for other variables. The coefficient β_3 for team participation is estimated as 0.18 and statistically significant ($p<0.01$), which means that relational coordination is estimated to increase by 0.18 per unit increase in team participation, controlling for other variables.

Standardized path coefficients and standardized beta weights indicate that leadership facilitation is the strongest predictor for relational coordination, with a standardized path coefficient of .30, z=3.81, p<.001 using a standardized solution. Detailed results for the path analyses are shown in table 4 and indicate that 91% of effect of leadership facilitation on relational coordination is direct, while only 9% of e is an indirect effect due to the partial mediation of team participation. The path model also showed that the solidarity culture path coefficient is very small and not significant. Coefficients for the path analysis are slightly different then the results from the HLM regression since we used year 1 data and a method(mlmv) maximum likelihood estimate using all observed values where there is at least some data for the observation, specifically designed for situations where there are missing values (Acock, 2013).

Discussion

In our multilevel regression analyses, leadership facilitation and team participation were positively associated with relational coordination supporting hypotheses one, two and three, Solidarity culture, however, was not associated with relational coordination, providing no support for hypotheses four and five (Figure 1). The association of leadership facilitation and relational coordination was only slightly mediated by team participation (9%) offering partial support for hypothesis five, but no support for solidarity culture, hypothesis four. The small mediation effect suggests that both leadership facilitation and team participation exert mostly independent effects on relational coordination.

Solidarity culture was not associated with relational coordination, indicating that solidarity may potentially reflect in-group behavior or another mechanism rather than reflecting task coordination in the practices we studied. There are several possible explanations for the statistically insignificant association of solidarity and relational coordination. First, solidarity culture and leadership facilitation were correlated (0.77), so it is likely that solidarity is at least partially reflecting a facilitation aspect. Second, team size makes a difference; once there are more than eight members in-group and outgroup, group think, and social loafing behavior become factors (Alnuaimi, Robert, & Maruping, 2010). Third,

respondents might assume the solidarity questions relate to their identification with their profession union, or employer, rather than the care team. Fourth, solidarity may capture more of the internal team cohesion instead of the external task , and thus does not correlate well with relational coordination that is more active and task oriented (Trappenburg, 2015).

The findings discussed need to be considered within the context of several limitations. Our data collection included all practice members and the survey did not provide definitions of team membership boundaries, so it is possible that respondents provided information about the larger practice rather than about their team when responding to questions about team participation and relational coordination. The path models and HLMs are not temporal/dynamic and cohort analyses could better elucidate the temporal ordering of these relationships. The practices are heterogenous (low between practice variation in RC). Examining these relationships in a larger number of more diverse primary care practices or ACOs, could lend insight as to the influence of practice effects on RC. The lack of variation in relational coordination between teams is a limitation and future studies could use more diverse practices of ACOs.

The leadership facilitation measure does not distinguish “levels’ of leadership and respondents might respond differently in referencing experiences of organizational vs. practice vs. team leadership facilitation. Future research could assess all leadership levels to clarify the level of leadership facilitation that fosters relational coordination the most. Both the independent and dependent variables come from the same survey and the correlations among variables might be inflated or biased because the same individuals are responding to the questions. We conducted exploratory and confirmatory factor analyses which indicated that the survey composites were distinct constructs, but common method variance cannot be definitively ruled out (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Practice Implications

Relational coordination has been linked to improved perceptions of outcomes and improved outcomes of care (Gittell, 2002). Thus, it is important to understand what factors contribute to higher relational coordination. The current findings indicate that relational coordination is influenced by both within-team and between-team factors but is much larger for within-team dynamics. This suggests that leadership influences at the functional front-line level are a better target for improvement strategies than more diffuse practice wide approaches if the goal is to enhance care coordination. This is consistent with other teamwork literature that argues impact of facilitating change management is best focused on the group of people that work together on a daily basis coordinating care for a defined group of patients (Nelson, Batalden, & Godfrey, 2011)

Relational coordination in primary care team members of ACOs may be supported by enhancing leadership facilitation and/or by improving team member participation, but apparently not by promoting group solidarity. There are specific aspects of leadership facilitation of change that may be helpful in targeting for improvement of coordination. In particular, leadership that rewards clinical innovation and creativity have been shown to improve coordination in other studies (Martins & Terblanche, 2003). Given the value

proposition of an ACO, leaders of front line care providers in particular have the opportunity to encourage evidence based medicine targeting groups of patients, i.e., diabetes or cardiovascular care, and can focus on soliciting input from staff during meetings, increase patient education and participation in treatment, while promoting an enjoyable place to work (Helfrich et al., 2011). Under pressure to meet cost and quality targets, ACOs may also be well served to focus directly on promoting team task coordination by using interventions directly aimed at improving leadership facilitation and/or team participation rather than cultural interventions.

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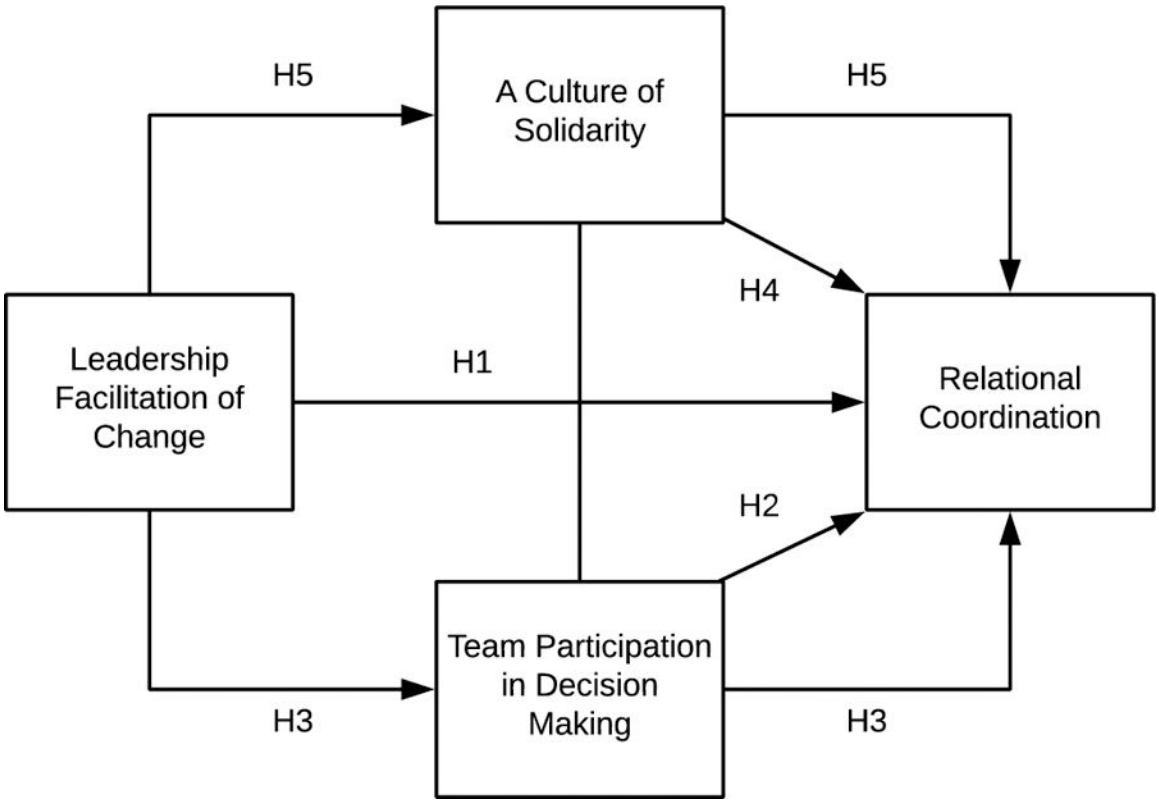

Figure 1:
Pathway Analysis for Relational Coordination, Leadership Facilitation, Team participation, and Culture of Solidarity in Practice Teams

Table 1.

Mean and standard deviation of within and between-team variation for key study variables, n=764.

Variable		Mean	*SD*
Leadership Facilitation	Overall	3.71	*1.12*
	Between		*0.36*
	Within		*1.07*
Relational Coordination	Overall	3.95	*0.79*
	Between		*0.16*
	Within		*0.78*
Team Participation	Overall	3.81	*1.02*
	Between		*0.27*
	Within		*0.99*
Solidarity Culture	Overall	3.75	*1.05*
	Between		*0.37*
	Within		*0.99*

Correlations among key study variables

	Relational Coordination	Team Leadership	Team Solidarity	Team Participation
Relational Coordination	1.00			
Team Leadership	0.34	1.00		
Team Solidarity	0.30	0.77	1.00	
Team Participation	0.26	0.24	0.28	1.00

Table 2.

Descriptive statistics of study variables for responses across teams (*N*=685)

Variable	Mean	*SD*
Relational Coordination	3.95	*0.78*
Leadership Facilitation	3.74	*1.11*
Solidarity Culture	3.78	*1.04*
Team Participation	3.91	*0.95*
Age[Φ]		
Age 18–24	0.04	*0.20*
Age 25–34	0.25	*0.43*
Age 35–44	0.26	*0.44*
Age 45–54	0.18	*0.38*
Age 55–64	0.23	*0.42*
Age 65–74	0.03	*0.18*
Role[ϑ]		
Role Specialist (Educator, Dietician, Social Worker)	0.07	*0.26*
Role Nursing (RN, RN Care Manager, LVN)	0.21	*0.41*
Role (Primary Care Provider)	0.24	*0.42*
Role Medical Assistant	0.31	*0.46*
Role Receptionist	0.16	*0.37*
Female (reference Male)	0.84	*0.37*
Time (reference 2015)	0.46	*0.50*
Team Tenure	6.36	*4.61*
Team Size	71.05	*51.70*

NOTE:

[Φ]=Age reference group (25–34);

[ϑ]=Role reference group (Medical Assistant); RN=Registered Nurse; LVN=Licensed Vocational Nurse.

Table 3.

Multilevel regression of relational coordination for team members (*N*=685)

	Model 1	**Model 2**
	Coef*(SE)*	Coef*(SE)*
Fixed Part		
Intercept	3.95(*0.03*)***	2.45*(0.18)***
Solidarity Culture		0.03*(0.04)*
Team Participation		0.18*(0.03)***
Leadership Facilitation		0.19*(0.04)***
Age$^{\Phi}$		
Age 18–24		−0.12*(0.15)*
Age 35–44		−0.05*(0.08)*
Age 45–54		0.18*(0.92)**
Age 55–64		0.12*(0.09)*
Age 65–74		0.02*(0.17)*
Role$^{\vartheta}$		
Role Specialist (Diabetes Educator, Dietician, Social Worker)		−0.22*(0.12)**
Role Nursing (RN, RN Care Manager, LVN)		−0.14*(0.08)**
Role (Primary Care Provider)		−0.18*(0.09)***
Role Receptionist		−0.10*(0.09)*
Female		−0.04*(0.08)*
Time		0.06*(0.06)*
Team Tenure		0.01(*0.01)*
Team Size		0.00(0.00)
Random Part		
Between Teams	0.04*(0.07)*	0.06*(0.04)*
Within Teams	0.78*(0.21)*	0.72*(0.02)*
ICC	0.003*(0.01)*	0.01*(0.10)*
LR Test (*p-value*)	0.35	0.15

Note: *ICC=intraclass correlation coefficient; SE: Standard Error; LR: Likelihood Ratio*

$^{\Phi}$=Age reference group (25–34);

$^{\vartheta}$=Role reference group (Medical Assistant); RN=Registered Nurse; LVN= Licensed Vocational Nurse.

*** p<0.01,

** p<0.05,

* p<0.10

Table 4:

SEM Path Analysis between Leadership and Relational Coordination with Solidarity and Participation as Mediators (Standardized Coefficients)

Relationship	Direct Effect	Indirect Effect	Total Effect
Leadership on Solidarity	0.698***		
Leadership on Participation	0.177***	-	0.031
Solidarity on RC	−0.005		
Participation on RC	0.194***	-	0.188***
Total Leadership on RC	0.297***	0.031	0.328***

The significance levels shown here are for the unstandardized solution.

* p<0.05

** p<0.01

*** p<0.001

Controlled for age, gender, role, teamyears (years team has been together, and teamsize (size of team).

Teamyears has a small Total Effect on RC 0.11. Professional Role and Gender (Female) have very slight Indirect Effects on RC, −0.036** and −0.032* respectively, but no significant Total Effects.

0.297/0.328 = 91% of the effect of leadership on relational coordination is direct, 9% is indirect but statistically insignificant (testing the standardized solution), there is no mediation of leadership by solidarity, and a small partial mediation of leadership on relational coordination by participation.