

Coordinating Patient Care: A Social Capital Model of High Performance Work Systems

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Coordinating patient care

- ◆ Hospital-based care is complex and interdependent, involving multiple functions (i.e., physicians, nurses, therapists, case managers, social workers)
- ◆ Coordination of care is therefore believed to be essential for achieving both quality and efficiency
- ◆ But coordination of care is challenging to achieve given the distinct perspectives, training and even status of these different functions
- ◆ This study explores the impact of high performance work systems (HPWS) on coordination and on key performance outcomes

High performance work systems

- ◆ HPWS are sets of work practices that work together to leverage employees' ability to create value
- ◆ Practices include selection, training, mentoring, incentives, knowledge-sharing mechanisms (Horgan/Muhlau, 2006; Isom-Rodrigues, 2006)
- ◆ Most effective when practices are mutually supporting or complementary (MacDuffie, 1995; Dunlop/Weil, 1996; Ichniowski, et al, 1996; Batt, 1999; Cappelli/Neumark, 2001)

Causal mechanisms vary

- ◆ Less agreement on the causal mechanisms through which HPWS influence performance outcomes
 - Human capital
 - Motivation
 - Social capital

Human capital theory of HPWS

- ◆ HR practices can improve org performance by increasing knowledge and skills (Becker, 1975)
- ◆ Investments in human capital not as readily duplicated as other investments (Barney, 1991)
- ◆ Sustained performance advantages from leveraging employee knowledge (Evans/Davis, 2005)
- ◆ Human capital takes the form of firm specific idiosyncratic skills, resulting in
 - Increased employee problem solving (Snell/Dean, 1992)
 - Improved customization by workers (Batt, 2002)

Motivation theory of HPWS

- ◆ HPWS work by enhancing motivation and commitment of workers
- ◆ Requires involving and empowering employees (Whitener, 2001; Caspersz, 2006)
- ◆ HR practices can increase control and involvement (Tomer, 2001; Ichniowski, et al, 1996)
- ◆ Can thereby increase firm performance (Rosenberg/Rosenstein, 1980; Estrin, et al, 1987; Ichniowski, et al, 1996)

Summary

- ◆ Human capital theory recognizes knowledge must be shared to be useful
- ◆ Motivation theory recognizes the importance of worker/manager relationships in achieving motivation
- ◆ But neither theory explicitly conceptualizes *relationships between workers* as the desired intermediate outcome of HPWS

Social capital theory

- ◆ Social capital is an asset that adheres in social relations and networks (Leana/Van Buren, 1999)
- ◆ Organizational social capital exists in organizations and can be developed by them as a source of advantage (Nahapiet/Ghoshal, 1998)
- ◆ Organizational social capital important for
 - sharing knowledge (Tsai/Ghoshal, 1998; Levin/Cross, 2006)
 - coordinating work (Faraj/Sproull, 2000; Gittell, 2000; Adler/Kwon/Heckscher, 2007)
- ◆ Less insight on how organizations contribute to or inhibit the development of social capital

Social capital theory of HPWS

- ◆ Stable employment relationships and reciprocity norms can facilitate development of social capital (Leana/Van Buren, 1999)
- ◆ Work practices can be designed to foster relational coordination among airline workers (Gittell, 2000)
- ◆ Work practices influence performance through social networks among production workers (Gant, et al 2002)

Social capital theory of HPWS

- ◆ Work practices can encourage collective learning, thus increasing firm performance (Lopez, et al, 2005)
- ◆ Work practices can support social capital of top management teams, increasing firm performance (Collins/Clark, 2003)
- ◆ Work practices can signal to nurses the importance of relationships, contributing to mindful interaction and higher levels of patient safety (Vogus, 2006)

From HPWS to RWS

- ◆ Traditional work practices create divisions between workers in different functions, undermining the coordination of work (Piore, 1992; Heckscher, 1994)
- ◆ Rather than reject formal work practices, these practices can be *redesigned* to support social capital among workers
- ◆ We call this type of HPWS a *relational work system (RWS)*

Different types of social capital

- ◆ The types of social capital considered in these studies vary substantially
 - Relational coordination (Gittell)
 - Communication networks (Gant, et al; Collins/Clark)
 - Organizational learning (Lopez, et al)
 - Mindful interactions (Vogus)
- ◆ Given the problem of coordinating patient care, we are interested here in a form of social capital through which work is coordinated – relational coordination

Social capital conceptualized as relational coordination

- ◆ The communication and relationship ties through which work is coordinated (Gittell, 2002)



Communication Ties

Frequent

Timely

Accurate

Problem-solving

Relationship Ties

Shared goals

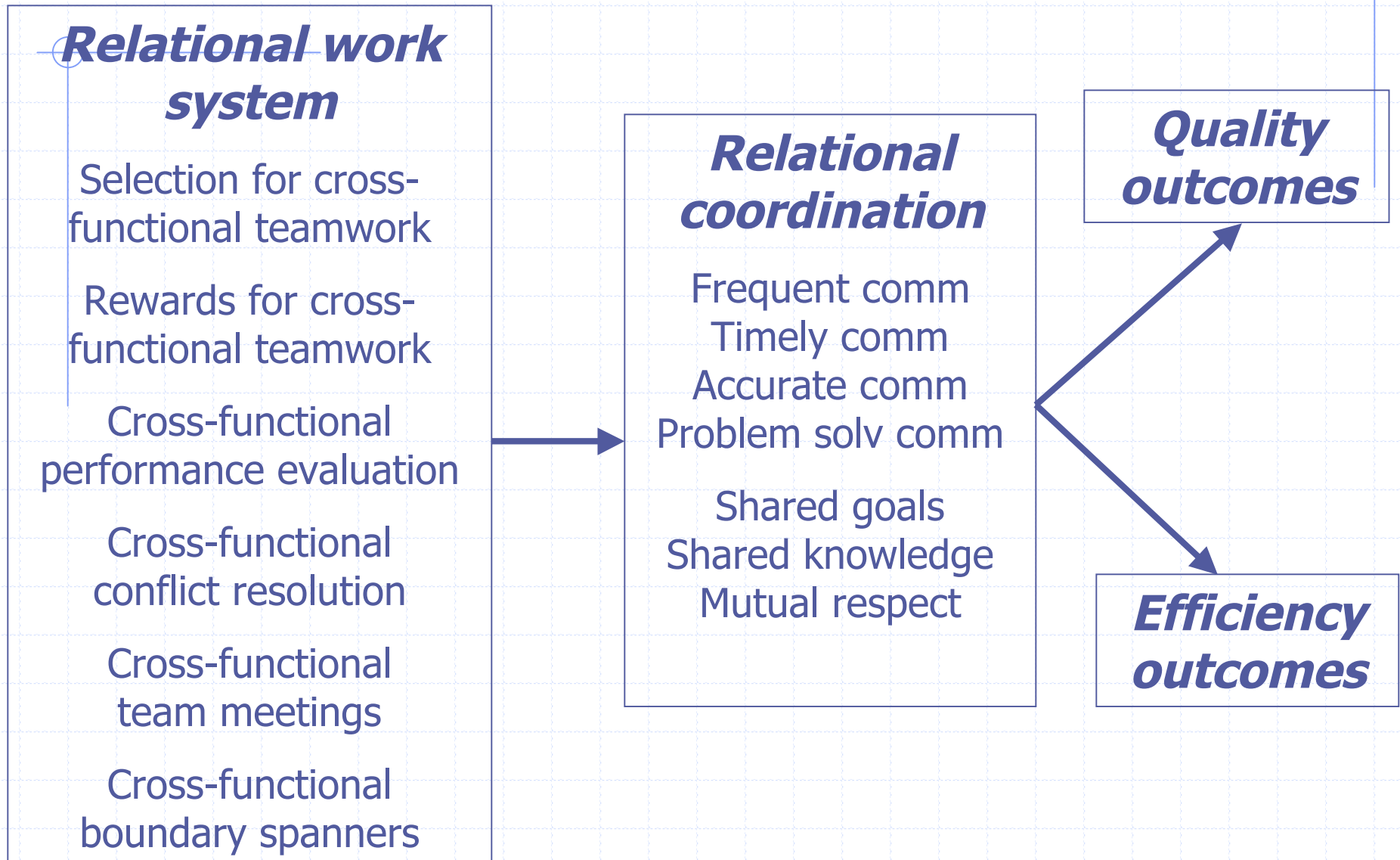
Shared knowledge

Mutual respect

Hypotheses to be tested

- ◆ Relational work system positively predicts relational coordination among workers.
- ◆ Relational work system positively predicts performance outcomes.
- ◆ The effect of relational work system on performance outcomes is *mediated by* relational coordination among workers.

Model to be tested



Sample and data sources

- ◆ Chose a work process in need of coordination, for which quality and efficiency outcomes could be readily measured
 - surgical care for joint replacement patients
- ◆ Convenience sample of 9 major urban hospital orthopedic departments that conduct large numbers of joint replacements annually
- ◆ Patient survey and medical records (n=878)
 - Outcomes and risk factors
- ◆ Care provider survey (n=338)
 - Relational coordination
- ◆ Administrator interviews (n=32)
 - Relational work practices

Relational coordination (alpha=.86)

Items in RC	Factor loading	Obs
Frequent communication	.547	334
Timely communication	.772	334
Accurate communication	.789	333
Problem solving comm	.801	315
Shared goals	.614	331
Shared knowledge	.607	333
Mutual respect	.659	326

Relational work system (alpha=.92)

Items in RWS	Factor loading	Obs
Selection for teamwork	.842	9
Rewards for teamwork	.758	9
Performance evaluation	.604	9
Conflict resolution	.813	9
Team meetings	.536	9
Boundary spanners	.834	9

Analyses

- ◆ Used random effects regression to adjust standard errors for the multi-level nature of the data (patients or providers within orthopedics departments)
- ◆ Used Baron/Kenney (1986) method to test for mediation
- ◆ Adjusted outcome models for known risk factors
- ◆ Standardized all regression coefficients to easily compare size of effects

Impact of RWS on RC

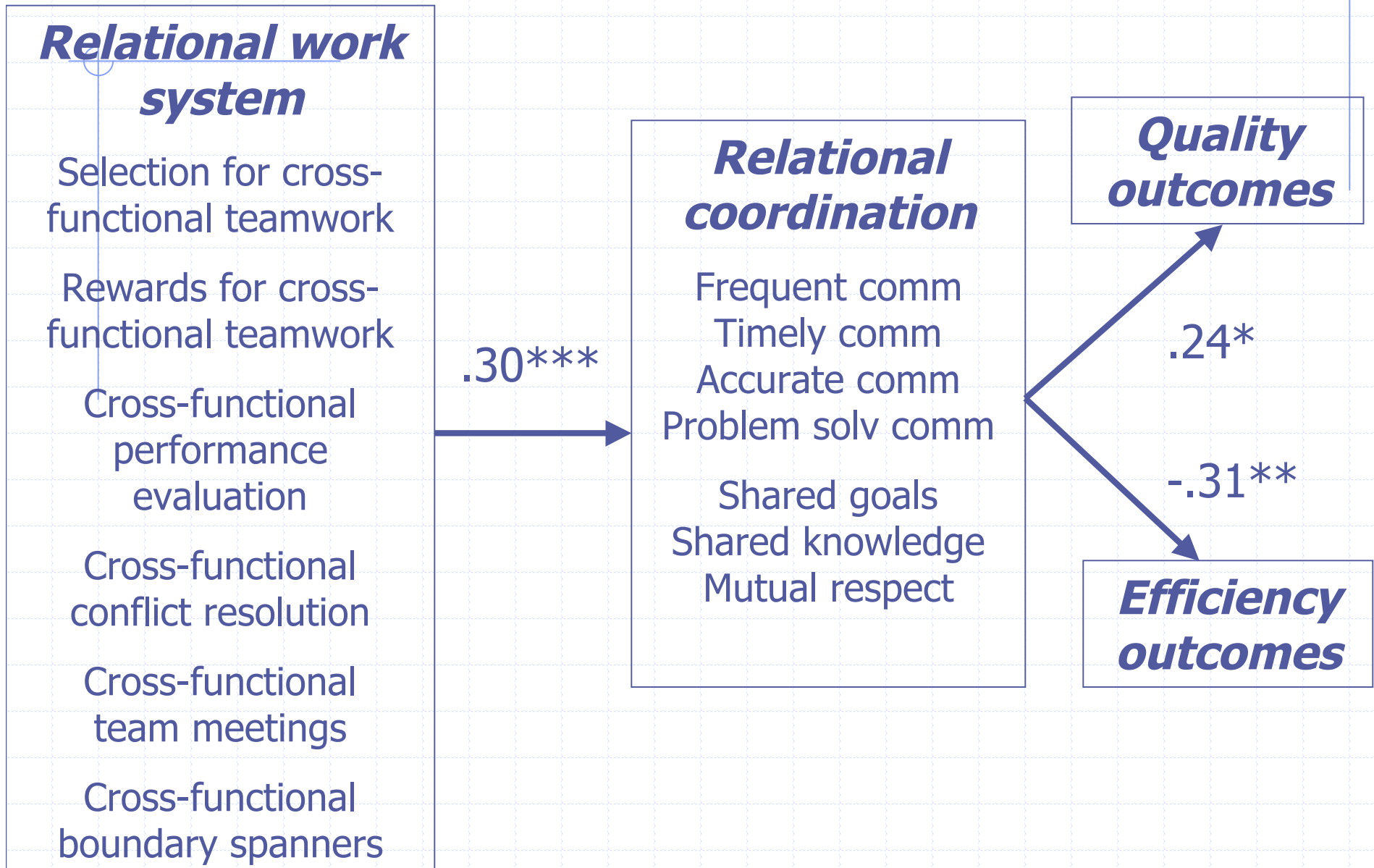
	Relational coordination
Relational work system	.30***
Physician respondent	-.28*
Resident respondent	-.08
Nurse respondent	-.20
Therapist respondent	-.05
Social work respondent	-.13+
R ² (between unit)	.91
Observations	321

Impact of RWS and RC on outcomes

	Quality of care		Length of stay	
Relational coordination		.24*		-.31**
Relational work system	.25***	.02	-.30***	.00
Comorbidities	.06	.07	.09*	.08*
Surgery type	.11**	.11**	.01	.00
Psych well-being	.14**	.14**	-.09*	-.08*
Surgical volume	.09*	.11**	.18***	.15***
R ² (between unit)	.56	.68	.72	.81
Observations	588	588	599	599

Other covariates: patient age, pre-op status, gender, race and marital status.

Summary of findings



Summary of paper

- ◆ We have further developed a social capital model of HPWS, focusing not on individual worker attributes but on the *relationships between workers*
- ◆ In contrast to traditional bureaucratic practices, the work practices that are relevant are those that reward and encourage collaboration between different workgroups
- ◆ Together they form a *relational work system*

Two types of contributions

- ◆ To HPWS theory

- ◆ To social capital theory

Contribution to HPWS theory

- ◆ Shows an alternative way that HPWS can work - through their impact on organizational social capital
- ◆ Therefore suggests that social capital theories of HPWS are a promising counterpart to theories of HPWS that focus on worker skill or motivation
- ◆ Shows that a special type of HPWS is required – a relational work system

Contribution to social capital theory

- ◆ Social capital originally seen as
 - embedded in existing networks (Granovetter, 1973)
 - emerging from independent actions of social actors (Burt, 1992)
 - not something that can be *deliberately shaped* by organizations
- ◆ But this paper shows how organizations can support the development of social capital through relational work systems

Limitations

- ◆ Study uses interviews rather than surveys to measure work practices, improving reliability of measurement but limiting replicability
 - Could translate interview protocol into survey
- ◆ Study finds support for bundling practices together into a relational work system, but does not test complementarities among the practices
 - Need more degrees of freedom to do so