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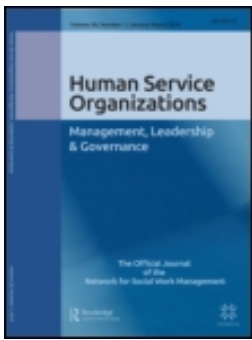
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ABSTRACT

Contextual changes affecting human service organizations have challenged human service managers to adapt through innovation. Yet no research has examined innovation along the spectrum of lower- to upper-level managers in public human service organizations. This study analyzed survey data of 466 public human service managers to examine the relationship between individual characteristics and managerial innovation. Results showed that 38% of managers took an innovative approach to their work, and characteristics of perceived responsiveness to change and evidence-informed practice network involvement were significantly associated with managerial innovation. Managerial innovation could be promoted through the development of evidence-based networks and communities of learning.

Technological advances, increased competition for public- and private-sector support resulting from the Great Recession, legislative demands, and demographic changes have underscored the need for human service organizations (HSOs) to innovate as a way to improve performance and ensure accountability for public funding (Agars, Kaufman, & Locke, 2008; Walker, 2004). To achieve these goals, HSOs are being challenged to overcome traditional organizational structures and processes characterized by bureaucracy, inertia, and risk aversion (Borins, 2001, 2014). Thus, whether in traditional bureaucratic or more market-oriented settings, public managers in the human services are increasingly expected to improve efficiency of services provided, implement evidence-informed practices and outcome-oriented programs, engage in performance measurement, and ultimately ensure that public services are delivered effectively and equitably (Heinrich, 2007).

To some extent, recent interest in reducing bureaucracy and experimenting with market-based models of service delivery reflects a shift in institutional logics supported by the New Public Management (NPM) perspective. Over the past 30 years, the NPM has endorsed market-informed strategies that prioritize the use of managerial practices in the public sector as a way to promote agency accountability and efficiency in the management of resources and service delivery (Hasenfeld, 2010; Hood, 1995). Proponents of this perspective argue that public managers can promote organizational innovation by adapting private-sector techniques that ostensibly lead to improved performance. Examples include the use of explicit and standardized performance targets and measures among frontline workers and the use of concrete output measures (Hoggett, 1996; Hood, 1995).

An NPM orientation to the human service managerial role entails a more entrepreneurial role of creating the conditions to introduce and realize new ideas (Barzelay, Armajani, & Altshuler, 1992; Meijer,

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2014). This shift in the managerial role is evident in Borins's (2001) study of public organizations, which found that public-sector innovations are derived less from political or executive influences and more from managers operating either alone or in concert with frontline staff to develop and implement alternatives to status quo approaches to organizational performance (Borins, 2001). This research suggests that the managerial search for efficiencies in service delivery and the incorporation of decentralized and leaner hierarchies of decision making may contribute to public HSOs seeking to evolve as innovative enterprises. These accountability pressures have challenged public managers in the human services and in other sectors to manage their evolving work environments and motivate their workforce to engage in innovative work (Osborne & Brown, 2011). In this paper, we focus on managerial innovation in daily practice, conceptualized as managers' search for and use of new ideas to enhance workplace structures and processes (Patterson, Kerrin, Gatto-Roissard, & Coan, 2009). Specifically, we define managerial innovation as an "intentional and proactive process that involves the generation and practical adoption and spread of new and creative ideas, which aim to produce a qualitative change in a specific context" (Sørensen & Torfing, 2011, p. 849).

Our focus on innovation at the level of the individual manager differs from organizationally focused approaches to public-sector innovation. Public management research has approached organizational innovation from an examination of firm-level and environmental factors that promote innovation in organizations (e.g., Borins, 2014); systems-based research on the use of crowdsourcing to spark organizational innovation (Collm & Schedler, 2014); and research that links managerial characteristics such as professional autonomy with the development of innovation-focused organizational cultures (Wynen, Verhoest, Ongaro, Van Thiel, & network, 2014).

Innovation in the context of evidence-informed practice

We also distinguish between the related processes of managerial innovation and evidence-informed practice, including the adoption and diffusion of specific evidence-based practices (Walker, Damanpour, & Devece, 2010). Although complementary, these two processes are distinct and our research has explored each to gain a broader understanding of the key drivers of HSO performance. The current paper has emerged from previous research wherein we used the same sample of managers to identify the levels and purposes of managerial use of diverse forms of evidence within public HSOs and to examine the factors associated with managerial use of evidence. This initial research showed that evidence-informed managers review agency reports, search for research literature and other evidence, and use online resources to identify promising practices. In addition, our findings suggested that managerial use of evidence may be contingent upon access to organizational resources, work role, and individual attitudes such as responsiveness to organizational change (McBeath, Jolles, Carnochan, & Austin, 2015). These survey findings are complemented by qualitative research from the same parent study, suggesting that the daily efforts of human service managers to engage in evidence-informed practice involves the cognitive skills of curiosity, self-reflection, and critical thinking. These individual skills are in turn applied to social exchanges of information among peers and ultimately support collaborative decision making (Anonymous, 2016).

In a way, the link between managerial innovation and managerial use of diverse forms of evidence can be conceptualized as two sides of the same coin. On the one hand, engagement in evidence-informed practice can be understood as a reactive approach to quality assurance where managers update their programs and services using available information and research as a way to meet externally imposed requirements such as higher accountability, stringent funding guidelines, and emerging contracting practices (Aarons et al., 2011). On the other hand, innovative managers focus proactively on locating new information and ideas that can improve their work routine. These innovative managerial efforts can lead agencies to be more likely to challenge the status quo and be open to change (Wandersman, 2016).

In other words, managers' search for new ideas may serve as a starting point for identifying and using available scientific knowledge, organizational administrative data, and other sources of information. This

process is likely to lead to a dynamic work environment in which new ideas are developed into strategies that are in turn tested to better address service delivery challenges (Briggs & McBeath, 2009; Kovner, 2014; McBeath et al., 2015). These innovative managerial efforts also serve as an anticipatory strategy to ensure that evidence collected in the past remains relevant for future agency work.

This previous research suggested additional questions worth exploring. If innovation-mindedness is associated with evidence use (McBeath et al., 2015), then what factors drive the innovation process in the first place? And how can managers and supervisors promote an innovative workforce? These are relevant questions because it can then be argued that organizational-evidence-use initiatives may be more easily implemented and sustained in the context of an innovative workforce. These questions also direct additional attention to the managerial role in promoting innovation. It is important to gain an understanding of the role of managers in the innovation process because they have the main responsibility to develop organizational initiatives and oversee organizational reforms (Birken, Lee, Weiner, Chin, & Schaefer, 2013). This line of research ultimately seeks to increase our understanding of the characteristics of innovative public managers and of how managerial innovation could be promoted to improve the performance of public HSOs.

Managerial innovation in public HSO contexts

In the human service sector, managerial efforts to introduce innovation into daily work routines may be challenged at different levels of practice. Externally, efforts to change organizational structures and processes may be affected by pressures and opportunities driven by public scrutiny, accountability requirements, and compliance with the demands of public funders, regulatory agencies, and legislative bodies (Jaskyte, 2010). These institutional pressures are in great part designed to influence HSOs' policy implementation, managerial practices, and service delivery. Compliance with these external expectations may provide legitimacy to the agencies and in turn may lead to additional resources (Hasenfeld, 2010). However, these pressures may also hinder managers' efforts to alter organizational policies and programs in novel ways.

Managerial efforts to innovate may also be affected by the technical environment surrounding frontline human service delivery. For example, one characteristic of human services is its high level of uncertainty regarding service outcomes owing to the indeterminate nature of work conditions (Hasenfeld, 2010) and to the role of consumers as "active participants in the service experience [who are] largely responsible for the changes sought by the agency" (Patti, 2000, p. 15). These core dimensions of human service delivery increase the uncertainty associated with managerial decision making and, thus, the risk managers and their organizations may bear in attempting programmatic change. For example, managers may not be able to determine with confidence how a new program will perform in a particular community setting. The resulting impact of program activities on consumers may be difficult to forecast, thereby limiting the ability of managers to judge the relative merits of an innovation in relation to current service models. In general, uncertainty has been shown to promote pessimistic judgment about the benefits of an action, and to increase avoidance of risk taking (Ellsberg, 1961; Han, Reeve, Moser, & Klein, 2009). The overall effect in the human services may be "ambiguity aversion" (Ellsberg, 1961; Fox & Tversky, 1995) and avoidance of managerial innovation (Hasenfeld, 2010).

Despite these challenges, the notion of an inhospitable public sector for managerial innovation in the human services and related sectors has been countered by examples of innovation such as new approaches to frontline service programming, performance measurement, employment policies, and workforce development practices (Bartlett & Dibben, 2002; Sørensen & Torfing, 2011; Walker, 2003). The emerging question is how to identify innovative managers who, despite multiple challenges inherent to the human service sector, are able to initiate and/or support change. Literature drawn from public management and business can be reviewed usefully to provide insight into the organizational and individual factors that facilitate managerial innovation.

Organizational characteristics that facilitate innovation

A review of the literature suggests that innovation within public organizations can be understood as a function of specific organizational characteristics. Scholars have underscored the importance of the work environment in facilitating or hindering organizational change (Klein & Sorra, 1996). Additionally, characteristics such as strategic style, organizational structure, and cultural norms and values can shape an organization's ability to learn from experiences, adopt new ways of doing business, and ultimately adapt to change (Kontoghiorghes, Awbre, & Feurig, 2005; Martins & Terblanche, 2003).

The study of organizational contexts is relevant to the understanding of innovative management because enabling contexts have been linked to higher individual motivation to pursue innovative approaches to work by providing a safe environment for workers to experiment (Hammond, Neff, Farr, Schwall, & Zhao, 2011). Research has also shown that organizations with strong administrative capacity, measured as the number of managers in an organization, and organizations engaging in collaborative networks that promote learning, are more likely to adopt innovations (Walker, 2014).

Managerial factors that influence innovation

There is a growing body of literature on the role of individuals in public innovation. Scholars have identified individual-level characteristics that predispose some managers to be able to incorporate new information into their daily work. One example of this research is the work of Fiona Patterson et al. (2009) on "everyday innovation" in public and private organizations in the United Kingdom. Patterson offers the following conceptual individual domains to identify elements of everyday innovation—motivational characteristics, critical/challenging behavior, adaptation and diversity in work styles among workers. In addition, survey respondents endorsed network-based strategies, such as cross-functional teams and networking opportunities, as effective in promoting innovative work. Managers also offered concrete examples of perceived effective strategies to foster new ideas in the workplace, such as innovation-based teams, brainstorming, and work time devoted to foster new ideas in the workplace (Patterson et al., 2009).

Practitioner characteristics such as openness to new ideas and having a positive attitude toward change have been associated with higher use of new information (Austin, Dal Santo, & Lee, 2012; Damanpour & Schneider, 2009). Studies have also found that managers in positions of authority with strong professional networks and with access to organizational resources are more-active innovators (Hage & Dewar, 1973; Rycroft-Malone et al., 2002; Wilson, 1966).

This view of innovative managers as embedded within strong, well-supported professional networks has been supported by research showing that joint action among motivated workers is more likely to lead to innovative change (Barzelay et al., 1992; Borins, 2014; Denhardt & Denhardt, 2000). In this regard, scholars have argued that individuals with strong networking skills are more likely to be effective public entrepreneurs (Beinecke, 2009; Williams, 2002). In short, managers who share novel ideas with like-minded colleagues and who are strongly involved in professional networks within their organizations may be able to build new knowledge, coordinate actions, and ultimately be more likely to implement innovative practices within and across HSOs (Rogers, 2010).

In relation to this perspective, a growing number of research efforts have focused on clarifying the importance of social supports within HSOs for fostering managerial learning and supporting organizational change, working from the premise that individual managers may require training, mentoring, and administrative sanction to engage in experimentation (McBeath & Austin, 2014). A critical support is the availability of knowledge-sharing teams that facilitate the locating, appraising, and use of diverse types of evidence to support managerial decision making (Austin et al., 2012). The connection between evidence-informed management practice and the social network aspects of human service innovation is the development of these communities of learning. It is within learning communities that managers may be able to discuss new ideas, paving the way to greater evidence use and interest in the implementation of evidence-informed practices (McBeath et al., 2015).

Contribution of the current study and specific research questions

In summary, a review of the literature suggests that managers play a key role in ensuring that new tasks are accomplished, allocating resources within and across work units to stimulate organizational reforms, and promoting innovation throughout the organization. In relation to this understanding of the importance of managerial innovation, our study has three emphases that distinguish it from prior research. First, we conceptualize innovation in management practice as the search for and integration of new ideas into daily work practices, thereby providing a complement to studies that have examined innovation at the organizational level (Borins, 2014) and that have viewed innovation as the diffusion and adoption of best practices (Walker et al., 2010). Second, this research joins a small but growing number of studies seeking to identify and measure individual skills and behaviors that contribute to innovative work within HSOs (Patterson et al., 2009). Last, we focus on managerial innovation in the human service sector given its importance in addressing heightened performance and accountability expectations in the wake of the Great Recession (Lewis, Packard, & Lewis, 2011) and in relation to marketization pressures reflecting the emphases of the NPM movement.

This study contributes to this gap in the literature by using a diverse sample of human service managers, ranging from executives to supervisors. This sample allowed us to examine both individual managerial characteristics and the perceptions of managers, across diverse managerial levels, in relation to their perceived ability to introduce and use new ideas in their workplace. This is a relevant area of inquiry as the development of an innovative workforce that routinely incorporates new ideas into daily routines to problem solve and make decisions has been shown to contribute to organizational effectiveness, adaptation to evolving contexts, higher use of evidence-informed practices, and ultimately to gaining a competitive edge (McBeath et al., 2015; McLean, 2005).

More specifically, the current study sought to answer the following multipart research questions: (1) How frequently do managers take an innovative approach to their work in public HSOs, and are there demographic and attitudinal differences in the characteristics of managers who are more or less innovative? and (2) What are the individual characteristics that predict managerial innovativeness? To answer these questions, we used quantitative survey data from a sample of supervisors, middle managers, and administrators from public HSOs located in the San Francisco Bay Area.

Methods

Sample and data collection

This study examined quantitative data from the Survey of Evidence-Informed Practice in the Human Services conducted during June and July of 2013 across 11 county human service organizations (HSOs) in the San Francisco (California) region. In California, county governments administer human services including child welfare, public assistance, employment and training, and adult and aging services. Federal and state human service funding is directed to counties, which also have an obligation to provide local funding. Every county delivers human services through a combination of county-delivered services and contracted services. The current study was conducted in partnership with a regional human service agency consortium. The Bay Area Social Services Consortium (BASSC) is a consortium involving the 11 county HSOs, five university social work educational programs, and a local foundation.

To answer our research questions, we examined survey data from a sample of 466 upper- to lower-level managers in the 11 county HSOs. This online survey sought to understand how public human service managers use new and existing agency information and other types of evidence (including research) to inform their practice and enhance services and agency operations. Other survey questions of relevance to the current study were related to how managers approached their daily work and their connections to work colleagues around evidence-informed practice. A total of 517 respondents out of 958 invited employees completed the online survey. As a result, the survey had an estimated 52% response rate, which is considered above average among organizational surveys (Baruch & Holtom, 2008).

Overall, the survey was developed to understand the different types of agency information and evidence used by practitioners to inform their daily practices and agency operations. The survey comprised four domain areas: practitioner demographic characteristics, practitioner opportunities for learning and creativity at work, use of research evidence at work, and professional development needs related to evidence-informed practice. The survey questions were pilot tested with a smaller sample of experts and then reviewed by over 30 mid-level managers from the participating agencies. Detailed information on the development of the survey and its administration is provided elsewhere (McBeath et al., 2015).

Measures

Managerial innovation mindedness (dependent variable)

The respondents were asked to rate the extent to which they agreed with the following two statements concerning how they approach their work: I often search for new ideas to use in my work; and I make use of new ideas when people send me interesting information. Each survey question was designed to assess practitioners' initiation/ideation and use of new ideas in their work (Damanpour & Schneider, 2006; Patterson et al., 2009). Likert-based response categories for each survey question included 1 = strongly disagree, 2 = slightly disagree, 3 = neither agree nor disagree, 4 = slightly agree, and 5 = strongly agree. Given the low frequency of responses in some categories of each of these questions, we recoded the 5-point measures into a single binary variable. This outcome variable was coded 1 = the manager reported strongly agreeing with both statements or 0 = the manager reported anything other than strong agreement with each statement. This measure seeks to capture ideas that are perceived by managers as new (Rogers, 2010) and their perceived willingness to search for and incorporate innovations into their repertoire of daily activity (McBeath et al., 2015).

Responsiveness to change

The respondents were asked to identify one or more of the following strategies that they would use if they noticed a major change in service demand (e.g., a large increase or decline in the county client population): (a) conduct a survey of coworkers; (b) conduct a survey of clients; (c) conduct a survey of community providers; (d) contact researchers with expertise in the area; (e) review client case records; (f) review agency reports; (g) review research articles and reports; and/or (h) employ another strategy to search for explanations. The selected strategies were summed into a count variable, with higher values suggesting greater interest on the part of managers to try diverse strategies to address organizational challenges, implying greater managerial agency and responsiveness to organizational change (Golensky & Mulder, 2006; McBeath et al., 2015).

Involvement in evidence-informed practice networks

The respondents reported on how helpful they found the following strategies for expanding their practice skills: (a) talking to coworkers who have expertise in evidence-informed practice and (b) learning from coworkers who are currently engaged in evidence-informed practice. Likert-based response categories for each survey question included 1 = not at all helpful, 2 = slightly helpful, 3 = Somewhat helpful, 4 = very helpful, and 5 = extremely helpful. Given a low frequency of responses on some of the categories, a derived binary variable was constructed and coded 1 = the manager perceived their evidence-based work networks to be extremely or very helpful or 0 = the manager reported these networks to be somewhat helpful to not at all helpful for either of the question. Affirmative responses to this dichotomous variable were used to identify those managers who were currently engaged in regular conversations with coworkers around evidence-informed practice and who were therefore expected to be centrally located within professional evidence-informed practice networks within their organization (Rousseau & McCarthy, 2007).

Interest in professional training and development

The respondents were asked about their interests in attending a short program on evidence-informed practice and/or a part-time degree program (i.e., BA, MSW, or PhD) at a local university while continuing to work if they could find the time to attend. Responses to each of these two dichotomous questions were used to create a single binary variable indicating whether the respondent was interested in professional training and development, which if yes was coded 1 = *managers responded affirmatively to both questions.*

Work role

Practitioners were asked to identify their primary work role, which included: supervisor (referent), middle manager, or administrator (i.e., executive team or administrative support). These variables were included to control for potential differences in managerial capacity to participate in organizational change and involvement in innovative work practices.

Other Covariates

Several variables related to factors known to be associated with innovation were included as covariates. A continuous variable indicating the number of years the respondent had worked in the human service sector was included to account for variation in managers' ability to identify and use new ideas in the workplace based on professional experience (Damanpour & Schneider, 2009). Educational level was included to control for differences in the level of training and knowledge needed to introduce new ideas in the workplace (Boyne, 2002). This factor was measured as a categorical variable indicating whether the respondent had less than a bachelor's degree, a bachelor's degree (i.e., BSW, BA, or BS degree), an MSW degree (referent), or some other master's-level degree. A binary variable measuring gender was included to account for potential differences in managerial style (Fox & Schuhmann, 1999). Finally, a categorical measure of age (< 40 years, 40–54 years, or 55 years and older) was included to control for differences in seniority (and potentially differences in innovation ability based on years of organizational experience).

Analyses

The descriptive and bivariate statistics were first used to describe the characteristics of the sample of human service managers and to test for differences in the characteristics of managers who were more versus less innovative (using the binary dependent variable). Given survey item nonresponse, multiple imputation was implemented to reduce potential bias from missing data and to maintain the full analytic sample (Allison, 2002; Lee & Carlin, 2010). Twenty imputations were used to reduce sampling error and the outcome variable was included in the imputation procedure to maximize the information used during the process (Von Hippel, 2007). Multiple imputation is a preferred strategy to account for missing data that may not be missing completely at random because it provides less biased results than complete case analysis (Allison, 2002). Availability of data on the dependent variable reduced the analytical sample to 424 managers.

A multivariate logistic regression model examining the proposed associations between individual managerial characteristics and the binary outcome variable of managerial innovation was then tested. The model included Huber-White robust standard errors to account for potential clustering of responses by the county HSO in which managers were located. Sensitivity tests were then conducted and they did not detect specification errors; these tests also suggested a satisfactory regression model fit (Cameron & Trivedi, 2009). Phi and biserial correlations between independent variables were all less than $r = 0.49$, suggesting that independent and dependent variables were sufficiently distinct to allow them to be incorporated into a multivariate model. The presented multivariate results reflect the imputed data set. Analyses were conducted using Stata 13.0 (StataCorp, 2011).

Results

Descriptive and bivariate results

With respect to the organizational context of responding managers, the 11 county HSOs represent a diverse set of organizations with respect to size (from 350 to 2,200 full-time equivalent employees) and budget (from $93 million to $738 million), based on 2013–2014 organizational figures.

Turning to the characteristics of survey respondents, over half of managers (55%) strongly agreed that they often search for new ideas to use in their work, and almost half (49%) strongly agreed that they make use of new ideas "when people send me interesting information." As shown in Table 1, over a third (38%) of managers were thus coded as taking an innovative approach to their work. Managers noted that they would use an average of almost four strategies (mean = 3.91, SD = 2.25) to respond to a major organizational change. About half (49%) of managers reported an interest in additional professional development, and over half (53%) of managers were involved in an evidence-informed practice network. With respect to managerial background, most respondents were supervisors (42%) followed by middle managers (30%) and administrators (28%); managers had on average over 18 years of experience in the human service sector (mean = 18.37, SD = 9.47). The most common degree held by respondents was the MSW (32%), befitting the population of public human service managers from which the sample was drawn; and most managers were female (74%), Caucasian (74%), and between 40 and 54 years old (54%).

Bivariate comparisons presented in Table 2 provide a descriptive profile of innovative versus less-innovative managers. Overall, innovative managers used a greater number of strategies to respond to change, as compared to less-innovative managers (4.54 versus 3.52). Greater proportions of innovative managers were also involved in an evidence-informed practice network at their workplace (63% versus 46%) and had an administrative role (35% versus 24%), compared with less-innovative managers. However, the two groups did not differ statistically relative to other factors, including their experience in the human service sector, formal organizational role, or demographic characteristics.

Table 1. Descriptive characteristics of public managers.

	Mean %	SD (Range)
Dependent variable		
Managerial innovation mindedness	38%	
Individual characteristics		
Responsiveness to change	3.91	2.25
Interest in professional training and development	49%	(0–8)
Involvement in evidence-informed practice networks	53%	
Work role		
Supervisor (referent)	42%	
Middle management	30%	
Administrative role	28%	
Covariates		
Number of years employed in the human service sector	18.37	9.47 (0–44)
Education		
Less than bachelor's degree	16%	
Bachelor's degree	24%	
Master's degree	25%	
Masters of social work (MSW)	32%	
Gender: Female	74%	
Race: White	54%	
Age		
Less than 40 years old	16%	
Between 40 and 54 years	54%	
55 years and older (referent)	30%	

Note: The sample size for variables ranged from 383 to 424.

Table 2. Manager profiles by level of managerial innovation mindedness.

	Strongly innovative±	Less than strongly innovative±	
	Mean (SD)	Mean (SD)	
	%	%	P value
Individual characteristics			
Responsiveness to change	4.54 (2.00)	3.52 (1.92)	0.000***
Interest in professional training and development	53%	46%	0.160
Involvement in evidence-informed practice networks	63%	46%	0.001**
Work role			
Supervisor (referent)	40%	43%	0.488
Middle management	25%	33%	0.104
Administrative role	35%	24%	0.016*
Covariates			
Number of years employed in the human service sector	18.23 (9.46)	18.45 (9.50)	0.817
Education			
Less than bachelor's degree	16%	16%	0.947
Bachelor's degree	21%	26%	0.223
Master's degree	26%	24%	0.542
Masters of social work (MSW)	32%	32%	0.952
Gender: Female	70%	76%	0.216
Race: White	59%	51%	0.095
Age			
Less than 40 years old	15%	17%	0.490
Between 40 and 54 years	53%	54%	0.786
55 years and older (referent)	32%	28%	0.393

*p < 0.05; **p < 0.01; ***p < 0.001; +1 to 3 answer categories in the survey question were coded as *less than strongly innovative* and 4–5 categories as *strongly innovative*.

Multivariate results

Table 3 presents the results of the multivariate logistic regression analysis. Results suggest that holding other factors constant, managers who were more responsive to organizational change had higher odds of approaching their work in an innovative manner (OR = 1.27, p < 0.001). Also, managers who were involved in an evidence-informed practice network were more likely to take an

Table 3. Multivariate logistic regression models predicting managerial innovation mindedness.

	OR	SE	P ≥ |t|	95% CI	
Individual characteristics					
Responsiveness to change	1.27	0.07	***	1.14	1.43
Interest in professional training and development	1.18	0.17		0.89	1.52
Involvement in evidence-informed practice networks	1.61	0.30	*	1.12	2.32
Work role					
Middle management	0.74	0.20		0.44	1.26
Administrative role	1.23	0.46		0.59	2.56
Covariates					
Number of years employed in the human service sector	0.98	0.01		0.96	1.00
Education					
Less than bachelor's degree	1.17	0.32		0.68	2.01
Bachelor's degree	0.78	0.26		0.41	1.41
Master's degree other than MSW	0.87	0.24		0.51	1.51
Gender: Female	0.76	0.22		0.44	1.33
Race: White	1.44	0.35		0.90	2.31
Age					
Less than 40 years old	0.58	0.20		0.29	1.13
Between 40 and 54 years of age	0.72	0.17		0.45	1.15

Note: N = 424. Average relative variance increase (RVI) = 0.31.
*p < 0.05; **p < 0.01; ***p < 0.001.

innovative approach to their work (OR = 1.61, $p < 0.05$). However, other factors pertaining to the tenure of managers in the human services (i.e., number of years employed in HSOs), their organizational role (e.g., supervisor), or their personal characteristics (e.g., gender and age) were not significantly associated with the level of managerial innovation.

Discussion

In response to the New Public Management movement, questions have arisen concerning how public managers develop innovative, high-performing organizations. In the human sector, these concerns have also reflected the demands of policymakers and funding agencies for ensuring accountability for the delivery and performance of publicly funded programs, particularly in the wake of the Great Recession, since public HSOs have been asked to do more with less (Graaf, Hengeveld-Bidmon, Carnochan, Radu, & Austin, 2015). Managers are fundamental to the effective implementation of such programs; they are also central to the organizational processes of developing new, innovative human service programs and refining existing organizational initiatives. However, there has been little empirical attention given to the level and drivers of managerial innovation in the human service sector. We sought to gain a better understanding of the level of innovative work practices among public managers in HSOs and identify individual attitudinal predictors associated with managerial innovativeness. Using a unique survey data set of managers at multiple levels within 11 county HSOs in the San Francisco Bay Area, we found that the responses of over a third of managers (38%) could be described as approaching their daily work in an innovative fashion. Given that human service managers may face challenges in developing innovative approaches to their work, we view this prevalence rate for innovation-minded managers as being quite robust. While our study did not evaluate the level of external institutional pressures and technical uncertainty involved in developing and implementing human service programs as perceived by managers, we interpret our descriptive finding of the level of managerial innovation to suggest that public human service managers may perceive some incentives to engage in innovation. The management level of attention to the search for and application of new ideas found in this study may enhance the process of improving HSO performance, given that managerial innovation can lead to experimentation either formally (e.g., the development of innovative programs) or informally (e.g., the growth of policy workarounds) (Campbell, 2012).

Bivariate and multivariate findings suggested that managerial innovation was associated with the degree of managerial responsiveness to organizational change and to the degree of managerial involvement in evidence-informed-practice work networks. The first of these findings alludes to the link between the literatures on organizational change and practitioner innovation (Schmid, 2009). We see two possible connections between these literatures, each of which may benefit from further research. First, we wonder whether there may be an attitudinal dimension of managerial innovation, in which managers who have the ability to reframe organizational issues within an organizational change and improvement process may be more likely to innovate. Second, we wonder if responsiveness to change and innovation-mindedness may be linked to managerial agency and discretion. In this case, managers with a greater sense of personal ability to adapt to change, belief in their ability to influence the organizational environment, and professional autonomy may be more likely to innovate.

The second of these bivariate and multivariate findings suggests a possible link between the literatures on evidence-informed management and managerial innovation and experimentation in the human services, in that practitioners who seek out work colleagues to identify relevant information to resolve organizational problems may also be more likely to express interest in innovation-minded practice (Austin et al., 2012; Briggs & McBeath, 2009). These findings also allude to the social context of innovative managerial behavior; that is, innovation may be more likely to occur when managers interact with colleagues who support their efforts. Although the literature on the development of learning communities has emphasized the role of social support in facilitating

organizational learning (Austin et al., 2012), our findings point to the potential benefit of fostering peer learning through evidence-informed practice networks for supporting managers in seeking out alternatives to the status quo. Further research on this relationship could examine the characteristics of learning communities that support managerial innovation.

In contrast, the factors that were not found to be associated with innovative managerial behaviors included organizational role, individual interest in professional development, and years of experience in the human services. Taken as a whole, these nonsignificant findings suggest that innovation may not be concentrated at a particular managerial level or among more or less experienced workers. These findings suggest the need to question the assumption that innovative thinking is more likely to occur among younger, less tenured, and less institutionally embedded practitioners or, alternatively, among senior administrative executives whose organizational experience allows them to more easily propose and implement programmatic or organizational reforms. This line of thinking also suggests the presence of external barriers to innovation that might affect all workers within HSOs regardless of their formal role and status. Further research on these lines of inquiry is needed.

These findings should be understood within the context of a number of study limitations. First, due to the online survey format, the perceptions of respondents about their behavior and attitudes may have created opportunities for social desirability bias. In particular, managers may have rated themselves to be more innovative than they were in practice. Despite this possibility, our measure seemed to have captured variation in managerial self-reports of innovation in daily practice and variation in the individual characteristics associated with innovation; that is, compared to managers classified in our study as less innovative, a higher proportion of strongly innovative managers reported being responsive to change and involved in evidence-informed practice networks. Second, despite our efforts to develop dependent and predictor variables from multiple measures, our survey lacked multidimensional measures on key constructs, suggesting that measurement bias may have been present in our models that may have hampered our ability to identify a significant effect if it was indeed present. Third, for our measure of responsiveness to change, some managers may have endorsed a single strategy because of its perceived effectiveness or due to an individual preference for a single strategic approach to organizational change. Finally, because these data were drawn from a cross-sectional non-probability survey and in a single geographic location, the research design did not allow us to develop and test causal propositions or to generalize our findings to other areas of the United States. Also, we were not able to capture the specific manner in which managers were implementing different organizational innovations or how their agencies were impacted by their actions. Thus, all significant findings presented here are associational in nature and call for further testing using either longitudinal data sets or data drawn from more-robust research designs.

There are several potential implications of our study for HSOs. The knowledge gained on identified individual characteristics associated with managerial innovative work can lead agency executives to cultivate and reward those particular skills in the workplace. These efforts include executive support for in-service training and staff development programs that encourage managers to gather information from clients and community providers to understand and adapt to organizational change. In addition, these programs need to be complemented by an organizational culture that promotes social networks and communities of learning where workers can bring new information, share their insights with peers, and test their strategies within the organization. These social networks can in turn support the alignment of the process of searching for and applying the latest available evidence and research with managerial strategies to respond to internal organizational needs and resources to optimize overall organizational performance. These communities of learning, comprising evidence-informed peer networks, can also bring managers and frontline workers together to discuss new ideas, their value, and ways to make them happen. This collective action may reduce the documented gap between managerial endorsement of innovation and frontline worker lack of action on new ideas that could potentially improve agency performance (Sturt & Rogers, 2016).

In a way, our research exploring a proactive and innovation-centered approach to the human service managerial role to inform the more reactive manner in which practitioners may use various forms of evidence alludes to what Carol Weiss has called the "conceptual" or "enlightenment" use of research. According to Weiss, individuals and teams are not "mere docile technicians" who implement a required evidence-based program but, instead, active agents whose efforts to gather meaningful research and evidence provides them with sources of new ideas and frameworks to approach daily work routines (Farrell & Coburn, 2016; Weiss, 1977). This dynamic innovation-evidence process is more likely to lead to an integration of new ideas and available evidence into organizational policies and practices (Patterson et al., 2009).

Conclusion

Through an integrated view of the literatures on organizational change, managerial innovation, and evidence-informed management, we examined the individual motivational and behavioral factors that influence managerial innovation in public HSOs. Our main findings suggest that managers who are more responsive to organizational change and seek out peers who are invested in evidence-informed management practice are more likely to be engaged in the search for and use of new approaches to responding to current organizational dilemmas. Therefore, managerial innovation in HSOs may be supported by: (a) identifying practitioners who are responsive to organizational reform and (b) promoting the development of communities of learning that link evidence-minded and innovation-minded practitioners. Overall, study findings confirm previous research underscoring the role of collective learning and action in agency innovation and use of evidence-informed practices. This study also supports the need for additional research on the characteristics and activities of innovative public managers in order to identify their contributions to organizational change and organizational performance.

Funding

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