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Sarah M. Chilenski

Pennsylvania State University, sem268@psu.edu

Jonathan R. Olson

University of Washington

Jill A. Schulte

Pennsylvania State University

Daniel F. Perkins

Pennsylvania State University

Mark T. Greenberg

Pennsylvania State University

See next page for additional authors

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Communication is Key: State-level Organizational Correlates of Readiness for Evidence-based Programming within the Cooperative Extension System

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Authors

Sarah M. Chilenski, Jonathan R. Olson, Jill A. Schulte, Daniel F. Perkins, Mark T. Greenberg, and Richard Spoth

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Sarah M. Chilenski

The Pennsylvania State University

Jonathan R. Olson

University of Washington

Jill A. Schulte

Daniel F. Perkins

Mark T. Greenberg

The Pennsylvania State University

Richard Spoth

Iowa State University

The necessity to implement evidence-based programs to support the healthy development of youth and families is becoming part of national policy. Organizations that are not “ready” to do so will likely lose resources, disallowing them to serve as they have set out to do. Consequently, the current survey study draws from a national sample of Cooperative Extension personnel in 2009 to examine characteristics within their organizational context that facilitate successful change related to youth/family programming. Data were collected from 946 4-H/youth development or Family and Consumer Sciences employees at all levels. Self-reported indices of each state organization’s openness to change, leadership, morale, communication, and resources were constructed to assess the organizational context. Dependent variables included indicators of readiness to implement prevention and evidence-based programming. Results suggest that the organizational context was strongly associated with indicators of readiness for evidence-based prevention programming, and specifically, the clarity of communication was most important.

Keywords: Cooperative Extension System, organizational context, culture, systems change, readiness, evidence-based prevention programs, implementation

Direct correspondence to Sarah M. Chilenski at sem268@psu.edu

Introduction

Immediately after the economic downturn of 2008, resources dedicated to youth and family programming within the Cooperative Extension System (CES) became especially limited. For instance, in Pennsylvania, the number of Family and Consumer Science educators dropped to its lowest ever. During this same time period, federal funders have increasingly emphasized the need for strong empirical evidence of the effectiveness of youth and family programs to receive funding (Coalition for Evidence-Based Policy, 2011; Haskins & Margolis, 2014; Oliff et al., 2012; *Statement of Jon Baron*, 2013). More recently, despite differences in definitions of the term “evidence-based,” funding related to addressing the opioid epidemic also emphasizes the need to provide evidence-based programs to youth and families (Substance Abuse and Mental Health Services Administration, 2018). To examine factors that may assist organizations in adapting to financial demands and requirements such as these, the current study draws from a national sample of Extension personnel involved in youth and family programming at state, regional, and local levels at a time when many program budgets were cut suddenly in response to a downturn in the national economy (Fischer, 2009). Understanding the characteristics of implementing organizations is imperative to the successful dissemination of evidence-based programs (EBPs; Harris et al., 2012; Spoth et al., 2013), a trend that seems to be increasing in demand. This topic has received much attention in treatment-focused or overdose-prevention programs and is understudied in the family and youth development context. Therefore, our purpose was to examine characteristics of the organizational context within the CES that may promote readiness for an evidence-based prevention and positive youth development approach to youth and family programming. Readiness to implement high-quality positive youth development programs, rather than treatment-focused or overdose-prevention programs, are of paramount importance for youth and family development Extension educators.

The Organizational Context

Systems theories, in general, stress the importance of context, and this has been applied to both individuals and organizations (e.g., Bronfenbrenner & Morris, 1998; Glisson, 2002). Early experiences attempting to integrate new evidence-based programs into pre-existing youth and family program settings validated this broad theory, as the degree of successful integration seemed related to the pre-existing characteristics of organizations (Backer et al., 1995; Simpson, 2002). Thus, the concept of an organization’s readiness to change gained momentum and clarity, and multiple organizational readiness to change measures have been developed over the past several years (Armenakis et al., 1993; Eby et al., 2000; Lehman et al., 2002; Weiner, 2009). Specific to high-quality implementation of EBPs, multiple theoretical models that emphasize the importance of the organizational context have been developed (Domitrovich et al., 2008; Wandersman et al., 2008). The organizational context can include several characteristics. Resources, mission/policy alignment, climate, and leadership characteristics are a few relevant examples.

The importance of the pre-existing organizational context when integrating new work-related tasks has also specifically been recognized within Extension (Taylor-Powell & Boyd, 2008). Taylor-Powell and Boyd (2008) reflected on the movement toward integrating evaluation into regular practices within Extension. They theorized that, among other things, the clarity of communication within an organization, the openness within which leadership listens to the ideas of staff, and an appropriate level of resources to support the new work, were all potentially important characteristics within Extension that affected the organization's ability to improve its evaluation capacity. They concluded that it might be more useful to think of building evaluation capacity within Cooperative Extension as an organizational development initiative, rather than just a professional development issue for staff (Taylor-Powell & Boyd, 2008).

Consequently, we drew from these literatures to form this study. Our goal is to assess the organizational context of the Cooperative Extension System to better understand its ability to integrate evidence-based prevention programs and positive youth development programs into its regular practices. We examined five characteristics that prior research has theoretically or empirically linked to an organization's ability to successfully navigate a change in programming: (1) perceived openness to change, (2) openness of leadership to new ideas, (3) workplace morale, (4) clear communication among colleagues, and (5) availability of resources. Openness to change, leadership, morale, and director-staff communication describe the degree to which an organization is likely to be "receptive" to implementing new programming (Emmons et al., 2012). In contrast, organizational resources describe an important structural characteristic that can be a logistical barrier or enabler of success (Emmons et al., 2012). These five characteristics, either together or individually, have been associated with multiple outcomes.

Global Organizational Context. Reviews have emphasized the likely importance of the organizational context for the successful adoption of new programming or to the implementation quality of a new intervention (Damschroder et al., 2009; Domitrovich et al., 2008; Glisson, 2002). Prior research has shown that characteristics of leadership, communication, openness to change, morale, and resources have strong, positive inter-relationships (Chaudoir et al., 2013; Helfrich et al., 2009; Lehman et al., 2002). In fact, global measures of an organization's context, which included characteristics of morale, leadership, and communication among other things, have demonstrated that substance-abusing clients in outpatient settings were more engaged in their treatment when the organizational context of the treatment provider was more supportive (Broome et al., 2007; Moos & Moos, 1998). Clients have also been found to have improved outcomes, such as lower levels of depression, improved coping skills, and the ability to refrain from using alcohol/drugs in organizations that have a more supportive working environment, as measured along these and additional dimensions (Moos & Moos, 1998).

Specific Characteristics of the Organizational Context. When characteristics of the organizational context were examined individually, rather than as a global index in a larger sample, all five organizational characteristics investigated in this study also uniquely related to a

better treatment experience of an outpatient substance abusing population (Greener et al., 2007). Another study has shown that higher levels of perceived openness of organizational communication and higher levels of perceived organizational openness to change both uniquely associate with participant satisfaction in their treatment and stronger levels of rapport with program facilitators. In addition, more organizational staffing resources uniquely associated with patient satisfaction with their treatment (Lehman et al., 2002).

Additional work has considered openness to change and a collaborative leadership style to be important parts of a community's readiness to implement collaborative prevention efforts (Chilenski et al., 2007). Some empirical work has validated these theories. Higher levels of openness to change and openness of communication as part of a broader organizational context measure has related to higher implementation quality of evidence-based programs in schools (Payne et al., 2006). Perceptions of an organization's openness to change have predicted higher levels of implementation quality when adopting a new evidence-based program six months later in community treatment settings (Hagedorn & Heideman, 2010). In addition, community readiness, including openness to change and collaborative leadership, related to better early functioning of community prevention efforts (Greenberg et al., 2007). One recent study has shown that a global measure of the organizational context and levels of an organization's openness to change did not predict implementation quality of a new intervention in schools (Domitrovich et al., 2015), though the study was slightly underpowered at the school/organizational level.

Readiness for Evidence-based Prevention and Positive Youth Development: Attitudes and Perceived Practices

A measure of how ready the Cooperative Extension System is to adopt, or to be involved in an evidence-based programming effort in some way, would help program leaders decide when to embrace such programming. Prior research has shown that ratings of perceived attitudes and practices of evidence-based and prevention programming are valid predictors of successful adoption of such programming. Consequently, they can be considered valid indicators of readiness and are included as dependent variables in this study.

More specifically, measures of support for and commitment to prevention/evidence-based/youth-programming are crucial components of readiness to implement such programming in the Tri-Ethnic Center's model of community readiness (Edwards et al., 2000; Plested et al., 1999). Support for and commitment to prevention programs have related to stronger implementation of community prevention team activities, including their internal functioning and implementation quality of the team's programs (Feinberg et al., 2007; Greenberg et al., 2007; Spoth et al., 2007). Aarons and Palinkas (2007) also found that support for evidence-based programs related to the implementation quality of such programs within an organizational setting (Aarons & Palinkas, 2007). Support for and commitment to prevention or social-emotional learning programs have

also been found important in predicting the implementation quality of such programming in schools (Gottfredson & Gottfredson, 2002; Payne & Eckert, 2010; Ransford et al., 2009). As a result, we utilize four measures of perceived attitudes and practices as indicators of readiness to adopt evidence-based and prevention programming, including the organization's perceived (1) focus on prevention, and commitment to (2) prevention program implementation, (3) evidence-based practices, and (4) evaluation.

In a previous article, we examined perceptions of these constructs at the individual-level while only examining morale at the state-level (Chilenski et al., 2015). We found that the organizational-level construct of morale may, in fact, be important in setting a background context for how an individual employee experiences the workplace, which is then associated with their individual attitudes and perception of practices regarding prevention and evidence-based programming. This analysis motivated us to examine all of these factors at the systems-level, which in this case, is the state-level organizational units of Cooperative Extension. A state-level analysis allows us to delve deeper into understanding the readiness of Cooperative Extension as a system, as opposed to the readiness of individual employees.

The Current Study

The current study examines organizational-level correlates to perceived attitudes and practices of prevention and evidence-based programming, typically considered strong indicators of an organization's readiness to implement such programming. Because the CES is organized as state-level organizations, we examine how the differences in the organizational context between state-level units within the CES relate to readiness for evidence-based prevention programs. We test one primary hypothesis and conduct a follow-up exploratory analysis. Analyses are guided by the global research question: How does the state-level organizational context within the Cooperative Extension System relate to readiness to adopt and implement evidence-based prevention programs? To answer this question, we first investigate how the organizational context relates to readiness for evidence-based prevention programs, measured as favorable attitudes towards prevention and evidence-based programming. We expect that an organizational context composite will positively associate with perceptions of readiness for evidence-based prevention programming. Then, we explore which, if any, of the five constructs are most predictive of the association between organizational context and early adoption of evidence-based programming. We drew from a national survey that was administered in 2009 to all 50 states and the District of Columbia (Spoth et al., 2015). Our results will inform recommendations of organizational practices within the CES that can promote the successful adoption of evidence-based programming, despite challenging economic times.

Method

Participants

Data were gathered in 2009 from 946 Cooperative Extension administrators, faculty, coordinators, specialists, educators, and assistants who were affiliated with 4-H/youth development and/or Family and Consumer Sciences program areas. The current analyses are a subproject of a larger study that surveyed a national sample of CES employees to determine the interest and readiness to disseminate the PROSPER model in different states across the country (Spoth et al., 2015). Potential participants from each state and Washington, DC, were invited to participate in a web-based survey to assess attitudes and knowledge related to prevention, evidence-based programs, and collaboration and partnership activities. There were 4,181 possible participants; 946 (23%) completed web surveys. This rate is consistent with similar web-based surveys (Hamilton, 2009).

After accounting for missing demographics, the current analyses included data from 899 CES personnel in 48 states and Washington DC ($M = 18$ per state; range 1 to 49). Participants had been in their current positions for an average of 10.5 years ($SD = 9.3$). Their tenure with their state's CES averaged 13.5 years ($SD = 10.3$), with 95% of the sample holding full-time positions. As expected, given the educational requirements for most CES positions, this sample was highly educated: 20.6% had a college degree or less, 67.9% had a master's degree or bachelor's degree with additional coursework, and 11.6% had a doctorate, medical, or law degree. The majority of study participants (77.2%) were community-based educators whose primary responsibility was to deliver youth or family programs. A much smaller number (6.1%) worked at a broader regional level within a state, and 16.7% worked at the state level. These regional and state-based personnel had more administrative responsibilities as compared to their county-based colleagues. Race/ethnicity data were not collected by principal investigators; few demographics were collected to keep the survey short and nonintrusive.

Procedures

The participating universities' Institutional Review Boards approved the study before any recruitment began. The sampling frame was based on lists of Family and Consumer Science and 4-H CES personnel from each state's and Washington DC's web-based employee rosters ($N = 5,072$). To prevent overrepresentation of participants from large CES systems, employee names were randomly selected from state systems that had more than 100 names on their rosters. This process ensured that there would be a maximum of 100 potential participants from each state. As a result, the final potential sample included 4,181 participants.

Members of the prospective sample were recruited through a series of letters to state and regional CES administrators. Financial incentives were offered to promote high response rates. Three separate \$2000 incentives were offered to state CES systems with the highest response rates: one

each for a small, medium, and large-sized system. In addition, one randomly selected respondent from each state's CES was eligible for a \$500 award for professional development. State CES Directors sent a notification letter to their staff about the survey before invitation emails were sent. Survey invitation emails came directly from data collection staff. Each electronic message included a consent letter, a survey link, and an individual access code. All potential participants received surveys and reminders across a 12-week period during the fall of 2009. An online survey was used as paper-based, telephone, or in-person formats were deemed cost-prohibitive.

Measures

Descriptions of all independent and dependent variables are included in Table 1. Five scales that described specific characteristics of an organization's social context were combined into an overall organization context composite ($\alpha = .89$): perceptions of the organization's openness to change, openness of leadership, morale, clear communication, and availability of resources. Dependent variables included reports of the organization's focus on prevention, and perceived commitment to prevention program implementation, evidence-based programs, and evaluation. To address the possibility that different individuals may have different understandings of the term, "evidence-based," we used an introduction before those items: "The term 'evidence-based' refers to programs based on sound theory that have been rigorously evaluated and proven to produce long-term positive effects in reducing substance use, delinquency, or other youth problems." Responses on all items ranged from 1-5; all scales, including the composite, were computed by taking the mean of all items. Three self-reported covariates were included in our regression models: number of years with CES, level of education (i.e., college or less, Master's degree or some post-college, or terminal degree), and level of responsibility (i.e., county, region, or state).

Analyses

Data Structure. A multilevel mixed model with individual-reported perceptions of the organization's commitment to prevention and evidence-based programs were the dependent variables. All predictors were aggregated to the state level. This analysis strategy was used for empirical and theoretical reasons. Empirically, individuals (Level 1) were nested within states (Level 2), sample size varied across states, and the Intra-Class Correlation Coefficients for the dependent variables ranged from .02 to .10 (see Table 1) and were significant. Theoretically, this model structure most directly allowed us to test our state-level (i.e., organizational-level) research question. Mixed models with random intercepts were estimated using proc mixed in SAS Version 9.2 and the Restricted Maximum Likelihood (Singer & Willett, 2003). We controlled for individual-level demographic characteristics (Singer & Willett, 2003).

Table 1. Self-report Measures of Independent and Dependent Variables

Scale Name (description)	Items	Mean (SD)	Reliability (ICC)	Source
<i>Independent Variables</i>				
Organizational Context Composite	The mean of the five scales below: Openness to change; openness of leadership; morale; communication; organizational resources <i>In the following series of questions, we will ask about your experience working in your organization</i>	3.17 (0.31)	.89	Not applicable
Openness to change* (perceptions of innovative practices within the workplace)	<ul style="list-style-type: none"> You are encouraged to try new and different ways of doing things. It is easy to change routine procedures to deal with new situations. The general attitude is to change things that aren't working. You frequently hear good ideas about improving operations from your colleagues. 	3.58 (0.28)	$\alpha = .74$ (.04)	Organizational Readiness for Change: <i>Change</i> scale; TCU Institute of Behavioral Research, 2005
Openness of leadership* (perceptions of administrators' openness to new ideas)	<ul style="list-style-type: none"> Ideas or suggestions from staff get a fair hearing from state-level Extension administration. Leadership is effective in creating organizational change. 	3.35 (0.39)	$r = .46$ (.07)	1 item from Organizational Readiness for Change: <i>Communication</i> scale; TCU Institute of Behavioral Research, 2005
Morale* (perceptions of morale within the workplace)	<ul style="list-style-type: none"> Problems seem overwhelming. (reversed) The morale is strong. 	3.10 (0.44)	$r = .54$ (.17)	Theme endorsed by Glisson, 2007; Similar to Organizational Readiness for Change <i>Stress</i> scale; TCU Institute of Behavioral Research, 2005
Communication* (perceptions of	<ul style="list-style-type: none"> Extension administration uses communication effectively to keep staff well informed. Goals and objectives are communicated clearly. 	3.47 (0.34)	$\alpha = .81$ (.08)	Organizational Readiness for Change: <i>Communication & Mission</i> scales; TCU

Scale Name (description)	Items	Mean (SD)	Reliability (ICC)	Source
communication within the workplace)	<ul style="list-style-type: none"> Staff duties are clearly related to the overall mission goals. 			Institute of Behavioral Research, 2005
Organizational resources* (perceptions of resources within the workplace)	<p><i>The following statements ask your opinion about training and staff development opportunities</i></p> <ul style="list-style-type: none"> Our Extension staff have enough time to complete assigned duties. There is sufficient staff here to meet organizational needs. 	2.33 (0.36)	$r = .52$ (.05)	Organizational Readiness for Change: <i>Resources</i> scale; TCU Institute of Behavioral Research, 2005
<i>Dependent Variables</i>				
Focus on prevention+ (perceptions of the importance of prevention)	<p>How important are each of the following areas of prevention for the communities in your state?</p> <ul style="list-style-type: none"> Substance use (alcohol/tobacco/other drugs) Delinquency/crime problems (e.g., violence, theft) Risky sexual behaviors (e.g., youth STDs, teen pregnancies) School dropout/academic performance Overweight and obesity 	4.30 (0.22)	$\alpha = .83$ (.02)	Expand ideas on <i>Community Efforts</i> theme from Tri-Ethnic Center's Community Readiness interview procedure; Plested et al., 2006
Prevention program implementation* (perceptions of Extension's support of prevention program implementation)	<p><i>Please state how much you agree or disagree with the following statements concerning family and youth programming</i></p> <ul style="list-style-type: none"> Your state Extension system is committed to planning and conducting prevention programming. Your state Extension system actively supports the sharing of resources among agencies and other sectors of the community to conduct prevention programming. Your state Extension system actively supports partnerships among agencies and other community sectors to conduct prevention programming. 	3.83 (0.37)	$\alpha = .81$ (.09)	PROSPER: <i>Workplace support for prevention</i> scale Chilenski et al., 2007
Commitment to evidence-based	<ul style="list-style-type: none"> Most of the children, youth, and families' programs offered by Extension use evidence-based models. 	3.59 (0.33)	$\alpha = .64$ (.07)	Created by project researchers

Scale Name (description)	Items	Mean (SD)	Reliability (ICC)	Source
programs* (perceptions of Extension's commitment to using EBPs)	<ul style="list-style-type: none"> • Most of the children, youth, and families' programs offered by Extension use evidence-based models. • Leadership is committed to evidence-based prevention programming. 			
Commitment to evaluation~ (perceptions of Extension's commitment to evaluating programs)	<ul style="list-style-type: none"> • Our Extension program staff are closely involved in efforts to evaluate the youth and family outcomes (e.g., youth substance use) of prevention programs delivered. • Our Extension program staff consult with university faculty about current research to guide selection of programs with the strongest evidence. • Our Extension program staff devote resources to collect outcome data on most programs (e.g., surveys of youth, families, others). • Our Extension program staff regularly monitor quality of program delivery (e.g., using observation or checklists about which material in program manuals was covered). 	2.86 (0.37)	$\alpha = .85$ (.10)	Expand on evaluation questions from CYFAR <i>Training & Development</i> section of Organizational Change Survey; Betts, Peterson & Roebuck (2003).

Note: Response Options: * 1 = *Strongly disagree* to 5 = *Strongly agree*; ~ 1 = *Almost never* to 5 = *Frequently*; + 1 = *Not important* to 5 = *Very important*.

Hypothesis Testing. We used a hierarchical approach to test hypotheses. This approach helped us understand the independent and shared associations among independent and dependent variables. To test our first hypothesis, each dependent variable was regressed on the covariates (i.e., years in CES, education level, and level of responsibility). Then, the state-level composite of the organizational context was added to the model to determine its prediction beyond the effects of the demographic covariates. Then, the model was re-run by regressing the dependent variables on the demographic variables and each of the five state-level independent variables (i.e., the dis-aggregated state-level organizational context composite). Models with each independent variable and different combinations of independent variables were conducted as we built the full model with all five predictors because of concerns of multicollinearity; the size, direction, and consistency of associations were carefully examined throughout this process. This analysis strategy allowed us to determine which specific aspects of organizational context were most strongly predictive of significant effects found in the second model. Missing data were quite low (< 5%), and we used a maximum likelihood estimation technique. Consequently, we did not impute any missing data values.

Results

Descriptive Data

Descriptive statistics showed that the organizational context measures were rated slightly positive (Table 1). Overall, ratings of communication were perceived as most positive. Openness of leadership and to change were perceived to be slightly positive. Ratings of morale were largely neutral, and the sufficiency of resources was rated negatively. When looking at the dependent variables, Extension's focus on prevention was perceived to be high. Extension's commitment to prevention program implementation and evidence-based programs was positively perceived. Extension's commitment to evaluation was perceived to be somewhat low. Results of correlation analyses suggested a relatively consistent pattern of significant correlations among independent and dependent variables (Table 2). Furthermore, most organizational context indicators were significantly and positively related to commitment to prevention program implementation, evidence-based programs, and evaluation. However, relations between each organizational context indicator and focus on prevention were not significant.

Table 2. State-level Correlations among Measures of Organizational Context and Dependent Variables (n = 49)

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Organizational context composite	--								
2. Openness to change	.920***	--							
3. Openness of leadership	.881***	.832***	--						
4. Morale	.883***	.732***	.691***	--					
5. Communication	.840***	.753***	.757***	.689***	--				
6. Resources	.720***	.635***	.468**	.571***	.389**	--			
7. Focus on prevention	.137	.150	.119	.113	.043	.159	--		
8. Prevention program implementation	.669***	.614***	.611***	.485***	.566***	.584***	.409**	--	
9. Commitment to EBP	.777***	.708***	.623***	.664***	.715***	.600***	.183	.747***	--
10. Commitment to evaluation	.456**	.389**	.328*	.388**	.519***	.318*	.402**	.603***	.662***

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

Hypothesis 1: Organizational Context Predicting Readiness

Results of the multilevel mixed models are presented in Table 3. In Model 1, each dependent variable was regressed on individual-level covariates. Results indicated that number of years with CES was significantly and positively related to focus on prevention ($p = .03$) and significantly and negatively related to commitment to evidence-based programs ($p = .02$). Level of education was significantly and negatively related to commitment to prevention program implementation ($p < .05$), and level of responsibility was significantly and negatively related to commitment to prevention program implementation ($p = .02$) and evaluation ($p = .02$).

Results in Model 2 indicated that beyond the effects of the covariates, the organizational context was significantly and positively associated with commitment to prevention program implementation ($p < .0001$), evidence-based programs ($p < .0001$), and evaluation ($p = .02$). However, the organizational context was not significantly related to focus on prevention ($p = .74$). A sizeable amount of state-level variance was accounted for in the three significant dependent variables (Pseudo R^2 range for significant dependent variables was .08 to .64; (Snijders & Bosker, 1999).

Hypothesis 2: Explore State-level Characteristics of Organizational Context

We next tested associations of each independent variable and combinations of independent variables with dependent variables. We built to a full model that included all independent variables entered at the same time. See Model 3 (Table 3) for results in which we regressed each dependent variable simultaneously on the individual-level covariates and state-level indicators of each organizational context measure. Results indicated that communication was the strongest and most consistent predictor of commitment to prevention program implementation ($p = .04$), evidence-based programs ($p = .01$), and evaluation ($p = .02$). None of the measures of organizational context were significantly related to focus on prevention. A sizeable amount of state-level variance was accounted for in prevention program implementation, evidence-based programs, and evaluation (Pseudo R^2 range was .12 to .64; Snijders & Bosker, 1999). See Figures 1-4 in the appendix to view the relative strength of associations.

Table 3. Results from Multi-Level Mixed Models Assessing Relations among Organizational Context and Dependent Variables

	Focus on Prevention (<i>n</i> = 891)		Prevention Program Implementation (<i>n</i> = 891)		Commitment to EBP (<i>n</i> = 890)		Commitment to Evaluation (<i>n</i> = 887)	
	<i>Estimate</i>	<i>SE</i>	<i>Estimate</i>	<i>SE</i>	<i>Estimate</i>	<i>SE</i>	<i>Estimate</i>	<i>SE</i>
Model 1:								
Intercept	4.34***	0.08	4.18***	0.09	3.65***	0.09	3.07 ***	0.11
Years of experience	0.01*	0.00	0.00	0.00	-0.01*	0.00	0.00	0.00
Education: College or less	-0.03	0.09	-0.21*	0.10	0.16	0.10	0.02	0.12
Education: College Plus / Master's	-0.03	0.08	-0.19*	0.09	0.06	0.08	-0.04	0.10
Education: Terminal degree	0.00		0.00		0.00		0.00	
Level: County	-0.13	0.07	-0.18*	0.08	-0.06	0.07	-0.22*	0.09
Level: Regional	0.03	0.11	0.01	0.12	0.13	0.12	-0.04	0.14
Level: State	0.00		0.00		0.00		0.00	
Model 2								
Intercept	4.44***	0.32	2.22***	0.46	1.57***	0.36	1.75**	0.57
Years of experience	0.01*	0.00	0.00	0.00	-0.01*	0.00	0.00	0.00
Education: College or less	0.00	0.09	-0.24*	0.10	0.15	0.10	-0.01	0.12
Education: College Plus / Master's	-0.01	0.08	-0.21*	0.09	0.06	0.08	-0.07	0.10
Education: Terminal degree	0.00		0.00		0.00		0.00	
Level: County	-0.16*	0.07	-0.15	0.08	-0.03	0.07	-0.19*	0.09
Level: Regional	0.01	0.11	0.04	0.12	0.17	0.11	-0.02	0.14
Level: State	0.00		0.00		0.00		0.00	
<i>L1: Pseudo R²</i>			.032		.047		.008	
L2: Organizational Context	-0.03	0.10	0.61***	0.14	0.65***	0.11	0.42*	0.18
<i>L2: Pseudo R²</i>			.326		.643		.084	
Model 3								
Intercept	4.25***	0.48	1.89**	0.62	1.31*	0.52	1.53	0.80
Years of experience	0.01*	0.00	0.00	0.00	-0.01*	0.00	0.00	0.00
Education: College or less	0.01	0.09	-0.24*	0.10	0.14	0.10	-0.01	0.12

	Focus on Prevention (<i>n</i> = 891)		Prevention Program Implementation (<i>n</i> = 891)		Commitment to EBP (<i>n</i> = 890)		Commitment to Evaluation (<i>n</i> = 887)	
Education: College Plus / Master's	0.00	0.08	-0.21*	0.09	0.06	0.08	-0.07	0.10
Education: Terminal degree	0.00		0.00		0.00		0.00	
Level: County	-0.16*	0.07	-0.14	0.08	-0.03	0.07	-0.20*	0.09
Level: Regional	0.00	0.11	0.04	0.12	0.16	0.11	-0.04	0.14
Level: State	0.00		0.00		0.00		0.00	
<i>L1: Pseudo R²</i>	<i>-.0005</i>		<i>.032</i>		<i>.046</i>		<i>.011</i>	
L2: Openness to change	0.04	0.23	-0.01	0.32	0.13	0.25	-0.08	0.40
L2: Open. of leadership	-0.06	0.18	0.17	0.25	-0.07	0.20	-0.22	0.30
L2: Morale	-0.03	0.10	-0.09	0.15	0.06	0.11	0.03	0.18
L2: Communication	0.11	0.15	0.44*	0.21	0.41*	0.16	0.66*	0.26
L2: Resources	-0.06	0.11	0.20	0.16	0.19	0.12	0.07	0.20
<i>L2: Pseudo R²</i>	<i>-.073</i>		<i>.337</i>		<i>.642</i>		<i>.123</i>	

Note: **p* < .05; ***p* < .01; ****p* < .001

Discussion

This study examined the levels of readiness within CES to adopt prevention and evidence-based programming, and how the state-level CES's organizational context associated with readiness to adopt such programs in their youth and family program areas. Prior theoretical work suggests that the organizational context will be an important determining characteristic of successful EBP implementation (Domitrovich et al., 2008; Wandersman et al., 2008). Using a national survey of CES Family and Consumer Science and Youth Development 4-H employees at all levels within the organization, results indicated that prevention programming was of primary importance to CES educators and that the CES was perceived as well positioned to advance prevention programming within their menu of programs. However, the CES was perceived to be not as well prepared to adopt evidence-based youth and family programs or to engage in outcome evaluations of their programs. Such trends are similar within other youth-serving organizations and systems (Spoth et al., 2015).

One reason for Extension's perceived reluctance to adopt EBPs might be related to the organization's strong history of developing and implementing "homegrown" programs that are specifically tailored to meet the unique needs of local stakeholders. Indeed, several scholars have suggested that while Extension educators tend to be open to developing and/or implementing prevention programs that promote positive outcomes among their participants, they may be hesitant to implement pre-packaged EBPs that are not tailored to individual community contexts (Fetsch et al., 2012; Hill & Parker, 2005; Olson et al., 2015). Furthermore, barriers to collecting evaluation data may relate to lack of time, lack of evaluation-specific funding, and/or a lack of training or technical support related to conducting high-quality evaluations. Recent initiatives within Extension have been aimed at providing training and support designed to increase evaluation efforts related to CES programs with the goal of increasing evidence-based practices within Extension (Smith et al., 2015).

The research questions addressed in the current study move beyond individual-level barriers to EBP by focusing on how the organizational context might promote EBP within Extension. Specifically, our findings indicated that the state-level organizational context was strongly associated with indicators of readiness for prevention and EBP. Consistent with findings from prior research (one exception being Domitrovich et al., 2015), a state-level organizational context composite was significantly associated with three of our four organizational outcomes: commitment to prevention program implementation, commitment to evidence-based programs, and commitment to evaluation (Chaudoir et al., 2013; Damschroder et al., 2009; Domitrovich et al., 2008; Glisson, 2002). Additional follow-up analyses demonstrated that clarity of communication was the most important component within the characteristics of organizational context that accounted for these associations. Hence, the quality of communication within each state-level CES is likely a crucial factor affecting the state's success at integrating prevention and evidence-based programming into their repertoire of youth and family programs.

However, all five independent variables included in this study are important; they all had moderate to strong correlations with each other. Though bivariate correlations demonstrated that associations between each independent and dependent measure were somewhat more variable, these associations were also positive and moderate to strong for three of the four dependent measures. Focus on prevention was not predicted by any single measure or the combined measure. The high mean value and relatively restricted variance ($M = 4.30$, $SD = 0.22$) of this dependent variable suggest a possible ceiling effect of the construct; the surveyed sample reported that preventing substance use, delinquency, risky sexual behaviors, school dropout, and obesity were extremely important. Perhaps, though there is universal agreement about the importance of prevention, there is less agreement regarding using EBP as a tool for prevention.

The individual-level demographic characteristics had a few interesting significant associations. More experience was associated with higher levels of focus on prevention and lower levels of commitment to EBP. This is congruent with prior research that showed professionals with more experience tend to have less-positive attitudes towards EBPs (Aarons, 2004). County-level staff also had lower levels of a focus on prevention and a lower commitment to evaluation; this is not surprising as county-level staff may be more involved in the day-to-day happenings of working with youth and families than state-level faculty, staff, or administrators. These ideas are worthwhile to explore in future research.

These results complement prior research conducted with individual-level data (Chilenski et al., 2015). At the individual-level, perceptions of communication, openness of leadership, and openness to change were all associated significantly with the readiness for evidence-based programming and that organizational-level morale may affect how individuals perceive communication and leadership. Those results motivated further exploration at the state-level, which led to this study.

Results suggested that the characteristics measured in this study are important when considering readiness for prevention, positive youth development programs, and EBP. The results also indicated the importance of communication in forming organizational dynamics. The centrality of communication in relating to high-quality organizational functioning has indeed been found in prior research (Eisenberg & Eschenfelder, 2009; Snyder & Morris, 1984). We used three items to construct our communication measure. The first item generally assessed perceptions of the quality of their organization's communication. The second item assessed how well goals and objectives were communicated within their organization. The third item assessed how clearly staff duties related to the organization's mission and goals. Hence, our construct assessed the importance of clear communication around organizational goals. Our results also showed that leaders that are open to receiving new ideas from staff, and organizations that are supportive of improving operations and supportive of positive change are also good at communicating organizational goals.

Challenges to Communication within Extension

The centrality of communication suggests an important question: how can state administrators work to improve communication about organizational goals with employees? Extension has a few notable characteristics that make clear communication about goals especially challenging. Employees within each state CES are geographically dispersed, and they typically come to the CES with a variety of education, training, and work experiences. Prior research has indeed shown that geographic dispersion between administrators and supervisors from those that provide direct programming to youth and families, and the diversity of training and education programs within employees are typically challenges to high-quality intra-organizational communication (Riedlinger et al., 2004). Given these challenges to clearly communicating goals, what are potential solutions?

Recommended Communication Strategies

Prior research has identified some techniques to promote high-quality communication and staff organizational investment. One study conducted eight focus groups with communication professionals from 25 different CES research centers (Riedlinger et al., 2004). Other cross-sectional studies (Smidts et al., 2001; Snyder & Morris, 1984) and reviews of organizational communication research have also been conducted (Berger, 2011; Eisenberg, 1984). Overall, several communication strategies have been associated with positive organizational functioning or found as promoting high-quality communication. Integrating some of these strategies would likely improve CES's ability to adopt and implement EBPs, as they would likely help communicate the value and importance of EBPs, and EBPs as a new priority. Examples are discussed below.

Face-to-face Communication. Despite geographic dispersion, it is productive to bring all levels of employees together at least yearly in a way that promotes employee interaction across all levels of the organization (Riedlinger et al., 2004). This strategy may take the form of workshops, conferences, retreats, or even strategic planning sessions. Integrating EBP-related topics into these agendas would likely move that agenda forward.

Timely and Relevant Communication, Including the Use of Technology. It is important for communication about events or activities to be well-timed, and the content of communication to be relevant to receivers (Berger, 2011). There are many ways that technology can be harnessed to support timely and relevant communication by creating a regular and efficient communication opportunity (Berger, 2011; Riedlinger et al., 2004). Daily email blasts, automatic updates with social media postings, or other automatic updates through calendaring or project management systems can be quite useful. Examples of how EBPs are relevant to educator work could be quite helpful.

Communicating Positive Organizational Characteristics or Successes of Employees.

Another recommendation is to include information about positive work and successes, even the organization's prestige within communication instances. Communicating the benefits of the organization to employees may help to create a positive and supportive context (Berger, 2011; Eisenberg & Eschenfelder, 2009; Riedlinger et al., 2004; Smidts et al., 2001). Similar here, integrating success stories of EBPs with evaluation data (both qualitative and quantitative) could help communicate that EBPs are a priority.

Social and Other Informal Communication Mechanisms. Opportunities for employees to communicate with each other in an informal way about work tasks and personally important topics is another potential way to promote high-quality intra-organizational communication (Eisenberg & Eschenfelder, 2009; Riedlinger et al., 2004; Snyder & Morris, 1984). Informal communication opportunities may help coworkers build relationships with each other, which may help others interpret communication attempts, even poorly administered communication attempts, in the best possible light.

Creation of an Organizational Narrative. Another effective communication strategy is to create an organizational narrative that takes information about the organization's history, goals, accomplishments, etc., together to tell a compelling story. Creating a narrative can help communicate the organization's mission, motivate employees, and reinforce the organization's identity as supportive (Eisenberg & Eschenfelder, 2009). It is important that the narrative includes the underlying context and rationale for why changes are being integrated into regular operations (Berger, 2011). If EBPs are becoming more of a priority, it would be important to integrate stories or information related to this topic into the organizational narrative.

Organizational Leaders Set an Example. It can be important for the senior leadership of organizations to use open communication when discussing, promoting, or championing upcoming organizational changes (Berger, 2011; Riedlinger et al., 2004). This practice would also include leaders making sure that their actions match their communication (Berger, 2011). Specific to EBP, if organizational leaders value EBP, it would be important for them to integrate EBPs into relevant activities within their scope of work.

Importance of Listening, Creating an Open Environment Where Differences of Opinion Can be Shared. Communication is not a one-way enterprise. Good, quality communication occurs when it is received by high-quality listening by organizational leaders. Transparency about decisions and feedback before, during, or after the decision-making process (Berger, 2011) and staff involvement in strategic planning helps build trust (Berger, 2011).

Limitations

This research has several limitations. First, these data were collected in the fall of 2009, just after the economic downturn when budgets for social services, youth-serving organizations,

community nonprofits, schools, and the CES were suddenly decreased. Consequently, the ability to generalize these findings across time may be limited due to that historical event. In addition, the policy context has become even more preferential to funding evidence-based programs since 2009 (Coalition for Evidence-Based Policy, 2011; Haskins & Margolis, 2014; Oliff et al., 2012; *Statement of Jon Baron*, 2013; Substance Abuse and Mental Health Services Administration, 2018). Given these changes, it is likely that levels of readiness for evidence-based programs have improved at least somewhat within the Cooperative Extension System, and that this line of research has increased in relevance since 2009. Many social service and youth program budgets have not fully recovered even with the gains in the larger economy.

Second, the data are cross-sectional. It is possible that the variables used here are malleable and dependent on other unmeasured characteristics such as familiarity with EBPs or experience with program development. Longitudinal data would help in clarifying the causal ordering of these constructs.

Third, though we had a sizeable sample, and the survey response rate was consistent with previous similar large-scale web-based surveys, it was likely not fully representative of the national CES population. Forty-eight of the 50 states and the District of Columbia participated. Some states had stronger participation rates than others, and a few states had less than 10 participants, which could have caused bias. The low response rate, though typical for a nationally targeted web-based survey of this size (Hamilton, 2009), is a limiting factor, and preliminary analyses show there may be some selection bias. Participants in this study tended to be employed within their current CES twice as long as nonparticipants. Consequently, some selection effects among participants may have biased our results. It would also be more difficult to estimate state-level (i.e., “shared” or “Level 2”) variance with small numbers of Level 1 participants in a state, which would make it more difficult to find associations with Level 2 variables statistically significant. That said, we expect that this weakness would affect all independent variables equally, and we did find multiple significant associations. The national reach and depth of the investigated issues are strengths of this study and need to be considered as well.

Fourth, the term “evidence-based” often means different things to different people. Though we introduced a definition of “evidence-based” before asking the items that used this term, it is possible that respondents were referencing different ideas when responding to those items, which would affect the validity of the responses.

Since these data were collected within the CES, unmeasured differences between 1862, 1890, and 1994 Land-grant institutions may have biased the results in some way. The CES is a major provider of positive youth development and family skills-building programs. Given the diversity of youth and family programs implemented within the CES, these findings likely will be useful to understand important organizational management practices in other non-treatment-oriented

and non-school settings, such as Boys and Girls Clubs, the YMCA, or other community non-profit organizations. However, it is also possible there are unique aspects of the CES structure that would limit generalizability to other organizations. The direct connection between the CES and universities may provide greater capacity for ongoing support for adopting and implementation of evidence-based programs than is found in other national organizations, though this was not found to be the case in other work (Spoth et al., 2015). There is a good chance that elements related to organizational dynamics (vs. program-specific characteristics) are most generalizable. The lack of an effect with the focus on this study's prevention dependent variable could be due to a restricted range; descriptive statistics for this construct and Figure 1 indicated limited variability between states and within the full sample. Lastly, this study utilizes CES employees at all levels within the organization as reporters of both the independent and dependent variables in this study; there is no data triangulation with a different set of reporters.

Conclusion

Results of a national survey of family and youth development educators within the CES indicated that the organizational context significantly associated with indicators of readiness for evidence-based prevention programming. Additional analyses demonstrated that clarity of communication around goals within the CES uniquely predicted these associations. Hence, the quality of communication within each state-level Extension System is likely to affect success at integrating evidence-based prevention programming into regular youth and family programming. The importance of the openness of leadership and an organization's openness to change with this study's readiness indicators are also undoubtedly important, given the high correlations.

Effective communication strategies described here are likely to improve staff relations, employee commitment to the organization, perceptions of leadership quality, and perceptions of openness to change. Effective communication efforts will likely improve the organization's ability to implement any sort of change effort, to successfully manage transitions in challenging times, and to improve CES's efforts to adopt innovative evidence-based prevention programming.

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Sarah Meyer Chilenski, Ph.D., is an Associate Research Professor at the Edna Bennett Pierce Prevention Research Center at The Pennsylvania State University and has been working in applied community-based prevention research projects for more than 20 years.

Jonathan R. Olson, Ph.D., is a Research Scientist in the Department of Psychiatry and Behavioral Sciences at the University of Washington in Seattle, Washington, conducting research on best practices in implementing systems of care for youth with complex behavioral health needs.

Jill Schulte, M.Ed., is a Research and Evaluation Associate at the Clearinghouse for Military Family Readiness at The Pennsylvania State University, developing and evaluating resources and tools that support professionals serving military families.

Daniel F. Perkins, Ph.D., is a Professor of Youth and Family Resilience and Policy in the Department of Agricultural Economics, Sociology, and Education, the Principal Scientist and Founder at the Clearinghouse for Military Family Readiness, and examines how evidence-based programs and practices transfer into real-world, large scale settings.

Mark T. Greenberg, Ph.D., is the founding director of the Edna Bennett Pierce Prevention Research Center and is Emeritus Professor Human Development and Family Studies at The Pennsylvania State University, and conducts research on developmental processes, neuroscience, social and emotional learning programs, and community partnerships for prevention.

Richard Spoth, Ph.D., is the F. Wendell Miller Senior prevention Scientist and the Director of the Partnerships in Prevention Science Institute at Iowa State University and was the Principle Investigator of the PROMoting School-university-community Partnerships to Enhance Resilience project.

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Appendix

Figure 1: Predicted values of the Focus on Prevention dependent variable with each indicator of the organizational context. Independent variables were centered before calculating the predicted values to simplify the relative comparison of each regression line.

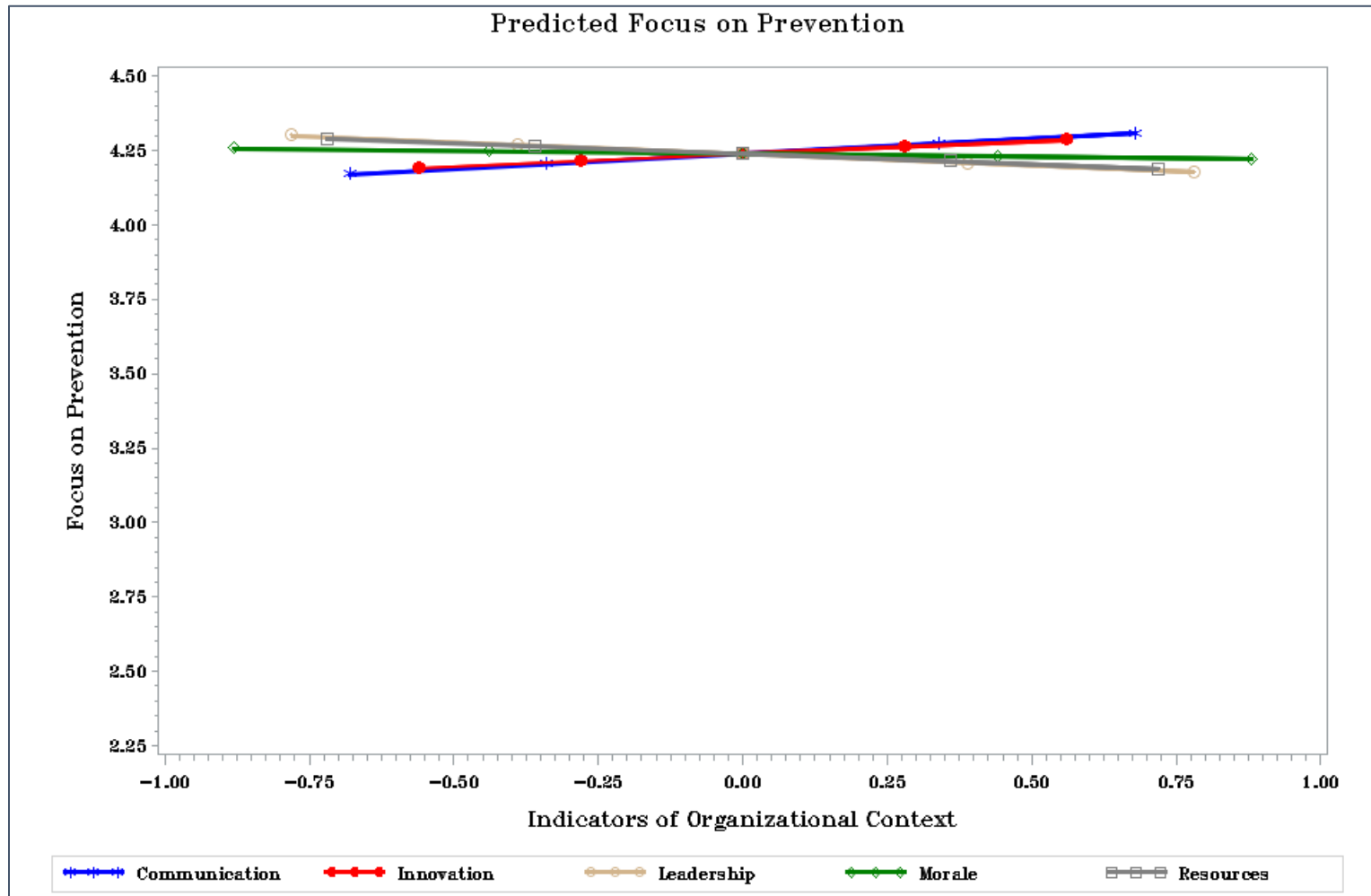


Figure 2: Predicted values of the Prevention Program Implementation dependent variable with each indicator of the organizational context. Independent variables were centered before calculating the predicted values to simplify the relative comparison of each regression line.

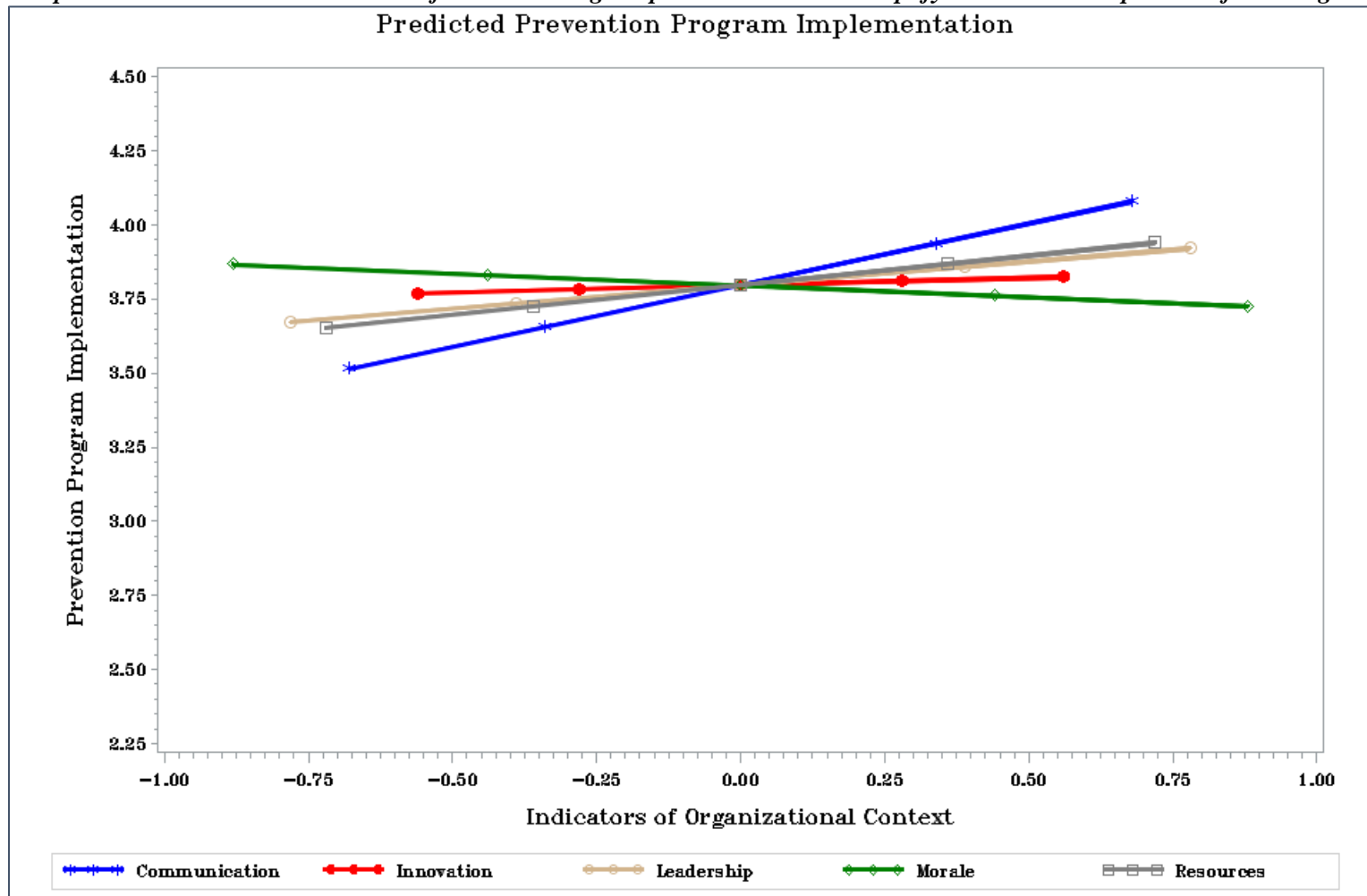


Figure 3: Predicted values of the Extension Commitment to EBP dependent variable with each indicator of the organizational context. Independent variables were centered before calculating the predicted values to simplify the relative comparison of each regression line.

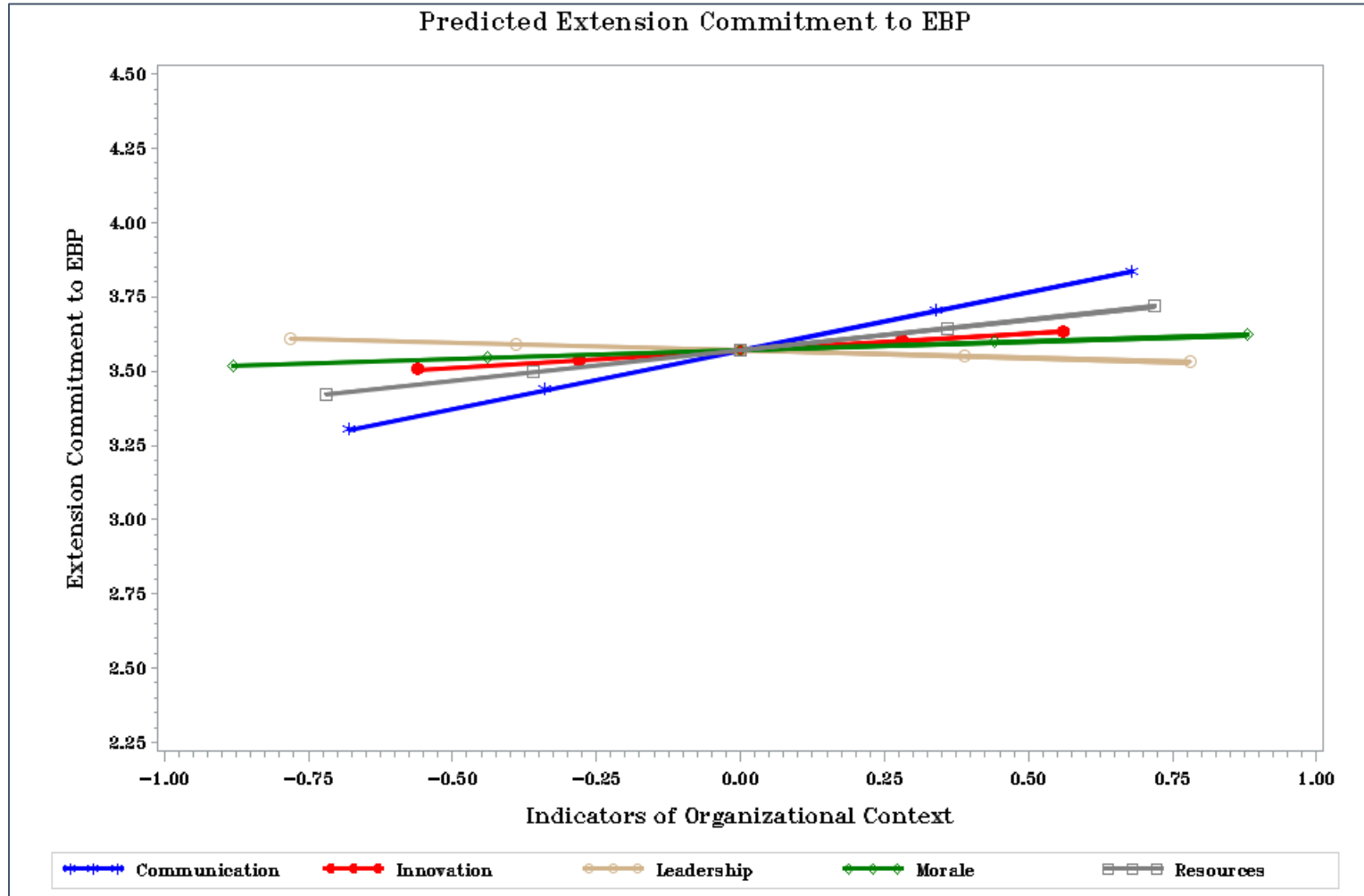


Figure 4: Predicted values of the Commitment to Evaluation dependent variable with each indicator of the organizational context. Independent variables were centered before calculating the predicted values to simplify the relative comparison of each regression line.

