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Who Wants Feedback? Effects of Transformational Leadership and Leader-Member Exchange on Mental Health Practitioners' Attitudes toward Feedback

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Abstract

Objective: The purpose of this study is to identify the mechanisms through which different aspects of leadership impact mental health practitioner attitudes toward supervisory feedback.

Methods: Data were collected from 363 practitioners nested in 68 treatment teams in public sector mental health organizations. A multilevel path analysis was conducted to examine the associations of 1) transformational leadership (supervisor's ability to inspire others to follow a course of action), and 2) Leader-Member Exchange (quality of the supervisor-practitioner relationship) with practitioner attitudes toward feedback.

Results: Transformational leadership and Leader-Member Exchange were directly and positively associated with practitioner attitudes toward feedback. Transformational leadership was also indirectly associated with practitioner attitudes toward feedback through the quality of supervisor-practitioner relationships.

Conclusions: Study results contribute to the growing body of evidence suggesting that leaders play a key role in shaping mental health service delivery. Both leadership behavior and high-quality supervisor-practitioner relationships are important for supporting practitioners in delivering evidence-based mental health care. Policy makers, administrators, and researchers should consider an integrative approach when developing leadership training interventions.

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Keywords

Evidence-based practice; implementation; transformational leadership; leader-member exchange; supervision

Introduction

Implementation frameworks and quality improvement initiatives emphasize the importance of supervision and feedback for advancing practitioner use of evidence-based practices (EBPs) in community mental health services (1–5). Appropriate supervision improves practitioner views about EBPs, increases fidelity of EBP implementation, and assists with the adaptation of EBPs to specific client problems, populations, or settings (6–10). However, a supervisor's leadership behavior may play a key role in influencing practitioner attitudes toward receiving supervisory feedback to support EBP delivery (11,12). Transformational leadership theory and Leader-Member Exchange (LMX) theory are two of the most influential theories in the business and management literatures that describe how leadership affects team and employee performance (13). This study examines both transformational leadership and LMX as they relate to each other and to practitioner attitudes toward feedback (14,15).

Feedback

Feedback is an important component of efforts to improve quality of care (16). There is a growing body of research investigating how targeted, ongoing feedback that is relevant to practitioner needs can be used to improve implementation of EBPs (2,4,17,18,19). For example, audit and feedback interventions can improve implementation by highlighting discrepancies between a practitioner's current practice and target performance and creating an action plan for improvement (20,21). Inherent in these interventions in the assumption that practitioners are open to feedback, but individual attitudes towards feedback may vary. Supervisory leadership behavior may influence the willingness of practitioners to seek out feedback and to apply it when it is given (22,23).

Transformational leadership

The full range leadership model developed by Bass & Avolio identified a number of dimensions of leadership behaviors, with transactional and transformational styles being the most effective and well-researched (24). This study focuses on supervisor transformational leadership because of its focus on creating a vision and buy-in for strategic initiatives such as EBP implementation and its promising role in previous implementation studies (12). Transformational leaders inspire employees to follow a particular course of action by considering the unique talents of individual employees, stimulating new ways of solving problems, and creating a shared sense of purpose among all employees (24,25). Transformational leadership has been shown to have a positive association with practitioner attitudes toward EBPs during implementation, and has been linked with feedback-seeking behavior and use of supervision (12,22,26–30).

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Leader-Member Exchange (LMX)

LMX focuses on the dyadic relationships between leaders and followers, and how social exchanges create and sustain the quality of such relationships (31). Low LMX relationships are based on economic exchange and characterized by formal agreements and tit- for-tat mentality (32,33), whereas high-LMX relationships are more social in nature and characterized by reciprocity, support, and commitment (34–36). There is limited research on LMX and implementation of EBPs, with the exception of a study by Aarons and Sommerfeld, which found no significant association between LMX and attitudes toward EBPs (37). However, outside of the context of EBP implementation, LMX has consistently demonstrated a correlation with staff perceptions about supervision, receiving general feedback, and feedback-seeking behavior (23,38–42).

Transformational leadership, LMX, and attitudes toward feedback

Researchers have called for more integrated studies of transformational leadership and LMX based on evidence that the two leadership dimensions complement and influence each other (43–47). For example, Wang et al. suggest that transformational leaders nurture higher-quality LMX since their charismatic appeal makes employees more receptive to interaction (47). Conversely, supervisor-employee interaction (i.e. LMX) may be necessary for the impact of transformational leadership to fully emerge (44,45,48). Further, transformational leadership may be ‘personalized’ through the individual exchanges that build LMX (47,49).

The current study examines how transformational leadership and LMX may work together or independently to influence practitioner attitudes toward feedback to support EBP delivery. Despite growing evidence of the importance of feedback for EBP implementation, there has been relatively little focus on practitioner attitudes toward feedback in mental health settings. This study provides a starting point for understanding leadership-related mechanisms that may influence practitioner attitudes toward feedback and subsequent adoption and use of EBPs (21).

Current study

The authors conducted a multilevel path analysis using survey data from 363 mental health practitioners to examine how transformational leadership and LMX relate to one another and to practitioner attitudes toward feedback that supports EBP delivery. Extending from the literature presented previously, the study hypotheses were as follows:

Hypothesis 1: Transformational leadership will be positively associated with mental health practitioners’ attitudes toward feedback.

Hypothesis 2: LMX will be positively associated with mental health practitioners’ attitudes toward feedback.

Hypothesis 3: Transformational leadership will be indirectly associated with mental health practitioners’ attitudes toward feedback through LMX.

Study findings have potential to inform leadership interventions aimed at increasing staff openness to feedback, feedback-seeking behavior, and incorporation of feedback into day-

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to-day service delivery. In turn, this may enhance clinical practice, improve EBP implementation and sustainment, and ultimately increase quality of care provided to clients.

Methods

Participants

This study was part of a larger research project focusing on organizational issues and improving public sector mental health care for children, adolescents, and their families through implementation of EBPs. Programs were recruited from a roster of all public sector mental health clinics in [location blinded for review] that received county funding for services. Eligibility criteria included (1) provision of behavioral health services for children, adolescents, families, or some combination, and (2) at least one team leader or supervisor. The study focused on teams, rather than organizations, since community-based mental health service delivery is often centered around treatment teams or clinics. Teams were defined as groups of practitioners who (1) shared the same primary work supervisor; and (2) regularly interacted with each other to accomplish work objectives. Based on administrative data, 99 mental health treatment teams were identified. One team was excluded due to nonresponse despite repeated contact attempts, 23 teams were excluded because they did not have a supervisor, and seven of the remaining teams declined to participate. The final team sample consisted of 68 mental health teams (92% team response rate) across 18 organizations.

Of the 440 eligible staff members on those 68 teams, 435 agreed to participate (99% staff response rate). Administrative staff members ($n = 15$) were excluded from the study, resulting in an initial sample size of 420 [reference blinded for review]. Data from 57 participants were excluded due to participants not providing enough information to identify their work team, resulting in a final practitioner sample size of 363 [reference blinded for review].Average team size was 5.34 practitioners ($SD = \pm 3.4$).

Procedure

Study approval from the appropriate institutional review boards and informed consent from practitioners were obtained prior to survey administration. Data were collected in 2007–2008. Trained research assistants administered the survey in paper format to participants in meetings at each of the program locations. The survey took approximately 60 minutes, and research assistants checked surveys for completeness. If participants did not finish during the allotted time, research assistants obtained signed consent forms from willing participants and designated a time (usually a week later) that they would return to collect completed surveys. Practitioners were not compensated for their participation in the survey, but light refreshments were provided during survey administration. Ethical principles as outlined in the Declaration of Helsinki were followed.

Measures

Transformational leadership.—The Multifactor Leadership Questionnaire (MLQ) form 45x was used to assess transformational leadership (50). The MLQ asks respondents to indicate the extent to which their supervisor engages in specific leadership behaviors.

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Consistent with past research (50,51), transformational leadership was represented by four domains: (1) idealized influence, (2) inspirational motivation, (3) intellectual stimulation, and (4) individualized consideration. For example, participants were asked if their supervisor "expresses confidence that goals will be achieved." Response options ranged from 0 (*not at all*) to 4 (*to a very great extent*) on a 5-point Likert scale. Mean transformational leadership scale scores were computed, with higher scores indicating a higher level of transformational leadership. Previous research found high reliability for each domain (Cronbach's alphas of .91, .86, .94, and .93, respectively) (28). The overall reliability coefficient for transformational leadership in this study was .95.

Leader-Member Exchange (LMX).—Scandura and Graen's seven-item measure of LMX was used (52). A sample item from the LMX scale is, "How would you characterize your working relationship with your supervisor?" Responses were given on a 5-point Likert scale ranging from 0 (*extremely ineffective*) to 4 (*extremely effective*). A mean LMX scale score was computed from all items, with higher scores indicating higher quality of the leader/follower relationship. Previous studies using this measure reported Cronbach's alphas of .92 and .94 (53,54). The reliability coefficient in the present study was .92.

Feedback.—The feedback subscale of the Evidence-Based Practice Attitude Scale-50 (EBPAS-50) (11) was used to assess practitioner attitudes toward feedback. The most recent version of the EBPAS can be accessed at https://implementationscience.biomedcentral.com/articles/10.1186/s13012–017-0573–0 (55). The feedback scale consists of three items asking about attitudes toward EBPs including: (1)"I enjoy getting feedback on my job performance"; (2) "Getting feedback helps me to be a better therapist/case manager"; and (3) "Getting supervision helps me to be a better therapist/case manager." Participants rated the extent to which they agreed with each item, and response options ranged from 0 (*not at all*) to 4 (*to a very great extent*). A mean feedback scale score was computed using all items, with higher scores indicating a more positive attitude toward receiving feedback. Prior research indicated that these three items represent a single factor with loadings ranging from .62-.68 (11). The reliability coefficient in the present study was .80.

Analysis

In preparation for data analysis all variable distributions were examined for normality. Skew and kurtosis for study variables were assessed by dividing skew or kurtosis values by their respective standard error and evaluating the coefficient against a table of Z scores (56). The feedback variable was negatively skewed, and was logarithmically transformed (56). However, since this transformation did not influence the findings, the original variable was retained for ease of interpretation.

Based on conceptual and empirical studies suggesting that transformational leadership operates at higher levels to influence the organizational context and practitioner-level outcomes, transformational leadership was treated as a team level construct (13,57,58). Similar to past studies, supervisor transformational leadership style was measured as the average transformational leadership score given by practitioners who share the same supervisor within their respective work teams (26,45,59). In contrast, since LMX represents

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the quality of practitioners' individual relationships with their supervisor (52), LMX was treated as an individual level variable (45,53), as was practitioner attitudes toward receiving feedback. To ensure the data supported team-level aggregation of transformational leadership, the intraclass correlation coefficient (ICC) and the average within group (Awg) correlation were computed (60,61). The ICC suggested that variance between work teams in terms of transformational leadership was significantly different than zero (ICC= .28, $p < .001$, 95% CI = .18, .41). The Awg for transformational leadership was 0.67, suggesting acceptable team agreement (60). Taken together, these statistics support treatment of transformational leadership as a team-level variable.

Multicollinearity between transformational leadership and LMX was also examined. The correlation between team-level transformational leadership and the individual-level LMX variable was .48. In addition, the variance inflation factor (VIF = 1.28) indicated that both leadership variables fell well within the acceptable range of less than 10, suggesting that the two variables could be appropriately used together in the analysis (62).

Missing data patterns were explored prior to analysis. None of the variables had more than 5% missing values. Full Information Maximum Likelihood (FIML), which uses all available data to generate parameter estimates, was used to handle missing data.

To examine the study hypotheses, a multilevel path analysis was conducted using Mplus, version 7 (63). Model fit was evaluated using chi square ($\chi 2$) misfit statistics, comparative fit index (CFI), Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA) (64–66). Practitioner level of education, job position, and job tenure were included in the model as control variables. The Sobel test for significant mediation was used to further examine the mediation effects (67,68).

Results

Table 1 presents descriptive statistics for the sample and means for the central study variables. Figure 1 shows the standardized direct associations for the multilevel path analysis, and Table 2 shows the direct and indirect effect estimates for attitudes toward feedback. Overall, model fit statistics indicated good model fit (χ^2= 8.09, df = 7, $p = .32$; CFI = .99; TLI = .98; RMSEA = .02). Results showed that transformational leadership ($\beta = .09$, $t = 3.24$, $p < .01$) and LMX ($\beta = .15$, $t = 3.29$, $p < .01$) were directly and significantly associated with practitioner attitudes toward feedback. Both higher levels of transformational leadership and higher quality supervisor-practitioner relationships were related to more positive practitioner attitudes toward feedback, supporting hypotheses 1 and 2. In addition, results indicated an indirect relationship between transformational leadership and practitioner attitudes toward feedback through LMX ($\beta = .07$, $t = 3.02$, $p < .01$), a finding which was further supported by the significant Sobel test ($p = .001$). Higher levels of transformational leadership improved practitioner attitudes toward feedback through higher quality supervisor-practitioner relationships, supporting hypothesis 3. None of the control variables had statistically significant associations.

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Post-hoc multilevel path analyses were conducted to determine if any of the individual dimensions of the transformational leadership scale were driving the results. These models produced the same pattern of significant results as the model with the full transformational leadership scale (i.e. each transformational leadership dimension had a significant direct relationship with attitudes toward feedback, as well as a significant indirect relationship with attitudes toward feedback through LMX), suggesting that no single dimension was driving the findings.

Discussion

Leadership is increasingly becoming a focal point for research on effective implementation of EBPs (12,13,37,69,70). Transformational leadership been linked to EBP adoption, implementation climate, practitioner attitudes toward EBPs, fidelity, and sustainment (10,59,30,71,72). This study extends research on transformational leadership by demonstrating its effects on practitioner attitudes toward feedback. LMX is less frequently studied in implementation research but played an important role in this study, suggesting that researchers should consider its contribution to the implementation process.

This study also contributes to work investigating how different forms of leadership operate together to impact desired organizational goals (43,46,47,73). Our study explores the relationship between transformational leadership and LMX, and shows how they may function simultaneously in an organization to influence how practitioners experience supervision and feedback. The finding that transformational leadership affects outcomes through LMX is in line with other results suggesting similar mechanisms (36,47).

Since ongoing supervisory monitoring and feedback are critical for implementation of EBPs and high quality clinical practice, fostering an environment that encourages openness to feedback is essential (3,10). Our results suggest that supervisors with a transformational style can inspire and motivate practitioners to be open to feedback, but that a high quality supervisor- practitioner relationship provides the channel through which transformational leadership has its influence. Supervisors can build trust with practitioners by alleviating their concerns about seeking and receiving feedback and reassuring them that the benefits of feedback (e.g. developing new skills, improving care) outweigh the costs (e.g. admitting mistakes) (74).

This study focused on practitioner perceptions, but other research has suggested that the agreement between leaders and practitioners on ratings of leadership behaviors is important to consider as well. For example, greater discrepancies between leader and practitioner perceptions of leadership behavior are associated with more negative organizational cultures (75). Further, when leaders rate their own implementation leadership as lower than practitioners do, climate to support EBP implementation is higher (76). These results illustrate the complexity of leader-practitioner dynamics and the need to develop and test nuanced approaches to leadership for promoting EBP implementation (13).

Given evidence of the critical role leadership plays in developing a workforce that can respond to demands for implementation, administrators and policy makers should invest in

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leadership training interventions. Evidence suggests that supervisors can be taught transformational leadership skills and coached to develop stronger bonds with their employees (52,77,78). Similar to the process of training practitioners during EBP implementation, effective leadership training requires personalized training and coaching for leaders across multiple organizational levels (13). The Leadership and Organizational Change for Implementation (LOCI) strategy is being tested in multiple service settings to evaluate its impact on outcomes such as organizational climate for EBPs, attitudes toward EBPs, and fidelity (13). As in LOCI, leadership interventions should be multifaceted, instructing leaders in how to articulate vision, motivate practitioners, and develop stronger relationships with practitioners as well as lead implementation of EBPs (79). Experiential team building workshops may also facilitate the development of higher quality supervisor-practitioner relationships (80).

Limitations

Some limitations should be considered when interpreting results. First, this study assessed practitioners' attitudes about feedback, rather than their actual feedback-seeking behavior or their incorporation of feedback into practice. Although it is reasonable to expect that attitudes about feedback influence seeking and use of feedback, care should be taken when drawing conclusions about findings. Second, the cross-sectional design inhibits the ability to draw causal inferences. It is possible that practitioners who are more open to feedback tend to view their supervisors more favorably, and more research is needed to investigate the directionality of relationships between variables. Third, although the relationships between leadership and practitioner attitudes toward feedback were robust, the modest parameter estimates suggest a need to explore additional predictors of practitioner attitudes toward feedback in future studies. These may include practitioner-level variables (e.g. emotional intelligence, goal orientation), team or organizational level variables (e.g. organizational culture and climate), and the fit between the practitioner and their job's demands and abilities (22,23). Fourth, data were collected exclusively from staff members, potentially introducing common method bias (81). Finally, there may be limits to the generalizability of study findings. Generalizability to other mental health treatment settings may be limited given that a large number of participants were in the early career role of working toward licensure (i.e. student interns or registered interns). Results may also have limited generalizability to organizations and practitioners with different client populations, geographic locations, and leadership structures. In addition, the age of the study data warrants caution when generalizing to current settings. Future research with prospective designs, more objective measures, and different sample compositions can address some of these limitations

Conclusions

This study contributes to evidence indicating that leadership plays a key role in shaping the organizational context of mental health service agencies. Future research should focus on developing and testing effective methods for translating research findings on leadership into usable interventions and strategies for mental health treatment organizations (13). To improve practitioner attitudes toward feedback that supports implementation of EBPs,

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leadership interventions should train supervisors in both transformational leadership and the cultivation of quality relationships with staff.

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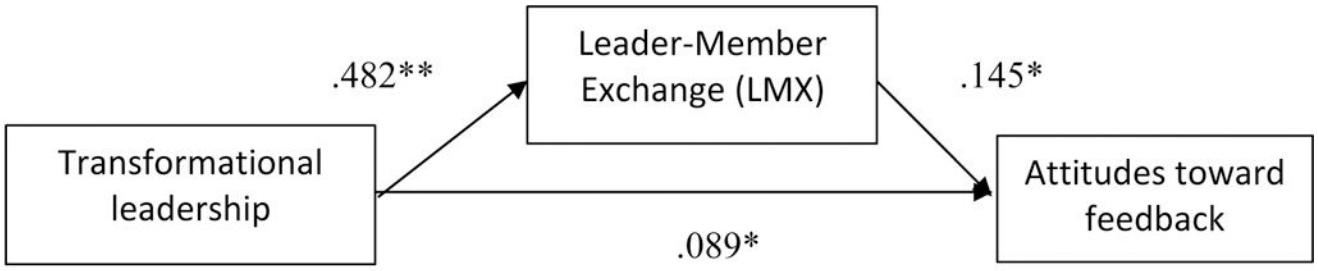

Note. Standardized direct effects shown ($N = 363$).

$^{*}p < .01$, $^{**}p < .001$.

Figure 1.
Multilevel path model of direct relationships between transformational leadership, Leader-Member Exchange, and attitudes toward feedback.

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Table 1

Descriptive statistics and missing data patterns (n = 363)

Variable	*n*	%	*M* ±*SD*	Range	Missing percent
Race and ethnicity					1
African American	27	8			
Asian	16	4			
Hispanic or Latino	85	24			
Native American	1	<1			
Caucasian	188	52			
Other	43	12			
Gender					1
Female	293	81			
Male	68	19			
Position in organization					2
Student intern	27	8			
Registered intern	157	44			
Licensed provider	86	24			
Unlicensed provider	59	17			
Other	27	8			
Education					1
Some high school	1	<1			
High school graduate	2	1			
Some college	9	3			
Associate degree	7	2			
Bachelor's degree	49	14			
Some graduate education	23	6			
Master's degree	240	67			
PhD or MD	23	6			
Other	7	2			
Age			35.64 ±10.44	21–66	5
Job tenure (years)			2.42±3.76	0–29	1
Transformational leadership			2.41±.86	0–4	3
LMX			2.59±.92	0–4	3
Attitudes toward feedback			3.16±.74	0–4	2

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Table 2

Direct and in0064irect effect estimates (standardized) on attitudes toward feedback

Predictor	Direct		Indirect	
	β	*SE*	B	*SE*
Leader−member exchange (LMX)	.15*	.04		
Transformational leadership	.09*	.03	.07*	.02

*$p < .01$