SCHOOL PRINCIPAL'S LEADERSHIP STYLE AND TEACHERS' SELF-EFFICACY

Introduction

In 1995, Kristine Hipp and Paul Bredeson published a study that looked at the relation between schoolteachers' self-efficacy (SE) and school principal's leadership style. The basic assumption of this publication and of two others that followed based on the same study (Hipp, 1996, 1997) is that school principal's leadership style and personal teacher efficacy (PTE) are directly linked. The empirical evidence that connected several aspects of the transformational leadership style and PTE led the researchers to conclude that it is in the power of transformational leaders to promote PTE.

Although this conclusion is tempting, a deeper look at the empirical foundation of this study raises a number of concerns that may undermine the generalization of its findings. First, the evidence reported is based on a relatively small sample of schools and school principals (*n* = 10). It focuses on a single leadership style (i.e., the transformational style) rather than on the full range of leadership behaviors. The analysis is based on teachers and not on the school as the unit of analysis as is commonly used in research on leadership. The research design provides no control for role variables that previous studies have identified as correlated with PTE such as role satisfaction, autonomy, stress, and conflict. And finally, the strength of the relationship found between the transformational leadership components and PTE is relatively low.

Therefore, in considering that the existing literature lacks additional evidence to support the assumed connection between school principals' leadership style and PTE, the following study attempts to reassess Hipp and Bredeson's finding. Using a larger sample of schools and a research design that controls for role variables correlated with PTE and leadership styles, this study explores whether PTE varies across leadership styles and what is the added value of the principal's leadership style for PTE when job related variables are statistically controlled.

Theoretical Background

In the last couple of decades the concept of self efficacy (SE) has captured much attention as being a significant measure for understanding and predicting human behavior and its assumed consequences. SE is defined as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). SE beliefs influence thought patterns, emotions, and actions in which people expend substantial effort in pursuit of goals, persist in the face of adversity, and exercise some control over events that affect their lives (Bandura, 1986, 1993, 1997). Individual achievements require not only qualifications and skills, but also a personal belief in one's

ability to successfully perform a particular action. In this sense, SE is a moderating factor between an individual's potential and actual performance, and a stimulator that directs individual potentials towards the accomplishment of personal goals (Bandura, 1997, p. 37). Research reveals that individuals with low SE have limited ambitions and low accountability regarding the assignments they try to achieve, while those with high SE tend to consider complex assignments a challenge and are highly motivated and more likely to initiate highly challenging and innovative goals (Allinder, 1994; Guskey, 1984; Smylie, 1988) to which they remain accountable. It appears that those with high SE accomplish more and are better able to cope with pressure and stress (Greenwood, Olejnik, & Parkay, 1990; Parkay, Greenwood, Olejnik, & Proller, 1988). Studies have also shown that individual SE develops over time and stressed the importance of the environment as a key element in establishing individual perceptions of SE (Bandura, 1982; Holroyed et al., 1984; Matsui, Matusi, & Ohnishi, 1991; Lent, Lopez, Brown, & Gore, 1996; Slater, 1989). It was found that individual SE is content and context specific (Cevrone & Peake, 1986) and, therefore, individuals might have various perceptions of SE related to different assignments in various circumstances (Tschannen-Moran, Woolfolk-Hoy, & Hoy 1998).

Teachers' Self-Efficacy

Teachers are one group of professionals whose SE has been extensively researched. Studies have shown that teachers' SE, which reflects a perceived ability to produce a positive improvement among pupils (Gibson & Dembo, 1984), is one of the most influential factors on the quality of teaching, on teachers' efforts and motivation (Ross, Cousins, & Gadalla, 1996), on their satisfaction (Caprara, Barbaranelli, Borgogni, & Steca, 2003), and, ultimately, on their pupils' outcomes (Woolfolk, Rosoff, & Hoy, 1990). Teachers with high SE are better able to cope with stress (Chwalitsz, Altmayer, & Russel, 1992), are characterized by higher commitment to teaching (Coladarci, 1992), and are more willing to incorporate new teaching methods (Ghauth & Yaghi, 1997) and to cooperate with parents (Hoover-Dempsey, Bassler, & Brissie, 1992). Moreover, higher levels of motivation and diligence are found among children whose teachers are characterized by higher levels of SE (Boufard-Bouchard, 1990; Midgley, Feldlaufer, & Eccles, 1989; Ross, 1995; Schunk, 1989; Smylie, 1988).

Although measurements of SE have gone through several stages (for a review, see Tschannen-Moran et al., 1998), it is widely agreed that SE is not a single-dimension construct. A prevalent classification of teachers' SE was developed by Gibson and Dembo (1984), who identified two SE factors. The first is general teacher efficacy (GTE), which addresses a teacher's general feeling that teaching and the educational system are capable of fostering student academic achievement despite negative influences external to the teacher. A second factor is personal teacher efficacy (PTE), which reflects a belief in the teacher's own ability to advance sig-

nificantly the learning and achievements of his or her students.

Based on Gibson and Dembo's (1984) classification and on the assumption that SE is context-related (Bandura, 1997, p. 175; Baron, 1990; Tschannen-Moran et al., 1998), a number of studies (e.g., Raudenbush, Rowan, & Cheong, 1992; Rinehart, Short, Short, & Eckley, 1998; Ross, 1995) have shown that PTE is related to role variables that characterize individual work circumstances in organizational settings. For example, evidence shows that PTE is positively correlated with satisfaction (Denzie & Anderson, 1999; Lee, Dedrick, & Smith, 1991; Somech & Drach-Zahavy, 2000) and autonomy (Ashton & Webb, 1986, p. 48; Lee et al., 1991; Newmann, Rutter, & Smith 1990; Rinehart et al., 1998) and negatively correlated with perceived role conflict (Bandura, 1995, p. 4; Friedlander, Keller, Peaca-Baker, & Olk, 1986) and role stress (Bandura, 1982; Brissie, Hoover-Dempsey, & Bassler, 1988; Ross, 1998). These findings emphasize the significance of the work circumstances that individuals experience on the job for their SE.

One major source of influence on the internal context and on the work circumstances that individuals experience in organizational settings is the manager's leadership style (Burns, 1978; Halpin, 1966; Vroom, 1964; Yukl, 1989, p. 264). In the educational realm, empirical evidence suggests that principals significantly influence teachers' experiences on the job (Rosenholtz, 1985), their efforts (Geijsel, Sleegers, Leithwood, & Jantzi, 2003), and their commitment to change (Yu, Leithwood, & Jantzi, 2002) through their leadership style. Principals' leadership style determines teachers' autonomy (Campo, 1993; Corrigan & Garman, 1999; Riehl & Sipple, 1996), the support teachers get (Smylie, 1988), principals' responsiveness to teachers' demands and expectations (Ross, 1995), teachers' professional growth (Blase & Blase, 2000), role stress (Moore-Johnson, 1990, p. 14; Smylie, 1988), and role conflict and overall satisfaction (Bogler, 2001; Hatton & Emerson, 1993), all strongly associated with PTE. These findings reinforce the notion that school principals' leadership style may be a significant influencing factor on teachers' PTE (Bandura, 1997, p. 244; Hoy & Woolfolk, 1993). Additional support for this notion comes from studies that connected transformational leadership behaviors with collective teacher efficacy (Ross, Hogaboam-Gray, & Gray, 2004; Ross & Gray, 2004). However, the main evidence to support this notion comes from a study by Hipp and Bredeson (1995) that focused on the relationship between several aspects of the transformational leadership style and teachers' SE. Yet, in considering the limited scope of that study, it is argued that this interpretation needs to be further assessed using the full range of leadership styles to support a connection between leadership and PTE while statistically controlling for job-related variables.

Therefore, the following study presents to some extent a replication designed to answer the following questions:

1. Does PTE differ across leadership styles when the school is used as the unit of analysis?

2. Do leadership styles differ in their potential to promote PTE?

3. Is the school principal's leadership style a significant factor for PTE when job-related variables are statistically controlled in the analysis?

It is hypothesized that no statistically significant differences in teachers' GTE are likely to be found across leadership styles and that the transformational leadership style is likely to be positively correlated with PTE based on Hipp and Bredson's findings.

Method

Participants

Questionnaires were administered to elementary school teachers in five of the six districts comprising the Israeli educational system; 134 schools were randomly sampled, of which 79 eventually took part in the study. In each school, 9–10 teachers on average responded to the questionnaire, making a total of 755 teachers who participated in the study. Since the school was used as the unit of analysis, teachers' responses were aggregated for each individual school.

Procedure

Each principal of the schools sampled received a letter from the researchers asking him/her to allow the administration of the questionnaires in school. They were also asked to provide a list of teachers who had worked at the school at least three years. Attached to this letter was a letter of consent from the Chief Scientist's Office at the Ministry of Education approving the conducting of the study and asking the principals to cooperate with the researchers.

In most cases, research team members carried out the administration of the questionnaires during teacher meetings. However, when school principals objected to this procedure, research team members were instructed to meet each teacher separately at the beginning of the school day and to collect the completed questionnaire by the end of that day.

Instruments

The questionnaire was comprised of several scales. *Teachers' self-efficacy* was measured using Gibson and Dembo's scale (1984), which differentiates between general teacher efficacy (GTE) and personal teacher efficacy (PTE). The α Cronbach reliability obtained for the GTE factor was $\alpha = .71$ and for the PTE factor $\alpha = .72$.

School principals' leadership style was measured using the Multifactor Leadership Questionnaire (MLQ version 5x) developed by Avolio, Bass, and Dung (1996). This scale was employed so that the full range of leadership behaviors could be assessed. In line with previous studies that failed to identify the theoretical structure of the eight factors originally

reported (see, for example, Eyal & Kark, 2004; Den Hartog, Van Muijen, & Koopman, 1997; Bullis, Kane, & Tremble, 1997; Bycio, Hackett, & Joyce, 1995), a factor analysis using a Varimax Rotation procedure was employed, yielding four differentiated factors. An 11-item transformational leadership factor was obtained with behavioral components including intellectual stimulation, inspirational motivation, and idealized influence (Factor 1; Eigenvalue = 7.871; α = .90). Items measuring attributed charisma, criticized for representing leadership impact rather than leadership behavior (e.g., Yukl, 1989), were not included. Passive-avoidance was a second factor obtained. This factor was comprised of six items pertaining to the behavioral components of laissez-faire and passive management by exceptions (Factor 2; Eigenvalue = 2.293; α = .79). Three items representing individualized consideration formed a third factor (Factor 3; Eigenvalue = 1.422; α = .75). Finally, three items representing active management by exceptions formed the fourth factor (Factor 4; Eigenvalue = 1.070; α = .70). Although the factorial structure obtained for the leadership scale differs from the one reported by Avolio et al. (1996), it follows the same theoretical guidelines (see Appendix A). As expected (see Table 1), the transformational leadership style is positively correlated with individualized consideration and negatively correlated with the passive-avoidance leadership style, which reflects a tendency for passiveness.

Table 1

Correlations Among the Leadership Factors

	1	2	3	4
1. Transformational leadership	—	***-.691	***.770	.186
2. Passive-avoidance		—	***-.691	.042
3. Individualized consideration			—	-.024
4. Active management by exceptions				—

*** *p* < .001

The score for each principal was calculated based on the aggregated scores received from the teachers in his/her school for the different leadership styles. Using the median as cutoff point, principals' individual scores were classified into one of two categories obtained for each leadership behavior, producing two groups: those with low and those with high scores for the different leadership behaviors.

Four additional scales that measure teacher job level variables, which earlier studies connected with PTE and leadership styles, were also employed to enable enhanced research control:

- Teachers' *satisfaction on the job* was measured using a scale developed by Pelled and Xin (1997). The α Cronbach relia-

bility obtained for the items on this scale was α =.77 (a sample item: "In general, I am satisfied with my job").

- Teachers' perceived *role autonomy* was measured using a five-item scale developed by Riel and Sipple (1996). The α Cronbach reliability obtained for the items on this scale was α =.73 (a sample item: "At this school, I have full control over content topics and skills to be taught").

- *Role stress* was measured using a six-item scale developed by Beehr, Walsh, and Taber (1976). The α Cronbach reliability obtained for the items on this scale was α =.73 (a sample item: "It often seems like I have too much work for one person to do").

- Finally, *role conflict* was measured using a six-item scale developed by Rizzo, House, and Lirtzman (1970). The α Cronbach reliability obtained for the items of this scale was α =.81 (a sample item: "I have to do things that should be done differently").

All scales were measured using a five-point Likert type scale where 1 represented "strongly disagree" and 5 "strongly agree."

Results

Data Analyses

The data were analyzed in several sequential stages: In the first stage, the subscales obtained in the data reduction procedure were subjected to a 2 (transformational) X^2 (Passive-avoidance) X^2 (Individualized consideration) X^2 (Active management by exceptions) multivariate analysis of variance (MANOVA) omnibus test for both dependent variables (general teacher efficacy = GTE and personal teacher efficacy = PTE). All independent variables were dichotomized using median scores in to 'high' and 'low' scores. Effect sizes were measured using (η^2). Next, significant main effects were examined using a univariate analysis of variance (ANOVA) procedure. This procedure was followed by a covariate analysis (ANCOVA) using job-related variables as covariates to assess the added value of leadership styles for the explained variance of the dependent variables. Finally, bivariate Pearson product-moment correlations were calculated between leadership factors and job-related variables found significant in the covariate analysis.

General Teacher Efficacy (GTE) and Personal Teacher Efficacy (PTE) Under Different Leadership Styles

The underlying assumptions of this study were that no statistically significant differences in GTE are likely to be found among schools characterized by different leadership styles and that transformational leadership is likely to be positively correlated with PTE.

The results of the MANOVA analysis conducted to verify the effect of leadership styles on each of the two dependent variables yielded no statically significant effect for GTE. This finding may be explained in considering that GTE points at the perceived potential of teaching and teachers in general to promote students' success rather than to particular teaching or school circumstances and, therefore, is less likely to be related to a specific leadership style or organizational setting.

However, the analysis yielded a statistically significant main effect for PTE (Wilks's Lambda = .89, F (2, 62) = 3.62, p < .05). The multivariate effect size (η^2) based on Wilks's lambda was .10 indicating a strong effect size. No statistically significant interaction effects were identified.

An ANOVA analysis conducted as a follow-up test to the MANOVA using PTE as the dependent variable found the transformational leadership style (F (1, 78) = 15.42, p < .001, η^2 = .16) statistically significant with a strong effect size. The analysis reveals that teachers report higher levels of PTE in schools in which the mean score for transformational leadership is above the median (M = 4.0, SD .31), relative to schools in which the mean score for transformational leadership is below the median (M = 3.76, SD .19).

These results seem to coincide with Hipp and Bredeson's (1995) claim that transformational leaders are more likely to promote PTE. The results also show that individual consideration, active management by exceptions, and passive-avoidance are leadership styles that have no implication for PTE.

However, a further ANCOVA analysis that uses job-related variables as covariates reveals that the assumed relation between school principal's transformational leadership style and PTE is not a direct one (see Table 2).

Table 2

The Contribution of Transformational Leadership to the Explained Variance of PTE Using Job Related Variables as Covariates

Variable	SS	df	MS	F
Stress	.003	1	.003	.102
Satisfaction	.149	1	.149	*4.735
Conflict	.023	1	.023	.626
Autonomy	.019	1	.019	3.368
Transformational leadership	.044	1	.044	1.400
Error	2.303	73	.032	
Total	1154.88	79		

R^2=.166 (Adjusted R^2=.109); * p<.05

The results show that the contribution of the transformational leadership style to the explanation of PTE is statistically insignificant when job-related variables are controlled in the analysis. The findings suggest that the relation between the principal's leadership style and PTE

is mediated by the positive experiences that teachers undergo on the job, mainly, their satisfaction. Therefore, transformational leadership that affects the intra-school circumstances by promoting teachers' satisfaction on the job is likely to indirectly contribute to PTE.

Finally, a correlation matrix computed for the leadership styles identified in the data reduction procedure and teachers' satisfaction with the job reveals a positive statistically significant correlation only with the transformational leadership style and a negative correlation with the passive-avoidance leadership style (see Table 3). Therefore, it is argued that the transformational leadership style may be considered a catalyst for teachers' perceived satisfaction on the job and, therefore, for their PTE.

Table 3

Correlations Between Job Satisfaction and Leadership Styles

Leadership factor	Satisfaction
Transformational leadership	**.294
Individualized consideration	.192
Active management by exceptions	-.028
Passive-avoidance	*-.279

* $p < .05$; ** $p < .01$

Discussion

The findings of this study suggest that teachers' perceived general efficacy (GTE) is not related to school principal's leadership style, but rather reflects a wider perception that goes beyond the characteristics of organizational contexts. In this sense, this study supports the factorial structure suggested by Gibson and Dembo (1984) who argued that GTE and PTE are two differentiated properties of teachers' efficacy.

As for the relation between personal teacher efficacy (PTE) and the school principal's leadership style, a major conclusion that stems from our findings is that the relationship between these factors is rather complex and mediated by teachers' satisfaction on the job.

The findings obtained purify the argument raised by Hipp and Bredeson, who stated that these two factors are directly linked when transformational leadership is involved. Although different leadership styles do differ in the way they influence and shape the inner organizational settings, our findings suggest that the school principal's leadership style is not an exclusive element of PTE.

This conclusion is in line with the theoretical assumptions embedded in Bandura's theory, which identifies subjective experiences as a major source of influence on the shaping of individual self-efficacy (Bandura, 1982; 1997, p. 80). This conclusion also corresponds with previous

research findings that have demonstrated a relation between job satisfaction and personal self-efficacy (Denzie & Anderson, 1999; Somech & Drach-Zahavy, 2000; Lee et al., 1991).

The current study emphasizes the significance of the positive job experiences that promote individuals' satisfaction on the job and the potential contribution of the transformational leadership style for the shaping of these experiences. Based on the theoretical assumptions for transformational leadership, it may be argued that this leadership style is more likely to increase teachers' on-the-job challenge and support their initiatives and, in so doing, increase their job satisfaction which is a significant factor in explaining their perceived PTE. The assumed contribution of transformational leadership for PTE is in shaping the assignments and occupational opportunities in a way that allows for teachers' satisfaction to develop.

Hence, although these findings do not permit causal conclusions, it is suggested that positive job experiences that promote teacher satisfaction may contribute to the enhancement of PTE. Transformational leaders are more likely to shape the kind of job circumstances that enable individual satisfaction and, therefore, allow PTE to develop.

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Appendix A

Leadership Factors – Rotated Solutions

Item	Factor 1	Factor 2	Factor 3	Factor 4
Talks enthusiastically about what needs to be accomplished	.785	.126	-.207	.094
Articulates a compelling vision of the future	.779	.041	-.033	.044
Emphasizes the importance of being committed to our beliefs	.725	.168	-.129	.092
Emphasizes the importance of having a collective sense of mission	.689	-.044	-.172	.128
Suggests new ways of looking at how we do our jobs	.677	.066	-.156	.322
Talks optimistically about the future	.655	-.153	-.065	.075
Gets me to look at problems from many different angles	.659	.149	-.187	.354
Seeks differing perspectives when solving problems	.646	.057	-.269	.367
Re-examines critical assumptions to question whether they are appropriate	.646	.109	-.109	.042
Expresses his/her confidence that we will achieve our goals	.628	-.025	-.255	.183
Talks to us about his/her most important values and beliefs	.574	.129	-.207	.158
Problems must become chronic before he/she will take action	-.218	.733	-.238	.088
Fails to intervene until problems become serious	.049	.708	-.115	-.064
It requires a failure to meet an objective for him/her to take action	-.315	.704	-.154	.127
Avoids getting involved when important issues arise	-.142	.696	.037	.027
Avoids making decisions	-.337	.639	.045	.069
Is absent when needed	-.296	.450	-.354	.134
Treats me as an individual rather than just a member of a group	.106	-.063	.766	-.111
Treats each of us as individuals with different needs, abilities and aspirations	.444	-.180	.640	-.058
Spends time teaching and coaching me	.370	-.143	.490	.327
Closely monitors my performance for errors	.046	.074	-.048	.770
Keeps track of my mistakes	.172	-.017	-.011	.699
Focuses attention on irregularities, mistakes, exceptions and deviations from standards	-.019	.121	-.066	.655