

DEVELOPMENT AND EFFECTS OF TRANSFORMATIONAL LEADERSHIP IN ADOLESCENTS

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We developed and tested a model in which adolescents who perceive their parents exhibiting transformational leadership behaviors would themselves display these behaviors. In turn, adolescents who used transformational leadership behaviors in a team context (as rated by themselves, their peers, and their coach) would be rated as more effective, satisfying, and effort-evoking leaders by their peers and coaches. Participants were 112 high school students (mean age = 15.2 years) who were members of 11 sports teams, and their team coaches. Controlling for the effects of adolescents' skills, results obtained using structural equation modeling supported the predicted model. Conceptual and empirical issues regarding the development and effects of transformational leadership in adolescents are discussed.

Despite ever increasing attention being paid to transformational leadership in the literature and its wide theoretical (Bass, 1997, 1998) and practical acceptance (Avolio, 1998), the development of transformational leadership behaviors has rarely been examined and remains little understood. Transformational leadership comprises four components, namely, idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Idealized influence takes place

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when leaders build subordinates' respect and trust by behaving in a fair manner and do what is right rather than what is expedient. Inspirational motivation occurs when leaders increase followers' awareness of the mission or vision toward which they are working and raise followers' expectations of what they can achieve, thereby motivating them to pursue the group's goals. Transformational leaders use intellectual stimulation when they encourage their followers to look at old problems from new and differing perspectives, giving rise to followers' creative thinking and innovation. Last, transformational leaders grant individualized attention to their followers, considering their needs and abilities. With their use of individualized consideration, transformational leaders play an especially important role in followers' growth and development (Bass, 1985a, 1985b, 1990, 1998).

Transformational leadership has now been subjected to considerable empirical scrutiny. Transformational leadership predicts organizational performance in field (e.g., Barling, Weber, & Kelloway, 1996; Howell & Avolio, 1993) and laboratory studies (e.g., Kirkpatrick & Locke, 1996; Sosik, Avolio, & Kahai, 1997). What links transformational leadership indirectly to favorable organizational outcomes is its direct effects on subordinates' satisfaction with (Hater & Bass, 1988), and trust in (Barling, Moutinho, & Kelloway, 1998; Podsakoff, MacKenzie, & Bommer, 1996), their leaders, and the way in which it raises subordinates' affective commitment (Barling et al., 1996) and self-efficacy beliefs (Kirkpatrick & Locke, 1993).

Most of the research conducted on leadership in general, and transformational leadership in particular, has focused on its measurement (e.g., Bycio, Hackett, & Allen, 1995) and/or on its effects. Some studies have identified factors that predispose individuals to choose to use transformational leadership, such as postconventional moral reasoning (Turner & Barling, 1998) or emotional intelligence (Slater, Barling, & Kelloway, 1998). The effects of parents and the home environment on leadership development have also been addressed (Karnes & D'Ilio, 1989), but the developmental origins of leadership remain elusive. Consequently, the aim of this study is to further our understanding of the development of leadership in children, and transformational leadership in particular.

Bass (1960) initially speculated about family factors that would promote the development of leadership in children. He suggested that leadership potential is greatest among the youngest siblings of the family, for children in families of four or five children, and for those children whose parents provide stimulating environments, opportunities for decision making, encouragement, and acceptance. Bronfenbrenner (1961) showed that leadership was more likely in families in which fathers are more highly educated and in which both parents are less rejecting, less punitive, and less overprotective. In turn, parent-child interactions reflecting these more positive qualities predisposed children to leadership behaviors. Klonsky (1983) found parental warmth, discipline, and achievement demands predicted leadership behaviors in a sample of high school students. Schneider, Paul, White, & Holcombe (1999) developed a comprehensive model, covering five construct domains, that predicted later leadership ratings for a sample of high school student leaders. This study was the first stage of a continuing research program to develop an understanding of the origin, development, and emergence of adult leadership behav-

ior. Finally, Keller (1999) linked college student implicit leadership theories to descriptions of parental traits.

A separate approach has investigated the early hardships endured by children. From a retrospective study, Cox and Cooper (1989) found that many successful British chief executive officers (CEOs) experienced the early loss of a parent or had been separated from their parents and, consequently, had to take responsibility for themselves at an early age. Similarly, Elder (1974) concluded that children whose fathers were unemployed during the Great Depression were forced to deal with challenges and difficulties at a young age. As a result, these children were better adjusted in the long term: they did better in school, were more likely to pursue higher education, and were found to be generally more satisfied with their lives. Elder (1974) called this the “downward extension hypothesis.” Biographical studies of famous leaders, such as Ghandi, support this notion (Gardner, 1997).

Only Avolio and Gibbons (1988) have addressed the development of transformational leadership specifically. They analyzed the life histories of successful CEOs and identified several early factors associated with transformational leadership, including parents who set high standards for achievement and who encouraged their children to be the best, and family circumstances that were difficult but not overwhelming. Furthermore, transformational leaders had often learned, within the family, how to deal with disappointment and conflict effectively.

These studies provide some insight into early influences on the development of leadership in general, and in one case, transformational leadership behavior in particular. However, much of the research is flawed in two important respects. First, research examining the development of leadership largely has been conducted without a clear theoretical framework. Second, from an experimental perspective, research in the area has usually been retrospective in nature, with findings that may be questionable given that people often fail to recall some early experiences, may have reconstructed events which are remembered, and may inflate the importance of others. As a result, a more systematic approach to the study of leadership development that confronts these two issues is warranted.

Unlike previous research which has tended to be atheoretical, we explicitly place the development of leadership in a social learning framework (Bandura, 1977), emphasizing the role of parental modeling on the development of adolescents' leadership. Specifically, given that all leadership involves a series of interactions that occur within the context of a relationship, we assume that adolescents learn both experientially and vicariously from their interactions with their parents. In turn, adolescents will use behaviors similar to those their parents use with them, in their interactions with others. In support of this idea, Hartman and Harris (1992) found that college students modeled their management style on the leadership style of persons who they admired early in their lives; most of whom were the parents of the respondents. We also posit that if indeed leadership behaviors develop during adolescence, this may well be of considerable relevance for future leadership behaviors. Extending Krosnick and Alwin's (1989) impressionable years hypothesis, we suggest that, like attitudes, behaviors learned during adolescence may also be relatively stable.

Our central hypothesis, namely, that the extent to which adolescents observe

transformational behaviors exhibited by their parents will influence their adoption of similar behaviors, rests on the assumption that parent-child interactions can be described within a transformational framework. We suggest that the behaviors included within a transformational leadership framework extend well beyond the organizational realm, adequately describing the behaviors of parents and teachers as well (Avolio, 1998; Bass, 1997). For example, parents could display idealized influence by setting an example in terms of doing the right thing and acting in ways that build their children's respect. Parents show inspirational motivation when they talk optimistically about what their children can accomplish and by setting high standards. Similarly, parents model intellectual stimulation to the extent in which they help their children reevaluate their assumptions and develop appropriate solutions themselves, rather than telling them what to do. Last, children experience their parents as displaying individualized consideration when their parents think about their children's needs.

Consequently, we propose that adolescents perceive the extent to which their parents exhibit transformational behaviors (namely, inspirational motivation, idealized influence, intellectual stimulation, and individualized consideration) during parent-child interactions and adopt similar interactional styles themselves. Studies examining the effects of parents' attitudes and behaviors on children illustrate that children are accurate observers of their parents' behaviors and attitudes (Barling, Dupré, & Hepburn, 1998; Barling, Kelloway, & Bremermann, 1991; Barling, Zacharatos, & Hepburn, 1999; Hartman & Harris, 1992; Kelloway & Watts, 1994; Whitbeck & Gecas, 1988). Perhaps more importantly, and consistent with these findings, children's attitudes and behaviors are strongly influenced by their perceptions of their parents' behaviors and attitudes. In turn, we propose that when children learn from their parents to behave in a transformational manner, they will be more likely to use the same style of interaction with their peers, and therefore will be perceived as being more effective, satisfying, and effort-inducing (see Fig. 1 for the basic model). To test this, we will focus on the leadership behaviors manifested by adolescents while functioning within sports teams. The reason for our focus on sports teams is that they provide a naturalistic setting for examining leadership behaviors (Smoll & Smith, 1989) and a context in which multiple ratings of both leadership behaviors and outcomes are available.

Last, it is important to note that Lord, De Vader, and Alligeri's (1986) meta-analysis showed that perceptions of leadership were affected by traits such as intelligence, dominance, and masculinity-femininity. By extension, we expect that adolescents' athletic skill will affect the extent to which they are perceived to exhibit transformational leadership behaviors (Lord & Maher, 1991). Specifically, we suggest that adolescents' perceived skill levels may influence perceptions of their transformational leadership, as well as the perceived effectiveness of their leadership. Accordingly, any effects of athletic skill on these variables are controlled in testing the model. In contrast, because there is no reason to believe that coaches' perceptions of adolescents' skill would be associated with adolescents' perceptions of their interactions with their parents, no statistical control is undertaken for the effects of skill level on adolescents' perceptions of their mothers' and fathers' child-rearing behaviors.

METHOD

Participants

To provide multiple ratings of transformational leadership, this study involved not only the adolescent participants, but also several of their peers and their coaches.

The participants in this study were members of 13 Canadian high school sports teams and their coaches, representing basketball, volleyball, badminton, touch football, and rugby. Of these teams, eight were all female (representing all five sports), three were all male (basketball, rugby, and volleyball), and two had both female and male members (track and field). From these teams, 120 students and 12 team coaches agreed to participate. A complete data set consisted of a student questionnaire assessing their perceptions of their mothers' and fathers' child-rearing behaviors, self-perceptions of their own transformational leadership behaviors, one to five peer evaluations of the student in question, and a coach evaluation of the same student. After the elimination of students with incomplete data sets, 112 participants remained (57%). Of these students, 87 were female and 25 were male. The mean age of student participants was 15.19 years ($SD = 1.18$; range = 12 to 18 years). Participants had played on their respective teams for an average of 2.33 seasons ($SD = 1.16$; range = 1 to 5 seasons).

Of the 12 team coaches participating in this study, nine were high school teachers and three were university student volunteers. On average, coaches had instructed each player for 2.17 seasons ($SD = 2.17$; range = 1 to 5 seasons).

Materials

In all assessments of transformational leadership, we used a global scale rather than assessing the individual components (e.g., idealized influence, intellectual stimulation) because of substantial correlations between the individual components in the current study (see Tables 1, 2, and 3) and in previous studies (e.g., Bycio et al., 1995; Carless, 1998).

Students' perceptions of parental transformational leadership were measured using 12 items selected from the Multifactor Leadership Questionnaire (MLQ) Form 5X (Bass & Avolio, 1995). For the purpose of this study, only those sections of the MLQ that measure the four components of transformational leadership, namely, idealized influence (e.g., "his/her actions build my respect for him/her"),

Table 1. Intercorrelations of Students' Self-Perceptions of Transformational Leadership Dimensions

<i>Variable</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
1. Students' idealized influence	<i>0.61</i>			
2. Students' inspirational motivation	0.52*	0.59		
3. Students' intellectual stimulation	0.60*	0.49*	0.77	
4. Students' individualized consideration	0.49*	0.46*	0.59*	0.51

Notes: Internal consistencies (α) appear in italics on the diagonal.

* $p < .01$.

Table 2. Intercorrelations of Adolescents' Perceptions of Mothers' and Fathers' Transformational Leadership Dimensions (N = 112)

<i>Variable</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
1. Adolescents' perceptions of parents' idealized influence		0.75*	0.74*	0.79*
2. Adolescents' perceptions of parents' inspirational motivation	0.59*		0.71*	0.74*
3. Adolescents' perceptions of parents' intellectual stimulation	0.63*	0.52*		0.70*
4. Adolescents' perceptions of parents' individualized consideration	0.66*	0.53*	0.67*	
5. Internal consistency (α), perceptions of mothers	0.57	0.48	0.80	0.67
6. Internal consistency (α), perceptions of fathers	0.70	0.55	0.85	0.77

Notes: Data for perceptions of mothers' transformational leadership appear above diagonal; perceptions of fathers' transformational leadership appear below diagonal. * $p < .01$.

inspirational motivation (e.g., "provides continuous encouragement"), intellectual stimulation (e.g., "seeks differing perspectives when solving problems"), and individualized consideration (e.g., "listens to my ideas and concerns") were included. Ratings of transactional and laissez-faire leadership were excluded from this study as they were of no conceptual interest to this research.

To ensure that the final questionnaire to be completed by each adolescent (one self-rating and five peer ratings) was not unreasonably lengthy, three items were selected from each of the subscales for this part of the study. Items were selected for their relevance to and comprehension by an adolescent sample and their appropriateness to a team sports context.

With respect to the scales measuring perceptions of each of the mothers' and fathers' transformational leadership, the 12 items were subdivided into two separate, 6-item scales using an odd-even split of the items to facilitate testing of a latent variable model (see Results section for further discussion).

Students completed the questionnaire separately for perceptions of their mothers' and fathers' behaviors. Following Bass and Avolio (1995), the standard response scale was used throughout. Thus, responses were on a 5-point Likert-type scale

Table 3. Intercorrelations of Peer and Coach Evaluations of Respondents' Transformational Leadership Dimensions (N = 112)

<i>Variable</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
1. Perceptions of adolescents' idealized influence		0.52*	0.54*	0.54*
2. Perceptions of adolescents' inspirational motivation	0.75*		0.69*	0.63*
3. Perceptions of adolescents' intellectual stimulation	0.78*	0.74*		0.79*
4. Perceptions of adolescents' individualized consideration	0.64*	0.65*	0.76*	
5. Internal consistency (α), peer perceptions	0.78	0.81	0.78	0.63
6. Internal consistency (α), coach perceptions	0.82	0.80	0.81	0.76

Notes: Data for peers' perceptions of adolescents' transformational leadership appear above diagonal; coaches' perceptions of adolescents' transformational leadership appear below diagonal. * $p < .01$.

measuring how frequently each behavior is displayed by the parent in question, where 0 = “not at all” and 4 = “frequently or always.”

Students’ evaluations of their own and their teammates’ transformational leadership were, in both cases, assessed using 12 items selected from the MLQ (Bass & Avolio, 1995) as described previously. Items were now reworded to reflect children’s perceptions of their own leadership behaviors as well as the leadership behaviors of five randomly selected team members. For example, the original item “talks optimistically about the future” was reworded as “I talk optimistically about the future prospects of our team” and “My teammate [name provided] talks optimistically about the future prospects of our team.”

Coach evaluations of student transformational leadership were measured with a similar 12-item version of the MLQ (Bass & Avolio, 1995), but were reworded slightly to reflect the team sports context.

Peer evaluations of the outcome variables, namely, satisfaction with leader, perceptions of leader effectiveness, and effort expended were assessed using eight additional MLQ items developed by Bass and Avolio (1995). Questions such as, “increases my willingness to try harder” and “leads a team that is effective” were answered on a 5-point Likert-type scale where 0 = “not at all” and 4 = “frequently or always.”

Coach perceptions of adolescents’ leadership effectiveness, effort-enhancing skills, and peers’ satisfaction with leadership were assessed using the same 8-item measure of the outcome variables assessing satisfaction with leader, general leader effectiveness, and effort expended by followers, as described previously.

Coach evaluations of athletic skill were assessed with two questions. The first, “How would you rate this player in terms of his/her athletic ability?” was answered on a 10-point Likert-type scale with options ranging from “very weak” = 1 to “very strong” = 10. The second, “How critical is this player to the overall performance of the team?” was answered on a 10-point Likert-type scale with possible responses ranging from “not at all critical” = 1 to “very critical” = 10.

RESULTS

Descriptive statistics and intercorrelations of all variables in this study are presented in Table 4. No sex differences emerged with respect to the perceptions of parents’ transformational behaviors or self, coach, and peer ratings of transformational leadership.

All model tests were based on the covariance matrix and estimated using maximum likelihood estimation as implemented in LISREL VIII (Jöreskog & Sörbom, 1992). In testing the models of interest, we followed Anderson and Gerbing’s (1988) two-stage modeling approach. Specifically, we first established the fit of the measurement model on which all subsequent model tests were based. After establishing the fit of the measurement model, we followed recommended practice (Kelloway, 1998) by identifying and estimating three nested structural models.

First, we estimated the fully mediated model as displayed in Fig. 1. Second, the partially mediated model, which is similar to the fully mediated model but includes paths from the perceptions of mothers’ and fathers’ transformational leadership to

Table 4. Descriptive Statistics and Intercorrelations for All Study Variables ($N = 112$)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Father 1	0.85														
2. Father 2	0.90 [†]	0.82													
3. Mother 1	0.53 [†]	0.52 [†]	0.76												
4. Mother 2	0.48 [†]	0.53 [†]	0.85	0.75											
5. Transformational leadership—self	0.39 [†]	0.45 [†]	0.34	0.33	0.84										
6. Transformational leadership—peer	0.27 [†]	0.26 [†]	0.05	0.16	0.21 [†]	0.93									
7. Transformational leadership—coach	0.05	0.09	0.02	0.05	0.28 [†]	0.27 [†]	0.91								
8. Rating of effectiveness—peer	0.20*	0.18	0.04	0.13	0.27 [†]	0.78 [†]	0.33 [†]	0.85							
9. Rating of effort—peer	0.21*	0.16	0.03	0.07	0.13	0.78 [†]	0.22*	0.67 [†]	0.88						
10. Rating of satisfaction—peer	0.26 [†]	0.23*	0.06	0.11	0.21*	0.84 [†]	0.28*	0.84 [†]	0.66	0.67					
11. Rating of effectiveness—coach	0.03	0.08	-0.07	-0.03	0.26 [†]	0.34 [†]	0.81 [†]	0.47 [†]	0.31 [†]	0.36 [†]	0.81				
12. Rating of effort—coach	0.02	0.04	-0.05	-0.01	0.22 [†]	0.36 [†]	0.77 [†]	0.48 [†]	0.32 [†]	0.37 [†]	0.89 [†]	0.92			
13. Rating of satisfaction—coach	0.02	0.07	-0.06	0.01	0.19*	0.33 [†]	0.80 [†]	0.39 [†]	0.24 [†]	0.31 [†]	0.81 [†]	0.73 [†]	0.72		
14. Athletic ability	0.03	0.02	0.07	0.03	0.27 [†]	0.32 [†]	0.46 [†]	0.45 [†]	0.37 [†]	0.37 [†]	0.60 [†]	0.51 [†]	0.43 [†]		
15. Criticality	-0.04	-0.02	-0.07	-0.04	0.21*	0.29 [†]	0.46 [†]	0.40 [†]	0.36 [†]	0.28 [†]	0.67 [†]	0.58 [†]	0.46 [†]	0.73 [†]	
<i>M</i>	2.85	3.01	2.94	3.15	2.88	2.71	2.80	3.00	2.55	2.95	2.74	2.58	2.88	2.76	7.63
<i>SD</i>	0.86	0.84	0.71	0.67	0.57	0.56	0.70	0.64	0.68	0.60	0.88	0.93	0.88	1.71	2.01

Notes: Internal consistencies (α) appear in italics on the diagonal.* $p < .05$; [†] $p < .01$.

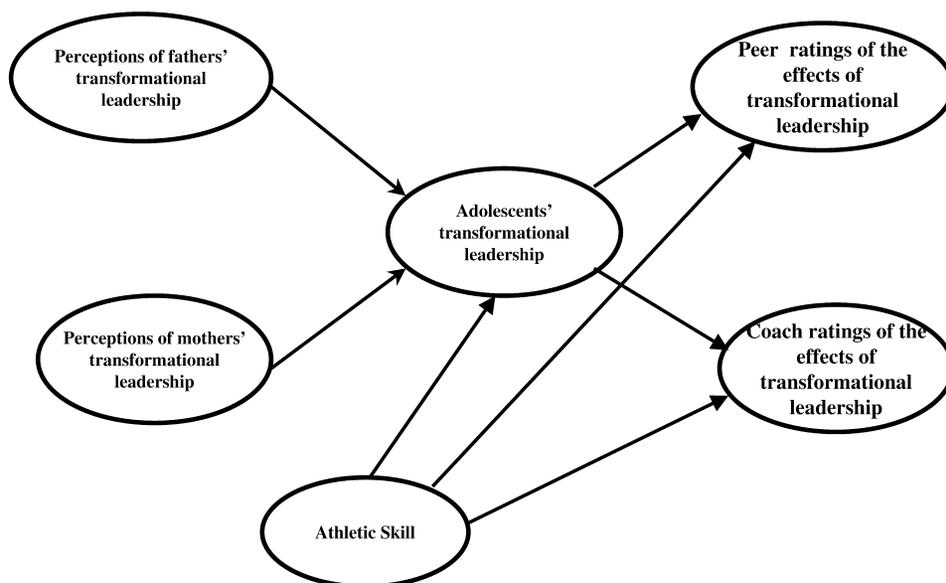


Figure 1. Partially Mediated Model Accounting for Development of Transformational Leadership in Children

both peer and coach ratings of the effects of transformational leadership, was estimated. Finally, the nonmediated model, which is similar to the partially mediated model except that adolescents' transformational leadership has no direct effect on peer or coach ratings of the effects of transformational leadership, was estimated. As noted by Kelloway (1995, 1996, 1998), the three models stand in a partially nested sequence with both the fully mediated and nonmediated models being nested within the partially mediated model. To establish mediation, one must demonstrate that the fully mediated model provides a better fit to the data than the nonmediated model and a more parsimonious fit to the data than the partially mediated model (Kelloway, 1998).

To assess the fit of all models, we relied on two measures of absolute fit (i.e., the χ^2 test and the Goodness of Fit Index [GFI]); three measures of comparative fit (i.e., the Normed Fit Index [NFI], the Comparative Fit Index [CFI], and the use of nested $\chi^2_{\text{difference}}$ tests); as well as the parsimonious normed fit index (PNFI). All indices range from 0 to 1 with values approaching unity indicating a good fit to the data. The CFI, in particular, is thought to be especially useful with small samples. Finally, the individual parameters comprising each model were tested for significance. These tests, referred to by James, Mulaik, and Brett (1982) as Condition 9 tests are necessary for model validation. That is, a model that demonstrates acceptable overall fit to the data but comprises nonsignificant parameter tests cannot be said to fit the data in any meaningful sense (Kelloway, 1995).

To create a latent variable reflecting perceptions of mothers' transformational leadership behaviors, an odd-even split was conducted on the scale. These two

Table 5. Standardized Parameter Estimates for the Measurement Model (N = 112)

	<i>Coach evaluations of outcomes</i>	<i>Peer evaluations of outcomes</i>	<i>Transformational leadership</i>	<i>Perceptions of fathers' leadership</i>	<i>Perceptions of mothers' leadership</i>	<i>Athletic skill</i>
1. Effect—coach	0.88					
2. Effort—coach	1.00					
3. Satisfaction—coach	0.80					
4. Effect—peer		0.73				
5. Effort—peer		0.94				
6. Satisfaction—peer		0.88				
7. Transformational leadership—self			0.49			
8. Transformational leadership—coach			0.62			
9. Transformational leadership—peer			0.51			
10. Father 1				0.92		
11. Father 2				0.91		
12. Mother 1					0.94	
13. Mother 2					0.91	
14. Athletic ability						0.83
15. Criticality						0.88

subscales were then used as observed variables reflecting the latent factor of mothers' transformational leadership. The same process was used for measuring fathers' transformational leadership. All subsequent analyses were also replicated using single-indicator latent variables for these two constructs. As both procedures produced the same findings, we relied on the more conservative use of multiple indicators to interpret our results.

The proposed measurement model, specifying six latent variables (i.e., perceptions of mothers' leadership, perceptions of fathers' leadership, children's transformational leadership, peer evaluations of outcomes, coach evaluations of outcomes, and athletic skill) and allowing within-source correlated errors, provided an excellent fit to the data, $\chi^2(70) = 90.50$, not significant (ns); GFI = .89; NFI = .94; CFI = .98. Standardized parameter estimates for the measurement model appear in Table 5.

The measurement structure was then used to estimate the structural relations of interest. Our central hypothesis is that children's transformational leadership mediates the relationships between children's perceptions of parents' transformational leadership and both peer and coach evaluations of outcomes (see Fig. 1). To test this proposed mediational link, we contrasted the proposed mediational model with both a partially mediated and nonmediated model. The partially mediated model added direct paths from perceptions of parents' transformational leadership to coach and peer evaluations of outcomes to the paths displayed in Fig. 1. The nonmediated model retained these additional paths, but deleted the paths from children's transformational leadership to coach and peer evaluations of outcomes. The proposed mediational model provided an excellent fit to the data, $\chi^2(75) = 95.20$, ns; GFI = .89; NFI = .93; CFI = .98; PNFI = .67, which did not significantly differ from the partially mediated model $\chi^2(71) = 90.55$, ns, GFI = .89; NFI = .94, CFI = .99; PNFI = .63, $\chi^2_{\text{difference}}(4) = 4.65$, ns. Moreover, the nonmediated model also provided an acceptable fit to the data, $\chi^2(73) = 93.08$, GFI = .89; NFI = .93; CFI = .98; PNFI = .65, which did not differ from the partially mediated model, $\chi^2_{\text{difference}}(2) = 2.12$, ns.

Based on the observations that (1) the three models provided equally acceptable fits to the data, (2) the direct paths from perceptions of parents' leadership to coach and peer evaluations of outcomes were nonsignificant in the partially and nonmediated model, and (3) that the fully mediated model was the most parsimonious of the three models, the mediated model as proposed in Fig. 1 was retained for further analysis.

Standardized parameter estimates for the model are presented in Fig. 2. As shown, both peer and coach evaluations of effectiveness were predicted by global transformational leadership (coach: $\beta = .43$, $p < .01$; peer: $\beta = .46$, $p < .01$) and skill (coach: $\beta = .19$, $p < .05$; peer: $\beta = .36$, $p < .01$). Transformational leadership was predicted by skill ($\beta = .77$, $p < .01$) and by perceptions of fathers' ($\beta = .40$, $p < .01$), but not by perceptions of mothers', transformational leadership ($\beta = .07$, ns).

DISCUSSION

The purpose of this study was to examine the development and effects of adolescents' transformational leadership behaviors. The model as a whole was strongly

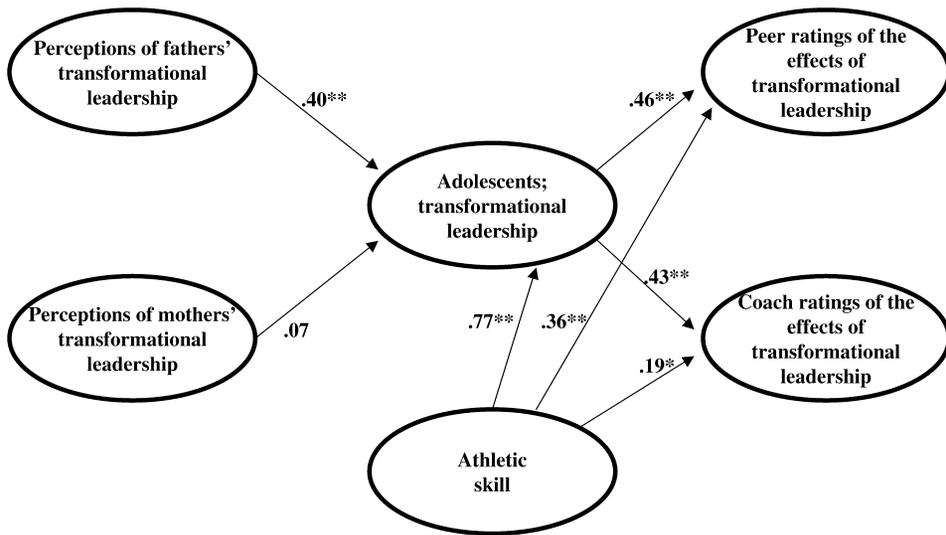


Figure 2. Standardized Parameter Estimates for the Hypothesized Model ($N = 112$; * $p < .05$; ** $p < .01$)

supported by the data. The results of this study extend previous research in the area of leadership development. First, this study demonstrates that leadership development can be explained in a social learning framework (Bandura, 1977). Specifically, adolescents perceive the extent to which their fathers use behaviors consistent with transformational leadership when interacting with them and, in turn, manifest these behaviors themselves when interacting with their peers. Second, the current results demonstrate that transformational leadership behaviors are not only manifested by adults, but by adolescents as well. Adolescents exhibiting transformational leadership behaviors appear to be capable of evoking effort from their peers and of being perceived as satisfying and effective leaders (Barling et al., 1996; Hater & Bass, 1988; Howell & Avolio, 1993; Koh, Steers, & Terborg, 1995). Third, by showing that transformational leadership behaviors are exhibited by adolescents, the importance of this study goes beyond merely showing the effects of transformational leadership to a younger age group. Instead, if indeed these behaviors are relatively stable (Krosnick & Alwin, 1989), then the transformational leadership behaviors that exist during adolescence may have critical implications for later leadership.

Considerable confidence can be placed in the present findings for several reasons. First, the results of this study achieve added credibility because the use of multiple data sources eliminates problems of monomethod bias, which are often an issue in similar studies. In addition, the results of the measurement model provide additional support for the construct validity of the separate scales. Second, our model received empirical support *after* controlling for the effects of adolescents' skill levels, extending its validity. The magnitude of the parameters associated with perceived skill levels (see Fig. 2) emphasizes the importance of controlling for perceived skill

level in similar studies on adolescents and questions whether similar controls would be equally appropriate for research on adult leadership.

Nonetheless, some cautionary comments are in order. First, perceptions of fathers' transformational leadership affected children's transformational leadership, but perceptions of mothers' transformational leadership did not. Although this is consistent with Hartman and Harris (1992), who found that children's modeling of their fathers' perceived leadership style was greater than modeling of their perceived mothers' leadership style, we suggest that the most probable and parsimonious reason for this is multicollinearity. Specifically, there are substantial zero-order relationships between perceptions of mothers' and fathers' leadership behaviors (see Table 4), and a post-hoc analysis revealed that, when considered separately, perceptions of both mothers' and fathers' transformational leadership predicted adolescents' transformational leadership. When considered simultaneously, as in the current study, the effects of perceptions of fathers' transformational leadership "washes out" the effect of perceptions of mothers' transformational leadership and vice versa. Future research should confirm whether these findings are a function of multicollinearity and ensure that gender explanations can be excluded. Future research might also take a different approach, assessing the effects of the overall level of both parents' transformational leadership (Barling & Mendelson, in press).

Second, we focused on *perceptions* of parental leadership behaviors in this study. Although other studies have shown that children are very accurate observers of their parents' behaviors and attitudes (Barling et al., 1991; Barling et al., 1998; Barling et al., in press; Kelloway & Watts, 1994; Whitbeck & Gecas, 1988), it remains for future research to obtain parents' self reports of their parent-child interactions. Third, the sample size appears somewhat small ($N = 112$). Nonetheless, it should be noted that (1) to be included, data on the same participant had to be obtained from several sources (namely, self, between one and five peers, and one coach), and (2) the CFI statistic, which accounts for sample size, indicated a very good fit of the model to the data. Fourth, generalizability of these findings to other contexts (e.g., classroom leadership, leadership in social situations or student government) remains to be examined. Last, future research should address whether the findings apply equally to both male and female adolescents because (1) findings suggest that females are more likely to exhibit transformational leadership behaviors than males (Bass & Avolio, 1994; Bass, Avolio, & Atwater, 1996), and (2) our findings showed differential relationships between the perceptions of mothers' and fathers' behaviors and one's own transformational leadership behavior.

In conclusion, the findings from this study advance our understanding of leadership development in adolescents, as well as transformational leadership. These results indicate that the extent to which parents interact with their adolescents in a transformational manner affects the degree to which the adolescents themselves adopt these behaviors. These findings also show that those adolescents who display transformational leadership behaviors influence their peers, thereby extending our understanding of transformational leadership.

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