

The Impact of Self-Esteem on Teacher Leadership: An Experimental Design

Özgür Bolat^{a,*}

Received : 8 June 2023
Revised : 12 September 2023
Accepted : 29 September 2023
DOI : 10.26822/iejee.2023.317

^a **Corresponding Author:** Özgür Bolat, Faculty of education, International Final University, Girne, TRNC.
E-mail: ozgur.bolat@final.edu.tr
ORCID: <https://orcid.org/0000-0003-4420-1368>

Abstract

This study aims to examine the impact of self-esteem on teacher leadership beliefs in Türkiye through both correlational and experimental analyses since self-esteem is considered to be a crucial antecedent of leadership. The author conducts three separate studies with a sample size of 808. The first study ($n = 237$) uses correlational analyses (Spearman). The second study ($n = 222$) adopts a scenario-based, within-participants experimental design where the self-esteem level of teachers is manipulated. A paired t-test was used to analyze the data. The third study ($n=349$) employs a between-participants experimental design. ANOVA test was conducted to analyze the data. The correlational analysis of the first study found a positive relationship between self-esteem and teacher leadership ($\rho = .35, p < .001$). The second study revealed that participants perceived teachers with high self-esteem to be more likely to exercise leadership, $t_{(221)} = 1.97, p < 0.01$. The third study found that teachers who were primed to have high self-esteem were more likely to adopt leadership beliefs, $F_{(2, 348)} = 3.91, p = .02$. The result experimentally demonstrated that self-esteem is an important antecedent of teacher leadership. This study contributes to the literature on teacher leadership by providing a causal link between self-esteem and teacher leadership.

Keywords:

Teacher Leadership, Self-Esteem, Experimental Design, School Improvement, School Leadership.

Introduction

In today's ever-changing world, schools face unprecedented demands and challenges. On the one hand, schools are pressured to prepare students for high-stakes testing in many (developing) countries, such as Türkiye. On the other hand, schools are expected to develop students' skills essential for the 21st century, such as critical thinking, creativity, problem solving and more (OECD, 2013). Furthermore, school improvement is no longer about improving student grades, test results or even students' skills for the 21st century. As Ainscow et al. (1998) highlighted years ago, school improvement requires profound change at all levels of the school system. This encompasses changes at pedagogical level, promoting a positive school culture, empowering teachers, transformational leadership from principals, mobilization of parents, and adoption of supportive educational policy



Copyright ©
www.iejee.com
ISSN: 1307-9298

© 2022 Published by KURA Education & Publishing.
This is an open access article under the CC BY-NC-ND license. (<https://creativecommons.org/licenses/by/4.0/>)

level (Bolat, 2013). Taking these multifaceted demands into account, principals cannot achieve the expected level of school improvement alone (Shen et al., 2020) especially in countries, such as Türkiye where there is a strong hierarchical school system (Gümüş et al., 2021). Therefore, principals looked to teachers for change in classrooms (Margolis and Huggins, 2012). Furthermore, in the era of accountability, teacher leadership has been promoted as a key strategy for enhancing student results (Lovett, 2018; Wenner and Campbell, 2017). The Teacher Leadership Exploratory Consortium (2011) proposed teacher leadership as an effective strategy for school improvement. There is now enough empirical evidence that teacher leadership contributes to the quality of schools (Wang and Ho, 2020) and school improvement (Ingersoll et al., 2018; Shen et al., 2020; Poekert et al., 2016; Wenner and Campbell, 2017). Therefore, there is a global movement towards promoting teacher leadership within schools. In line with these continuous efforts, this study aims to make a valuable contribution by providing experimental evidence that self-esteem could be a crucial antecedent for teacher leadership. By enhancing teachers' self-esteem, school leaders could enhance and promote teacher leadership within educational settings. Similarly, teachers can work on improving their self-esteem to enhance their capacity for effective leadership.

Literature Review

Teacher Leadership

Although teacher leadership is defined differently (Nguyen et al., 2020), Wenner and Campbell's (2017) definition summarizes the essence of most definitions of teacher leadership most concisely: "teachers assuming leadership roles beyond their classrooms while simultaneously fulfilling their classroom responsibilities." These roles could be "positional", such as department head, curriculum designer, instructional specialist, mentor and etc. (see Katzenmeyer and Moller, 2009; Neumerski, 2012) or "non-positional" (Frost, 2019), such as leading professional development activities, participating in decision making, assisting colleagues, observing colleagues in classrooms and etc. (see Wenner and Campbell, 2017). In other words, teachers could perform these leadership roles informally or formally (Meirink et al., 2020). Some scholars, such as Silva et al. (2000), argue that when teachers exercise leadership within a formal role, they could be just fulfilling some of principal's management duties, functioning as managers. These formal leadership roles could of course contribute to school improvement. However, such a formal role of teacher leadership, on the contrary, could stifle school improvement, by creating overload, role ambiguity and role conflict (Smylie et al., 2002). Furthermore, formal positions can actually

prevent individuals from exercising leadership (Heifetz, 2004) because leadership requires creating tolerable chaos while authority that stems from formal positions requires establishing order and predictability (Heifetz and Linsky, 2017). Teachers in formal positions may find themselves stuck between these two conflicting demands and may prioritize establishing order, which makes it default for them to exercise leadership. Additionally, when teacher leadership is associated with formal roles and positions, teachers without a formal leadership position may be unwilling to exercise leadership (Krieg et al., 2014).

School improvement depends on all teachers' efforts to take responsibility for change and transformation.

In line with this informal view of teacher leadership, the current perspective goes beyond formal roles and encompasses a more informal approach (Carrion and García-Carrión, 2015; Poekert, 2012). In this current perspective, teachers exercise leadership regardless of their positions (Frost, 2019). Leadership is not associated with any title, role or position. Leadership is more about teachers' taking ownership and drive meaningful change within schools (Frost and Durrant, 2002). In a formal leadership position, teachers of course could initiate change but it may not always imply leadership. They could just be solving a problem as part of their job description or leading a project dictated by the principal. Within an informal perspective of teacher leadership, however, leadership extends beyond solving a problem. Leadership is about agency and a sense of autonomy in leading change throughout the school (Durrant and Holden, 2006). In this view, every teacher is regarded as a 'change agent' (Fullan, 2007). The challenge, then, is to explore and understand the antecedents of teacher leadership and foster these antecedents so that every teacher can exercise leadership.

In line with this understanding, researchers are trying to understand the antecedents of teacher leadership (Ding and Thien, 2022). Some of these antecedents are at teacher levels (Schott et al., 2020). Some of these teacher-level antecedents are self-perception (Huang, 2016; Mongillo et al., 2012), experience (Angelle and DeHart, 2011), expertise (Struyve et al., 2018), motivation (Rogers, 2005), skills (Collinson, 2012; Liljenberg, 2016), teacher competence (Supovitz et al., 2010), extraversion (Landis et al., 2022), disposition (Carver, 2016), self-confidence (Pankake and Moller, 2007), and self-efficacy (Sun et al., 2017). An extensive body of research demonstrates that all these antecedents contribute greatly to the enactment of teacher leadership. For instance, teachers with higher levels of self-efficacy are more likely to exercise leadership (Sun et al., 2017). Another important antecedent that has attracted in the literature attention is self-esteem (Hunzicker, 2017; Smulyan, 2016). Therefore, promoting

teachers' self-esteem can be an effective strategy for enabling teachers to exercise leadership.

Self-esteem

The concept of self-esteem is pervasive in contemporary life (Orth and Robins, 2014) and extensively studied in psychology and social sciences (Donnellan et al., 2011; Judge et al., 2002). Despite its prevalence, however, the definitions of self-esteem vary (Heppner and Kernis, 2011). Some scholars define it in terms of affective (feeling) component. Self-esteem is defined as a subjective evaluation of one's worth as an individual (Baumeister, 1999; Donnellan et al., 2011; Rosenberg, 1965; Zeigler-Hill and Showers, 2007). Conversely, some researchers define self-esteem in terms of its cognitive (thought) aspect, such as an individual's overall self-evaluation of their competencies (Korman, 1968). Some scholars define it in terms of both cognitive and affective component, that is in terms of "worthiness" and "competence" (Tafarodi and Swann, 2001). Subsequent studies attempted to clarify this confusion. Some researchers used the term "self-concept" (Campbell, 1990; Lee-Flynn et al., 2011; Huit, 2004) or "self-efficacy" (Bandura, 1997) to refer to the cognitive aspect of the self. Contemporary understanding highlights that self-esteem is more about feelings rather than thoughts about oneself and not confined to specific abilities or behaviors (Robins et al., 2001). More specifically, self-esteem is concerned about how one "feels" about oneself (Coopersmith, 1967; Sowislo and Orth, 2013). That is, people with high self-esteem like who they are (Pelham and Swann, 1989). This understanding has important implications for teacher leadership. Teachers with little expertise, experience, competence or skills can choose to exercise leadership if they have high self-esteem.

Self-esteem is widely studied because it is believed to affect various significant life outcomes (Swann et al., 2007). A recent meta-analysis found that low self-esteem is related to anxiety (Liu et al., 2022) and depression (Sowislo and Orth, 2013), poor health and criminal behavior (Trzesniewski et al., 2003). Self-esteem affects job satisfaction (Judge and Bono, 2001), relationship satisfaction (Shackelford, 2001), subjective well-being (Diener and Diener, 1995), and positive affect in life (Orth et al., 2012; Robins, 2001). Scholars also study the relationship between self-esteem and leadership since self-esteem is considered a crucial factor in leadership effectiveness (Brockner, 1988). In early years, Beer et al. (1959) and Kipnis and Lane (1962) found that individuals who had high self-esteem emerged as leaders in college groups and among naval officers, respectively. Hill and Ritchie (1977) proposed that self-esteem is predictive of leadership. A meta-analysis by Judge et al. (2002) found a positive correlation between leadership emergence and self-esteem. In a more recent study, Galante and

Ward (2017) discovered that female athletes with high self-esteem exhibited more leadership characteristics. Similarly, Matzler et al. (2015) observed a strong positive relationship between transformational leadership and self-esteem in their study of 411 managers and entrepreneurs. In the context of school leadership, Vašašová et al. (2021) found a positive correlation between teacher leadership and self-esteem.

Self-esteem is positively associated with leadership for several reasons. When leaders have high self-esteem, they transmit positivity and enthusiasm more often (Hu et al., 2012). Additionally, individuals with high self-esteem act less defensively when they are subject to negative feedback (Brown, 2010). In contrast, individuals who have low self-esteem get more distressed when they face failure (Holland et al., 2002). Moreover, people with high self-esteem act in a more accepting manner while people with low self-esteem exhibit heightened prejudice (Crocker and Luhtanen, 1990). All these qualities are indicative of effective leadership. Most importantly, individuals need to believe in their capacity to attain power and high self-esteem is a prerequisite of such beliefs (Wojciszke and Struzynska-Kujalowicz, 2007). If they have low self-esteem, they shy away from leadership roles (Brockner, 1988) and avoid challenging tasks (Zeigler-Hill et al., 2011). In sum, an extensive body of research provides evidence that there is a strong relationship between self-esteem and leadership.

Previous research demonstrates a strong relationship between leadership and self-esteem. However, the direction of causality remains unclear since all these studies are correlational. As Baumeister et al. (2003) suggest the causal arrow could point in either direction or Wojciszke and Struzynska-Kujalowicz (2007) suggest there could be reciprocal influences. The current study aims to clarify the nature of this relationship, using an experimental design since experiments are crucial for providing evidence of causality (Antonakis et al., 2010).

Although there is extensive research on teacher leadership, Schott et al. (2020) found in their meta-analysis of 90 studies that none of these studies employed experimental design. Thus, the current study aims to address that gap, using an experimental approach and contribute to the existing literature on teacher leadership. To the best of my knowledge, this study is the first study that investigates the relationship between self-esteem and (teacher) leadership experimentally not only in the field of educational leadership but in psychological /organizational science. School leaders and teachers can use the findings and insights of the study to promote teacher leadership since self-esteem can be improved (Pierce et al., 1989)

Methodology

The current study aims to test the impact of self-esteem on teacher leadership beliefs through three separate studies (N = 808). The first study employed correlational analysis to explore the relationship between self-esteem and teacher leadership beliefs. The second and third studies employed an experimental design to delve deeper into this relationship and establish a causal link. The present study tests three hypotheses:

Hypothesis 1: There is a positive relationship between self-esteem and teacher leadership beliefs (Study 1).

Hypothesis 2: Participants will perceive teachers with a high level of self-esteem as more likely to embrace teacher leadership beliefs, compared to teachers with a low level of self-esteem (Study 2).

Hypothesis 3: Participants who are primed to have high self-esteem will be more likely to adopt teacher leadership beliefs, compared to teachers who are primed to have low self-esteem (Study 3).

Study 1

Participants

The study included a total of 237 participants who were employed as teachers at state schools across various regions in Türkiye. 138 participants (59.2%) were female, while 95 participants (40.8%) were male (Demographic information was not provided by 4 participants). In terms of teaching level, 19 participants (8.1%) were from preschool, 68 participants (29.1%) were from primary school, 73 participants (31.2%) were from middle school, and 74 participants (31.6%) were from high school. The average age of the participants was 45.20 years (range = 28–61, $SD = 7.4$), and they had an average of 20.9 years of teaching experience (range = 1–39, $SD = 8.1$).

Procedure and Measures

Participants completed the abbreviated version of the Rosenberg self-esteem scale (Rosenberg, 1965) consisting of six items (Cronbach's alpha = .84). This shortened version was developed by Bolat and Antalyalı (2023) and demonstrated high levels of validity and reliability. Sample items are: "I feel that I'm a person of worth," "On the whole, I am satisfied with myself," and "I certainly feel useless at times (reverse item)." Additionally, participants also completed a five-item subscale of teacher leadership belief scale (Bolat, 2023). This subscale exhibited strong validity and reliability (Cronbach's alpha = .86). The subscale measures teachers' leadership belief- the extent to which teachers see certain leadership behaviors as part of their professional identity. Sample items are "I engage in pedagogical conversations with my

colleagues to contribute to their development" and "I offer advice and suggestions to my colleagues." The responses ranged from 1 (not at all) to 5 (always).

Results and Discussion

Data analysis was performed using Jamovi 2.3.12.0. The Spearman correlation coefficient was used to assess the relationship between the teacher leadership belief scale and the self-esteem scale, since the data did not have a normal distribution (Shapiro-Wilk test, $p < .001$). The analysis indicated that there was a positive correlation between the two scales and the correlation was significant ($\rho = .35$, $p < .001$). This result suggests there is a relationship between these two constructs. Thus, H1 was supported. However, the use of a correlation study fails to establish a causal link between these concepts. It is not possible to tell which concept is the precursor. Therefore, the second study utilized a within-subjects experimental design to establish a causal link between these two constructs.

Study 2

Participants

The experiment included a total of 222 participants who were employed as teachers at state schools across various regions in Türkiye. 185 (88.1%) of the participants were women and 25 (11.9%) were men. The sample size for the study was determined a priori using G*Power (Faul et al., 2009) to achieve a power of 0.80 and an alpha error probability of .05, with a target small-to-medium-sized effect size of .2. Based on a power analysis, a minimum sample size of 199 participants was required. The actual sample size ($n = 222$) used in the study exceeded this minimum requirement. Among the participants, 35 (16.9%) were employed in kindergarten, 64 (30.9%) in primary school, 44 (21.3%) in middle school, and 64 (30.9%) at the high school. The average age of the participants was 41.3 years (range: 23–69, $SD = 7.78$), and their average work experience was 17 years (range: 1–45, $SD = 8.50$).

Procedure

Participants were presented with two scenarios describing a teacher with high and low self-esteem, respectively. They were then asked "What is the likelihood that this teacher will..." followed by 6 items (Cronbach's alpha = .94) taken from the micro-level leadership subscale of teacher leadership behavior scale (Bolat and Antalyalı, 2023). The scale assessed the extent to which teachers exercise leadership to influence their colleagues, with sample items including "I engage in pedagogical conversations with my colleagues to contribute to their development" and "I offer advice and suggestions to my colleagues." Participants provided responses on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Results and Discussion

Data analysis was performed using Jamovi 2.3.12.0. A paired t-test was conducted to compare participants' ratings of the two scenarios. The results indicated a significant difference between the first measurement (high self-esteem scenario) and the second measurement (low self-esteem scenario). The mean scores for the first and second measurements were 4.14 (SD = .79) and 2.18 (SD = .82), respectively. This difference was statistically significant ($t(221) = 1.97, p < .01$). These findings suggest that participants perceived the teacher with high self-esteem as more likely to adopt leadership beliefs compared to the teacher with low self-esteem. This result provides experimental evidence that self-esteem is an important antecedent and determinant of teacher leadership. Based on the results, it could be concluded that teachers who have higher self-esteem are more likely to have leadership beliefs. Thus, H2 was supported. However, it should be noted that a scenario-based experimental studies have certain limitations. Participants may have understood the purpose of the study (social desirability bias) or been affected by the previous scenario (carryover effect), and responded accordingly. Therefore, a between-subjects experimental design is warranted to assess the impact of self-esteem on teacher leadership beliefs. To address that limitation, the next study utilized a between-subjects experimental design.

Study 3

Participants

The study sample comprised 349 teachers employed at state schools across various regions in Türkiye. The sample size for the study was determined a priori using G*Power (Faul et al., 2009) to achieve a power of 0.90 and an alpha error probability of .05, with a target small-to-medium-sized effect size of .2. Based on a power analysis, a minimum sample size of 321 (107 in each group) participants was required. The actual sample size ($n = 349$) used in the study exceeded this minimum requirement.

Data were collected through online platform. Participants were informed about the study, and all participants participated voluntarily in the study. 325 participants (93.1%) were female, while 24 participants (6.9%) were male. In terms of educational levels, 47 participants (13.5%) were from preschool, 94 participants (26.5%) were from primary school, 111 participants (31.8%) were from middle school, and 97 participants (27.8%) were from high school. The average age of the participants was 37.4 years (range = 23–62, $SD = 6.74$), and their average teaching experience was 13.4 years (range = 1–28, $SD = 7.11$).

Procedure

Prior to the experiment, similar to Study 2, participants completed the abbreviated version of the Rosenberg self-esteem scale (Rosenberg, 1965) consisting of six items (Cronbach's alpha = 0.86). Additionally, participants also completed a five-item subscale of teacher leadership behavior scale (Bolat, 2023) (Cronbach's alpha = 0.92).

After completing initial scales, participants were randomly assigned to one of three groups: the high self-esteem group (HSG) ($n = 152$), the low self-esteem group (LSG) ($n = 152$), and the control group ($n = 115$). In the HSG condition, participants were instructed to "generate a list of positive characteristics that they possess," while in the LSG condition, participants were asked to "generate a list of negative characteristics that they possess." These manipulations have previously been used by McGuire and McGuire (1996) in previous research. Participants in the control group were asked to write about their daily routines (adapted from Schmeichel and Vohs, 2009).

After participants wrote their essays, they were instructed to complete one-item self-esteem scale (adapted from Robins et al., 2001). The single-item self-esteem question was "I have high self-esteem." The responses ranged from 1 (definitely does describe me) to 7 (definitely describes me). They were also instructed to respond to two items from the Mood Adjective Checklist (adapted from Raghunathan and Trope, 2002). Two adjectives from the Mood Adjective Checklist were "happy" and "elated." The responses ranged from 0 (definitely does not apply to my feeling at this moment) to 3 (definitely does apply to my feeling at the moment). Finally, participants completed the six-item subscale of the teacher leadership belief scale (Cronbach's alpha = .85) developed by Bolat (2023). The response choices for this subscale ranged from 1 (Strongly disagree) to 5 (Strongly agree). The scores on this subscale served as the dependent variable. After the experiment, participants were thoroughly briefed.

Results

Randomization Check

The Rosenberg self-esteem scale and the teacher leadership behavior scale were utilized for randomization check. An analysis of variance (ANOVA) was conducted to compare the self-esteem scores across the three groups. The results indicated no significant differences in self-esteem scores between the groups ($F(2, 416) = 2.32, p = .10$). Similarly, an ANOVA test was performed to compare the teacher leadership behavior scores among the groups, revealing no significant differences ($F(2, 416) = 1.28, p = .28$). These findings indicate successful random assignment among three groups.

Manipulation check

A manipulation check was carried out to ensure the effectiveness of the manipulations. The ANOVA results demonstrated a significant difference in self-esteem scores among the groups ($F(2, 362) = 3.79, p = .02$). Specifically, the mean self-esteem score for the high self-esteem group was 4.90 ($SD = 1.57$), for the control group was 4.49 ($SD = 1.59$), and for the low self-esteem group it was 4.38 ($SD = 1.58$). Post-hoc comparisons employing the Tukey HSD test revealed that the high self-esteem group had significantly higher self-esteem scores compared to the low self-esteem group, while the control group also had significantly higher self-esteem scores than the low self-esteem group.

Likewise, an ANOVA test was conducted to examine the positive mood scores across the groups, revealing a significant difference ($F(2, 354) = 5.80, p < .01$). The mean positive mood score for the control group was 1.86 ($SD = .80$), for the high self-esteem group it was 2.21 ($SD = .86$), and for the low self-esteem group it was 1.94 ($SD = .80$). Post-hoc comparisons employing the Tukey HSD test indicated that the high self-esteem group had significantly higher positive mood scores compared to the low self-esteem group ($p < .05$). These results confirm the successful manipulation.

The Effect

The study comprised three experimental conditions: a high self-esteem group (HSG), a low self-esteem group (LSG), and a control group. Following the intervention, participants' beliefs in teacher leadership were measured as the dependent variable.

To compare the mean scores of teacher leadership belief (TLB), an analysis of variance (ANOVA) was conducted across the three groups. The results indicated a significant difference in the mean TLB scores ($F(2, 348) = 3.91, p < .02$). The mean score for the HSG group was 3.59 ($SD = .88$), for the control group it was 3.34 ($SD = .85$), and for the LSG group it was 3.31 ($SD = .81$). Post-hoc comparisons using the Tukey HSD test revealed a significant difference between the HSG group ($M = 3.59, SD = .88$) and the LSG group ($M = 3.31, SD = .81, p < .05$). However, no significant differences were found between the control group and the LSG group, or between the control group and the HSG group. These findings support the hypothesis that self-esteem significantly influences teachers' leadership beliefs. Thus, H3 was supported.

General Discussion

The current research aimed to examine the impact of self-esteem on teachers' leadership belief- the extent to which teachers perceive leadership behavior as part of their professional identity. The results have provided experimental evidence that self-esteem

significantly enhances teacher leadership beliefs and that teachers who have higher self-esteem are more likely to embrace leadership beliefs. This finding is consistent with the existing literature on the relationship between self-esteem and leadership. Beer et al. (1959), Kipnis and Lane (1962), Hill and Ritchie (1977), Galante and Ward (2017) and Matzler et al. (2015) discovered a positive relationship between self-esteem and leadership. Vašašová et al. (2021) investigated this relationship in the context of teacher leadership and similarly found a positive correlation between self-esteem and teacher leadership. However, none of these studies employed an experimental design and thus could not establish a causal link between self-esteem and leadership. Unlike these studies, the current study provided experimental evidence that self-esteem is a precursor to teacher leadership. In that regard, it made a significant contribution to the extant literature on the antecedents of teacher leadership.

The current study is significant due its experimental design. Podsakoff and Podsakoff (2019) reviewed the methodology of the studies published in general leadership literature during 2015–2018 and found that only 11.5% of studies were experimental. Similarly, Schott et al. (2020) reviewed 90 studies in the educational leadership literature and none of these studies employed experimental designs. Thus, to the best of my knowledge, this is the first study that adopts an experimental investigation into the concept of teacher leadership. By doing so, the study contributes to the field and encourages the integration of experimental designs into future research studies.

The current study tested the effect of self-esteem on teacher leadership "belief" rather than actual "behavior". The future studies could test the impact on actual behaviors. Changing teachers' beliefs could be the first step to encouraging teachers to engage in leadership behavior since teachers' beliefs influence their practices (Fives & Buehl, 2012). Teachers are more likely to embrace new practices which align with their beliefs (Bingham & Hall-Kenyon, 2013). If school leaders can integrate self-esteem workshops into professional development activities and thus enable teachers to adopt leadership beliefs, teachers will be more likely to engage in leadership behaviors.

The study has certain limitations that future studies can address. These areas of improvement could also be valuable suggestions for new studies in the field. First of all, the current study tested the impact of self-esteem on teachers' leadership beliefs. The study results suggested that teachers who have higher self-esteem are more likely to see "leadership" as part of their professional identity, as compared to those who have lower self-esteem. However, there might a discrepancy between beliefs and actual behavior. Therefore, future studies should assess the

impact of self-esteem on actual leadership behaviors rather than just beliefs or perceptions. Secondly, the current study has suggested a causal link between self-esteem and teacher leadership, with self-esteem being a precursor to teacher leadership. However, this relationship could be bi-directional and recursive. In other words, teacher leadership could be leading to the development of self-esteem as well. Future studies need to test the impact of teacher leadership on the improvement of self-esteem. Thirdly, the current study was a brief online experiment. Future studies could involve longitudinal experimental studies where teachers are offered year-long professional development programs and interventions. These studies could assess the impact of self-esteem on both teacher leadership belief and behaviors. Fourthly, the effect of self-esteem was measured immediately after the intervention. Future studies should assess the long-term impact of such interventions. Additionally, an online experiment also could exclude certain demographics. Future studies could be carried out in face-to-face settings and include a more diverse population.

The study has certain practical implications for school leaders. School leaders could include self-esteem workshops into their professional development activities for teachers. These workshops could focus on building or enhancing teachers' self-esteem, which is likely to foster teacher leadership. Secondly, positive relationships enhance self-esteem. Thus, school leaders should build supportive and inclusive school culture. Such a culture develops a sense of belonging and thus increase self-esteem and promotes teacher leadership. Lastly, school leaders need to avoid negative discourse or factors that may affect self-esteem negatively. In sum, by paying attention to self-esteem boosting factors, school leaders can enable every teacher to exercise leadership.

References

- Ainscow, M., Barrs, D., and Martin, J. (1998). Taking school improvement into the classroom. *Improving Schools*, 1(3), 43-48.
- Angelle, P. S., and DeHart, C. A. (2011). Teacher perceptions of teacher leadership: Examining differences by experience, degree, and position. *NASSP Bulletin*, 95(2), 141-160.
- Antonakis, J., Bendahan, S., Jacquart, P., and Lalive, R. (2010). On making causal claims: A review and recommendations. *The Leadership Quarterly*, 21(6), 1086-1120.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.
- Baumeister, R. F. (1999). Self-concept, self-esteem, and identity.
- Baumeister, R. F., Campbell, J. D., Krueger, J. I., and Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Science in The Public Interest*, 4(1), 1-44.
- Beer, M., Buckhout, R., Horowitz, M. W., and Levy, S. (1959). Some perceived properties of the differences between leaders and nonleaders. *Journal of Psychology*, 47, 49-56.
- Bingham, G. E., & Hall-Kenyon, K. M. (2013). Examining teachers' beliefs about and implementation of a balanced literacy framework. *Journal of Research in Reading*, 36(1), 14-28.
- Bolat, O. (2013). *A non-positional teacher leadership approach to school improvement: An action research study in Turkey*. Unpublished doctoral dissertation, The University of Cambridge, Cambridge.
- Bolat, O. (2023). Öğretmenlerin liderlik tutumlarına ilişkin bir ölçek geliştirme çalışması. [A study on developing a scale to measure teachers' leadership beliefs] (Under review)
- Bolat, Ö., & Antalyalı, Ö. L. (2023). PS Kişisel Eğilimler Envanterinin Psikometrik Özellikleri. [Psychometric Properties of the PS Personal Tendencies Inventory.] *Turkish Studies-Educational Sciences*, 18(2).
- Brockner, J. (1988). *Self-esteem at work: Research, theory, and practice*. Heath.
- Brown, J. D. (2010). High self-esteem buffers negative feedback: Once more with feeling. *Cognition and Emotion*, 24(8), 1389-1404.
- Campbell, J. D. (1990). Self-esteem and clarity of the self-concept. *Journal Of Personality and Social Psychology*, 59(3), 538.
- Carrion, R. G., and García-Carrión, R. (2015). Transforming education through teacher leadership. *International Journal of Educational Leadership and Management*, 219-221.
- Collinson, D. (2012). Prozac leadership and the limits of positive thinking. *Leadership*, 8(2), 87-107.
- Coopersmith, S. (1967). *The antecedents of self-esteem*. H Freeman and Company.
- Crocker, J., and Luhtanen, R. (1990). Collective self-esteem and ingroup bias. *Journal Of Personality and Social Psychology*, 58(1), 60.

- Diener, E., and Diener, M. (1995). Cross-cultural correlates of life satisfaction and self-esteem. *Journal Of Personality and Social Psychology*, 68(4), 653.
- Ding, Z., and Thien, L. M. (2022). Assessing the antecedents and consequences of teacher leadership: A partial least squares analysis. *International Journal of Leadership in Education*, 1-23.
- Donnellan, M. B., Trzesniewski, K. H., and Robins, R. W. (2011). *Self-esteem: Enduring issues and controversies*. In T. Chamorro-Premuzic, S. von Stumm, and A. Furnham (Eds.), *The Wiley-Blackwell handbook of individual differences* (pp. 718–746). Wiley Blackwell.
- Durrant, J., and Holden, G. (2006). *Teachers as leaders of learning. Teachers leading change: Doing research for school improvement*. Sage.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149-1160.
- Fives, H., & Buehl, M. M. (2012). Spring cleaning for the “messy” construct of teachers’ beliefs: What are they? Which have been examined? What can they tell us?.
- Frost, D. (2019). *Teacher leadership and professionalism*. In Oxford Research Encyclopedia of Education.
- Frost, D., and Durrant, J. (2002). Teachers as leaders: Exploring the impact of teacher-led development work. *School Leadership and Management*, 22(2), 143-161.
- Fullan, M. (2007). *Change theory as a force for school improvement*. In *Intelligent leadership: Constructs for thinking education leaders* (pp. 27-39). Springer Netherlands.
- Galante, M., and Ward, R. M. (2017). Female student leaders: An examination of transformational leadership, athletics, and self-esteem. *Personality And Individual Differences*, 106, 157-162.
- Gümüş, S., Hallinger, P., Cansoy, R., and Bellibaş, M. Ş. (2021). Instructional leadership in a centralized and competitive educational system: A qualitative meta-synthesis of research from Turkey. *Journal of Educational Administration*, 59(6), 702-720.
- Heifetz, R. (2004). *Leadership without easy answers*. Harvard Business School Publishing.
- Heifetz, R., and Linsky, M. (2017). *Leadership on the line, with a new preface: Staying alive through the dangers of change*. Harvard Business Press.
- Hepner, W. L., and Kernis, M. H. (2011). *High self-esteem: Multiple forms and their outcomes*. In *Handbook of identity theory and research* (pp. 329-355). Springer New York.
- Hill, N. C., and Ritchie, J. B. (1977). The effect of self-esteem on leadership and achievement: A paradigm and a review. *Group and Organization Studies*, 2(4), 491-503.
- Holland, R. W., Meertens, R. M., and Van Vugt, M. (2002). Dissonance on the road: Self-esteem as a moderator of internal and external self-justification strategies. *Personality and Social Psychology Bulletin*, 28(12), 1713-1724.
- Hu, J., Wang, Z., Liden, R. C., and Sun, J. (2012). The influence of leader core self-evaluation on follower reports of transformational leadership. *The Leadership Quarterly*, 23(5), 860-868.
- Huang, T. (2016). Linking the private and public: Teacher leadership and teacher education in reflexive modernity. *European Journal of Teacher Education*, 39(2), 222-237.
- Huitt, W. (2004). Self-concept and self-esteem. *Educational Psychology Interactive*, 1, 1-5.
- Hunzicker, J. (2017). From teacher to teacher leader: A conceptual model. *International Journal of Teacher Leadership*, 8(2), 1-27.
- Ingersoll, R. M., Sirinides, P., and Dougherty, P. (2018). Leadership Matters: Teachers' Roles in School Decision Making and School Performance. *American Educator*, 42(1), 13.
- Judge, T. A., and Bono, J. E. (2001). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology*, 86, 80-92.
- Judge, T. A., Erez, A., Bono, J. E., and Thoresen, C. J. (2002). Are measures of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicators of a common core construct? *Journal of Personality and Social Psychology*, 83, 693–710.
- Katzenmeyer, M., and Moller, G. (2009). *Awakening the sleeping giant: Helping teachers develop as leaders*. Corwin Press.

- Kipnis, D., and Lane, W. P. (1962). Self-confidence and leadership. *Journal of Applied Psychology*, 46(4), 291.
- Korman, A. K. (1968). Task success, task popularity, and self-esteem as influences on task liking. *Journal of Applied Psychology*, 52(6p1), 484.
- Krieg, S., Smith, K. A., and Davis, K. (2014). Exploring the dance of early childhood educational leadership. *Australasian Journal of Early Childhood*, 39(1), 73-80.
- Landis, B., Jachimowicz, J. M., Wang, D. J., and Krause, R. W. (2022). Revisiting extraversion and leadership emergence: A social network churn perspective. *Journal of Personality and Social Psychology*.
- Lee-Flynn, S. C., Pomaki, G., DeLongis, A., Biesanz, J. C., and Puterman, E. (2011). Daily cognitive appraisals, daily affect, and long-term depressive symptoms: The role of self-esteem and self-concept clarity in the stress process. *Personality and Social Psychology Bulletin*, 37(2), 255–268.
- Liljenberg, M. (2016). Teacher leadership modes and practices in a Swedish context—a case study. *School Leadership and Management*, 36(1), 21-40.
- Liu, X., Cao, X., and Gao, W. (2022). Does low self-esteem predict anxiety among Chinese college students? *Psychology Research and Behavior Management*, 1481-1487.
- Lovett, S. (2018). *Advocacy for teacher leadership: Opportunity, preparation, support, and pathways*. Springer.
- Margolis, J., and Huggins, K. S. (2012). Distributed but undefined: New teacher leader roles to change schools. *Journal of School Leadership*, 22(5), 953-981.
- Matzler, K., Bauer, F. A., & Mooradian, T. A. (2015). Self-esteem and transformational leadership. *Journal of Managerial Psychology*, 30(7), 815-831.
- Meirink, J., Van Der Want, A., Louws, M., Meijer, P., Oolbekkink-Marchand, H., and Schaap, H. (2020). Beginning teachers' opportunities for enacting informal teacher leadership: Perceptions of teachers and school management staff members. *European Journal of Teacher Education*, 43(2), 243-257.
- Mongillo, G., Lawrence, S. A., and Hong, C. E. (2012). Empowering leaders in a master's in literacy program: Teacher candidates' self-efficacy and self-perception as literacy leaders. *Action in Teacher Education*, 34(5-6), 551-565.
- Neumerski, C. M. (2012). Rethinking instructional leadership, a review: What do we know about principal, teacher, and coach instructional leadership, and where should we go from here? *Educational Administration Quarterly*, 49(2), 310-347.
- Nguyen, D., Harris, A., and Ng, D. (2020). A review of the empirical research on teacher leadership (2003–2017) Evidence, patterns and implications. *Journal Of Educational Administration*, 58(1), 60-80.
- OECD (2013), "The Skills Needed for the 21st Century", in *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing
- Orth, U., and Robins, R. W. (2014). The development of self-esteem. *Current Directions In Psychological Science*, 23(5), 381-387.
- Orth, U., Robins, R. W., and Widaman, K. F. (2012). Life-span development of self-esteem and its effects on important life outcomes. *Journal Of Personality and Social Psychology*, 102(6), 1271.
- Pankake, A., and Moller, G. (2007). What the teacher leader needs from the principal. *The Learning Professional*, 28(1), 32.
- Pelham, B. W., and Swann, W. B. (1989). From self-conceptions to self-worth: On the sources and structure of global self-esteem. *Journal Of Personality and Social Psychology*, 57(4), 672.
- Pierce, J. L., Gardner, D. G., Cummings, L. L., and Dunham, R. B. (1989). Organization-based self-esteem: Construct definition, measurement, and validation. *Academy Of Management Journal*, 32(3), 622-648.
- Podsakoff, P. M., & Podsakoff, N. P. (2019). Experimental designs in management and leadership research: Strengths, limitations, and recommendations for improving publishability. *The Leadership Quarterly*, 30(1), 11-33.

- Poekert, P. E. (2012). Learning about teachers learning to lead: Reflections on themes in the teacher leadership literature and their manifestation in a teacher leadership development program in Florida. In *European Conference on Educational Research. Porto, Portugal*. Available at <https://www.educ.cam.ac.uk/centres/IfI/about/PDFs/PoekertECER2014TLPaper.pdf> [accessed 20 May 2019].
- Poekert, P., Alexandrou, A., and Shannon, D. (2016). How teachers become leaders: An internationally validated theoretical model of teacher leadership development. *Research In Post-Compulsory Education*, 21(4), 307-329.
- Raghunathan, R., and Trope, Y. (2002). Walking the tightrope between feeling good and being accurate: Mood as a resource in processing persuasive messages. *Journal Of Personality and Social Psychology*, 83(3), 510.
- Robins, R. W., Hendin, H. M., and Trzesniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality And Social Psychology Bulletin*, 27(2), 151-161.
- Rogers, J. (2005). Aspiring to leadership—identifying teacher-leaders. *Medical Teacher*, 27(7), 629-633.
- Rosenberg, M. (1965). Rosenberg self-esteem scale. *Journal of Religion and Health*.
- Schmeichel, B. J., and Vohs, K. (2009). Self-affirmation and self-control: Affirming core values counteracts ego depletion. *Journal of Personality and Social Psychology*, 96(4), 770.
- Schott, C., van Roekel, H., and Tummers, L. G. (2020). Teacher leadership: A systematic review, methodological quality assessment and conceptual framework. *Educational Research Review*, 31, 100352.
- Shackelford, T. K. (2001). Self-esteem in marriage. *Personality and Individual Differences*, 30, 371-390.
- Shen, J., Wu, H., Reeves, P., Zheng, Y., Ryan, L., & Anderson, D. (2020). The association between teacher leadership and student achievement: A meta-analysis. *Educational Research Review*, 31, 100357.
- Silva, D. Y., Gimbert, B., & Nolan, J. (2000). Sliding the doors: Locking and unlocking possibilities for teacher leadership. *Teachers College Record*, 102(4), 779-804.
- Smulyan, L. (2016). Symposium introduction: Stepping into their power: The development of a teacher leadership stance. *Schools*, 13(1), 8-28.
- Smylie, M. A., Conley, S., & Marks, H. M. (2002). Section four: Reshaping leadership in action: Exploring new approaches to teacher leadership for school improvement. *Teachers College Record*, 104(9), 162-188.
- Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin*, 139(1), 213.
- Struyve, C., Hannes, K., Meredith, C., Vandecandelaere, M., Gielen, S., & De Fraine, B. (2018). Teacher leadership in practice: Mapping the negotiation of the position of the special educational needs coordinator in schools. *Scandinavian Journal of Educational Research*, 62(5), 701-718.
- Sun, J., Chen, X., & Zhang, S. (2017). A review of research evidence on the antecedents of transformational leadership. *Education Sciences*, 7(1), 15.
- Supovitz, J., Sirinides, P., & May, H. (2010). How principals and peers influence teaching and learning. *Educational Administration Quarterly*, 46(1), 31-56.
- Tafarodi, R. W., & Swann Jr, W. B. (2001). Two-dimensional self-esteem: Theory and measurement. *Personality and Individual Differences*, 31(5), 653-673.
- Teacher Leadership Exploratory Consortium. (2011). Teacher leader model standards. Carrboro, NC: Author. Retrieved from http://www.teacherleaderstandards.org/downloads/TLS_Brochure.pdf
- Trzesniewski, K. H., Donnellan, M. B., and Robins, R. W. (2003). Stability of self-esteem across the life span. *Journal Of Personality and Social Psychology*, 84(1), 205.
- Vašašová, Z., Strenáčiková, M., & Žitniaková Gurgová, B. (2021). Teachers' Leadership Behavior in Relation to their Self-Esteem. *The New Educational Review*, 66, 147-156.
- Wang, M., & Ho, D. (2020). Making sense of teacher leadership in early childhood education in China. *International Journal of Leadership in Education*, 23(3), 300-314.

- Wenner, J. A., & Campbell, T. (2017). The theoretical and empirical basis of teacher leadership: A review of the literature. *Review of Educational Research, 87*(1), 134-171.
- Wojciszke, B., & Struzynska-Kujalowicz, A. (2007). Power influences self-esteem. *Social Cognition, 25*(4), 472-494.
- Zeigler-Hill, V., & Showers, C. J. (2007). Self-structure and self-esteem stability: The hidden vulnerability of compartmentalization. *Personality and Social Psychology Bulletin, 33*(2), 143-159.
- Zeigler-Hill, V., Besser, A., & King, K. (2011). Contingent self-esteem and anticipated reactions to interpersonal rejection and achievement failure. *Journal of Social and Clinical Psychology, 30*(10), 1069-1096.