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Teachers' prosociality and well-being at work: The mediating role of teacher engagement in family–school partnerships

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Abstract

Past research provided strong evidence that positive family–school partnerships were not only beneficial for students' school success, but they also helped to promote parental involvement in schooling. However, relatively little is known about teachers' reasons for becoming engaged in family–school partnerships and the benefits of their engagement. In fact, the role of teachers in family–school partnerships requires prosocial actions (e.g., helping, sharing, feeling empathy). As guided by self-determination theory, previous studies suggest that prosocial-oriented persons tend to take prosocial actions and these actions tend to promote a social connection, thereby promoting well-being. To the best of our knowledge, this assumption has not been applied to research on family–school partnerships yet. The aim of this study was to examine whether teachers' prosociality would be associated with their well-being at work (i.e., job satisfaction, work-related self-esteem) and whether this connection would be mediated by teacher engagement in family–school partnerships. Using the framework of the Vodafone Foundation Germany, we focused on two important aspects of teacher engagement: effective communication and educational cooperation. A total of 190 teachers (72% females; mean age: 44.78 years) participated in an online-survey. In line with SDT, teachers' prosociality was associated with greater well-being at work even after controlling for teachers' background (age, gender, experience, school track). As expected, this connection was partially mediated by teacher engagement in family–school partnerships. The results and implications of the present study are discussed.

Keywords Prosociality · Well-being at work · Family–school partnerships

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1 Introduction

Since the 1990's, Epstein's theory of overlapping spheres (e.g., Epstein, 1987) and her work on parental involvement typologies (e.g., Epstein, 1996, 2001) have influenced theoretical frameworks to explain processes in family–school partnerships around the world. Within these frameworks, Epstein proposed six types of parental involvement addressing the integrated role of school, family, and community in promoting student development. The six types of involvement include parenting, communicating, volunteering, learning at home, decision making, and collaborating with community. Most importantly, Epstein's typologies were used as a theoretical framework for the development of the U.S. Parent-Teacher Association's National Standards for Family–School Partnerships (see Parent–Teacher Association (PTA), 2009, for greater detail). Inspired by Epstein's frameworks, previous studies have confirmed a positive connection between family–school partnerships and a wide range of student academic outcomes such as school achievement, motivation, and well-being at school (e.g., Dettmers et al., 2019; Epstein, 2001; Kraft & Dougherty, 2013; Reparez & Sotés-Elizalde, 2019; Sheldon, 2003; Sheldon & Van Voorhis, 2004). In addition, recent studies showed that parents could also benefit from positive family–school partnerships. For instance, it was found that effective family–school communication, as an important aspect of family –school partnerships, was related to the enhancement of quantity and high-quality of parental involvement at home and in school. The former is the matter of *how often* parents become involved, while the latter focuses on the question of *how and in what way* parents become involved (e.g., Dettmers et al., 2019; Yotyodying et al., 2020; Yotyodying & Wild, 2019). Apart from benefits of positive family–school partnerships for students and parents, little is known about reasons for teachers to become engaged in activities that promote positive family–school partnerships and the benefits of their engagement.

Taking a self-determination theory (SDT: Deci & Ryan, 2000) perspective, numerous studies demonstrated that people's prosociality—their behaviors intended to help or benefit to others—is connected to the enhancement of their own well-being. Most importantly, this connection is claimed to be mediated by the satisfaction of the three basic needs: autonomy, competence, and relatedness (e.g., Martela & Ryan, 2016; Weinstein & Ryan, 2010). Liao et al. (2022) conducted a meta-analysis of 252 studies (666 effect sizes) on prosocial behavior and well-being, particularly in workplace. The results of this meta-analysis demonstrated that prosocially motivated people tended to experience greater well-being at work and became engaged in more prosocial work behaviors (Liao et al., 2022). Therefore, it is reasonable to assume that teachers' prosociality would be beneficial for teacher engagement in family–school partnerships. Likewise, teacher well-being at work would be a possible benefit of their engagement. Thus, these assumed connections will be examined in the present study.

1.1 Teacher engagement in family–school partnerships

The present study focused on family–school partnerships in the German context. Unlike in the United States, research on family–school partnerships has received

increasing attention among German scholars, but only in the past few years. On the political level, the conference of ministers of education (Kultusministerkonferenz), on 11, October 2018, spoke for the intensification of educational and parenting partnerships between school and parents (KMK, 2018). A few years before that, the Vodafone Foundation Germany, in collaboration with five experts, already proposed four standards for quality features of family–school partnerships in German schools. The purpose of this work was to provide practical guidelines to improve the quality of family–school partnerships (see Vodafone Stiftung Deutschland, 2013; see also Yotyodying et al., 2020, for a short summary of this framework in English). These recommended quality features of family–school partnerships were developed based on the PTA's National Standards for Family-School Partnerships (Parent–Teacher Association (PTA), 2009). Overall, the four proposed standards include: welcoming and meeting culture (standard A), various and respectful communication (standard B), educational cooperation (standard C), and parent participation (standard D). Unlike the PTA's National Standards, it must be noted that the collaboration with community was not considered as a quality feature in the framework for the German context. To the best of our knowledge, Yotyodying et al. (2020) were the first to develop instruments to assess parental perceptions of these quality features of family–school partnerships in German schools. The results of this work showed that parents reported relatively high levels of standard A (welcoming and meeting culture) and standard B (various and respectful communication), while they reported relatively low levels of standard C (educational cooperation) and standard D (parent participation). However, the extent to which the teachers perceive these quality features, has not been investigated.

Although, the framework of family–school partnerships should be implemented in schools, previous research has documented numerous barriers to successful family–school partnerships, especially family barriers that limit parents' abilities and motivation to become involved. These barriers include, for instance, parental hardship (e.g., poorly educated, having less time), psychological barrier (e.g., having negative experiences about school), and cultural barrier (e.g., language differences) (for reviews, see Hoover-Dempsey & Walker, 2002; Hornby & Lafaele, 2011). On the other hand, some studies underlined school-sided barriers to family–school partnerships. For instance, dedication of time and resources from the school side were found to be critical to the successful implementation of family–school partnerships in school (e.g., Rubach et al., 2020; Sheldon, 2003). However, relatively little is known about the role of teachers' behaviors in promoting positive family–school partnerships in school. In this article, teacher engagement is concerned with the extent to which teachers' participations in activities that promote family–school partnerships in their schools. To assess teacher engagement in family–school partnerships, we relied on the Vodafone Foundation's recommendations for the quality features of family–school partnerships for the German context (Vodafone Stiftung Deutschland, 2013). Since we were particularly interested in the teachers' role, we only investigated various and respectful communication (standard B) and educational cooperation (standard C) in the present study since these two standards are particularly affected by teachers' behaviors. According to the Vodafone Foundation's framework, standard B describes that the parents and teachers inform each other regularly, and

regardless of the occasion, about everything that is important for the education and upbringing of the children (Yotyodying et al., 2020). Standard C describes that the parents, teachers, and students work together on upbringing and educational success, and agree on learning objectives and learning contents. Individual forms of participation for parents and students are guaranteed (Yotyodying et al., 2020).

1.2 Linking self-determination theory to family–school partnerships

The present study addressed the question of why teachers become engaged in activities promoting family–school partnerships and what are consequences of this participation. In the present study, we used the self-determination theory (SDT) to explain this connection from a motivational perspective (see Deci & Ryan, 2000, for an overview). SDT postulates that a satisfaction of the three basic needs (i.e., autonomy, competence, and social-relatedness) is essential for human's autonomous motivation and well-being.

Taking a SDT perspective, past research proposed and empirically confirmed that people's prosociality—their volitional or autonomous behaviors intended to help others—is connected to the enhancement of their own well-being through basic needs satisfaction. For instance, Weinstein and Ryan (2010) conducted a series of experimental studies. In the first study, they used a diary method to examine the relationship between helpers' helping for autonomous reasons and their well-being (i.e., subjective well-being, vitality, self-esteem) and also the mediating role of basic needs satisfaction (i.e., autonomy, competence, social relatedness). At the beginning of the experimental study, participants took part in an introductory session: Providing an introduction to a diary session, completing survey questionnaire. One or two days later, they took part in a 14-day diary session. During these two weeks, they were asked to answer questions about helping and well-being experienced every day and complete another survey questionnaire. The results confirmed a significant connection between helping for autonomous reasons and well-being and showed that basic needs satisfaction mediated this connection. In the second study, they used a dictator game (helping task) to examine whether basic needs satisfaction—all three needs together—would mediate the effect of choice on well-being. To play a dictator game, a participant should distribute the money between him/herself and the other participant, while the other participant should only accept or reject the money. While taking part in this game, participants received five rounds of the money (a total of $25, $5 per round). Participants were randomly assigned to play a dictator game in two conditions in helping: choice or no-choice. In the choice condition in helping, participants (helper) could choose to keep any portion of the money and give the rest to the other participants (responder). In contrast, participants in the no-choice condition in helping were told to give a prespecified amount of the money to the other participant and keep the rest of the money for her/himself. Before and after the game, participants were asked to complete survey questionnaires. The results revealed that the helpers reported greater well-being when they experienced choiceful helping activities. In addition, the results confirmed a full mediating effect of basic needs satisfaction on the relation of motivation to help to well-being. Using a computer game, Martela and Ryan (2016) further examined the connection between prosocial behaviors—with

and without beneficence condition—and a wider range of well-being variables (i.e., affect, vitality, meaningfulness, game interest/enjoyment). Mediation by basic needs satisfaction was also examined. The results demonstrated that, for both conditions, prosocial behavior was positively related with increased well-being. For beneficence condition, prosocial behavior was positively associated with the satisfaction of the three basic needs. It was worth nothing that a full mediation by the satisfaction of the autonomy and competence needs (but no relatedness need satisfaction) was found.

According to Caprara et al. (2005), people's prosocial behaviors include four types of actions, including helping others, sharing with others, taking care of others, and feeling empathy for others. Most importantly, these prosocial actions tap into the role of teachers in promoting family–school partnerships according to the Vodafone Foundation's recommendations for the quality features of family–school partnerships (Vodafone Stiftung Deutschland, 2013). For instance, when teachers should help parents with schooling issues (e.g., providing parents with concrete tips on how to support their children at home), share important information about the child's school success with parents or take parents' opinions and interests into account while working together (see Yotyodying et al., 2020, for an overview of the definitions of family–school partnerships). The SDT postulates that a positive relationship between an individual and others is essential for relatedness need satisfaction (Deci & Ryan, 2000). It is therefore reasonable to assume that teacher engagement in family–school partnerships—such as helping parents with children's school-related problems—would enhance their sense of social relatedness. In addition, Aknin et al. (2013) confirmed that prosocial behavior is more likely to promote social connection between the giver and recipient, thereby promoting a good feeling of the giver.

1.3 The present study

The aim of the present study was twofold. The first aim was to examine whether teachers' prosociality would be positively associated with their well-being at work. Well-being has been defined and operationalized in a variety of ways, for instance, with self-esteem, affective states, life satisfaction, and positive mental health (see Martela & Sheldon, 2019, for a review). According to Liao et al. (2022), recent literature has underlined the importance of antecedents and consequences of prosocial motivation in the context of workplace. Therefore, this paper focused on teacher well-being at work. We operationalized teacher well-being at work in terms of teachers' job satisfaction (e.g., Ho & Au, 2006) and work-related self-esteem (e.g., Kanning & Schnitker, 2004). In the present study, we focused particularly on both indicators of well-being due to several reasons. First of all, past research demonstrated teachers' self-esteem and teachers' job satisfaction were highly correlated (e.g., Çevik, 2017). Furthermore, both constructs were found to depend on teachers' socio-demographics (Dicks et al., 2023; Zydziunaite et al., 2020) as well as work-related factors (e.g., stress, activities in schools, workloads, working conditions) (e.g., Dicks et al., 2023; Ortan et al., 2021; Zydziunaite et al., 2020). Most importantly, the role of teachers in family–school partnerships can be considered as teachers' workloads and activities in schools, apart from teaching duties. It is therefore reasonable to assume that teacher engagement in family–school partnerships would be connected with teachers' self-

esteem and their job satisfaction. According to strong evidence by previous research (e.g., Liao et al., 2022; Martela & Ryan, 2016; Weinstein & Ryan, 2010), we anticipated that teachers' prosociality (focused particularly on teacher collegium) would be beneficial for their well-being at work as measured in terms of job satisfaction and work-related self-esteem. The second aim was to examine whether the connection between teachers' prosociality and their well-being at work would be mediated by teacher engagement in family–school partnerships. As (a) prosocially oriented people tend to take more prosocial actions (e.g. Liao et al., 2022) and (b) prosocial actions tend to promote a social connection, thereby promoting well-being (e.g., Aknin et al., 2013; Weinstein & Ryan, 2010), we assumed that teacher engagement in family–school partnerships would play a mediating role in this connection. To the best of our knowledge, these connections have not been tested in the educational context that yet.

2 Method

2.1 Sample

Participants were 190 teachers (73% females; *M* age = 44.82 years, *SD* = 12.03) from different federal states in Germany (70% Bavaria) who participated in an online-survey during summer semester 2016. Of the teacher participants, 69% worked at regular secondary school tracks, 50% had more than 10 years of teaching experiences, 56% worked more than 20 h per week, and 41% worked in a large team of greater than 50 colleagues. Descriptive statistics for teachers' background are shown in Table 1. We used a convenience sampling design to recruit our participants. Our online questionnaire was advertised in a various online platforms, for instance, virtual laboratory, students' café online platform, and various Facebook groups. Teachers were informed that their participation in the online questionnaire would be anonymous and voluntary so that they could quit the online questionnaire whenever they wanted without any disadvantages. No formal ethic vote was sought due to the non-controversial nature of the study.

2.2 Measures

2.2.1 Teachers' prosociality

We used the Prosocialness Scale for Adults (Caprara et al., 2005) to assess this construct. Teachers were asked to rate the extent to which they try to help others, share the things with others, take care of others, and have feelings of empathy for others. This scale included 16 items ("I am pleased to help my colleagues in their activities; "I try to help others"). In the present study, the Teachers' Prosociality scale proved reliable (Cronbach's alpha = 0.89). The alpha of the present study was quite similar to the original work (Cronbach's alpha = 0.91). Responses were given on a four-point rating scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*).

Table 1 Descriptive Statistics for Teachers' Background

Background Variable		Frequency	%
Federal state ($n=190$)	Baden-Württemberg	10	5.3
	Bavaria	133	70.0
	Berlin	4	2.1
	Hesse	4	2.1
	Mecklenburg-Western Pomerania	2	1.1
	Lower Saxony	4	2.1
	North Rhine-Westphalia	17	8.9
	Rhineland-Palatinate	3	1.6
	Saxony	7	3.7
	Saxony-Anhalt	2	1.1
	Schleswig Holstein	2	1.1
	Thuringia	2	1.1
School track ($n=190$)	Primay school track	30	15.8
	Regular secondary school track	131	68.9
	Other school track	29	15.3
School track greater in detail ($n=190$)	*Primary school track*		
	Grundschule/Volksschule	30	15.8
	Regular secondary school track		
	Gesamtschule (comprehensive school)	5	2.6
	Gymnasium (highest regular school track)	58	30.5
	Hauptschule (lowest regular school track)	7	3.7
	Mittelschule (middle school)	13	6.8
	Realschule/Wirtschaftsschule (middle/commercial school)	42	22.1
	Other school track		
	Förderschule (special school)	24	12.6
	Waldorfschule (Waldorf school)	1	0.5
	Berufsschule (vocational school)	10	5.3
Work experience ($n=190$)	0 – 5 years	52	27.4
	6 – 10 years	43	22.6
	11 – 15 years	28	14.7
	16 – 20 years	17	8.9
	greater than 20 years	50	26.3
Teaching hours per week ($n=190$)	0 – 10 h	12	6.3
	11 – 20 h	71	37.4
	greater than 20 h	107	56.3
Number of colleagues ($n=190$)	1 – 25	39	20.5
	26 – 50	74	38.9
	greater than 50	77	40.5

2.2.2 Teachers' job satisfaction

We used 7 items drawn from two published scales to assess teachers' job satisfaction. Five items (e.g. "I am satisfied with being a teacher") were drawn from the Teaching Satisfaction Scale (Ho & Au, 2006), while another two items (e.g. "Sometimes, I am proud to have this job") were drawn from the Job Satisfaction Survey Scale (Spector, 1997). Responses were given on a four-point rating scale, ranging from 1 (*strongly*

disagree) to 4 (*strongly agree*). The scale reliability of the original Teaching Satisfaction Scale (5 items; Ho & Au, 2006) yielded a Cronbach's alpha of 0.77. After combining five items with two further items from Spector (1997), the current measure of teachers' job satisfaction (7 items) revealed a better scale reliability (Cronbach's alpha = 0.86).

2.2.3 Teachers' work related self-esteem

We used the German version of the Organization-Based Self-Esteem Scale (Kanning & Schnitker, 2004) to assess teachers' work-related self-esteem. This scale included 9 items (e.g. "I am valuable"; "I can make a difference"). Responses were given on a four-point rating scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). In our sample, the result of a reliability test demonstrated a Cronbach's alpha of 0.91 which was similar to the result of the original scale.

2.2.4 Teacher Engagement in family–school partnerships

We adopted two validated scales to assess (a) various and respectful communication (standard B) and (b) educational cooperation (standard C) from the Parent Questionnaire on Quality Features of Family–School Partnerships in German Schools (Yotyodying et al., 2020). The original scales for each standard consisted of numerous items: standard B (15 items, Cronbach's alpha = 0.91) and standard C (25 items, Cronbach's alpha = 0.95). However, we focused particularly on those items that tapped into teachers' perceptions of their roles in family–school partnerships (e.g. "I contact the parents regardless of occasion"). The Various and Respectful Communication Scale included 7 items (Cronbach's alpha = 0.80). The Educational Cooperation Scale included 6 items (Cronbach's alpha = 0.81). In the current sample of teachers, the results of scale reliabilities for both scales were slightly different from the results of the original scales used in a parent sample. Responses of both scales were given on a four-point rating scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). To check for scale validity, confirmatory factor analyses (CFA) of single-factor measurement models were performed by using M*plus* 8.6 (Muthén & Muthén, 1998–2021). According to McDonald and Marsh (1990), a CFA model fit was rated based on a nonsignificant χ^2 test, a comparative fit index (*CFI*) value of greater than 0.90, a standardized root mean square residual (*SRMR*) value of 0.08 or lower, and a root mean square error of approximation (*RMSEA*) value of 0.08 or lower.

The CFA results of the two-factor measurement model demonstrated a good model fit to the data, χ^2 (50, $N = 190$) = 91.27, $CFI = 0.96$, $SRMR = 0.05$, $RMSEA = 0.07$. All standardized factor loadings proved statistically significant, ranging from 0.50 ($p < .001$) to 0.73 ($p < .001$). The factor correlation was significant and positive ($r = .89$, $p < .001$), indicating that both standards were good indicators of teacher engagement in family–school partnerships. Scale items, descriptive statistics for the items, and CFA factor loadings for the study measure for teacher engagement in family–school partnerships are shown in Table 2.

Table 2 Psychometric Properties of the Measures for Teacher Engagement in Family –School Partnerships

Scale Items	*M*	*SD*	Factor loading (*SE*)
Various and Respectful Communication (7 items; α = 0.80)			
1. I also contact the parents regardless of the occasion.	2.24	0.96	0.60(0.05)
2. I create a climate of trust by providing the parents with all relevant information without being asked.	2.94	0.86	0.65(0.05)
3. I exchange ideas with the parents about special life situations of the children (e.g. precarious family situations after separation of parents, death, unemployment, etc.).	3.20	0.75	0.68(0.05)
4. I inform parents comprehensively and punctually about news from the school.	3.04	0.82	0.67(0.05)
5. I regularly offer or attend parent class meetings.	2.70	1.05	0.62(0.06)
6. I make sure that all parents can contact me at short notice via a school telephone number or a school email address.	3.44	0.82	0.53(0.06)
7. I also offer the parents talks with other educational specialists (e.g. social pedagogues, school management) to talk about the child's development.	3.54	0.77	0.50(0.06)
Educational Cooperation (6 items; α = 0.81)			
1. I transparently show how the parents can and should be committed to school.	2.54	0.85	0.69(0.05)
2. I enable parental co-determination and participation in the design of the reception of newcomers as well as class attendance.	2.03	0.96	0.54(0.06)
3. Together with the parents of my school, I agree on educational goals.	2.19	1.02	0.66(0.05)
4. I take the parents' interests into account when planning trips etc.	2.15	0.93	0.56(0.06)
5. I am in regular dialogue with the parents about the learning development of the children	2.92	0.88	0.73(0.05)
6. Parents receive concrete tips from me on how to support their children at home and how learning can be structured in everyday life (e.g. addition in the supermarket, tips for table discussions)	3.07	0.91	0.66(0.06)

Note. All standardized estimates for factor loadings and correlations demonstrated statistical significance at $p < .001$

3 Results

3.1 Descriptive statistics and correlational findings

Table 3 displays descriptive statistics for study variables and inter-correlations among study variables. Overall, the teachers scored high ($M > 2.50$; tapped into the range of "agree and strongly agree") on all study measures with an exception of teachers' perceptions of educational cooperation. Significant correlations among study variables ranged between $r = .20$ ($p < .01$) and $r = .84$ ($p < .01$). The two measures for the operationalization of teacher engagement in family–school partnerships were positively inter-correlated ($r = .70$, $p < .01$). Likewise, a positive correlation between the two well-being variables was found ($r = .50$, $p < .01$). Moreover, the results revealed positive correlations between teachers' prosociality and two measures of well-being. Likewise, there were positive correlations between teachers' prosociality and two measures of teacher engagement in family–school partnerships. Furthermore, two measures for teacher engagement and two well-being variables were positively inter-correlated.

Table 3 Descriptive Statistics for Study Variables and Inter-Correlations Among Study Variables

Study measure	1	2	3	4	5	6	7	8	9
1. Prosociality	—								
2. Job satisfaction	.31**	—							
3. Work-related self-esteem	.34**	.50**	—						
4. Various and respectful communication	.37**	.32**	.38**	—					
5. Educational cooperation	.30**	.27**	.32**	.70**	—				
6. Age	–.01	.08	.14	.14	.10	—			
7. Gender (male)	–.23**	–.07	–.11	–.12	–.12	.04	—		
8. Work experience[1]	–.09	.12	.10	.13	.09	.84**	.09	—	
9. Primary school	–.01	.05	.09	.14	.20**	–.09	–.23**	–.06	—
M	3.03	2.98	3.23	3.00	2.48	44.82	0.27	2.84	0.16
SD	0.44	0.60	0.54	0.58	0.67	12.02	0.44	1.57	0.37

Note. *$p<.05$. **$p<.01$. [1]Work experience: 1 = 0–5 years, 5 = more than 20 years

3.2 The relationship between teachers' prosociality and well-being at work as mediated by teacher engagement in family–school partnerships

To examine the associations among study variables, we performed a structural equation modelling analysis (SEM) using Mplus 8.6 (Muthén & Muthén, 1998–2021). In the SEM analyses, teachers' prosociality and teachers' background variables served as manifest variables. Teacher engagement in family–school partnerships served as latent variable. In this latent construct, standard B (welcoming and meeting culture) and standard C (educational cooperation) served as measuring indicators. Likewise, teacher well-being at work served as latent construct. Job satisfaction and work related-self-esteem serve as indicators for measuring this latent construct. Unlike previous studies, we included teachers' background variables (i.e. teacher age, teacher gender, teachers' work experience, and school track) as control variables in the SEM analyses. An SEM model fit was also evaluated based on the recommendations of McDonald and Marsh (1990). All standardized estimates and model fit indices are shown in Table 4.

Overall, the SEM models demonstrated a good fit to the data, $\chi^2(11, N=190)=6.46$, $CFI=1.00$, $SRMR=0.01$, $RMSEA=0.00$. The results demonstrated that greater teachers' prosociality was associated with greater teacher engagement in family–school partnerships and greater teacher well-being at work. Moreover, greater teacher engagement in family–school partnerships was associated with greater teacher well-being at work. Teacher age was not found to be significantly associated with teacher engagement in family–school partnerships and teacher well-being at work. However, teacher gender and teachers' work experiences were significantly negatively associated with teachers' prosociality. That is, male teachers tended to report lesser prosocial behaviors. Likewise, teachers who reported longer work experiences tended to report lesser prosocial behaviors. In terms of school track, we found a significantly positive connection between primary school teacher and teacher engagement in family–school partnerships. This means that primary school teachers tended to report greater teacher engagement in family–school partnerships. The variance explained

was between 24% (for teacher engagement in family–school partnerships) and 38% (for teacher well-being at work).

In this model, the mediating effect of teacher engagement in family–school partnerships was also examined. The results of mediation analysis on 5,000 boothstraped samples revealed a significant indirect effect of teachers' prosociality on their well-being at work via teacher engagement in family–school partnerships. As teachers' prosociality was also significantly associated with teacher well-being at work, the connection between teachers' prosociality and their well-being at work was then partially mediated by teacher engagement in family–school partnerships. Parameter estimates for the mediation analysis are also shown in Table 4. Figure 1 displays the final SEM model with significant standardized estimates.

4 Discussion

This article attempted to link SDT to explain why teachers become involved in activities that promote family–school partnerships and whether their engagement would contribute to greater well-being at work. Two research questions were therefore addressed. First of all, we examined whether teachers' prosociality would be positively associated with their well-being at work. Secondly, we examined more precisely whether the connection between teachers' prosociality and their well-being at work would be mediated by teacher engagement in family–school partnerships. The research participants were 190 teachers. In terms of analytical procedures, we performed SEM and mediation analyses on 5,000 boothstraped samples to examine both research questions using Mplus 8.6 (Muthén & Muthén, 1998–2021).

Table 4 Standardized Estimates for the Assumed Associations among Study Variables

Study variables	Prosociality		FSP		Well-being at work	
	Estimate	*SE*	Estimate	*SE*	Estimate	*SE*
Age	0.18	0.12	0.04	0.13	0.01	0.16
Male	–0.23**	0.08	–0.01	0.08	–0.01	0.09
Work experience	–0.22*	0.11	0.15	0.14	0.11	0.17
Primary school	–0.05	0.06	0.20**	0.07	0.04	0.07
Prosociality	—	—	0.42***	0.09	0.31**	0.11
FSP	—	—	—	—	0.39***	0.11
R^2	0.07	0.04	0.24	0.07	0.38	0.11
	Estimate	*SE*	CI95%			
Mediation by FSP						
Total	0.47***	0.12	[0.26, 0.63]			
Total indirect	0.16**	0.05	[0.07, 0.24]			
Direct	0.31**	0.11	[0.12, 0.48]			

Note. $N = 190$. *$p < .05$. **$p < .01$. ***$p < .001$. FSP = Teacher engagement in family–school partnerships. Teachers' background variables (control variables) are italicized

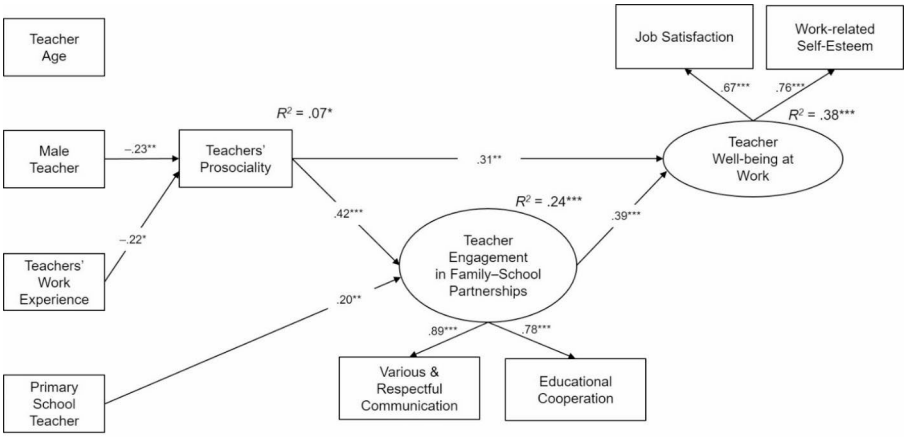

Fig. 1 SEM model for the associations among teachers' background, teachers' prosociality, teacher engagement in family–school partnerships, and teacher well-being at work
Note: $N = 190$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$. For reasons of simplification, only significant standardized estimates are shown

4.1 Discussion

In line with our expectation made for the first research question, the results showed that teachers—who reported greater prosociality—were more likely to report greater well-being at work. These results were in line with previous SDT research and meta-analysis who found a significantly positive relationship between helpers' prosocial behaviors and perceived well-being (e.g., Liao et al., 2022; Martela & Ryan, 2016; Weinstein & Ryan, 2010).

According to the second research question, it was found, as expected, that teachers—who reported greater prosociality—were more likely to report higher levels of engagement in family–school partnerships. The greater the teacher engagement in family–school partnerships, the greater the well-being at work the teachers reported. Most importantly, we were able to confirm a partial mediation by teacher engagement in family school partnerships. These findings added to the literature on prosocial behavior and teacher well-being (e.g., Aknin et al., 2013; Çevik, 2017; Deci & Ryan, 2000; Ortan et al., 2021; Weinstein & Ryan, 2010) in the sense that teachers' prosociality prompts their readiness to become actively involved in family–school partnerships activities in terms of providing various and respectful communication and educational cooperation. In turn, teachers—who report greater engagement in such prosocially required activities—are more likely to report greater satisfaction with teaching career and work-related self-esteem, such as feeling valuable or feeling that they can make a change at their work place. Apart from this, it must be noted that these associations appeared to depend on teachers' background (e.g., gender, work experience, and school track). Thus, teachers' background could be considered as barriers to teacher engagement in family–school partnerships.

4.2 Limitations and future directions

The results of the current article suggested that, not only students and parents, but teachers could also benefit from their engagement in family–school partnerships activities in terms of well-being at work. Although our expectations were fully confirmed, several limitations must be noted. First of all, the analyses of the present study were based on a cross-sectional data. Therefore, the future research should employ a longitudinal research design to analyze long-term impacts of teachers' prosociality on their engagement and well-being at work. Moreover, the relationships among three central variables—teachers' prosociality, teacher engagement in family–school partnerships, and teacher well-being at work—might have a different direction than what was tested in the present study. For instance, past research indicated that job satisfaction, was connected with engagement in extra role activities and prosocial behavior (e.g., Li et al., 2018; Limpanitgul et al., 2013). Thus, it is reasonable to assume that teacher well-being at work could also lead to increased teacher engagement in family–school partnerships and teachers' prosociality. To date, these possible associations have not been systematically examined in the school context. Therefore, it is imperative to investigate these relationships in future studies.

In the present study, participants were not systematically recruited across federal states and federal state-specific school tracks. 70% of the teachers were recruited from the federal state of Bavaria. 69% of the teachers worked in various regular secondary school tracks. As the German school system varies from state to state (e.g., Henniges et al., 2019), the results of the present study are therefore not representative of Germany. To increase the representativeness of our results, there is still a need to replicate our working model in a large sample using a systematic sampling design across German federal states and federal state-specific school tracks. As mentioned earlier, SDT researchers found that basic needs satisfaction (i.e., need for autonomy, need for competence, and need for relatedness) mediated the connection between prosociality and well-being (e.g., Martela & Ryan, 2016; Weinstein & Ryan, 2010).

In the present study, we assumed that teacher engagement in family–school partnerships should promote social connection which is essential for the satisfaction of need for social relatedness (Aknin et al., 2013; Deci & Ryan, 2000; Weinstein & Ryan, 2010). However, teachers' needs satisfaction was not examined in the current research. Thus, future study may want to include teachers' basic needs at work in the working model. In addition to this, there is also still a need to look at a wider range of measures of prosocial behaviors, for instance, autonomous versus controlled motivation for help or prosocial behaviors with and without benevolence condition (e.g., Martela & Ryan, 2016; Weinstein & Ryan, 2010). Likewise, future research may want to include a wider range of teacher well-being such as vitality or affective well-being that were typically used to assess well-being in SDT research (e.g., Martela & Sheldon, 2019).

Apart from this, future studies should focus more on possible factors that account for the school context. Especially, the role of school principals in supporting family–school partnerships and collegiality among teachers should be further investigated. For instance, a previous study by Epstein et al. (2011) showed that principals' active support for work on partnerships (e.g., providing time for team meeting, encouraging

teachers to support family–school partnerships activities) significantly predicted the quality of basic program implementation, as assessed in terms of whether and how well schools organized basic components of a program for family–school partnerships. To date, relatively little is known about the role of school principals in supporting family–school partnerships, especially in the German school context. Moreover, past research revealed that positive collegiality among teachers was essential for teacher well-being at work in terms of teachers' job satisfaction (see, Kelchtermans, 2006, for a review). However, it has not been systematically examined whether teacher engagement in family–school would mediate this connection. Thus, positive collegiality among teachers should be included in future studies.

4.3 Conclusion and implications

According to Vodafone Stiftung Deutschland (2013), the German experts have already provided clear guidelines of how different standards for family–school partnerships can be implemented in the school practice. In the present study, we highlighted the role of teachers in promoting family–school partnerships in schools, especially in various and respectful communication (standard b) and educational cooperation (standard c). Our results could further provide practical implications to the school practice in the sense that teachers' background and teachers' prosociality matter for their engagement in family–school partnerships. In fact, past research demonstrated that an implementation of training program using a wide range of activities (e.g., using video to boost participants' motivation to prosocial behavior, identifying personally meaningful values, reflecting on how those behaviors relate to one's values) could help to promote a prosocial behavior (e.g., Baumsteiger, 2019). It is therefore possible to develop such a training program with different activities focusing on the important role of teachers in promoting family–school partnerships in the school practice. Most importantly, such a training program should be included in teacher education programs. That is, pre-service teachers should participate in this kind of training program before they start their careers as teachers in schools. To develop such programs, teachers' individual differences (e.g., gender, teaching experience) as well as school context differences (e.g., school track) should be taken into consideration.

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Data Availability The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Code Availability Not applicable.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethics approval The present study was conducted based on the recommendations and ethical guidelines of the German Psychological Society and the research standards of FernUniversität in Hagen. An ethics approval for the present study was therefore not required. Also, no formal ethic vote was sought due to the non-controversial nature of the study. All participants were informed that their participation in the online survey would be anonymous and voluntary so that they could quit the online survey whenever they wanted without any disadvantages.

Consent to participate Informed consent was obtained from all individual participants included in the study.

Consent for publication The present study was a survey research. All participants were informed that the results of the present study will be published after completion of the project.

Competing interests The authors have declared that no competing interests exist.

References

Aknin, L. B., Dunn, E. W., Sandstrom, G. M., & Norton, M. I. (2013). Does social connection turn good deeds into good feelings? On the value of putting the 'social' in prosocial spending. *International Journal of Happiness and Development*, *1*(2), 155–171. https://doi.org/10.1504/IJHD.2013.055643.

Baumsteiger, R. (2019). What the world needs now: An intervention for promoting prosocial behavior. *Basic and Applied Social Psychology*, *41*(4), 215–229. https://doi.org/10.1080/01973533.2019.1639507.

Caprara, G. V., Steca, P., Zelli, A., & Capanna, C. (2005). A new scale for measuring adults prosocialness. *European Journal of Psychological Assessment*, *21*(2), 77–89. https://doi.org/10.1027/1015-5759.21.2.77.

Çevik, G. B. (2017). The roles of life satisfaction, teaching efficacy, and self-esteem in predicting teachers' job satisfaction. *Universal Journal of Educational Research*, *5*(3), 338–346. https://doi.org/10.13189/ujer.2017.050306.

Deci, E. L., & Ryan, R. M. (2000). The what and why of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01.

Dettmers, S., Yotyodying, S., & Jonkmann, K. (2019). Antecedents and outcomes of parental homework involvement: How do family–school partnerships affect parental homework involvement and student outcomes? *Frontiers in Psychology*, *10*, 1048. https://doi.org/10.3389/fpsyg.2019.01048.

Dicks, T., Eggert, V., Koestner, C., Zähme, C., Beutel, T., Kalo, K., Letzel, S., & Dietz, P. (2023). Predictors of job satisfaction among teachers in Germany during the SARS-CoV-2 pandemic: Cross-sectional results of a nationwide online questionnaire. *Frontiers in Psychology*, *14*, 1168647. https://doi.org/10.3389/fpsyg.2023.1168647.

Epstein, J. L. (1987). Toward a theory of family–school connections: Teacher practices and parent involvement. In D. G. Unger, & M. B. Sussman (Eds.), *Families in community settings: Interdisciplinary perspectives* (pp. 99–126). Routledge.

Epstein, J. L. (1996). Family–school links: How do they affect educational outcomes? In A. Booth, & J. Dunn (Eds.), *Family-school links: How do they affect educational outcomes?* (pp. 3–34). Lawrence Erlbaum Associates.

Epstein, J. L. (2001). *School, family, and community partnerships: Preparing educators and improving schools*. Westview Press.

Epstein, J. L., Galindo, C. L., & Sheldon, S. B. (2011). Levels of leadership: Effects of district and school leaders on the quality of school programs of family and community involvement. *Educational Administration Quarterly*, *47*(3), 462–495. https://doi.org/10.1177/0013161X10396929.

Henninges, M., Traini, C., & Kleinert, C. (2019). *Tracking and sorting in the German educational system (LlfBi Working Paper No. 83)* Bamberg, Germany: Leibniz Institute for Educational Trajectories. https://www.lifbi.de/Portals/2/Working%20Papers/WP_LXXXIII.pdf.

Ho, C. L., & Au, W. T. (2006). Teaching satisfaction scale. *Educational and Psychological Measurement*, *66*(1), 172–185. https://doi.org/10.1177/0013164405278573.

Hoover-Dempsey, K. V., & Walker, J. M. T. (2002). *Family–school communication: A report for the Metropolitan Nashville public schools*. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.467.3740&rep=rep1&type=pdf.

Hornby, G., & Lafaele, R. (2011). Barriers to parental involvement in education: An explanatory model. *Educational Review*, *63*(1), 37–52. https://doi.org/10.1080/00131911.2010.488049.

Kanning, U. P., & Schnitker, R. (2004). Übersetzung und Validierung einer Skala zur Messung des Organisationsbezogenen Selbstwertes [Translation and validation of a scale to assess the organizational self-esteem]. *Zeitschrift für Personalpsychologie*, *3*(3), 112–121.

Kelchtermans, G. (2006). Teacher collaboration and collegiality as workplace conditions. A review. *Zeitschrift für Pädagogik*, *52*(2), 220–237. https://doi.org/10.25656/01:4454.

Kraft, M. A., & Dougherty, S. M. (2013). The effect of teacher–family communication on student engagement. Evidence from a randomized field experiment. *Journal of Research on Educational Effectiveness*, *6*(3), 199–222. https://doi.org/10.1080/19345747.2012.743636.

Kultusministerkonferenz, K. M. K. (2018). *Bildung und Erziehung als gemeinsame Aufgabe von Elternhaus und Schule (Beschluss der Kultusministerkonferenz vom 11.10.2018)* (Education and parenting as common tasks for family and school). https://www.kmk.org/fileadmin/Dateien/veroeffentlichungen_beschluesse/2018/2018_10_11-Empfehlung-Bildung-und-Erziehung.pdf.

Li, M., Pérez-Díaz, P. A., Mao, Y., & Petrides, K. V. (2018). A multilevel model of teachers' job performance: Understanding the effects of trait emotional intelligence, job satisfaction, and organizational trust. *Frontiers in Psychology*, *9*, 2420. https://doi.org/10.3389/fpsyg.2018.02420.

Liao, H., Su, R., Ptashnik, T., & Nielsen, J. (2022). Feeling good, doing good, and getting ahead: A meta-analytic investigation of the outcomes of prosocial motivation at work. *Psychological Bulletin*, *148*(3–4), 158–198. https://doi.org/10.1037/bul0000362.

Limpanitgul, T., Jirotmontree, A., Robson, M. J., & Boonchoo, P. (2013). Job attitudes and prosocial service behavior: A test of the moderating role of organizational culture. *Journal of Hospitality and Tourism Management*, *20*, 5–12. https://doi.org/10.1016/j.jhtm.2013.05.006.

Martela, F., & Ryan, R. M. (2016). The benefits of benevolence: Basic psychological needs, beneficence, and the enhancement of well-being. *Journal of Personality*, *84*(6), 750–764. https://doi.org/10.1111/jopy.12215.

Martela, F., & Sheldon, K. M. (2019). Clarifying the concept of well-Being: Psychological need satisfaction as the common core connecting eudaimonic and subjective well-being. *Review of General Psychology*, *23*(4), 458–474. https://doi.org/10.1177/1089268019880886.

McDonald, R. P., & Marsh, H. W. (1990). Choosing a multivariate model: Noncentrality and goodness-of-fit. *Psychological Bulletin*, *107*(2), 247–255. https://doi.org/10.1037/0033-2909.107.2.247.

Muthén, L. K., & Muthén, B. O. (1998–2021). *Mplus user's guide*. Muthén & Muthén

Ortan, F., Simut, C., & Simut, R. (2021). Self-efficacy, job satisfaction and teacher well-being in the K-12 educational system. *International Journal of Environmental Research and Public Health*, *18*(3), 12763. https://doi.org/10.3390/ijerph182312763.

Parent–Teacher Association (2009). *PTA National Standards for Family-School Partnerships*. http://s3.amazonaws.com/rdcms-pta/files/production/public/National_Standards_Implementation_Guide_2009.pdf.

Reparez, C., & Sotés-Elizalde, M. A. (2019). Parental involvement in schools in Spain and Germany: Evidence from PISA 2015. *International Journal of Educational Research*, *93*, 33–52. https://doi.org/10.1016/j.ijer.2018.10.001.

Rubach, C., Krauskopf, K., & Lazarides, R. (2020). Elternarbeit vs. Erziehungs- und Bildungspartnerschaft: Perspektive Brandenburger Lehrkräfte der Sekundarstufe auf die Kommunikations- und Kooperationspraxis zwischen Schule und Eltern [Parental involvement vs. educational and parenting partnerships: Perspective of Branderburger secondary school teachers on communication and cooperation practice between school and parents]. In J. Stiller, C. Laschke, T. Nesyba, & U. Salaschek(Hrsg.) *Berlin-Brandenburger Beiträge zur Bildungsforschung 2020*. Peter Lang.

Sheldon, S. B. (2003). Linking school–family–community partnerships in urban elementary schools to student achievement on state tests. *The Urban Review*, *35*(2), 149–165. https://doi.org/10.1023/A:1023713829693

Sheldon, S. B., & Van Voorhis, V. L. (2004). Partnership programs in U.S. schools: Their development and relationship to family involvement outcomes. *School Effectiveness and School Improvement*, *15*(2), 125–148. https://doi.org/10.1076/sesi.15.2.125.30434.

Spector, P. E. (1997). *Job satisfaction: Application, assessment, cause and consequences*. SAGE Publications.

Vodafone Stiftung Deutschland (2013). *Qualitätsmerkmale Schulischer Elternarbeit: Ein Kompass für die partnerschaftliche Zusammenarbeit von Schule und Elternhaus [Quality features of school–parent work: A compass for family–school partnerships]*. Vodafone Stiftung. https://www.vodafone-stiftung.de/qualitaetsmerkmale-schulischer-elternarbeit/

Weinstein, N., & Ryan, R. M. (2010). When helping helps: Autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *Journal of Personality and Social Psychology*, *98*(2), 222–244. https://doi.org/10.1037/a0016984.

Yotyodying, S., & Wild, E. (2019). Effective family–school communication for students with learning disabilities: Associations with parental involvement a home and in school. *Learning Culture and Social Interaction*, *22*, 100317. https://doi.org/10.1016/j.lcsi.2019.100317.

Yotyodying, S., Dettmers, S., & Jonkmann, K. (2020). Quality features of family–school partnerships in German schools: Measurement and associations with parent–child communication about school. *Children and Youth Services Review*, *115*, 105087. https://doi.org/10.1016/j.childyouth.2020.105078.

Zydziunaite, V., Kontrimiene, S., Ponomarenko, T., & Kaminskiene, L. (2020). Challenges in teacher leadership: Workload, time allocation, and self-esteem. *European Journal of Contemporary Education*, *9*(4), 948–962. https://doi.org/10.13187/ejced.2020.4.948.

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