How Teachers Feel Good:
The Role of Teachers' Mindfulness, Self-efficacy and Implicit Attitudes towards Ethnic Minority Students in Their Feelings of Burnout

Sara Costa [1] - Sabine Glock [2] - Sabine Pirchio [3]

[1] *Università degli Studi Roma Tre - Department of Education (Italy)*

[2] *Bergische Universität Wuppertal, Institute of Educational Research, School of Education (Germany)*

[3] *Sapienza Università di Roma - Department of Dynamic and Clinical Psychology and Health Studies (Italy)*

sara.costa@uniroma3.it
glock@uni-wuppertal.de
sabine.pirchio@uniroma1.it

COME GLI INSEGNANTI SI SENTONO BENE: IL RUOLO DELLA MINDFULNESS, DELL'AUTOEFFICACIA E DEGLI ATTEGGIAMENTI IMPLICITI DEGLI INSEGNANTI VERSO GLI STUDENTI CON BACKGROUND ETNICO MINORITARIO, NELLA LORO SENSAZIONE DI BURNOUT

Abstract

Burnout is a complex syndrome, and decades of research have established that teaching is a stressful profession. New evidence suggests that teachers' ethnic prejudice and attitudes might help to explain teachers' burnout related to ethnic diversity. On the other hand, factors such as self-efficacy and mindfulness are known to play a protective role for burnout, but to date it is not known how they are related to implicit attitudes and prejudice as well. In this study, we aim to provide a deeper understanding of the mechanism underlying the development of burnout in teachers and pre-service teachers, investigating the

role of ethnic prejudice, implicit ethnic attitudes, perceived self-efficacy and mindfulness. Our results show that self-efficacy and mindfulness are negatively correlated with teacher burnout and that mindfulness moderates the relationship between implicit ethnic attitudes and burnout. Theoretical and practical implications of these findings are discussed.

Keywords: Implicit attitudes; Mindfulness; Teacher burnout; Teacher self-efficacy.

---

1. Introduction

Burnout is a compelling issue for teachers (Loonstra *et al.*, 2009), negatively impacting their well-being and dropout, and student academic outcomes and well-being (Madigan & Kim, 2021). Research identified various factors contributing to teacher burnout, including students' ethnic diversity (Betoret, 2009). Teachers in schools with a high percentage of ethnic minorities are more likely to experience burnout (Betoret, 2009), lower job satisfaction, and dropout or changing schools (Freeman *et al.*, 1999; Renzulli *et al.*, 2011). However it has also been found that teachers in culturally diverse settings often have less burnout related to ethnic diversity (Tatar & Horenczyk, 2003). This suggests that factors such as teachers' stereotypical beliefs, ethnic bias, and negative attitudes towards ethnic minority students may contribute to burnout (Glock *et al.*, 2019; Costa *et al.*, 2023).

Teachers' teaching self-efficacy (Prewett & Whitney, 2021) and mindfulness (Bardach *et al.*, 2021) may be protective factor for teachers' burnout. Moreover, mindfulness positively impacts on perceived self-efficacy (Rupprecht *et al.*, 2017; Klingbeil & Renshaw, 2018) and reduced ethnic bias (Hirshberg *et al.*, 2022).

Therefore, the purpose of this study is to understand teacher burnout, by delving into the mechanism behind the occurrence of burnout among teachers and pre-service teachers, examining the impact of ethnic prejudice, implicit ethnic attitudes, perceived self-efficacy and mindfulness.

1.1. *Teachers' burnout*

Years of research have shown that teaching is a demanding profession that can lead to burnout (Skaalvik & Skaalvik, 2017), a syndrome that includes feelings of *emotional exhaustion*, *depersonalization*, and a *lack of personal accomplishment* (Maslach & Jackson, 1981). When teachers experience emotional exhaustion, they may perceive that they have drained their

emotional resources and have nothing left to give to others on a psychological level (Dubbeld *et al.*, 2017). Depersonalization involves the development of negative and cynical feelings and attitudes particularly toward colleagues and students (Maslach *et al.*, 2001). This leads teachers to a «decreased awareness of human attributes of other and a loss of humanity in interpersonal interactions» (Maslach & Pines, 1977, p. 101). The third dimension, lack of personal accomplishment, involves negative evaluations of one's abilities, and results in feelings of incompetence and beliefs that one's own work is insignificant (Maslach *et al.*, 2001). A highly culturally diverse environment contributes to teachers' stress levels (Glock *et al.*, 2019). Teachers in culturally diverse school settings often encounter challenges related to the diverse educational, social, and psychological needs of their students, which they may not be adequately prepared for or have misleading expectations about (Costa *et al.*, 2022).

Research has shown that teachers generally feel underprepared to deal with student diversity (Banks, 2004), often consider working with culturally diverse students a stressor (Tatar & Horenczyk, 2003; Betoret, 2009) and expect ethnic minority students to exhibit higher levels of misbehavior (Chang & Demyan, 2007). However, teachers who receive proper training and feel prepared to address diversity experience greater job satisfaction, and those working in culturally diverse classrooms may have already developed effective teaching strategies increasing their self-efficacy in that setting (Thijs *et al.*, 2012). Adopting a multicultural approach, meeting student's needs, valuing diverse cultures, and promoting equitable access to educational opportunities, can reduce diversity-related burnout among teachers (Dubbeld *et al.*, 2019). Additionally, perceiving ethnic minority students as assets rather than problems lowers teachers' burnout levels and enhances their self-efficacy (Gutentag *et al.*, 2018). Importantly, teachers' burnout and self-efficacy are strongly and negatively correlated (Prewett & Whitney, 2021).

1.2. *Teachers' mindfulness*

Mindfulness is a process of self-regulating attention to be fully present in the here-and-now in a non-judgmental way (Kabat-Zinn, 1990, 1994). It entails an orientation toward one's experiences «characterized by curiosity, openness, and acceptance» (Bishop *et al.*, 2004, p. 232). It can be distinguished into «state» mindfulness as the effect of a mindfulness meditation or intervention, and «trait» mindfulness as the predisposition to be mindful in daily life (Brown *et al.*, 2007). Due to these characteristics, mindfulness

is considered one of the desirable professional-level requirements for effective teaching (Jennings & Greenberg, 2009): mindful teachers go beyond practicing mindfulness, using it to enhance their well-being, behavior, and teaching practices (Klingbeil & Renshaw, 2018).

Bardach *et al.* (2021) emphasized the positive influence of mindfulness on teachers' well-being, self-efficacy, and relationships with stakeholders such as students, colleagues, and parents. Because mindfulness leads to reflection on perceptions and attitudes and promotes individuals' ability for perspective taking and empathy, it may effectively reduce implicit attitudes. Ramsey and Jones (2015) found that a mindfulness-based intervention reduced teachers' propensity to ostracize socially excluded groups. Similarly, Hirshberg *et al.* (2022) observed a long-term reduction in implicit ethnic attitudes among preservice teachers through a mindfulness program. Mindfulness can reduce prejudice by decreasing automatic bias, enhancing psychological flexibility (Lueke & Gibson, 2015), and mitigating negative emotional reactions (Ostafin & Kassman, 2012). Consequently, mindfulness may protect against teachers' burnout (de Carvalho *et al.*, 2021). However, research on trait mindfulness among teachers and its impact on attitudes towards students and burnout is limited.

1.3. *Teachers' self-efficacy*

Teacher' teaching self-efficacy is a personal belief related to one's ability to perform specific teaching tasks at a given level of quality, in a given situation (Dellinger *et al.*, 2008). It encompasses three dimensions: *student engagement*, *classroom management*, and *instructional practices* (Tschannen-Moran & Woolfolk Hoy, 2001). Negative perceptions of ethnic minority students may influence teachers' perceived self-efficacy. Glock and colleagues (2019) found lower levels of self-efficacy and higher levels of burnout in teachers facing a highly ethnically and culturally diverse school setting. Furthermore, more positive ethnic attitudes were associated with higher self-efficacy (Glock *et al.*, 2018), and higher self-efficacy was associated with lower levels of ethnic prejudice (Glock & Kleen, 2019).

Self-efficacy comes from awareness and confidence a person has in their own abilities (Bandura, 1997). Therefore, mindfulness as the ability to focus on the present moment, maintaining an open orientation with a non-judgmental attitude (Bishop *et al.*, 2004) can influence teachers' perceptions of their abilities. When teachers are more present in the moment, they report greater self-efficacy, more confidence in dealing with difficult students, and a better ability to remain patient (Rupprecht *et al.*, 2017).

1.4. *Teachers' implicit attitudes*

Attitudes represent the evaluation of an entity (or attitude object), such as members of social groups; they can be positive, negative, or neutral and they are shaped by direct and indirect interpersonal contact and experiences (Eagly & Chaiken, 1993). Explicit attitudes are consciously controlled evaluations derived from complex cognitive processes, while implicit attitudes are automatic and unconscious, resulting from associative mental processes (Gawronski & Bodenhausen, 2006). In-service and preservice teachers often hold negative implicit attitudes towards students from ethnic minority backgrounds, despite their explicit attitudes being positive (Costa *et al.*, 2021).

Currently, there is limited understanding of the relationship between teachers' attitudes and their occupational well-being. Recent evidence suggests that teachers' ethnic bias may contribute to their experience of burnout. Amitai *et al.* (2020) found that teachers with high levels of ethnic prejudice are more likely to experience burnout, with increased levels of emotional exhaustion, depersonalization towards students, and perceiving ethnic minority students as less teachable. Only one study to date has investigated the connection between implicit attitudes towards ethnic minority students and burnout, revealing that teachers with negative implicit attitudes tend to report higher levels of burnout (Costa *et al.*, 2023).

2. Current study

This study aims to investigate the factors influencing teachers' burnout. Previous literature suggests a strong relationship between burnout and teachers' perceived self-efficacy. There is also evidence that teachers' implicit negative attitudes towards ethnic minority students increase feelings of burnout. Mindfulness has also been identified as a variable that can impact these factors. Therefore, the main research question of this study is whether teachers' mindfulness plays a role in the relationship between implicit attitudes and burnout, while controlling for levels of self-efficacy.

In accordance with the literature, we expect that higher levels of self-efficacy and trait mindfulness will correspond to lower levels of burnout in teachers. We also hypothesize that mindfulness will moderate the relationship between teachers' implicit attitudes towards ethnic minority students and their burnout levels. We predict that despite holding negative implicit attitudes towards ethnic minority students, teachers with higher levels of mindfulness will experience lower levels of burnout.

3. Method

3.1. *Participants*

The study included a convenience sample of 104 in-service and preservice teachers. All preservice teachers had previous work experience in schools. All participants were from the primary school level. There were 49 German preservice teachers, 20 Italian preservice teachers, and 35 Italian in-service teachers. Among the participants, 83 identified as female, 19 as male, and 2 chose not to specify their gender. The average age was 33.21 years (*sd* = 12.82). On average, the participants had 6.80 years of teaching experience (*sd* = 11.06). Of the German participants, 8 reported having an ethnic minority background (2 from Turkey, 2 from Italy, 1 Arab, 1 Polish, 1 Kosovar, and 1 Bosnian). None of the Italian participants reported having an ethnic minority background.

3.2. *Measures*

3.2.1. Burnout

Teachers' burnout was measured by the Maslach Burnout Inventory in Italian version from Sirigatti *et al.* (1988) and the German version from Enzmann & Kleiber (1989). The emotional exhaustion dimension was assessed with nine items (e.g., I feel emotionally drained from my work; α = .90), depersonalization was measured with five items (e.g., «I worry that this job is hardening me emotionally»; α = .77), and personal accomplishment was measured with eight items (e.g., «I can easily understand how my students feel about things»; α = .73), presented on a Likert scale from 1 (totally disagree) to 5 (totally agree). Cronbach's alpha for the entire scale was α = .90.

3.2.2. Self-efficacy

Self-efficacy was measured by the Teachers Self-Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001) in Italian (Biasci *et al.*, 2014) and German (Pfitzner-Eden *et al.*, 2014) versions. Due to the long battery of instruments, only 19 items of this scale were presented, on a 9-point Likert scale from 1 (nothing) to 9 (very much). This questionnaire assesses three self-

efficacy dimensions: beliefs in the ability to get students engaged (seven items; e.g., «How much can you do to get through to the most difficult students?»; α = .85), beliefs in instructional strategies (five items; e.g., «How well can you respond to difficult questions from your students?»; α = .83) and beliefs in classroom management (seven items; e.g., «How much can you do to control disruptive behavior in the classroom?»; α = .90). Cronbach's alpha for the whole scale was = .95.

3.2.3. Mindfulness

We used the Italian version of the Cognitive and Affective Mindfulness Scale (Feldman *et al.*, 2007; Veneziani & Voci, 2015) translated from English for the German participants. It presents three items on a Likert scale from 1 (rarely/never) to 4 (almost always) for each of four dimensions: attention (e.g., «It is easy for me to concentrate on what I am doing»; α = .60), present focus (e.g., «I am preoccupied by the future»; α = .45), acceptance (e.g., «I can tolerate emotional pain»; α = .69) and awareness (e.g., «I can usually describe how I feel at the moment in considerable detail»; α = .76). Cronbach's alpha was computed (α = .83).

3.2.4. Implicit attitudes

We used the Implicit Association Test – IAT (Greenwald *et al.*, 1998). Seven Italian names (e.g., Francesco) and seven foreign names indicating an ethnic minority background (e.g., Amir) were selected to represent the categories «Italian students» and «Foreign students» for the Italian sample. For German participants, the same names were used for ethnic minority students, while Italian names were replaced with German names (e.g., Finn). Eight positive adjectives (e.g., beautiful) and eight negative adjectives (e.g., ugly) were chosen to represent the categories «positive» and «negative». As a measure of reliability, the correlation between the IAT score of the practice tests and the test was calculated, *r* = .56 (Karpinski & Steinman, 2006).

3.2.5. Explicit ethnic prejudice

The Modern Racial Prejudice Scale (Akrami *et al.*, 2000) was used, in the Italian adaptation (Gattino *et al.*, 2011). For German participants the items were translated from English. The questionnaire is composed of one scale of nine items, on a Likert scale ranging from 1 (totally disagree) to 5 (totally agree) (α = .80).

3.2.6. Demographic questionnaire

A questionnaire was developed to report teachers' gender, age, teaching experience and ethnic background. When participants reported an ethnic minority background they were asked to indicate from which country of origin.

4. Procedure

The study was conducted through the online version of Inquisit software. Preservice teachers were recruited through their degree programs, while in-service teachers were contacted through head teachers. The study link was also shared in closed social media groups exclusive to preservice or in-service teachers. Participants provided informed consent upon clicking the study link. The implicit test and questionnaires were presented in a randomized order. Data collection occurred from September to June during the academic year 2020/2021. Completing the questionnaires and tests required approximately 30 minutes.

The IAT consisted of various sets of categorization tasks. Initially, participants were instructed to categorize the students' names into either «Italian/German students» (by pressing the «I» key) or «Foreign students» (by pressing the «E» key). Next, participants were shown positive and negative adjectives and asked to determine the valence of each word as positive («I» key) or negative («E» key). In the third phase, both tasks were combined. The fourth phase involved switching the combination of keys, and in the fifth phase, this new key assignment was combined with the names. The order of the blocks was randomized for each participant. Lastly, participants completed the demographic questionnaire before being thanked and debriefed.

The procedure was approved by the ethical committee of Sapienza University of Rome.

5. Results

For the implicit test, reaction times were collected. The scores were calculated using the IAT package for R (Martin, 2016) following Greenwald *et al.* recommendations (2003). For all the questionnaires, the items were recoded where appropriate, and the mean values were computed so that higher scores indicate higher levels of burnout, mindfulness, self-efficacy

and explicit prejudice. IAT positive scores indicate negative implicit attitudes towards ethnic minority students.

Statistical data analyses were carried out using SPSS software. Prior to advanced analyses we conducted *t*-test analyses to investigate whether the Italian and German sample differed (results are reported in Appendix A). To investigate the hypothesis that high levels of burnout corresponded to lower levels of self-efficacy and mindfulness, we conducted correlation analyses. For the hypothesis that teachers with high levels of negative implicit attitudes would have higher levels of burnout, we conducted regression analyses. Finally, to test the moderating hypothesis of mindfulness in the relationship between implicit attitudes and burnout, we performed regression analyses with moderation using PROCESS (Hayes, 2012).

5.1. *Correlation analysis*

Correlations between the measures were calculated (*Tab. 1*). Analyses showed positive and significant correlations between self-efficacy and mindfulness and negative and significant correlation between self-efficacy and burnout. Negative and significant correlations also emerged between explicit prejudice and self-efficacy, and explicit prejudice and mindfulness. Finally, there was a significant and positive correlation between implicit attitudes and burnout.

Table 1. – *Correlations between variables.*

Variables	1	2	3	4	5
1 Implicit attitudes	1	.08	.78	.21*	-.04
2 Self-efficacy		1	.47**	-.39**	-.28**
3 Mindfulness			1	-.24*	-.24**
4 Burnout				1	.16
5 Explicit prejudice					1

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

5.2. *Multiple regression analyses*

Regression analyses were conducted to assess the individual impact of each independent variable on teacher burnout. Teachers' characteristics were included in the model as control variables, such as teachers age (in

years), gender (1 = female, 0 = other), ethnic minority background (1 = no, 0 = yes), years of experience, and status (1 = preservice, 0 = in service). To check for multicollinearity between variables, the Variance Inflation Factor (VIF) and tolerance values were measured. Results showed that no linearity problem existed between variables, as the VIF values did not exceed 10 and tolerance values were found to be greater than 0.1 (Miles, 2014).

Results showed that teachers' implicit attitudes were associated with burnout. Additionally, low self-efficacy emerged as a significant factor linked to burnout. The model was statistically significant R^2 = .29, $F(4,80)$ = 5.56, p < .01. Results are summarized in *Table 2*.

Table 2. – *Regression analysis regression analysis*
for the concurrent contribution of variables to burnout.

INDEPENDENT VARIABLES	B	SE	β	R^2
Burnout				.29**
Teachers' characteristics				
Age	0.00	0.02	0.06	
Gender (1 = female)	0.10	0.23	0.06	
Status (1 = preservice)	-0.23	0.34	-0.13	
Years of experience	0.00	0.02	0.04	
Ethnic minority background (1 = no)	0.10	0.30	0.03	
Implicit attitudes	0.44*	0.22	0.21*	
Mindfulness	-0.18	0.21	-0.10	
Self-efficacy	-0.37**	0.10	-0.45**	
Explicit prejudice	0.04	0.14	0.03	

Note: * p < .05; ** p < .01.

5.3. *Regression analysis with moderation*

A moderation analysis was conducted to test whether the effect of implicit attitudes on teacher burnout was moderated by mindfulness, controlling for levels of self-efficacy. The results (*Tab. 3*) indicate a significant interaction effect between implicit attitudes and mindfulness.

Simple slopes analysis revealed that the interaction between implicit attitudes and mindfulness was significant for high values (+1 *sd*) of mindfulness (*b* = 1.65, *se* = 0.57, *p* < .05), but it was not significant for low levels (*b* = 0.43, *se* = 0.38, *p* = .26). This means that with high levels of mindfulness, burnout levels increase significantly when levels of negative implicit

attitudes are high, while it decreases when they are low (*Fig. 1*). Whereas, when mindfulness's levels are low, levels of burnout do not change between high and low levels of implicit attitudes.

Table 3. – Summary of the regression analyses with moderation.

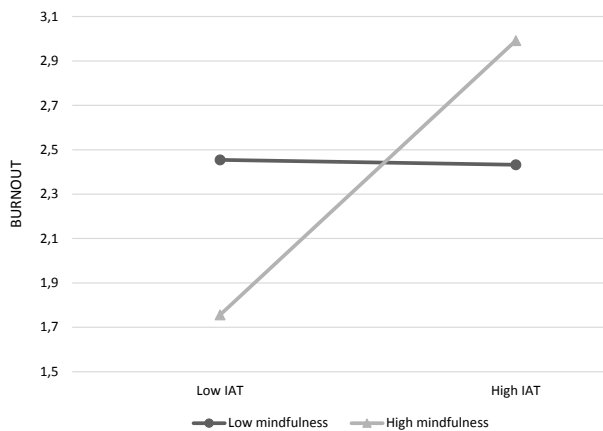| INDEPENDENT VARIABLES	B	SE B	β	R²
Burnout				.28**
Implicit attitudes (IAT)	0.58*	0.21	0.27*	
Mindfulness	-0.20	0.18	-0.12	
Self-efficacy	-0.23*	0.09	-0.29*	
IAT X Mindfulness	1.03 *	0.49	0.22*	
Mindfulness X Self-efficacy	-0.12	0.15	-0.86	
IAT X Mindfulness X Self-efficacy	-0.75	0.50	-0.20	

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

Figure 1. – Graphic representation of significant interaction effect.

6. DISCUSSION

This study aimed to investigate the processes related to teachers' burnout providing a deeper understanding of the role of implicit ethnic attitudes (Costa *et al.*, 2023) while accounting for trait mindfulness and self-efficacy.

By disentangling the manifold relationships among these factors, the present study offers valuable insights into the dynamics and mechanisms of teacher burnout. Specifically, the results highlight the significant impact of implicit attitudes towards ethnic minority students on burnout, as a function of teachers' mindfulness, while emphasizing the crucial role of self-efficacy in shaping the burnout experience.

The expected relationship between self-efficacy and burnout was confirmed. Teachers with lower self-perceived classroom management abilities experience increased stress and emotional exhaustion (Skaalvik & Skaalvik, 2007). They feel less confidence in their teaching skills, expect more disruptive behavior and lower performance, and possible conflicts with administrators and parents. These consequences can threaten their teacher identity, leading to coping strategies that intensify emotional exhaustion and depersonalization (Skaalvik & Skaalvik, 2007).

However, there is ongoing debate in the literature regarding the reciprocal nature of the relationship between self-efficacy and burnout: it can be argued that feelings of burnout arise from the long-term stress associated with teaching demands (Schwarzer & Hallum, 2008) and that emotional exhaustion and burnout in general result in lower performance and self-efficacy.

Because of the strong correlation between self-efficacy and mindfulness (Hwang *et al.*, 2017), it can be inferred that burnout is not only affected by the perception of one's competences, but also by one's awareness of the reality. Although we did not find a direct effect of mindfulness on burnout, the increased attention and awareness, and the characteristics that make mindful people non-judgmental (curiosity, openness, acceptance), may allow teachers to reduce automatic reactions to student behavior, which contribute to emotional exhaustion (Chang, 2009). However, these findings should be approached considering the strong relationship between mindfulness and self-efficacy, which could lead to multicollinearity issues.

The absence of a direct effect of mindfulness on burnout can be explained by the various indirect effects by which mindfulness may impact burnout (Abenavoli *et al.*, 2013; Sun *et al.*, 2019). In fact, we found that mindfulness moderates the relationship between implicit attitudes and burnout but only for individuals who have high levels of mindfulness. Low levels of mindfulness do not significantly affect burnout depending on implicit attitudes levels. However, when levels of mindfulness are high and levels of negative implicit attitudes are low, burnout drops significantly, whereas it increases when mindfulness is high and implicit attitudes are highly negative. So, if on one hand the positive effect of mindfulness on teacher burnout is confirmed (Fabbro *et al.*, 2020; de Carvalho *et al.*, 2021), on the other hand it has been shown how high levels of mindfulness may increase burnout in

teachers with very negative implicit attitudes. It is possible that very mindful individuals can mitigate the effects of their negative implicit attitudes and therefore show less levels of burnout. However, practicing mindfulness is not enough to be more aware of one's implicit ethnic attitudes and reduce them (Lueke & Gibson, 2015) but rather, when one has very high levels of negative implicit attitudes the increased awareness and mindfulness negatively affects individual's well-being, increasing the burnout. Importantly, the studies demonstrating reductions in implicit bias and racial discrimination through mindfulness, involved subjects in brief mindfulness interventions aimed at modifying state mindfulness (Lueke & Gibson, 2015, 2016), so the effect of trait mindfulness, had not yet been explored.

Mindful people may have access to their implicit attitudes through the ability to be in the here-and-now and through observation of their own behaviors, from which implicit attitudes more easily leak out (Olson & Fazio, 2009). Therefore, when implicit attitudes are highly negative, they may diverge and conflict with one's explicit beliefs and self-image (Devine, 1989), leading to consequent and increased levels of stress and burnout, especially in helping professions (e.g., teachers; Castiglione *et al.*, 2017). People strive to resolve and mitigate discrepancies in their thinking and behavior (Festinger, 1957), rejecting implicit negative attitudes in favor of conscious and reflective attitudes that tend to be more socially accepted (Gawronski & Bodenhausen, 2006).

Finally, the nonsignificant correlation between explicit prejudice and implicit attitudes is in line with the literature (Pit-ten Cate & Glock, 2019). Frequently implicit-explicit correlation depends on social desirability effects, when they address socially sensitive topics like ethnicity (Dovidio *et al.*, 2009). However, the non-concordance between implicit and explicit measures may be discussed as being due to divergences between implicit and explicit tasks (Payne *et al.*, 2008). This may be particularly true for the materials we used in this study, as the IAT measured affective responses toward foreign students, whereas the questionnaire asked responses toward foreigners in the country. Correlations between implicit and explicit measures have been found when they have employed the same stimuli (Hofmann *et al.*, 2005).

7. Conclusion

This study contributes to the understanding of factors playing a role in teachers' burnout and the results highlight the specific role of implicit attitudes and mindfulness in this syndrome. Despite theoretical implications,

our results show also practical ones: it becomes critical to not only improve mindfulness to improve teacher well-being (Bardach *et al.*, 2021), but to incorporate elements of mindfulness into professional development and teacher education programs. While it is true that effects of mindfulness-based stress reduction programs can also be seen in reducing ethnic bias (Hirshberg *et al.*, 2022), our results suggest that introducing themes of multiculturalism and ethnic diversity into mindfulness interventions could have a positive effect on ethnic bias and on reducing burnout. To work on topics related with the inclusion of minority ethnic students is not only helpful in improving the overall school experience of these students but is also beneficial in preserving the well-being of teachers. When interpreting the results, it's important to consider certain limitations. Firstly, the sample's heterogeneity must be acknowledged as the participants were recruited from two European countries and included both in-service and preservice teachers, and the perception of burnout may differ between these two groups. However, college students who took part in the study had already worked as interns in schools, and also, burnout may be a consequence of college studies, especially for trainee teachers (Römer *et al.*, 2012). Moreover, given the limited sample size, caution should be exercised in interpreting the findings, as their generalizability is not feasible. Secondly, the study did not account for teachers' prior diversity or mindfulness training, as well as the ethnic and social composition of the schools. Future research should incorporate more comprehensive information about the social and school context, as well as student characteristics that may impact teachers' ethnic attitudes and burnout (Glock *et al.*, 2019; Glock & Kleen, 2020). Also, it should not be overlooked that data collection occurred during the Covid-19 pandemic, suggesting the need to consider the potential increase in burnout due to this unique and challenging situation (Sokal *et al.*, 2020).

Finally, the possibility that implicit negative attitudes and mindfulness skills may coexist should not be overlooked. Although mindfulness implies the practice of feeling love and compassion for oneself and others (Fredrickson *et al.*, 2008), which has been associated with a reduction in explicit and implicit bias (Hunsinger *et al.*, 2014; Kang *et al.*, 2015), having an open and non-judgmental regard for oneself does not necessarily imply having a similar regard for others and even less for the outgroup (Nicol & De France, 2018). As a matter of fact, the instrument used in this study is primarily centered on the self and does not determine the ability of mindful compassion towards others.

In conclusion, further research is needed to deepen our understanding of the complex interplay among these variables. We recommend considering the globality of factors that influence teacher burnout in future studies

and interventions aimed at promoting well-being. This entails integrating dimensions of well-being with social aspects to develop comprehensive strategies that address the multifaceted nature of teacher well-being.

References

Abenavoli, R.M., Jennings, P.A., Greenberg, M.T., Harris, A.R., & Katz, D.A. (2013). The protective effects of mindfulness against burnout among educators. *Pyschology of Education Review*, *37*(2), 57-69.

Akrami, N., Ekehammar, B., & Araya, T. (2000). Classical and modern racial prejudice: A study of attitudes toward immigrants in Sweden. *European Journal of Social Psychology*, *30*(4), 521-532.

Amitai, A., Vervaet, R., & Van Houtte, M. (2020). When teachers experience burnout: Does a multi-ethnic student population put out or spark teachers' fire? *Pedagogische Studien*, *97*(2), 125-145.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman.

Banks, J.A. (2004). *Handbook of research on multicultural education*, Vol. 2. Ed. by C.A.M. Banks. San Francisco, CA: Jossey-Bass.

Bardach, L., Klassen, R.M., & Perry, N.E. (2021). Teachers' psychological characteristics: Do they matter for teacher effectiveness, teachers' well-being, retention, and interpersonal relations? An integrative review. *Educational Psychology Review*, *34*(1), 259-300.
https://doi.org/10.1007/s10648-021-09614-9

Betoret, F.D. (2009). Self-efficacy, school resources, job stressors and burnout among Spanish primary and secondary school teachers: A structural equation approach. *Educational Psychology*, *29*(1), 45-68.
https://doi.org/10.1080/01443410802459234

Biasci, V., Domenici, G., Capobianco, R., & Patrizi, N. (2014). Teacher Self-Efficacy Scale (Scala sull'Auto-Efficacia del Docente – SAED): adattamento e validazione in Italia. *Journal of Educational, Cultural and Psychological Studies (ECPS)*, *10*, 485-509.
https://doi.org/10.7358/ecps-2014-010-bias

Bishop, S.R., Lau, M., Shapiro, S., Carlson, L., Anderson, N.D., Carmody, J., Segal, Z.V., Abbey, S., Speca, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, *11*(3), 230-241.
https://doi.org/10.1093/clipsy/bph077

Brown, K.W., Ryan, R.M., & Creswell, J.D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry*, *18*(4), 211-237.
https://doi.org/10.1080/10478400701598298

Castiglione, C., Rampullo, A., & Giovinco, C. (2017). Self-representations, burn-out syndrome, and job satistaction among correctional officers. *Testing, Psychometrics, Methodology in Applied Psychology (TPM)*, *24*(4), 571-581. https://doi.org/10.4473/TPM24.4.7

Chang, M.L. (2009). An appraisal perspective of teacher burnout: Examining the emotional work of teachers. *Educational Psychology Review*, *21*(3), 193-218. https://doi.org/10.1007/S10648-009-9106-Y/TABLES/1

Costa, S., Langher, V., & Pirchio, S. (2021). Teachers' implicit attitudes toward ethnic minority students: A systematic review. *Frontiers in Psychology*, *12*, 712356.
https://doi.org/10.3389/fpsyg.2021.712356

Costa, S., Pirchio, S., & Glock, S. (2022). Teachers' and preservice teachers' implicit attitudes toward ethnic minority students and implicit expectations of their academic performance. *International Journal of Intercultural Relations*, *89*, 56-62.
https://doi.org/10.1016/j.ijintrel.2022.05.006

Costa, S., Pirchio, S., Shevchuk, A., & Glock, S. (2023). Does teachers' ethnic bias stress them out? The role of teachers' implicit attitudes toward and expectations of ethnic minority students in teachers' burnout. *International Journal of Intercultural Relations*, *93*, 101757.
https://doi.org/10.1016/j.ijintrel.2023.101757

de Carvalho, J.S., Oliveira, S., Roberto, M.S., Gonçalves, C., Bárbara, J.M., de Castro, A.F., Pereira, R., Franco, M., Cadima, J., Leal, T., Lemos, M.S., & Marques-Pinto, A. (2021). Effects of a mindfulness-based intervention for teachers: A study on teacher and student outcomes. *Mindfulness*, *12*(7), 1719-1732.
https://doi.org/10.1007/s12671-021-01635-3

Dellinger, A.B., Bobbett, J.J., Olivier, D.F., & Ellett, C.D. (2008). Measuring teachers' self-efficacy beliefs: Development and use of the TEBS-Self. *Teaching and Teacher Education*, *24*(3), 751-766. https://doi.org/10.1016/j.tate.2007.02.010

Devine, P.G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, *56*(1), 5-18. https://doi.org/10.1037//0022-3514.56.1.5

Dovidio, J.F., Kawakami, K., Smoak, N., & Gaertner, S.L. (2008). The nature of contemporary racial prejudice: Insight from implicit and explicit measures of attitudes. In *Attitudes* (pp. 185-212). Psychology Press.

Dubbeld, A., de Hoog, N., den Brok, P., & de Laat, M. (2019). Teachers' multicultural attitudes and perceptions of school policy and school climate in relation to burnout. *Intercultural Education*, *30*(6), 599-617. https://doi.org/10.1080/14675986.2018.1538042

Eagly, A.H., & Chaiken, S. (1993). *The psychology of attitudes*. New York: Harcourt Brace Jovanovich.

Enzmann, D., & Kleiber, D. (1989). *Aiders-suffering: Stress and burnout in psychosocial occupations*. Heidelberg: Asanger.

Fabbro, A., Fabbro, F., Capurso, V., D'Antoni, F., & Crescentini, C. (2020). Effects of mindfulness training on school teachers' self-reported personality traits as well as stress and burnout levels. *Perceptual and Motor Skills*, *127*(3), 515-532.
https://doi.org/10.1177/0031512520908708

Feldman, G., Hayes, A., Kumar, S., Greeson, J., & Laurenceau, J.P. (2007). Mindfulness and emotion regulation: The development and initial validation of the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R). *Journal of Psychopathology and Behavioral Assessment*, *29*(3), 177-190.
https://doi.org/10.1007/s10862-006-9035-8

Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford: Stanford University Press.

Fredrickson, B.L., Cohn, M.A., Coffey, K.A., Pek, J., & Finkel, S.M. (2008). Open hearts build lives: Positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal of Personality and Social Psychology*, *95*(5), 1045.
https://doi.org/10.1037/A0013262

Freeman, D.J., Brookhart, S.M., & Loadman, W.E. (1999). Realities of teaching in racially/ethnically diverse schools: Feedback from entry-level teachers. *Urban Education*, *34*(1), 89-114.
https://doi.org/10.1177/0042085999341006

Gattino, S., Miglietta, A., & Testa, S. (2011). The Akrami, Ekehammar, and Araya's Classical and Modern Racial Prejudice Scale in the Italian context. *TPM*, *18*(1), 31-47.
http://www.tpmap.org/wp-content/uploads/2014/11/18.1.3.pdf

Gawronski, B., & Bodenhausen, G.V. (2006). Associative and propositional processes in evaluation: An integrative review of implicit and explicit attitude change. *Psychological Bulletin*, *132*(5), 692-731.
https://doi.org/10.1037/0033-2909.132.5.692

Glock, S., & Kleen, H. (2019). Implicit and explicit measures of teaching self-efficacy and their relation to cultural heterogeneity: Differences between preservice and in-service teachers. *Journal of Research in Special Educational Needs*, *19*(S1), 24-35.
https://doi.org/10.1111/1471-3802.12475

Glock, S., & Kleen, H. (2020). Preservice teachers' attitudes, attributions, and stereotypes: Exploring the disadvantages of students from families with low socioeconomic status. *Studies in Educational Evaluation*, *67*, 100929.
https://doi.org/10.1016/J.STUEDUC.2020.100929

Glock, S., Kleen, H., & Morgenroth, S. (2019). Stress among teachers: Exploring the role of cultural diversity in schools. *Journal of Experimental Education*, *87*(4), 696-713.
https://doi.org/10.1080/00220973.2019.1574700

Glock, S., Kovacs, C., & Pit-ten Cate, I.M. (2018). Teachers' attitudes towards ethnic minority students: Effects of schools' cultural diversity. *British Journal of Educational Psychology*, *89*(4), 616-634.
https://doi.org/10.1111/bjep.12248

Greenwald, A.G., Mcghee, D.E., & Schwartz, J.L.K. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology*, *74*(6), 1464-1480.
https://doi.org/10.1037/0022-3514.74.6.1464

Greenwald, A.G., Nosek, B.A., & Banaji, M.R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, *85*(2), 197-216.
https://doi.org/10.1037/0022-3514.85.2.197

Gutentag, T., Horenczyk, G., & Tatar, M. (2018). Teachers' approaches toward cultural diversity predict diversity-related burnout and self-efficacy. *Journal of Teacher Education*, *69*(4), 408-419.
https://doi.org/10.1177/0022487117714244

Hayes, A.F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling*. White paper.
http://www.afhayes.com/public/process2012.pdf

Hirshberg, M.J., Flook, L., Moss, E., Enright, R.D., & Davidson, R.J. (2022). Integrating mindfulness and connection practices into preservice teacher education results in durable automatic race bias reductions. *Journal of School Psychology*, *91*, 50-64.
https://doi.org/10.1016/j.jsp.2021.12.002

Hofmann, W., Gschwendner, T., Nosek, B.A., & Schmitt, M. (2005). What moderates implicit-explicit consistency? *European Review of Social Psychology*, *16*(1), 335-390.
https://doi.org/10.1080/10463280500443228

Hunsinger, M., Livingston, R., & Isbell, L. (2014). Spirituality and intergroup harmony: Meditation and racial prejudice. *Mindfulness*, *5*, 139-144.
https://doi.org/10.1007/s12671-012-0159-5

Hwang, Y.S., Bartlett, B., Greben, M., & Hand, K. (2017). A systematic review of mindfulness interventions for in-service teachers: A tool to enhance teacher wellbeing and performance. *Teaching and Teacher Education*, *64*(1), 26-42.
https://doi.org/10.1016/j.tate.2017.01.015

Jennings, P.A., & Greenberg, M.T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, *79*(1), 491-525.
https://doi.org/10.3102/0034654308325693

Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your mind to face stress, pain and illness.* New York: Dell.

Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday life.* New York: Hyperion.

Kang, Y., Gray, J.R., & Dovidio, J.F. (2015). The head and the heart: Effects of understanding and experiencing lovingkindness on attitudes toward the self and others. *Mindfulness*, *6*(5), 1063-1070.
https://doi.org/10.1007/S12671-014-0355-6

Karpinski, A., & Steinman, R.B. (2006). The single category implicit association test as a measure of implicit social cognition. *Journal of Personality and Social Psychology*, *91*(1), 16-32.
https://doi.org/10.1037/0022-3514.91.1.16

Klingbeil, D.A., & Renshaw, T.L. (2018). Mindfulness-based interventions for teachers: A meta-analysis of the emerging evidence base. *School Psychology Quarterly*, *33*(4), 501-511.
https://doi.org/10.1037/spq0000291

Loonstra, B., Brouwers, A., & Tomic, W. (2009). Feelings of existential fulfilment and burnout among secondary school teachers. *Teaching and Teacher Education*, *25*(5), 752-757.
https://doi.org/10.1016/J.TATE.2009.01.002

Lueke, A., & Gibson, B. (2015). Mindfulness meditation reduces implicit age and race bias: The role of reduced automaticity of responding. *Social Psychological and Personality Science*, *6*(3), 284-291.
https://doi.org/10.1177/1948550614559651

Lueke, A., & Gibson, B. (2016). Brief mindfulness meditation reduces discrimination. *Psychology of Consciousness: Theory, Research, and Practice*, *3*(1), 34-44.
https://doi.org/10.1037/cns0000081

Madigan, D.J., & Kim, L.E. (2021). Does teacher burnout affect students? A systematic review of its association with academic achievement and student-reported outcomes. *International Journal of Educational Research*, *105*, 101714.
https://doi.org/10.1016/J.IJER.2020.101714

Martin, D. (2016). *Package «IAT»: Cleaning and visualizing Implicit Association Test (IAT) data description.*
https://cran.r-project.org/package=IAT

Maslach, C., & Jackson, S.E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, *2*(2), 99-113.
https://doi.org/10.1002/job.4030020205

Miles, J. (2014). Tolerance and variance inflation factor. *Wiley StatsRef: Statistics Reference Online.*
https://doi.org/10.1002/9781118445112.stat06593

Nicol, A.A.M., & De France, K. (2018). Mindfulness: Relations with prejudice, social dominance orientation, and right-wing authoritarianism. *Mindfulness*, *9*(6), 1916-1930.
https://doi.org/10.1007/s12671-018-0938-8

Olson, M.A., & Fazio, R.H. (2009). Implicit and explicit measures of attitudes: The perspective of the MODE model. In R.E. Petty, R.H. Fazio, & P. Brinol (Eds.), *Attitudes: Insights from the new implicit measures* (pp. 16-63). New York: Psychology Press.

Ostafin, B.D., & Kassman, K.T. (2012). Stepping out of history: Mindfulness improves insight problem solving. *Consciousness and Cognition*, *21*(2), 1031-1036.
https://doi.org/10.1016/j.concog.2012.02.014

Payne, B.K., Burkley, M.A., & Stokes, M.B. (2008). Why do implicit and explicit attitude tests diverge? The Role of structural fit. *Journal of Personality and Social Psychology*, *94*(1), 16-31.
https://doi.org/10.1037/0022-3514.94.1.16

Pfitzner-Eden, F., Thiel, F., & Horsley, J. (2014). An adapted measure of teacher self-efficacy for preservice teachers: Exploring its validity across two countries. *Zeitschrift Für Pädagogische Psychologie*, *28*(3), 83-92.
https://doi.org/10.1024/1010-0652/A000125

Pit-ten Cate, I.M., & Glock, S. (2019). Teachers' implicit attitudes toward students from different social groups: A meta-analysis. *Frontiers in Psychology*, *10*, 2832.
https://doi.org/10.3389/fpsyg.2019.02832

Prewett, S.L., & Whitney, S.D. (2021). The relationship between teachers' teaching self-efficacy and negative affect on eighth grade U.S. students' reading and math achievement. *Teacher Development*, *25*(1), 1-17.
https://doi.org/10.1080/13664530.2020.1850514

Ramsey, A.T., & Jones, E.E. (2015). Minding the interpersonal gap: Mindfulness-based interventions in the prevention of ostracism. *Consciousness and Cognition*, *31*, 24-34.
https://doi.org/10.1016/J.CONCOG.2014.10.003

Renzulli, L.A., Parrott, H.M., & Beattie, I.R. (2011). Racial mismatch and school type: Teacher satisfaction and retention in charter and traditional public schools. *Sociology of Education*, *84*(1), 23-48.
https://doi.org/10.1177/0038040710392720

Römer, J., Appel, J., Drews, F., & Rauin, U. (2012). Burnout-Risiko von Lehramts- und Jurastudierenden der Anfangssemester [Burnout risk among preservice teachers and law students in their first semesters]. *Prävention und Gesundheitsförderung*, *7*(3), 203-208.
https://doi.org/10.1007/s11553-012-0345-2

Rupprecht, S., Paulus, P., & Walach, H. (2017). Mind the teachers! The impact of mindfulness training on self-regulation and classroom performance in a sample of German school teacher. *European Journal of Educational Research*, *6*(4), 565-581.
https://doi.org/10.12973/eu-jer.6.4.565

Schwarzer, R., & Hallum, S. (2008). Perceived teacher self-efficacy as a predictor of job stress and burnout: Mediation analyses. *Applied Psychology*, *57*(S1), 152-171.
https://doi.org/10.1111/j.1464-0597.2008.00359.x

Sirigatti, S., Stefanile, C., & Menoni, E. (1988). Per un adattamento italiano del Maslach Burnout Inventory (MBI). *Bollettino di Psicologia Applicata (BPA)*, *187-188*, 33-39.

Skaalvik, E.M., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology*, *99*(3), 611-625.
https://doi.org/10.1037/0022-0663.99.3.611

Skaalvik, E.M., & Skaalvik, S. (2017). Dimensions of teacher burnout: Relations with potential stressors at school. *Social Psychology of Education*, *20*(4), 775-790.
https://doi.org/10.1007/s11218-017-9391-0

Sokal, L.J., Trudel, L.G.E., & Babb, J.C. (2020). Supporting teachers in times of change: The job demands-resources model and teacher burnout during the Covid-19 pandemic. *International Journal of Contemporary Education*, *3*(2), 67.
https://doi.org/10.11114/ijce.v3i2.4931

Sun, J., Wang, Y., Wan, Q., & Huang, Z. (2019). Mindfulness and special education teachers' burnout: The serial multiple mediation effects of self-acceptance and perceived stress. *Social Behavior and Personality*, *47*(11).
https://doi.org/10.2224/sbp.8656

Tatar, M., & Horenczyk, G. (2003). Diversity-related burnout among teachers. *Teaching and Teacher Education*, *19*(4), 397-408.
https://doi.org/10.1016/S0742-051X(03)00024-6

Thijs, J., Westhof, S., & Koomen, H. (2012). Ethnic incongruence and the student-teacher relationship: The perspective of ethnic majority teachers. *Journal of School Psychology*, *50*(2), 257-273.
https://doi.org/10.1016/j.jsp.2011.09.004

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, *17*(7), 783-805.
https://doi.org/10.1016/S0742-051X(01)00036-1

Veneziani, C. A., & Voci, A. (2015). The Italian adaptation of the Cognitive and Affective Mindfulness Scale-Revised. *Testing, Psychometrics, Methodology in Applied Psychology (TPM)*, *22*(1), 43-52.
https://doi.org/10.4473/TPM22.1.4

APPENDIX A
Preliminary analysis

Independent *t*-test analyses showed no differences between the sample of teachers from the two countries for burnout levels $t(88) = 0.518$, $p = .60$, $d = 0.11$. Italian teachers' mindfulness levels ($M = 2.90$, $sd = 0.44$) were slightly higher than German teachers' mindfulness levels ($M = 2.66$, $sd = 0.46$), $t(91) = 2.49$, $p < .01$, $d = 0.52$. Levels of self-efficacy were also slightly higher for the Italian sample ($M = 7.58$, $sd = 0.92$), even though were also positive for the German sample ($M = 6.68$, $sd = 0.93$), $t(86) = 4.484$, $p < .01$, $d = .96$. No differences were found in the levels of explicit prejudice between Italian and German teachers $t(102) = 1.002$, $p = .317$, $d = .19$; Italian teachers ($M = 0.50$, $sd = 0.33$) had more negative implicit attitudes toward ethnic minority students than German teachers ($M = 0.32$, $sd = 0.37$), $t(102) = 2.689$, $p = .008$, $d = 0.52$.

Independent *t*-test showed no differences between in-service and preservice teachers for burnout levels $t(88) = 1.298$, $p = .198$, $d = 0.28$; in-service teachers ($M = 2.93$, $sd = 0.40$) had slightly higher levels of mindfulness than preservice teachers ($M = 2.73$, $sd = 0.49$), $t(91) = 2.042$, $p < .05$, $d = 0.43$. Also for self-efficacy, in-service teachers ($M = 7.56$, $sd = 0.87$) showed higher levels than preservice teachers ($M = 7.00$, $sd = 1.05$), $t(86) = 2.532$, $p < .05$, $d = 0.56$. For implicit attitudes, preservice teachers ($M = 0.54$, $sd = 0.30$) had slightly more negative attitudes than in-service teachers ($M = 0.36$, $sd = 0.37$), $t(102) = 2.430$, $p < .05$, $d = 0.50$. No differences were found concerning explicit ethnic prejudice $t(102) = 0.008$, $p = .994$, $d = 0.00$.

Riassunto

Il burnout è una sindrome complessa, e decenni di ricerca hanno stabilito che l'insegnamento è una professione stressante. Nuove scoperte suggeriscono che i pregiudizi etnici e gli atteggiamenti degli insegnanti potrebbero contribuire a spiegare il burnout legato alla diversità etnica. D'altra parte, è noto che fattori come l'autoefficacia e la mindfulness svolgono un ruolo protettivo nei confronti del burnout, ma ad oggi non è noto come siano correlati anche agli atteggiamenti impliciti e ai pregiudizi. In questo studio, ci proponiamo di fornire una comprensione più approfondita del meccanismo alla base dello sviluppo del burnout negli insegnanti in formazione e negli insegnanti in servizio, indagando il ruolo del pregiudizio etnico, degli atteggiamenti etnici impliciti, dell'autoefficacia percepita e della mindfulness. I nostri risultati mostrano che l'autoefficacia e

la mindfulness siano correlate negativamente con il burnout degli insegnanti e come la mindfulness modera la relazione tra atteggiamenti etnici impliciti e burnout. Vengono discusse le implicazioni teoriche e pratiche di questi risultati.

Parole chiave: Atteggiamenti impliciti; Autoefficacia; Burnout; Mindfulness.