Teacher Stress, Teacher Unintentional Bias, and Teacher Well-Being Before and During COVID-19

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Abstract

Almost half of all teachers in the United States report high levels of daily stress from teaching, making it one of the most stressful jobs in the country. Teacher stress is detrimental to one’s health and well-being, leading to poor academic outcomes for students and a hostile classroom environment, both barriers for young minds to learn. The COVID-19 pandemic and fear of personal health have exacerbated teacher stress levels. Individual factors that contribute to stress, such as being tired or making quick judgments, are linked to the tendency to rely on automatic cognitive processes (e.g., unintentional biases) rather than more controlled processes; these factors lead to discriminatory acts toward minoritized students. In the Vulnerable Decision Point model, the root causes of minoritized students’ experiences of discriminatory acts of disproportionate discipline in schools are explained by the impact of stress on teachers’ automatic processing and unintentional racial bias (URB). Current research for teacher stress includes ways to identify and reduce stress but have only achieved moderate effect sizes driving the need to identify additional strategies for addressing teacher stress, such as teacher subjective well-being (SWB). SWB skills can include mindfulness, resiliency, and self-efficacy, thus providing opportunities to mitigate the effects of daily stressors on unintentional biases by being conscious of fast decision-making and escalation of unexpected behaviors. The data includes self-reports from middle school teachers who completed baseline demographic questionnaires and various scales prior to randomization and intervention implementation. This study aims to understand how preexisting conditions of teacher perceived stress and teacher SWB have perpetuated unintentional biases toward Black students and may have changed during the COVID-19 pandemic.

Keywords: teacher stress, subjective well-being, bias, unintentional bias

Introduction

Research continues to show the disparities of discipline in schools for marginalized students. On a national level, 18% of Black boys and 10% of Black girls receive one or more out-of-school suspensions per year, compared to 5% of White boys and 2% of White girls (Nelson, 2019). Previous research had falsely attributed the disparity of marginalized and low-income children receiving higher expulsion and suspension rates to socioeconomic status and
increased misbehavior (Split et al., 2011), whereas teachers' practices, perspectives, and policies in relation to school and classroom climate (Welsh & Little, 2018) can explain much more.

The Vulnerable Decision Points (VDP) model by Girven et al. (2017) describes discriminatory behaviors resulting from the relationship between environment and biases (explicit and unintentional). The model predicts that physiological factors, such as being frustrated, exhausted, or confronted with quick judgments following a student’s unexpected or ambiguous behavior are associated with disparities and increased odds that a biased decision will be made (Ruedy & Schweitzer, 2010). For example, suppose a Black student causes a disruption in a classroom setting; a teacher could be more likely to unconsciously use their preconceived biases and stereotypes if stressed or affected by physiological or ambiguous factors (Ruedy & Schweitzer, 2010).

For decades, teacher stress has been a prevalent and common phenomenon among teachers (DiCarlo, 2019). Teaching is widely recognized as a stressful occupation for several reasons, such as comparatively lower pay than employees with similar backgrounds and education, social and political pressure concerning job performance, and a sense of isolation, spending less than 5% of their workday collaborating with colleagues (McCarthy, 2019). In turn, teacher stress results in displeasure, fatigue, burnout, and reduced commitment, all physiological factors that could contribute to biased decisions under the VDP model (McCarthy, 2019).

The COVID-19 pandemic significantly affected the lives of students and teachers, with teachers transitioning to frontline workers (Pressley et al., 2021). Many teachers adjusted to online and hybrid learning environments, new instructional approaches, job expectations, technology issues, and student engagement during the pandemic. As teachers moved back to in-person instruction in the 2020-2021 school year, they encountered different environments, regulations, instructional approaches, technologies, and routines (Pressley et al., 2021). These new requirements necessary to return to school consequently increased the demands put on teachers, including the possibility of catching COVID-19 (Pressley et al., 2021). Thus, it is crucial to understand how COVID-19 has impacted teacher stress, well-being, and unintentional bias.

The goal of this paper is to examine the influence of teacher stress and well-being on unintentional bias among educators, and subsequently, how these biases affect student outcomes before and during the COVID-19 pandemic.
Literature Review

Teacher Stress

Since the term was first activated in the 1970’s, teacher stress has evolved to include internal as well as external challenges, such as threats to a teacher’s self-esteem or wellbeing arising from negative self-perceptions (Kyriacou and Sutcliffe, 1978). Shedding light on this issue, one relevant model developed by Prilleltensky et al. (2016) draws connections between risk and protective factors to describe how stress is created and can be reduced. The relationship between risk factors, aspects of a person or environment that advance the likelihood of an adverse outcome, and protective factors, features of a person or environment that enhance the chance of a positive outcome, either helps or impedes a sense of well-being (Prilleltensky et al., 2016).

Teacher stress and well-being can be compromised when risk factors outweigh protective factors, impeding a teacher’s capacity to deal with adversity in their classroom (Prilleltensky et al., 2016). Moreover, teacher stress gives way to the formation of negative schemas in a student-teacher relationship and amplifies a teacher’s stress response in student encounters (Spilt et al., 2011). The VDP model suggests that factors associated with a stress response can lead to biased decision-making (Girven et al., 2017). Therefore, exploring approaches to mitigate teacher stress presents a prospective pathway to enhance well-being and decrease implicit bias.

Teacher Subjective Well-Being

Well-being is commonly separated into two domains, objective and subjective. Objective well-being uses extrinsic factors in the environment, such as income, housing, and food security, to help understand various dimensions of life (Kahneman, Diener, & Schwartz et al., 1999). Subjective well-being (SWB) allows individuals to use the domains of life satisfaction, positive affect, and negative affect to evaluate their life (Diener et al., 2000). Life satisfaction considers health, relationships, work, or widespread fulfillment (National Research Council, 2013). SWB could mitigate the effects of teachers’ daily stressors and impact judgments by being conscious of fast decision-making when faced with students’ challenging behaviors (Von der Embse, 2019).

According to the VDP model, disproportionality is likely to come from implicit rather than explicit biases. Teachers' subtle implicit biases contribute to discretionary decision-making
more than racial differences in student conduct or explicit biases (Girven et al., 2017). Thus, if teacher stress gives way to the formation of negative schemas and unintentional biases and SWB can mitigate teacher stress, SWB should be considered when addressing the causes of discretionary decision-making.

The COVID-19 Pandemic

The increase in teacher stress during COVID-19 has exacerbated everyday stressors for teachers, including a shortage of control over classroom content and decisions, challenges controlling student behavior, and scarce support and resources (Robinson et al., 2022). The pandemic continued to add more stressors to teachers, including fears surrounding physical and mental health and challenges with remote learning (Robinson et al., 2022). Additional research has shown that stressful organizational factors that affect structure, climate, and communication impact an individual's well-being (Griffin et al., 2011). For example, a teacher may feel a decrease in well-being when working in a negative school climate with no support and miscommunication every day. Furthermore, positive teaching self-efficacy can result in improved well-being and lower levels of stress (Zee, 2016).

The COVID-19 pandemic and fear for personal health have exacerbated teacher stress levels and decreased their well-being (Ozamiz-Etxebarria, 2021). In addition, the never-ending political and structural changes during the pandemic have negatively impacted teachers' subjective and objective well-being (Alves et al., 2020). Thus, teachers’ SWB must be considered when evaluating teacher stress and unintentional biases.

Specific Aims

This study aims to understand how preexisting conditions of teacher-perceived stress and SWB have perpetuated unintentional biases and interacted with the COVID-19 pandemic. By incorporating our understanding of stress and SWB, we can explore the relationship between these variables and their impact on awareness of biases in two contexts, thus, more robustly informing future policy and programming to support teachers and reduce their likelihood of biased decision-making. This study aims to understand teacher ratings of perceived stress, SWB, and awareness of one’s unintentional racial biases (URBs) towards Black students before and throughout the COVID-19 pandemic by asking the following questions: (1) Is teacher stress,
SWB, and awareness of URBs different before (Cohort 1) and during (Cohort 2) the COVID-19 pandemic? (2) How are the relationships between teacher stress, SWB, and awareness of URBs towards Black students similar and different for participants before and throughout the COVID-19 pandemic?

**Method**

Approval for this project is based on the larger study’s approval by the University of Florida’s Institutional Review Board. Data were de-identified before being provided for analysis.

The sample includes middle school teachers who completed a baseline demographic questionnaire, recruited from a federally-funded two-year, two-cohort study beginning in the Fall of 2019. Cohort 1 ensued during the 2019-2020 school year with 98 out of 245 teachers participating (40% completion rate). Cohort 2 was collected during the 2021-2022 school year.

Descriptive statistics for the sample are provided including covariates such as gender, race/ethnicity, years of experience, degree earned, and grade level taught. IBM SPSS statistics version 25 was used to organize data and run all analyses. Internal consistencies will be reported through Cronbach’s alpha coefficient for each respective scale at each time point; in addition, an intraclass correlational analysis will examine the school-level variance in the data within each time point.

<table>
<thead>
<tr>
<th>Table 1. Demographic Statistics</th>
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</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>Total Sample N (%)</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>Gender Identity Female</td>
</tr>
<tr>
<td>Gender Identity Male</td>
</tr>
<tr>
<td>Hispanic or Latino Ethnicity</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>Black or African American</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
</tr>
<tr>
<td>Asian only</td>
</tr>
<tr>
<td>Native Hawaiian or other</td>
</tr>
<tr>
<td>Pacific Islander</td>
</tr>
<tr>
<td>Two or more races</td>
</tr>
<tr>
<td>Other race</td>
</tr>
<tr>
<td>High School diploma or less</td>
</tr>
<tr>
<td>Associate’s degree or some</td>
</tr>
<tr>
<td>college</td>
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</tbody>
</table>
The Discrepancy Scale

The Discrepancy Scale measured teachers’ stereotypical responses (‘would’ index) and nonprejudiced beliefs (‘should’ index) (Monteith & Voils et al., 1998). The Would subscale (α = .85, α = .88) measured what a participant would do in a particular situation. For example, participants rated 48 items on a 7-point Likert scale their agreement with the statement, “I would not be troubled if a Black family moved into my neighborhood” with 1 being Strongly Disagree and 7 being Strongly Agree. The Should subscale (α = .84, α = .80) measured how a participant should respond in a particular situation. For example, participants rated 48 on a 7-point Likert scale their agreement with the statement, “I should treat Black people the same way I treat people of other ethnic groups” with 1 being Strongly Disagree and 7 being Strongly Agree. The overall scores had a mean of 18.40 with a standard deviation of 10.65.

The Perceived Stress Scale

The Perceived Stress Scale (PSS) measured teachers’ stress levels (Cohen, Karmarck, & Mermelstrein et al, 1983). Using a 5-point Likert scale, teachers reported the degree to which they agreed with statements such as “In the last month, how often have you felt nervous and stressed?” with 1 being Never and 5 being Very Often (Cohen et al., 1983). The PSS had a mean of 20.90 with a standard deviation of 8.0.

The Teacher Subjective Well-Being Questionnaire

The Teacher Subjective Well-Being Questionnaire (TSWQ) measured teachers’ feelings of support at school and teachers’ evaluation to successfully meet demands (Renshaw, Long, & Cook et al, 2015). The TSWQ is composed of two subscales, the School Connectedness Scale (r = 0.82) and the Teaching Efficacy Scale (r = 0.89) with 8 items total on a 4-point Likert scale, with 1 being X and 4 being Y. The School Connectedness Scale measured whether a teacher feels supported and connected to others at school using statements such as “I feel like I belong at
this school” (Renshaw, Long, & Cook et al, 2015). A range of scores were reported with a mean of 13.75 and a standard deviation of 2.41. The Teaching Efficacy Scale included statements like “I am good at helping students learn new things,” to measure a teacher’s estimation of their ability to meet demands (Renshaw, Long, & Cook et al., 2015). A range of scores were reported with a mean of 14.21 and a standard deviation of 2.44. The Teacher Subjective Well-being Composite scale had a mean of 28.01 with a standard deviation of 3.63.

Results

Data Assumptions

The data for the TSWQ and discrepancy scale were normally distributed and thus an independent t-test can be used. The data for the PSS was not normally distributed, so the Mann-Whitney Test was used. An interclass correlation was also examined, which represents the percent shared variance in the scale of raters. Results from the ICC demonstrated moderate levels of shared variance across the TSWQ (ICC = .510) and moderate levels of shared variance across the PSS (ICC = .303) and the Discrepancy Scale (ICC = .110). This shows SWB and stress relate to the factors unique to the school setting, whereas the discrepancy scale does not.

Table 2. Descriptive Statistics

<table>
<thead>
<tr>
<th>Study Variables</th>
<th>Total Sample</th>
<th>Cohort 1 Pre-Pandemic</th>
<th>Cohort 2 During - Pandemic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>ICC</td>
</tr>
<tr>
<td>Perceived Teacher Stress</td>
<td>1.7001</td>
<td>0.57739</td>
<td>0.303</td>
</tr>
<tr>
<td>Subjective Well-Being (SWB) Total</td>
<td>3.2108</td>
<td>0.63677</td>
<td>0.510</td>
</tr>
<tr>
<td>SWB – Self-Efficacy</td>
<td>3.3709</td>
<td>0.63647</td>
<td>n/a</td>
</tr>
<tr>
<td>SWB – School Connectedness</td>
<td>3.0528</td>
<td>0.80827</td>
<td>n/a</td>
</tr>
<tr>
<td>Teacher Discrepancy</td>
<td>0.4860</td>
<td>0.78619</td>
<td>0.110</td>
</tr>
<tr>
<td>Teacher Should Act</td>
<td>1.5159</td>
<td>0.65960</td>
<td>n/a</td>
</tr>
<tr>
<td>Teacher Would Act</td>
<td>1.9604</td>
<td>0.78052</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Perceived Stress Scale

A Mann-Whitney Test measured perceived stress between cohorts. The results indicated that there is no statistically significant difference between perceived stress from Cohort 1 to Cohort 2 ($z = .275, p = .783$).
Teacher Subjective Well-Being Questionnaire

An independent sample t-test measured teacher SWB between cohorts. The subscale, School Connectedness ($t = .496, p = .134$) and Teaching Efficacy ($t = .311, p = .108$), results indicated that there is no statistically significant difference between SWB from Cohort 1 to Cohort 2. The TSWQ indicated a statistically significant difference between SWB total from Cohort 1 to Cohort 2 ($t = .471, p = .025$) with TSWQ being higher before the pandemic (Cohort 1) than during it (Cohort 2).

Discrepancy Scale

An independent sample t-test measured the awareness of URB between cohorts. The Would subscale indicated that there is no statistically significant difference between URBs from Cohort 1 to Cohort 2 ($t = -.753, p = .971$). The Should subscale indicated a statistically significant difference between URBs from Cohort 1 to Cohort 2 ($t = -2.405, p < .001$). The discrepancy scale indicated that there is no statistically significant difference between URBs from Cohort 1 to Cohort 2 ($t = .587, p = .721$).

Between Cohort Differences of Correlations

The study then examined how relationships between perceived stress, SWB, and awareness of URBs are similar and different for participants before and throughout the COVID-19 pandemic. Two correlation models were tested both including all study variables first before the pandemic (Cohort 1) and then during the pandemic (Cohort 2).

Table 3. Between Cohort Differences of Correlations

<table>
<thead>
<tr>
<th>Study Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Perceived Teacher Stress</td>
<td>1.00</td>
<td>-0.392**</td>
<td>-0.420**</td>
<td>-0.357**</td>
<td>0.022</td>
</tr>
<tr>
<td>2. Subjective Well-Being (SWB)</td>
<td>-0.483**</td>
<td>1.00</td>
<td>0.865**</td>
<td>0.917**</td>
<td>0.037</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. SWB – Teaching Efficacy</td>
<td>-0.401**</td>
<td>0.823**</td>
<td>1.00</td>
<td>0.594**</td>
<td>-0.004</td>
</tr>
<tr>
<td>4. SWB – School Connectedness</td>
<td>-0.433 **</td>
<td>0.894**</td>
<td>0.482**</td>
<td>1.00</td>
<td>0.063</td>
</tr>
<tr>
<td>5. Teacher Discrepancy</td>
<td>0.054</td>
<td>0.041</td>
<td>0.090</td>
<td>-0.008</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Conclusion

The purpose of this study was to examine levels of perceived stress, SWB, and awareness of URBs towards Black students prior to and during COVID-19, as well as relationships between them. This study expands the teacher stress model relating to awareness of unintentional biases to include SWB. Within VDP, these constructs are root causes of racial disproportionality in school discipline and were substantially affected by the COVID-19 pandemic. It is possible their relations with one another may have changed and understanding any changes is important for informing future research, practice, and policy.

Teacher stress did not statistically increase or decrease with the onset of COVID-19, but SWB decreased. This could be explained by the variability in well-being and stress during virtual instruction. One’s belief of how they should act improved, but their awareness of biases as measured by the discrepancy between should and would did not change. This could be explained by the increased sensitivity to issues of unconscious bias after the murder of George Floyd (Gaudiano, 2022).

As expected, teacher stress and SWB are negatively correlated before (r = -.483) and during (r = -.392) the pandemic with little to no change in magnitude, significance, or direction. The correlation of stress and SWB to awareness of biases was negligible and mostly non-significant. Thus, the overwhelming majority of relationships did not change in magnitude or direction. Two scales, teaching efficacy and discrepancy, are positively correlated (though negligibly and non-significantly) pre-pandemic (r = .09) but negatively correlated (though negligibly and non-significantly) amid the pandemic (r = -.004). This means that being connected to school did not improve awareness of biases pre-pandemic, but may post-pandemic, though at both time points the correlations are negligible in strength and non-significant.

This study positively contributes to the education field by expanding the teacher stress model relating to awareness of unintentional biases, called Vulnerable Decision Point (Girvan et al., 2017) to include SWB. Current research on teacher stress has only moderate effect sizes (Von der Embse, 2019), driving the need to identify additional strategies for addressing teacher stress, such as teacher SWB. Further, the study examines this expanded model within very
different contexts before and during the ongoing COVID-19 pandemic. Such a contribution is critical to better understand the nuanced factors of teacher stress impacting student outcomes and better inform future policy and practice. Exploring the relationships over time can help society better understand disproportionate discipline in schools that may be influenced by pandemic induced stress and well-being factors.

**Limitations**

This study has three main limitations. For one, teachers may be less willing to admit their stereotypical responses in the discrepancy scale. The only results analyzed were teachers’ stereotypical responses and nonprejudiced beliefs towards Black students. If we examine data on responses toward other races, it could be easier to compare actions with students of other races and ethnicities. Secondly, generalizability is small as this is just one small sample of populations that can be tested. This sample specifically is in a large, urban area with a diverse population and nearly equal participation of White teachers as Black teachers (both about 45%). The K-12 education workforce nationally is predominately White (Schaeffer, 2021), so this sample may not be representative of the population in ways important for the study construction, specifically awareness of one’s racial biases. Finally, future research should account for school-level variances with a nested model or control for schools as fixed effects given the high level of variance school nesting explained in the stress and SWB variables.

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5)%20and


