

Lessons from Student-Teacher Relationship Quality [STRQ] Research:
Attachment and Equity in the Elementary Classroom

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Abstract

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For elementary teachers, the importance of developing quality relationships with their students cannot be overstated. This paper reviews the literature on student-teacher relationship quality (STRQ), including how it is conceptualized and measured, theorized factors that influence it, and its observed impacts. This is primarily examined from the lens of attachment theory, as it dominates the research of student-teacher relationships (STRs) for children in kindergarten through fifth grade. Trends in findings are discussed with particular attention to students who historically have been marginalized and have experienced lower-quality relationships with their teachers. I conclude that high-quality STRs are an important aspect of pursuing educational justice and offer strategies for teachers to develop such relationships. Implications for future research are also discussed.

Introduction

When asked what drew them to the profession, many elementary teachers will likely mention something about the satisfaction it brings them to help a child reach their goals, to share a happy moment with a child, or to help a child work through something difficult. In other words, teachers want to build warm and supportive relationships with their students, and they know their efforts can bring students joy, comfort, success, and encouragement. Decades of research confirms the many beneficial impacts of positive student-teacher relationships on students' development (Birch & Ladd, 1997; Saft & Pianta, 2001; Davis, 2003; Verschueren & Koomen, 2012; Cornelius-White, 2007; Sabol & Pianta, 2012), and in truth, the importance of a quality relationship cannot be overstated.

Through their relationships with students, teachers can model and provide emotional coping and self-regulation strategies, facilitate relationships with peers, function as a source of stress regulation, and provide a "secure base" from which students can explore academically, socially, and emotionally (Valiente et al., 2020; Verschueren & Koomen, 2012). By conveying high expectations and positive beliefs about each student, teachers can shape students' expectations and beliefs about themselves. Teachers can also help students to feel motivated, successful and capable as well as connected, cared for, and supported (Martin & Dowson, 2009). This can be critical for children who experience traumatic events and/or relationships, as supportive teachers can contribute to children's resilience and self-regulation skills (CDCHU, 2015). As role models and guides in institutional settings, teachers can also expose students to the values and norms of society at large and convey positive messages about what it means to be a successful member of society (Davis, 2003). Finally, there is a plethora of research linking

student-teacher relationships (STRs) to academic outcomes (Baker, Grant, & Morlock, 2008; Hamre & Pianta, 2005; Birch & Ladd, 1997). However, this review largely excludes a discussion of academic benefits and instead focuses on the social and emotional implications. This is to intentionally counter the common tendency to define positive student "outcomes" in narrow terms, challenging what Hoffman (2009) calls a "dominant instrumentalist emphasis" present in research and rhetoric about children's success (p. 538).

Although not all teachers may be aware of these specific benefits, most still strive to build positive relationships with their students based on their intuitive knowledge that a quality relationship is generally beneficial. However, roadblocks can arise. For example, conflict with students may result from their noncompliance with classroom expectations, disruption of classroom routines, need for high attention or support, difficulty getting along with peers, or even intentional efforts to provoke teachers (Birch & Ladd, 1998; McGrath & Van Bergen, 2015). Many teachers may feel stuck in negative feedback loops with certain children (O'Connor, Collins, & Supplee, 2012), hurt by their rejected attempts to gain closeness with those children (McGrath & Van Bergen, 2015), or simply unsure of how to build a positive relationship. This paper aims to fill this potential knowledge gap by reviewing the literature on what constitutes a positive relationship, how to develop it, who is "at risk" for a lower quality relationship, and the ways in which unconscious teacher beliefs and actions may affect those relationships.

This paper will also review the promising aspects and challenges of current and emerging measures used to evaluate student-teacher relationship quality (STRQ). Teachers may find this helpful in reflecting on their relationships with students, but an additional intention is to push the thinking of researchers in the field. Researchers may be inspired to re-think the construct of "dependency," how we evaluate relationships within and across various cultural groups, the ways

in which we can elicit student perspectives— particularly for those in upper elementary school, how we compare and contrast their viewpoints with those of teachers, and how we interpret potential differences.

To narrow the scope on a wide body of research, this paper will review the literature on student-teacher relationships (STRs) between elementary (K-5) teachers and their students. This age range is particularly important as teachers help children transition from home to school settings, develop key self-regulatory and social skills, explore foundational academic concepts, and develop an emerging sense of independence (Verschueren & Koomen, 2012; O'Connor, Collins, & Supplee, 2012). Also, while some research conducted internationally will be discussed, this review will focus on implications for teachers in the United States.

First, I will give an overview of theoretical perspectives relevant to STRs, but will then transition to focusing on the dominant perspective within STR research for this age range – attachment theory. This will include a review of the primary measures used to assess the student-teacher relationship, theorized factors that shape student-teacher relationships, and findings that give us insight into the impacts of relationship quality. I will then explore current challenges in the field, including attempts to measure children's evaluations of their relationships with teachers, efforts to compare and contrast teacher and child reports, and ongoing issues with the "dependency" subscale within the most popular measure of STR (the Student-Teacher Relationship Scale). Finally, since racism is systemic and permeates every American institution, we can expect STRs to reflect and/or perpetuate racial inequity, so I will also discuss issues of bias, racism, and cultural incongruence. As a note, other systemic forms of oppression, such as ableism and socioeconomic inequality, also affect STRs, but for the sake of brevity, I will focus

on racism as a starting point for reflection. I will conclude with implications for teacher practice and future research.

Theoretical Conceptions of the STR

I will primarily explore the research conducted from an attachment theoretical perspective because this is the dominant framework used to understand student-teacher relationships at this age range (Davis, 2003). This makes sense given that researchers tend to view a warm, supportive relationship as more crucial for young children, who are just learning to function outside their homes, need more supervision for their safety, and are learning basic social skills (Verschueren & Koomen, 2012). However, motivational theories tend to replace attachment theory as children grow into adolescents, when it is assumed that academics play an increasingly important role (Sabol & Pianta, 2012). This perspective will be briefly explored insofar as it offers insights on issues of equity, which attachment theorists tend not to address. I will also briefly draw upon sociocultural and critical race theories for their contributions to our understanding of equity in the context of STRs.

Motivational Theories

It could be argued that the motivational theoretical perspective is most in line with what one might call a "traditional" American view on student-teacher relationships. That is, from this point of view, teachers are viewed primarily as instructors (as opposed to nurturers) and studies tend to focus on how teachers structure academic tasks and support students' academic growth (Davis, 2003). However, motivational researchers do also pay attention to affective dimensions, such as how competent and successful students feel. As the name suggests, motivational theories

mainly investigate what motivates students, whether it be particular types of goals, messages about their capabilities, their perception of their teachers' belief in them, or what kinds of social or material incentives reinforce their efforts and/or success (Davis, 2003; Martin & Dowson, 2009). One theory within this field, self-determination theory, holds that students have three essential needs: the need for competence, autonomy, and support (Davis, 2003). Researchers working within this framework study not only how teachers support their students but also how they create opportunities for them to develop competence and autonomy. Therefore, while motivational theories do tend to prioritize academic outcomes, they also investigate the deeper psychological needs that preclude academic success, including a supportive relationship with one's teacher. Given this, motivational theories can offer critical insight related to concepts such as implicit biases and stereotype threat (Steele & Aronson, 1995), which will impact the relationship depending on the identities teachers and students bring.

Sociocultural Theories and Critical Race Theory

Sociocultural theorists such as Bronfenbrenner (1979) and Vygotsky (1978) widen the lens on STRs by considering the contexts in which these relationships take place. For example, these theorists highlight how cultural norms shape so much of what goes on inside a classroom, from expectations of how teachers and students should interact moment-to-moment to what constitutes ultimate school success (Davis, 2003). This perspective is useful in considering how students' and teachers' identities will affect their perceptions of and interactions with one another, which becomes particularly salient when considering why some students experience lower STRQ than others.

Critical Race Theory (CRT) also becomes useful when asking why those outcomes tend to vary by race. CRT highlights how White norms and knowledge are privileged within and perpetuated by American institutions and studies how this oppresses non-White Americans (Khalifa, Dunbar, & Douglas, 2013). In the context of education, CRT has shifted conversations about racial inequity from a focus on cultural "mismatches" between White teachers and students of color to a more systemic and historical focus (Shah, 2021). For example, critical race theorists examine how systemic racism is manifested within schools: through differential discipline practices, inequitable resource allocation, and high-stakes testing policies (Khalifa, Dunbar, & Douglas, 2013). Although, to my knowledge, STR researchers have not directly taken up a CRT lens, systemic racism can and does impact the STR, whether directly or indirectly. For example, routine disproportionate penalization of Black students (Lewis & Diamond, 2015) can lead teachers to view their Black students as troublesome and less deserving of their support (Mueller, Katz, & Dance, 1999). Increased pressure to perform well on high-stakes testing and/or fewer school resources at schools with predominantly Black populations (Khalifa, Dunbar, & Douglas, 2013) can decrease teachers' opportunities to invest in relationship-building. Therefore, I will draw upon CRT to analyze the trend of lower-quality STRs for students of color.

Attachment Theories

As previously mentioned, the STR is most often defined, measured, and studied from an attachment perspective, which grew out of research of parent-child relationships. Following their famous "strange situation" experiment, Ainsworth et al. (1979) proposed that children form attachment bonds with their primary caregivers that fall into the following categories: secure, insecure-avoidant, insecure-resistant, and disorganized (these categories have since been refined

and built upon; see O'Connor, Collins, & Supplee, 2012). If a child is "securely" attached, they use their parent as a "secure base" from which to explore and a "safe haven" for comfort upon experiencing distress. Researchers have extended this theory to the classroom, finding that teachers can function analogously within that context (Koomen & Hoeksma, 2003; Cassidy, 2008; Zajac & Kobak, 2006). Although the student-teacher relationship (STR) is not exclusive or very long-lasting and teachers' roles vary from those of parents (e.g., fewer caregiving and more instructional activities), the STR does contain an attachment component and teachers may be regarded as what Verschueren and Koomen (2012) call "ad hoc" or "temporary" attachment figures (p. 206). As such, researchers operating from an attachment perspective emphasize teacher sensitivity and responsiveness as primary components of quality relationships (Verschueren & Koomen, 2012). As Sabol and Pianta (2012) write, "Fundamental to any adult-child interaction is the ability of an adult to accurately read a child's social and emotional cues, respond to a child's signals appropriately, and offer emotional support or limits when needed" (p. 222). Therefore, teachers who intuitively engage in these practices should feel validated, and these should be the focus of efforts to improve student-teacher relationships. In the following section, I will explore how researchers have operationalized the ideas of sensitivity and responsiveness by reviewing the measures used to assess the student-teacher relationship quality (STRQ).

Measures of Student-Teacher Relationships

The dominance of the attachment perspective is reflected by the widespread use of the Student-Teacher Relationship Scale (STRS; Pianta, 2001) to measure student-teacher relationships. Operating from an attachment perspective, Pianta (2001) developed the STRS as a

teacher report with three dimensions: closeness, conflict, and dependency. The closeness scale aims to measure the warmth and affection within the relationship, including the degree to which the child is comfortable seeking comfort from the teacher. The conflict scale assesses the negative interactions within the relationship, and dependency refers to the child's clinginess or overreliance on the teacher. It is important to note that while closeness is a decidedly positive dimension and conflict is decidedly negative, they are not mutually exclusive. That is, a child may have a highly close *and* highly conflictual relationship with their teacher. However, closeness does tend to have a negative correlation with conflict (Webb & Neuharth-Pritchett, 2010). Another trend is that conflict tends to be the most stable factor over time; that is, children who have conflictual relationships with their teachers early on tend to continue to have conflictual relationships (Zee & Koomen, 2017).

The STRS has been validated in multiple settings, including the Greek (Gregoriadis et al., 2020), Dutch (Koomen et al., 2012), and Turkish (Koca, 2010) cultural contexts. It remains widely-used in the field with relatively few changes. Recently, however, Spilt and Koomen (2009) validated and advocated for the use of Pianta's (1999) Teacher Relationship Interview (TRI), which was designed essentially as an expansion of the STRS. This semi-structured interview protocol also draws from attachment theory but elicits a narrative response from teachers, which Spilt and Koomen (2009) argue provides more information and is more effective in capturing the subconscious elements of a relationship. They write, "Whereas questionnaires seem to tap mainly cognitions, there is evidence that interview techniques are more suitable to capture unconscious operating processes" (p. 87) and indeed interviews are often used for assessing adults' working models of relationships (Spilt & Koomen, 2009). Example prompts on the TRI include "Describe a time in the last week when you and your student really clicked" and

"Can you tell about a situation when the child displayed serious misbehavior?" (p. 92). Spilt and Koomen (2009) analyzed not only the content of teachers' narrative responses, but also how they reported the information (e.g., by denying or avoiding) and what types of affect they expressed (i.e., the emotions experienced in interactions). Their analysis revealed interesting patterns. For example, teachers tended to avoid discussion of anger, which Spilt and Koomen (2009) view as reflecting the tendency to suppress one's negative emotions in an attempt to be "professional." However, as these researchers note, other research has suggested that students are aware of teachers' negative affect despite their attempts to suppress it (Babad, 1990) and are able to rate perceived teacher preference in line with teachers' own reports of preference (Mercer & DeRosier, 2010).

Therefore, the TRI shows promise as a method that offers unique and valuable information about the STR. However, the TRI does not appear to be widely used, perhaps because of the constraints on its use. Due to its in-depth nature, it takes considerable time; Spilt and Koomen (2009) took 30 minutes to interview a teacher about just one child. Therefore, researchers may have difficulty using this measure on a wide scale. Spilt and Koomen (2009) recommend its use at more localized levels, though; specifically, school counselors and teacher coaches could use it to help teachers reflect on and improve their most challenging relationships with students. Although it may be time-consuming, Spilt and Koomen (2009) argue using this protocol can improve teacher job satisfaction and reduce stress.

Moderating Child Factors

Naturally, there is variation in the quality of relationships teachers form with their students. Teachers likely know that it's more difficult to form close, minimally conflictual

relationships with some students than others. Students' behaviors are a major factor that affect the quality of the relationship, as may be evident to most teachers. However, many teachers may not realize that students' behaviors are affected by their complex histories, including their attachment with other caregivers, such as parents and previous teachers, and experiences with trauma or racism. Furthermore, teachers' *perceptions* of students' behaviors are affected by their gender and race. In pursuing quality relationships with all students, teachers need to be aware of and work actively against these disparities. The following sections will discuss factors in children's lives which have been linked to STRQ.

Early Childhood Attachment

According to attachment theory, insecure attachments form when infants experience unreliable and/or unresponsive caregiving (O'Connor, Collins, & Supplee, 2012). For example, a caregiver experiencing depression may not make as much eye contact or engage in infant-directed speech with the infant, who then does not trust that the caregiver is warm and supportive (Ainsworth, 1979). Bowlby (1979) theorized that this comes to shape the child's expectations— or *internal working models* (IWMs)— of relationships with others. Researchers have applied this to the STR: children who form negative IWMs based on their primary caregiver attachments come to apply negative expectations for their relationships with teachers. As O'Connor, Collins, and Supplee (2012) write: "insecure children are more at risk for seeing themselves as unworthy and others as untrustworthy" (p. 267). Indeed, researchers working in the 80s and 90s (e.g., Howes & Matheson, 1992; Pianta, Nimetz, & Bennett, 1997; Sroufe & Fleeson, 1986) found that children tend to develop relationships with their teachers consistent with their early parent attachment; "secure" children tend to have higher quality STRs than do

their "insecure" peers. However, Buyse et al. (2011) found that particularly sensitive teachers were still able to form close relationships with children who had insecure early attachments. Some researchers point to this as evidence that the attachment quality in each relationship is a product of a dyadic interaction rather than a stable characteristic within the child (Davis, 2003). Furthermore, other researchers suggest that correlations between parent and teacher attachments may fade over time, whether because of intervening positive adult relationships, the increased influence of peers, or the emphasis on academics in later childhood (Sabol & Pianta, 2012).

Student Behaviors

In 1998, Birch and Ladd explored the relationship between STR quality and kindergarten and first-grade children's interpersonal behaviors, classifying children's behaviors as either antisocial ("moving against" others), asocial ("moving away from" others), or prosocial ("moving towards") others. Unsurprisingly, they found that teachers tend to have more conflictual, less close, and more dependent relationships with children exhibiting antisocial behaviors such as breaking class rules and provoking confrontations (p. 942). Asocial behaviors were associated with high dependency, but there were no significant associations with conflict or closeness. Birch and Ladd (1998) theorize this is because asocial students may depend on their teachers to manage their emotional states and interpersonal dilemmas, but closeness may vary depending on whether these children "move away from" everyone (including their teachers) or just peers. Significantly, when looking from one school year to the next, both asocial and antisocial behaviors remained relatively stable, with antisocial behavior the most stable over time (Birch & Ladd, 1998).

Nowadays, researchers tend to focus on a related but somewhat different construct: externalizing and internalizing behaviors. While interpersonal behaviors focus on behaviors concerning social relationships, these behaviors are more about how the child's overall psychological functioning is displayed in a broader range of school-based behaviors. But the pattern in findings is similar: there is a strong association between externalizing behaviors (e.g., displaying aggression, defiance, hyperactivity, or otherwise "acting out") and student-teacher conflict (Zee & Koomen, 2017; O'Connor, Collins, & Supplee, 2012; McGrath & Van Bergen, 2015). Therefore, children who exhibit antisocial and/or externalizing behaviors are particularly at risk for conflictual relationships with their teachers, and since their behaviors remain relatively stable over time, so does that risk (Zee & Koomen, 2017). Due to the cyclical and dynamic nature of STRs, it can be difficult to tease out a direction of causation: do these negative behaviors cause conflictual relationships with teachers or do conflictual relationships cause negative reactive behaviors? Since insecure attachments with primary caregivers in early childhood predict externalizing behaviors, O'Connor, Collins, and Supplee (2012) postulated a vicious cycle: those who develop negative IWMs of attachment figures interpret others' behavior negatively, act aggressively, and cause conflict in the relationship with their teachers, which may cause further acting out. McGrath and Van Bergen (2015) add that this acting out may stem from fear of neglect from the teacher. A similar vicious cycle appears on the other end of this spectrum: those students who displayed consistently low levels of closeness with their teachers were at higher risk for developing internalizing behaviors (e.g., withdrawal, social anxiety, depression, etc.). O'Connor, Collins, and Supplee (2012) write: "it may be through repeated distant interactions with teachers that children develop expectations for relationships characterized by rejection, which lead to withdrawal" (p. 281).

Critically, it appears that children who display internalizing or externalizing behaviors, while being at risk for low-quality relationships, are also in the most need of high-quality relationships. For example, in Silver, Measelle, Essex, & Armstrong's (2005) study, students with the highest levels of externalizing behaviors upon entry to kindergarten saw the strongest association between a decrease in their externalizing behaviors and high teacher closeness. In other words, students who displayed a decrease in aggressive or defiant behaviors likely did so because of an intervening close relationship with a teacher/teachers. However, without early intervention, those who display these difficult behaviors are likely to rank poorly on a number of measures of school adjustment and social interactions (Myers & Pianta, 2008; Baker, Grant, Morlock, 2008).

It is also worth noting that while children who display externalizing behaviors tend to demand the most of teachers' attention and evoke the most conflict, children who display internalizing behaviors still deserve and need teachers' attention. Furthermore, although conflict appears to have the strongest impact, closeness does still have an impact on relationship quality too; in fact, it is a strong protective factor (Ladd & Burgess, 2001). Thus it is crucial for teachers to invest energy in forming close relationships with students who might be at risk of being "overlooked"—those who are shy or quiet but nonetheless experiencing anxiety, depression, or symptoms of trauma that may not manifest externally and demand as much immediate attention as their externalizing peers (Spilt & Koomen, 2009). These children are at risk for decreased closeness with their teachers, which was correlated to teachers' feelings of helplessness in Spilt and Koomen's (2009) TRI study. They propose that teachers may begin to feel ineffective or unsure of how to proceed with children with whom they are not close (Spilt & Koomen, 2009).

Support from colleagues, mental health professionals, or professional development resources can help these teachers find new strategies, as will be discussed in the implications section.

Gender

Teachers tend to report more closeness and less conflict with girls, whereas the opposite trend appears for boys: teachers tend to report lower levels of closeness and higher conflict (Koomen & Jellesma, 2015; Birch & Ladd, 1998; Koomen et al., 2012; Hamre & Pianta, 2001; Hughes, 2011). Birch and Ladd (1998) attribute the higher conflict to teachers' tendency to rate boys as significantly more antisocial and girls as significantly more prosocial. Whether these behaviors are shaped more by biological or socializing factors is beyond the scope of this work, but it's worth noting that both invariably do play a role (McGrath & Van Bergen, 2015). Regardless, antisocial behaviors such as aggression and defiance are likely to be seen as threatening and lead to conflict within the relationship, and these are more common in boys (Birch & Ladd, 1998, p. 942). Ewing and Taylor (2009) frame these behavioral differences as "school behavioral competence," and argue that girls are possibly more attuned to their teachers thus more able to display the behaviors sought after by teachers. However, since the educator workforce is overwhelmingly female, it has been effectively impossible to determine whether these differences are due to gender match/mismatch between student and teacher (Ewing & Taylor, 2009). In a similar line of thinking, Koomen et al. (2012) propose that the behaviors we use as indicators of closeness, such as "seeking comfort from the teacher, being comfortable with physical affection, and trying to please the teacher" are more typical of females than of males, and perhaps male students might display alternative signs of closeness (p. 230). Therefore, they

argue that perhaps the measure needs to be refined to be more gender sensitive (Koomen et al., 2012).

Race/ethnicity

Another unfortunate trend is that teachers tend to report lower-quality relationships with African American and Hispanic students than with White students (Saft & Pianta, 2001; Murray & Murray 2004; Hughes & Kwok, 2007; Meehan, Hughes, & Cavell, 2003). Given that the teaching force is overwhelmingly White (79.3% as of 2018; National Center for Education Statistics [NCES], 2020a), yet the student population is over 50% non-White/ethnically mixed (as of 2017; NCES, 2020b), this must be viewed as an issue of White supremacy and racial inequity. An attachment perspective falls short of explaining these dynamics, so here I will draw on other theories for insight.

As previously mentioned, a prior trend in the research about racial inequity in education (Shah, 2021 places this trend as prior to 2007) was to examine the cultural mismatches between students and teachers. These ideas would fall under a sociocultural theoretical lens. As an example, Delpit (1988) argued that African American adults give more directives whereas White adults convey behavioral expectations in question form, and African Americans associate authority with certain behavioral characteristics, whereas Whites associate authority as inherent within a given position. Therefore, she contended, African American children may have difficulty following their White teachers' directions and may view their teachers as ineffective. This may lead to White teachers perceiving their Black students as disrespectful (Delpit, 1988), an interpretation which is exacerbated by the fact that African American children have more

assertive and active interactional styles than their White peers (Webb & Neuharth-Pritchett, 2010).

However, as Shah (2021) contends, recent research has shifted away from the idea of culture and towards a more explicit focus on race and power. This is not to say that accounting for cultural differences and acknowledging the validity of students' cultural practices is not important, but it is not quite the same as acknowledging that they are subject to racist systems and practices (Goldberg, 1993). As previously discussed, systemic factors can impact a teacher's ability to form relationships with their students, and many of these factors (e.g. poor funding, high emphasis on standardized testing) disproportionately affect students of color and their teachers. However, implicit bias and/or racism on the part of White teachers is also an important consideration. For instance, children of color are often perceived by White adults as more aggressive, adult-like, and threatening (Goff et al., 2014). Teachers tend to respond to threatening behavior with anger or increasingly authoritarian responses, which tends to provoke student aggression in response (Myers & Pianta, 2008). Therefore, the perception or expectation of conflict due to bias on teachers' part often leads to actual conflict.

Motivational theories shed additional light on the issue of implicit bias. For example, teachers generally have lower expectations for children of color (and low socioeconomic status students) (Gershenson, Holt, & Papageorge, 2016; Boser, Wilhelm, & Hanna, 2014). Gershenson, Holt, and Papageorge (2016) and Muller, Katz, and Dance (1999) argue that these expectations are based on stereotypes and incomplete information about students' lives. These expectations in turn affect how much energy the teacher invests in the relationship (Muller, Katz, & Dance, 1999). Gershenson, Holt, & Papageorge (2016) write that teachers' expectations are "prone to becoming self-fulfilling prophecies" (p. 210) because teachers tend to "modify how

they teach, evaluate, and advise" students for whom they have lowered expectations (p. 212). This is bound to decrease the student's perceived support, which is an important dimension of STR within the motivational paradigm (Martin & Dowson, 2009). Students from ethnically minoritized backgrounds already face a number of systemic hurdles to their academic and personal success, and need supportive teachers to help them understand, overcome, and –eventually– dismantle these hurdles.

However, teachers need to carefully reflect on how best to be "supportive" to students of color. For example, Kesner (2000) suggested that the tendency for teachers to rate their relationships with ethnically minoritized children as more dependent (Mantzicopoulos & Neuharth-Pritchett, 2003) may not be necessarily negative, because teachers– who are overwhelmingly female and White– might be "helping" African American and other minoritized students navigate an environment that is "culturally different" from their own. However, Critical Race theory (e.g. Khalifa, Dunbar, & Douglas, 2013) suggests that educators should work to dismantle the dominance of White middle class culture in educational settings so that minoritized students do not have to be dependent upon their teachers; the educational environment should not be so "culturally different" from their own. Furthermore, the negative correlation between dependency and conflict could be indicative of White teachers expecting or wanting their Black and Brown students to be dependent on them, and if they are not, conflict ensues. This would be particularly problematic– but not particularly surprising– given the devastating history of schools being used as sites of cultural erasure (Rosado-May et al., 2020), forced assimilation (Lomawaima & McCarty, 2006), and oppression (Kozol, 2012) and the ongoing phenomenon referred to as the "school-to-prison pipeline."

A conclusion one might draw in response to this data is that we must increase the diversity of the teaching workforce. To be sure, recruiting more teacher candidates of color and removing the systemic barriers that prevent their employment will benefit our nation's education system in a number of ways. Indeed, Saft and Pianta (2001), who studied ethnic matching between teachers and students, did find a correlation between matching and more positive relationships. However, they cautioned against intentional ethnic matches between teachers and students as a primary strategy to address this issue. In their study, an ethnic match did not explain all the variance in STRQ and, as Saft and Pianta (2001) reflected, it will not guarantee a high-quality relationship. There have been very few similar studies conducted since, and the large underrepresentation of teachers of color remains.

Therefore an additional and necessary strategy is to increase the cultural competency, self-awareness, and anti-racist toolkit of White teachers. Many White teachers may be unaware of their implicit biases, may rank themselves as "less biased" than their actions suggest, and/or may actively resist training exercises which prompt teachers to reflect on their racial identity and attitudes (Shah, 2021). Shah (2021) notes that this has been the focus of many teacher preparation programs for some time, yet there is little known about the efficacy of such efforts. He calls for more robust measures and studies of pre-service teachers' racial attitudes, as well as more intentional assessment and feedback structures for their racial equitable teaching practices (Shah, 2021). A few recently-developed measures do show promise; for example, in 2019, Knowles and Hawkman developed the Racial Fragility & Racial Teaching Efficacy scales. If used as tools for reflection (rather than accountability), this measure could help teachers, researchers, administrators, and policymakers engage more explicitly with the expectation of

anti-racist practices throughout teachers' careers.

Moderating Teacher Factors

It is no accident that the previous section began with a discussion about student factors yet ended with emphasis on *teachers*: their identities, beliefs, and actions. Although considerably fewer studies have examined teacher factors, the STR is indeed a dyadic relationship and as such, both members will affect the relationship (Zee & Koomen, 2017). Some researchers, such as Spilt and Koomen (2009), have taken up this idea. They argued that *teachers'* internal working models (IWMs) about what the teacher-student relationship should look like will affect how they approach the relationship. For example, if a teacher has insecure attachment, they may exhibit covert or overt aggression towards a child who appears to reject their attempts to establish closeness (Riley, 2009, cited in Spilt & Koomen, 2009). Zee and Koomen (2017) postulate that teachers' beliefs about their efficacy as a teacher could also affect the STR; self-reported efficacy is positively correlated with STR closeness and negatively related with conflict (Hamre et al., 2008; Mashburn et al., 2006; Zee & Koomen, 2017).

Taking a broader psychological perspective, Valiente et al. (2020) argue that the teacher's social-emotional functioning will impact the student-teacher relationship. For example, they cite evidence that teacher stress is related to STR conflict (Whitaker, Wesley, & Gooze, 2012). They also argue that teachers who are successfully able to identify and regulate their own emotions are able to model these strategies for students, thereby preventing student outbursts and thus potential conflict. When student outbursts do occur, these teachers also appear better equipped to successfully manage them and, again, avoid conflict (Valiente et al., 2020). Relatedly, Hamre, Pianta, Downer, & Mashburn (2008) found that teachers who reported lower levels of emotional

well-being also reported higher levels of conflict with children, even when children's behavior problems were lower than expected. Therefore, teachers' socio-emotional functioning may impact their actual conflict with children or their perception of conflict.

Impacts of STRQ on Child Development

Attachment researchers tend to focus on the impact the STR has on children's relational schemata— on the potential of a high-quality STR to disrupt negative IWMs and facilitate the formation of positive relationships with peers, for example (O'Connor, Collins, & Supplee, 2012; Jellesma, Zee, & Koomen, 2015; Davis, 2003; Pianta & Stuhlman, 2004). This does not mean, however, that attachment researchers are immune to temptation to link STRQ to academic outcomes; in fact, this is quite common (Baker, Grant, & Morlock, 2008; Hamre & Pianta, 2005; Birch & Ladd, 1997; McCormick et al., 2013). Still, the primary insights an attachment perspective provides are focused on the feelings of safety and security that a strong relationship can offer. While the teacher-child relationship is far less constant and close than that of a child and parent (Verschueren & Koomen, 2012), research has confirmed that feeling emotionally safe with and supported by one's teacher similarly allows one to freely explore and take risks within the classroom context (Valiente et al., 2020; Bergin & Bergin, 2009). A supportive teacher can also help children regulate their stress, thereby freeing their mental effort for academic and social tasks (Valiente et al., 2020). As previously mentioned, this has profound implications for equity, since high STRQ appears to function as a protective factor for those at particular risk for behavioral difficulties in school (Sabol & Pianta, 2012; Ladd & Burgess, 2001). McGrath and Van Bergen (2015) write: "these same students have arguably more to gain or to lose from their student-teacher relationship than do other students" (p. 2).

Conversely, teacher reports of conflict are particularly strong predictors of social and behavioral issues across the long term (Graves & Howes, 2011; Mantzicopoulos & Neuharth-Pritchett, 2003; Birch & Ladd, 1998; Pianta & Stuhlman, 2004). However, these findings have emerged from studies of children in early childhood; less is known about this association in middle childhood (O'Connor, Collins, & Supplee, 2012). This is partly because the student-teacher relationship is not stable over time: most students change teachers once a year.

To overcome this hurdle, O'Connor, Collins, and Supplee (2012) measured the change in students' relationships with their teachers over time, from Pre-K to 5th grade. They tracked the trends in each child's STR in two dimensions: closeness and conflict. Children were then grouped according to how low or high they started out in each dimension and whether their relationships stayed stable, declined, or increased. Although 11% of the children experienced high conflict in early childhood and showed declining levels over time, a combined 11% of children showed steady increases over time, and another 12% of children "peaked" at some point around 3rd or 4th grade. Regardless of the specific category to which they belonged, children experiencing at least moderate degrees of conflict at any point (a combined total of 35% of children) never declined to the average levels of children experiencing "low" conflict (p. 276). Furthermore, children who experienced moderate to high conflict with their teachers at any point displayed significantly higher externalizing behaviors than their peers (p. 277). Therefore, the risks posed by student-teacher conflict remain a threat to students' well-being throughout elementary school.

Challenges in STR Research

Issues with the Dependency Scale

A consistent theme throughout the research is that the dependency scale presents some sticky issue or another. According to Koomen and Jellesma (2015), dependency is "the least developed and investigated factor in teacher-report based relationship research" (p. 493). Across the research, dependency also tends to have the worst internal consistency: Koomen and Jellesma (2015) report Cronbach's alpha coefficients of .70, as compared with .79 for conflict and .74 closeness. Gregoriadis & Tsigilis (2008) report .79 compared with .87 and .86, and Koomen et al. (2012) report .78 compared with .88 and .90. Rey et al. (2007) even report a .40. The STRS manual admits to a low reliability— reported as .64— and claims this is due to the relatively small number of items on the scale. Yet even when adapted measures adjust the number of items per scale, significant issues remain (Vervoort et al., 2015). The difficulty with this scale is reflected by many researchers' tendency to leave it out of studies (Harrison, Clarke, & Ungerer, 2007; Cadima et al., 2015; Zee & Koomen, 2017; Graves & Howes, 2011; O'Connor, Collins, & Supplee, 2012) or attempt to tweak it (Mantzicopoulos & Neuharth-Pritchett, 2003; Koomen & Jellesma, 2015). However, a few researchers have instead taken the issue head-on, asking why dependency remains so problematic.

One suggestion is that particular items within the dependency scale are ambiguous or not clearly measuring the same construct. Webb and Neuharth-Pritchett (2010) found significant issues with phrasing of dependency items on the STRS. One item, for example— "this child appears hurt or embarrassed when I correct him/her"— did not load onto the construct of dependency. The authors suggest this is due to ambiguous wording: what does "correcting" the child entail? Is the child emotionally offended by the teacher or ashamed of being wrong? Similarly, the dependency questions used in a child measure developed by Vervoort et al. (CARTS; 2015) such as "I often ask my teacher whether I do things right," "I often ask my

teacher for help," and "I often ask my teacher questions" – could be capturing another construct altogether, such as academic insecurity, or even positive student behaviors (which could explain the positive perception by some).

Other researchers propose that the concept of dependency inadequately captures the negative relational dimensions of an insecure attachment. Gregoriadis et al. (2020) observe that the questions used in CARTS (Vervoort et al., 2015) only capture an "instrumental" dependency, but do not reflect any sort of *emotional* dependency. Similarly, Koomen and Jellesma (2015) suggest that their "negative expectations" scale (discussed later) may more fully capture the shortcomings of a negative relationship between student and teacher– including a lack of the "safe haven" function as well as a lack of a "secure base"– because they found a significant negative relationship between closeness and this scale, but no relationship between closeness and the STRS dependency scale.

Finally, some researchers propose that the concept of dependency is perceived differently by teachers and students and/or different cultures (Gregoriadis et al., 2020; Gregoriadis & Tsigilis, 2008; Webb & Neuharth-Pritchett, 2010). Gregoriadis et al. (2020), for example, used the Greek version of the STRS and of Vervoort et al.'s (2015) CARTS in Greek kindergarten classrooms to examine whether teachers and children in this cultural context perceived dependency differently than those in a Western cultural context. Indeed, in contrast to the negative association between dependency and closeness widely reported by White teachers (for White children; see Webb & Neuharth-Pritchett, 2011) in the West, there was a positive association between dependency and closeness from both the child and teacher point of view in this study. Gregoriadis et al. (2020) argue that this reflects a cultural difference in perception: unlike those in "individualistic" Western societies, Greek teachers– and those in other

"collectivist" societies– may not perceive dependency as a bad thing. However, children in Western contexts seem to agree with this interpretation (Vervoort et al., 2015). Therefore, Gregoriadis et al. (2020) suggest, perhaps there is also a developmental difference in perception of the notion of dependency. Given that the U.S. contains many different cultural groups, who may have varying interpretations of "dependency"– and a lot of children, who appear to view it positively– re-examination of this construct appears warranted.

Student Perspectives

In 1999, Mueller, Katz, and Dance noted: "Students' voices and experiences are conspicuously absent from research on classroom practices" (p. 298). Indeed, in early research, eliciting student points of view was rare due to concerns over students' reliability as reporters (Hughes, 2011). However, researchers in the last few decades have begun to realize how profoundly limited our understanding of student-teacher relationships is without data on students' perspectives. After all, we are trying to capture a dyadic relationship with bidirectional causes and effects, so we cannot truly understand it from only one point of view (Gregoriadis et al., 2020; Harrison, Clarke, & Ungerer, 2007; White, 2016; Hamre & Pianta, 2001). With an increased understanding of developmental science, researchers have created developmentally appropriate measures for students to share their perceptions.

In the 80s and 90s, researchers began to pay attention to the interpersonal dynamics within children's primary environments. For example, the Classroom Life instrument (Johnson, Johnson, & Anderson, 1983), Network of Relationships Inventory (Furman & Burhmester, 1985), Relatedness Questionnaire (Lynch & Cicchetti, 1997), and the School Liking and Avoidance Questionnaire (Birch & Ladd, 1997) probed children's feelings about school, their

parents, and their teachers. One of the first to ask this of *young* children was the Feelings About School scale (FAS; Valeski & Stipek, 2001). Later, Murray et al. (2008) developed the My Family and Friends Scale. However, few studies have elicited children's perception of their relationships with *only* their teachers. By centering the STR as the primary unit of analysis, we acknowledge that this relationship has particular importance within the school context. Moreover, this prevents the potential of confounding the data with overall school adjustment (Harrison, Clarke, & Ungerer, 2007).

As will be discussed later, new measures of STR have revealed that student reports do not align well with teacher reports. Many researchers see the oft-observed mismatch as an opportunity for further understanding: each actor may have different views on the relationship for noteworthy reasons. For example, the child and the adult will each have their own beliefs, cognitions, and expectations about how adult-child relationships function, shaped by their internal working models (IWMs) of relationships, culture(s), and other factors (White, 2016; Spilt, Koomen, & Mantzicopoulos 2010). Finally, although teachers' perspectives are without a doubt valuable, Koomen and Jellesma (2015) argue that, regardless of correspondence with teacher perspective, perhaps the student's perception of how much they feel supported is most important. The following sections will outline emerging student reports in two age groups: early elementary and middle-to-late elementary, since measures need to vary in design for the developmental capacity of each group.

Early Elementary Measures

There are still relatively few measures of early elementary students' (preschool through first grade) perspectives, but the existing measures represent innovative workarounds to the fact

that children this age tend to have higher comprehension than they can display in verbal (let alone written) tasks. Mantzicopoulos and Neuharth-Pritchett (2003) developed the Young Children's Appraisals of Teacher Support (Y-CATS), which measures students' perception of warmth/closeness, negative interactions/conflict, and autonomy support. Although the first two dimensions align with the teacher-reported STRS, the final dimension – autonomy support– was used in place of dependency. It seeks to measure whether students feel their teachers support their independence and freedom of choice. Contrary to the researchers' expectations, autonomy support did not appear to be the direct inverse of dependency. Koomen and Jellesma (2015) suggest this is because autonomy is more closely related to instructional support and teachers' behavioral management than to the attachment concept of dependency. Interestingly, both Spilt, Koomen, and Mantzicopoulos (2010) and Mantzicopoulos and Neuharth-Pritchett (2003) found that the autonomy scale loaded onto closeness/conflict (higher student-reported autonomy correlating with teacher-reported closeness and lower student-reported autonomy correlating with teacher-reported conflict). Mantzicopoulos and Neuharth-Pritchett (2003) postulate that teacher rejection of student choice is interpreted as conflictual by students.

The Y-CATS protocol is for students to sort statements (read by adults) about their teachers as true or false by putting a corresponding card into a mailbox (true) or trash can (false). Thus, this measure can certainly be considered developmentally appropriate, but one limitation is that it constrains student opinions to dichotomous options (Spilt, Koomen, & Mantzicopoulos 2010). In an attempt to resolve this, Spilt, Koomen, and Mantzicopoulos (2010) used a computer-based measure developed in the Netherlands (Van Dijk et al., 2006) as a two-step process. First, kindergartener participants viewed two side-by-side photographs of a child and teacher interacting and were asked to choose the one that best characterized their relationship

with their own teacher (e.g., *does your teacher respond to your questions or not?*). After that, they were asked to qualify that as *always* or *usually* the case (or *sometimes/never*, depending on their first response). However, concerns about this measure include (1) that it depicted (and therefore, perhaps evoked memories of) singular interactions rather than overall patterns and (2), due to its narrow scope (teacher-initiated interactions in classroom settings), it was perhaps a more accurate measure of teachers' behavior management skills than student perception of closeness/support (Spilt, Koomen, & Mantzicopoulos 2010).

Other creative measures for early childhood include Harrison, Clarke, and Ungerer's (2007) drawings and White's (2016) storytelling. Harrison, Clarke, & Ungerer (2007) adapted Fury's (2006) concept of analyzing children's drawings of their relationships with parents, and corresponding coding system, and asked six-year-old children to draw themselves with their teachers. The drawings were then coded for elements representing vitality/creativity, pride/happiness, vulnerability, tension/anger, emotional distance/isolation, role reversal, bizarreness/disassociation, and global pathology. The researchers then developed composite scores for overall positivity and negativity in the relationship and analyzed for correlations with student reports of teacher acceptance, based on questions from the Maternal Acceptance Scale (Harter & Pike, 1984). Relational negativity was moderately correlated with students' reports of teacher acceptance. Scores were also compared with teacher reports on the STRS, but it's important to note that the child reports were not based on the same three-dimensional framework. Nevertheless, student depiction of relationship negativity had a positive association with teacher-reported conflict and a negative association with teacher-reported closeness (Harrison, Clarke, & Ungerer, 2007).

Similarly, White (2016) adapted a measure commonly used for parent-child relationships, this being a narrative format. She gave children in preschool, kindergarten, and first grade dolls that represented their teachers and themselves (matching the participants' ethnicity and gender) and asked them to use the dolls to "act out" what would happen following a minor conflict between the child and teacher (White, 2016). Children's responses were analyzed for evidence of teacher support— whether emotional (e.g., comforting a hurt child), instructional (e.g., supporting an academic task), or material (e.g., providing a pencil). Children's perceptions of support were correlated to independent observers' ratings of the teachers' emotional support (White, 2016). However, as is generally consistent with other research (e.g., Poulou, 2016), there was no significant correlation between student and teacher perceptions of closeness and conflict. This will be discussed further in the "correlation between teacher and student reports" section.

Middle-to-Late Elementary Measures

Recently researchers have also attempted to design measures for students in middle childhood. In 2015, Koomen and Jellesma noted that there only existed three measures of the affective dimension of the STR designed for children in this age range: the Child-STRS (Koepke & Harkins, 2008), the Relatedness scales (Lynch, 1992), and the Network of Relationships Inventory (NRI; Buhrmester & Furman, 1987). However, the first did not demonstrate adequate reliability and the latter two were not based on the STRS/attachment-based constructs (Koomen & Jellesma, 2015). This is an important feature to ensure fair comparisons between teachers' and students' perceptions. Given that the STRS is the dominant teacher-report measure, the student measure should be as close as possible to assure that they are measuring the same underlying constructs (Koomen & Jellesma, 2015). The very same year that Koomen and Jellesma (2015)

began their work, researchers in Belgium also sought to create a scale for children in this age range. Vervoort, Doumen, and Verschueren (2015) recruited 227 six- to ten-year-olds from across the Flemish region to validate their Child Appraisal of Relationship with Teacher Scale (CARTS). The 26-item scale comprised of adapted items from the STRS (Koomen, Verschueren, & Pianta, 2007), the YCATS (Mantzicopoulos & Neuharth-Pritchett, 2003) and some additional Dependency items and was found to be valid and reliable (Vervoort, Doumen, & Verschueren, 2015). Child reports of closeness and conflict related to their feelings about their teacher and school as reported on the FAS (Valeski & Stipek, 2001). As noted above, child reports of dependency were related positively to child reports of closeness, but not to teacher reports of closeness, suggesting that perhaps children see this construct differently. A notable limitation is that the dependency items only portrayed instrumental, help-seeking behaviors (Vervoort, Doumen, & Verschueren, 2015).

Working in the same year, with children in the fourth through sixth grade in the Netherlands, Koomen and Jellesma (2015) varied with their approach to the dependency scale. Most items in their Student Perception of Affective Relationship with Teacher Scale (SPARTS) were adapted items directly from the STRS, but the "dependency" scale was changed to "negative expectations." In addition to their opinion that dependency inadequately captures the negative aspects of an insecure attachment, the authors provide three reasons for the change. First, children would be unlikely to report themselves as dependent on their teachers. Second, the negative expectations scale aims to capture students' underlying insecure feelings rather than their resulting behaviors. Third, this feature could prove particularly useful for assessing STR among students who exhibit internalizing behaviors. After all, negative expectations was the only

dimension correlated with child depression and somatic complaints in their study (Koomen & Jellesma, 2015).

Koomen and Jellesma (2015) did not find a significant correlation between the student negative expectations and teacher dependency scales, which they took as confirmation that these are indeed different constructs. The researchers were also encouraged by the intercorrelation between SPARTS dimensions in the expected directions: positive correlation between conflict and negative expectations, negative correlation between conflict and closeness, and negative correlation between closeness and negative expectations. Finally, the authors found further validation from the fact that teacher-reported hyperactivity, attention problems, and lowered prosocial behaviors (using the SDQ; Goodman, 2001) correlated negatively with SPARTS closeness and positively with SPARTS conflict (Koomen & Jellesma, 2015, p. 492). Correlations between student reports and teacher reports will be discussed in the next section.

The SPARTS represents a promising innovation within a relatively underdeveloped area in the field, but at this time, there are significant limitations. First, it was developed in the Netherlands and has only been validated within the Dutch cultural context. Second, it was translated back to English from Dutch, so there are some phrases that may need to be adjusted for use with American children (e.g., "I easily have quarrels with my teacher"). Third, findings concerning the newly-developed measure have yet to be replicated. Finally, several items were removed since they loaded onto multiple factors, and the authors expressed concern that, as a result, some dimensions may not be fully captured (Koomen & Jellesma, 2015).

Correlation Between Teacher and Student Reports

After eliciting students' opinions about their relationships with their teachers, the question that naturally follows is: so do they agree with their teachers? Answering this question has been limited by the relative lack of close correlation between teacher measures and child measures (e.g., the STRS measures closeness, whereas the Y-CATS measures warmth). However, researchers using a range of measures have found that, for the most part, no— teachers and their students do not agree, or at least not very much (Wu, Hughes, & Kwok, 2010; Rey et al., 2007).

For example, Poulou (2016) – using the STRS and Y-CATS, found no significant relation between teacher and student perceptions. Comparing the STRS and CARTS, Gregoriadis et al. (2020) found only small to moderate agreement between teachers and children regarding their perceptions of conflict and dependency, and no significant agreement for the closeness scale. With SPARTS and the STRS, Koomen and Jellsema (2015) also found only moderate agreement on the conflict and closeness scales. However, there was more consensus on the conflict scale than on the closeness scale; this is consistent with other research (Zee & Koomen, 2017; Pianta & Stuhlman, 2004). Hughes (2011) suggests this is due to the higher visibility and the more clear-cut nature of conflict-related interactions; teachers and children are less likely to disagree about something so obvious.

Building on this idea, Zee and Koomen (2017) suggest that children may be better able to identify relationships as conflictual rather than marked by respect and warmth, ideas that young children might be only beginning to understand. Furthermore, along with Hughes (2011) and Li et al. (2012), they argue that even child measures built upon the STRS may actually be measuring different constructs from the adult version due to differences in phrasing. For instance, on item number 4 of the SPARTS, children use the statement "I can be very angry with my teacher", whereas teachers (on item 4 of the STRS) use "This child's feelings toward me can

be unpredictable or can change suddenly." These two statements, Zee and Koomen (2017) argue, capture different emotions and interactions. Methodological issues cannot be ruled out, either. For example, in explaining the difference between child and teacher ratings in her storytelling experiment using dolls, White (2016) postulates that while teachers are rating specific relationships with a particular child, perhaps the children based their imaginary teacher response on broader notions of how a teacher would respond (even though the teacher doll had their real teacher's name).

However, others (e.g., Gregoriadis et al., 2020) say the divergence proves that teachers and students have different perspectives for valid reasons. Poulou (2016) also acknowledges this possibility and puts forward another possibility: that teachers, either unaware of their own behavior, or out of consistency with their beliefs, rate their relationships more positively. Similarly, Spilt, Koomen, and Mantzicopoulos (2010) argue teachers' perceptions are driven by their own psychological functioning whereas student perceptions are driven by trust and warmth (as cited in Poulou, 2016). White (2016) offers additional possible explanations. First, she proposes, while a child may see a conflictual relationship as less warm, a teacher may rate that relationship as close despite the conflict. On the other hand, perhaps teachers perceive warmth where a child does not, simply because there's an absence of conflict. This may be the case for shy children who don't feel very connected to their teachers but don't show any signs of discontent (White, 2016).

There is an apparent contradiction in the logic of such researchers, though: even researchers who propose valid reasons for the divergence of student and teacher reports seem to use convergence as a marker of validity for new student report measures. Koomen and Jellesma (2015), for example, took their higher rates of concordance as a sign that their measure

(SPARTS) showed improvement upon prior work. Likewise, Vervoort, Doumen, and Verschueren (2015) portray agreement between CARTS and STRS reports as evidence of their measure's reliability and construct validity. This issue has, as of yet, received little attention, let alone been resolved. Therefore, the field still has several challenges to overcome in order to advance our understanding of STRs. Taken with what we do know, though, these challenges have implications for both future research and teacher practice, which I will outline in the following sections.

Implications for Research

In terms of measures used in this line of research, there are three clear areas that require further attention. First, given the myriad of issues with the dependency scale (Koomen & Jellesma, 2015; Webb and Neuharth-Pritchett, 2010), researchers should seriously reexamine what this scale aims to measure and how best to do so. Is it aiming to capture teachers' function as a "secure base" and "safe haven," or children's feelings of insecurity? After more clearly defining the target construct, researchers should consider different cultural perceptions of it as well as how to accurately capture both teacher and student perspectives. Second, researchers should further refine student reports of STRQ. Since the SPARTS (Koomen & Jellesma, 2015) represents a promising innovation for children in late elementary school, researchers in the U.S. should adapt it for the American context. Additional considerations include alignment between teacher and student reports and whether different constructs matter for different developmental stages of childhood (Sabol & Pianta, 2012). Third, researchers might investigate whether measures used historically have a gender bias and refine them accordingly (Koomen et al., 2012).

Future studies can advance our understanding of STRQ in many ways. To begin, while it is common to name student demographic data in STR research, teacher ethnicity, race, and gender are not always named. Clearly identifying teacher demographics will not only counter assumed Whiteness within academia (Brown, Mistry, & Yip, 2019) and wider American society but will also help researchers to analyze teacher demographics as a moderating factor. From there, researchers can recruit more teachers of color in STRQ studies to further examine teacher-student ethnic matching, and can ask more direct questions about how racism, bias, and cultural dissonance impact the student-teacher relationship (Davis, 2003). Furthermore, they can employ measures such as Knowles and Hawkman's (2019) measure of racial fragility, and develop additional measures to assess teachers' cultural competency and racially equitable practices. Then researchers can consider how administrators might adopt systems to provide constructive, supportive feedback to teachers about equity in their classrooms. In pursuing these efforts, researchers should take up multiple theoretical lenses and/or collaborate with colleagues across attachment, motivational, sociocultural, and critical race theoretical backgrounds. Each of these perspectives offer unique insights into the student-teacher relationship, but to date, there has been little use of multiple theories (Davis, 2003). Lastly, additional studies are needed to determine methodologically sound ways of comparing teacher and student reports across the elementary age range and theorize ways to interpret variation between teacher and student reports.

Implications for Practice

Targeted Populations

The findings from this vast body of work direct teachers to pay particular attention to certain vulnerable groups. First, with the children who often demand teacher attention— children who frequently display externalizing behaviors— concerted efforts should be made to develop a warm, trusting relationship that is not defined by conflict (Spilt, Koomen, & Mantzicopoulos, 2010). It can help to consider that these children may be acting out as a result of insecurity, feelings of not being valued, or even preceding conflict with teachers, rather than as a result of stable personality characteristics (Spilt, Koomen, & Mantzicopoulos, 2010; O'Connor, Collins, & Supplee, 2012; McGrath & Van Bergen, 2015). Students with histories of unhealthy relationships and/or insecure attachments to caregiving figures may display similar antisocial or asocial behaviors or may otherwise have difficulty forming positive relationships with teachers, but teachers should continue to seek warm, close, and low-conflict relationships with them. Of course, it is not reasonable to expect teachers to know each child's full attachment history, but teachers can seek to understand students' internal working models (IWMs) through probing questions or assignments, and most importantly, they can convey messages of worthiness (O'Connor, Collins, & Supplee, 2012) and employ sensitive practices (Buyse et al., 2011) regardless of their knowledge of students' histories. Teachers should also be aware that students who have experienced or still experience insecure attachments, trauma, and/or mental illness may exhibit internalizing rather than externalizing behaviors. These students— and any others who display internalizing behaviors— are at risk of minimally close relationships, which teachers may unconsciously divest energy from (Spilt & Koomen, 2009). However, these students have a high need for a trusting, positive relationship which conveys worthiness of attention and affection (O'Connor, Collins, & Supplee, 2012; Baker, Grant, & Morlock, 2008; McGrath & Van Bergen, 2015).

Teachers should also consider more stable demographic markers that are associated with risk for a low-quality relationship. Boys, for example, appear to be at a higher risk of developing lower-closeness and higher-conflict STRs. Teachers might consider whether the boys in their class have been effectively taught the non-aggressive, prosocial, classroom-appropriate behaviors which teachers expect from them and whether the standards of what a "close" relationship looks like might differ for boys than for girls (Koomen et al., 2012). Students from ethnically and racially minoritized backgrounds also appear to be at risk of their teachers perceiving their relationships as more conflictual, more dependent, or less close (Van Bergen & McGrath, 2015). These students historically have been –and continue to be– denied the same educational opportunities as their White peers. Thus teachers– particularly White teachers– have a moral obligation to consider how issues of bias, cultural dissonance, and systemic inequity may be affecting their relationships with students of color. Finally, teachers must acknowledge the compounding effects of students' intersecting identities (Crenshaw, 1989; McGrath & VanBergen, 2015). Black male students who exhibit externalizing behaviors, for example, will be particularly susceptible to conflict with teachers, whether it be real or perceived, so teachers should be especially intentional in building positive relationships with these students.

Strategies

Critically, the so-called "risk factors" that lessen a child's likelihood of developing a high-quality relationship with their teacher are demographic factors over which they have no control (McGrath & Van Bergen, 2015). However, teachers can control how they perceive and interact with children with these characteristics. For example, with effort, teachers can modify their implicit biases (Van Dessel, Ye, & De Houwer, 2019) and get to know students of color

beyond surface-level stereotypes (Muller, Katz, & Dance, 1999; Gershenson, Holt, & Papageorge, 2016). This will involve seeking to understand students' cultural backgrounds to identify and draw upon their funds of knowledge (Moll & Greenberg, 1990). While it will take time and effort to learn about students' cultural norms and traditions and develop culturally relevant pedagogy, administrators at school and district levels can support these efforts through professional development and feedback structures. Administrators can also facilitate the dismantling of White supremacy in education and support teachers in building anti-racist practices.

Moreover, getting to know one's students on a personal level does not necessarily need to take time apart from instruction (Davis, 2003). For example, Martin and Dowson (2009) recommend an approach they call "connective instruction," which embeds opportunities to build positive relationships with students by designing learning tasks that are meaningful to each student, being responsive to students' questions and setbacks, providing encouraging feedback, and so forth. Goldstein (1999) argues that providing academic support in this regard is an act of caring. Another commonly-championed strategy is to give students input into consequential decisions, which is important given that children appear to view rejection of choice as conflictual (Mantzicopoulos & Neuharth-Pritchett, 2003; Davis, 2003). This may be particularly important during the later elementary years, when children seek increased autonomy (O'Connor, Collins, & Supplee, 2012). Personalizing instruction also presents an opportunity for students to incorporate cultural elements into schoolwork, which is important for sustaining students' cultural identities (Bricker & Bell, 2014). For these reasons and more, incorporating elements of "connective" or what is commonly known as "responsive" instruction are widely recognized as highly effective (Darling-Hammond, 2016).

Teachers can also change how they approach students they perceive as presenting behavioral difficulties. Through use of more in-depth measures such as the TRI, teachers and their allies (i.e., coaches or counselors) can also consider the "stories" they form about certain children and the emotions interactions with them evoke. In the aforementioned study validating the TRI, Spilt and Koomen (2009) analyzed teachers' narratives and STRS reports concerning disruptive versus non-disruptive children, which led to the identification of six constructs: sensitive practices, positive affect, helplessness, anger, neutralizing negative affect, and coherence. Their findings confirm higher levels of conflict with children who exhibit externalizing behaviors, and in their narratives, teachers expressed more anger and helplessness concerning these children. However, teachers reported similar levels of positive affect and closeness for externalizing and non-externalizing children. This is positive, but also can be interpreted as confirming prior research that conflict appears to have a stronger impact on overall relationship quality than does closeness. Similarly, conflict was positively correlated not only with anger and helplessness but also with sensitive practices (Spilt & Koomen, 2009). Therefore, it can be concluded that it is not sufficient to simply have positive feelings towards a disruptive child and employ sensitive practices; a teacher must address their feelings of anger and helplessness in order to reduce conflict and improve the relationship. By using protocols such as the TRI (Spilt & Koomen, 2009), teachers can talk through their feelings about students who challenge them, and with honest reflection, they may recognize and process feelings of inefficacy or anger. Turning to school counselors, trusted colleagues, or other professional resources can help teachers identify problems and solutions within their student relationships. Drawing on resources from mental health professionals can help teachers find effective strategies for regulating their emotions within and outside of the classroom. These tactics are crucial for

several reasons. First, as stated earlier, students appear able to accurately pick up on teachers' negative affect when teachers attempt to suppress it (Babad, 1990; Spilt & Koomen, 2009). Second, taking care of one's mental health is essential— and even an ethical obligation— to providing care to others in a profession as demanding as teaching (Wolpow et al., 2009). Finally, successfully regulating one's emotions in the classroom provides a powerful example for students (Valiente et al., 2020).

Modeling appropriate emotional regulation is an important aspect of the next strategy: identifying and intervening with students who display externalizing behaviors in early childhood in order to foster more adaptive behaviors (Birch & Ladd, 1998). However, this focus cannot be limited to early childhood; teachers at all levels need to take this approach. In fact, this appears to be especially important for children who display an increase in conflict over time. In O'Connor, Collins, and Supplee's (2012) study, these children were most at risk for displaying externalizing behaviors. O'Connor, Collins, and Supplee (2012) suggest this is because the "later elementary years are important for renegotiating power balance in relationships" and "children may act out if they are unable to gain needed support from the teacher-child relationship" (p. 281). Since externalizing behaviors tend to be relatively constant over time, most children who display these behaviors have likely done so throughout their educational careers. However, it is important that teachers consider this continuity as the result of an accumulation of behavioral consequences over time (i.e., conflict breeding more conflict) and self-perpetuating negative expectations (i.e., an aggressive child attributing hostile intentions to others and responding with aggression) rather than of stable personality traits. Considering appropriate social behaviors as knowledge that is taught and learned rather than innately present or naturally acquired will also help. Many Social and Emotional Learning (SEL) programs are available for teachers' use, and

drawing on resources like CASEL (2021) can help teachers determine how to best teach social and emotional behaviors.

Conclusion

In pursuing these endeavors, it can be helpful for teachers and researchers to remember the purpose of this work. Improving the student-teacher relationship has been empirically connected to a number of positive outcomes, including academic and social adjustment (Baker, Grant, & Morlock, 2008; Hamre & Pianta, 2005; Birch & Ladd, 1997), but most importantly, high-quality STRs build students' self-confidence and expectations for positive relationships in the future (McGrath & Van Bergen, 2015; Valiente et al., 2020; Verschueren & Koomen, 2012). These outcomes have profound implications for the pursuit of equity; emotional support and closeness function as protective factors for those who face adverse childhood experiences (ACEs) such as discrimination, economic hardship, and traumatic events (CDCHU, 2015) or do not gain adequate support from their parental relationships (Buyse et al., 2011). These are often the same students who display what are perceived as "behavioral problems," who stand to gain the most from positive STRs (Ladd & Burgess, 2001; Meehan, Hughes, & Cavell, 2003; McGrath & Van Bergen, 2015). This means that interventions aimed at supporting our most vulnerable youth should shift from their overwhelmingly academic focus (Martin & Dowson, 2009) to a more relationship-based approach. For educators pursuing educational justice, it may be encouraging to know that although they may not be able to completely dismantle systemic oppression and its effects on their students, they can mitigate adverse impacts simply by building high-quality relationships with affected students.

Positive outcomes are not limited to the student, either; poor STRQ is related to low levels of job satisfaction and high levels of stress for teachers (Koomen, Verschueren, & Pianta, 2007). Improving their relationships with students by viewing students positively, supporting their success and agency, employing emotional regulation strategies, reflecting and problem-solving with colleagues, and interrupting their biases will help teachers improve their efficacy, satisfaction, and overall mental health.

Most importantly, those involved in the field of education on any level— be it teachers, researchers, or administrators— should do everything in their power to support the development of quality student-teacher relationships because it's what students want. After reviewing hundreds of interviews with elementary students, Daniels and Perry (2003) noted that children of this age often express a desire for encouragement, acceptance, care, and validation from their teachers. If the aim of education is to support children in achieving their full potential, we must first make sure their psychological needs are met— needs that include acceptance, belonging, and connection to others (Maslow, 1943). Keeping this in mind, we can learn to respond to students' challenging behavior with patience, reassurance, and understanding rather than reactive aggression (McGrath & Van Bergen, 2015) and recognize that those with whom we have the hardest time connecting are often the ones who need us the most. Our high expectations, support, and warmth can enable all students to achieve social, emotional, and— yes, academic— well-being.

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