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Reasons why mathematics and science teachers leave the profession have been well documented and discussed. However, a critical examination of the nuances contributing to their retention warrants our attention. In this qualitative case study, I applied relational–cultural theory (Miller, 1986) to the experiences of three female mathematics and science teachers. I sought to unpack teachers’ decisions to remain in the classroom year after year and make meaning of their experiences as related to resilience in and through relationships. Based on findings from participants’ experiences, recommendations for improving teacher retention along the career trajectory are offered.

Keywords: teacher retention, relational–cultural theory, professional development, teacher resilience

In recent decades, issues with staffing the nation’s classrooms with highly qualified mathematics and science teachers have received increased attention. To this end, President Obama (2011) issued a call to action to recruit and prepare 100,000 quality science, technology, engineering, and mathematics teachers over the next decade. Yet, simply recruiting new mathematics and science teachers will be insufficient to meet future staffing demands—retaining mathematics and science teachers must also be a priority (Ingersoll & Perda, 2010). The reasons mathematics and science teachers enter teaching, as well as why they remain in or leave the profession, are numerous and varied, influenced by an array of intrinsic and extrinsic factors, personal and professional experiences, and working conditions (Johnson, Berg, & Donaldson, 2005). Understanding these factors, experiences, and conditions is key, then, to retaining quality teachers in today’s classroom. In this article, I address the retention of three experienced female mathematics and science teachers by exploring notable experiences that influenced participants’ decisions to remain in teaching and unpacking the myriad factors that affected their decision-making.

Teacher Retention

Like all teacher educators dedicated to preparing highly qualified mathematics and science teachers for today’s classrooms, I was concerned about the devastating turnover rate of newly hired teachers. Specifically, the National Commission on Teaching and America’s Future (NCTAF) estimated that nearly one third of all newly hired teachers leave after 3 years, with as many as 46% leaving within...
5 years (Kopkowski, 2008). Newly hired teachers, however, are not the only ones leaving the teaching profession. Migration (i.e., transfer or movement of teachers to different teaching jobs in other schools) and preretirement turnover of mathematics and science teachers are the primary forces behind the need for new hires and reported difficulties staffing mathematics and science classrooms with highly qualified teachers (Ingersoll & Perda, 2010). Although the annual attrition rates of mathematics and science teachers are similar to those of other teachers, “the educational system does not enjoy a surplus of new mathematics and science teachers relative to losses. For mathematics and science, there [is] a much tighter balance between the new supply and total attrition” (p. 589). It stands to reason, then, that retention might be a better response to national teacher shortages in mathematics and science than merely recruitment (Ingersoll & Perda, 2010; NCTAF, 2007). This revolving door of teachers into, but primarily out of, the profession results in loss of talent, costs schools and school districts financially (Ingersoll, 2006; NCTAF, 2007; Smith & Ingersoll, 2004), and begs the question, “How can we retain quality mathematics and science teachers?”

To address this question, it is beneficial to know why teachers leave the profession in the first place. Kopkowski (2008) explained that teachers leave because of accountability mandates such as No Child Left Behind, lack of support, student discipline issues, being underfunded and underpaid, and lack of influence and respect. Specifically, mathematics teachers leave most frequently due to the lack of “autonomy held by teachers in regard to content, texts, materials, techniques, and grading in their courses”; the degree of student discipline issues in the school; and the perceived usefulness of professional development on content and classroom management (Ingersoll & May, 2012, p. 457). Salary is not a strong factor contributing to turnover of mathematics teachers (Ingersoll & May, 2012). Conversely, for science teachers, low salaries are the strongest factor causing them to leave teaching, along with the degree of student discipline problems in the school and the usefulness of content-focused professional development (Ingersoll & May, 2012). Teacher autonomy is not a strong factor contributing to turnover among science teachers as compared to mathematics teachers (Ingersoll & May, 2012).

Against the backdrop of why mathematics and science teachers move to other schools or leave the teaching profession all together, it makes sense to consider their recommendations for how best to retain teachers. For instance, for mathematics and science teachers who moved from or left their teaching positions, the following were frequently given as actions schools might take to encourage teachers to remain in the classroom: better salary (65%), better student discipline (50%), more faculty authority (34%), and smaller class sizes (30%; Ingersoll, 2006). The following were also given, though less frequently, as steps schools might take to retain mathematics and science teachers: less paperwork, mentoring for newcomers, more parental involvement, opportunities for merit pay, better classroom resources, higher academic standards, more opportunities for advancement, and tuition reimbursement (Ingersoll, 2006).

Although large data sets, like those used by Ingersoll and his colleagues, illuminate these national trends of teacher migration and attrition, they do little to provide nuanced insights into why newly qualified teachers leave or stay in the profession (Bang, Kern, Luft, & Roehrig, 2007). Based on a longitudinal study of 50 newly hired teachers, Johnson and The Project on the Next Generation of Teachers (2004) identified that teachers who remain in the profession hold favorable views of their schools despite any reservations of the teaching profession in general, have opportunities for professional development, and feel supported by their school administrators. Furthermore, it was their schools’ “organization to support them as they found their professional footing” (p. 117) that prompted these newly hired teachers to stay in the classroom. This highlights the importance of working conditions, such as facilities, equipment, and supplies; teaching assignments; curriculum, standards, and accountability; as well as school community in retaining teachers (Johnson et al.,
Although a wide range of working conditions matters to teachers, it is the social conditions of the work environment that are most important (Johnson et al., 2012). These include “the school culture, the principal’s leadership, and the relationships with their colleagues” that “shape the social context of teaching and learning” for newly hired teachers (p. 27). The social conditions of the school likewise matter to experienced teachers. If experienced teachers are unable to satisfy their desire for professional development, differentiated roles, or a career ladder at their present school, they may be more likely to move schools or leave their classroom teaching positions (Johnson et al., 2005).

### Relational–Cultural Theory

With the social contexts of schools at the fore of teachers’ experiences, it stands to reason that the relationships teachers form within their schools and communities matter greatly to their retention. Stemming from feminist theories of psychology and development, relational–cultural theory (RCT) arises from women’s lived experiences and may be applied to understand the ways in which women specifically, and people generally, work in and through relationships (Miller, 1986; West, 2005). Particularly, RCT maintains, “all growth occurs in connection, that all people yearn for connection, and that growth-fostering relationships are created through mutual empathy and mutual empowerment” (Jordan & Hartling, 2002, p. 49). This perspective recasts growth and development as mutual and relational, rather than individualistic (Miller, 1986). As such, growth-fostering relationships are characterized by the “five good things”: increased vitality, increased empowerment, increased clarity of the relationship, increased sense of worth, and increased desire for further relationships (Miller, 1986, p. 3).

Through the lens of RCT, many characteristics of women that are cast as weaknesses traditionally may be recast as strengths. From this psychology of women, then, vulnerability, weakness, and helplessness; emotionality; participation in the development of others; cooperation; and creativity are to be considered strengths within the context of mutual and relational growth and development (Jordan, 2010; Miller, 1986). Because women are better able than men, generally, to admit feelings of weaknesses, they are more tolerant of such feelings, which is viewed in RCT as a positive strength, as “women are in a position to understand weakness more readily and to work productively with it” (Miller, 1986, p. 32). Furthermore, emotionality, which is even more basic to the human experience than vulnerability and weakness, has been treated traditionally as a hindrance or impairment; yet, women, by their positions in society,

have gained insight that events are important and satisfying only if they occur within the context of emotional relatedness . . . [and] are more likely than men to believe that, ideally, all activity should lead to an increased emotional connection with others. (p. 39)

Such insight is due to the fact that women tend to be the ones tasked with helping others, especially children, grow and develop in our society. Women, then, are “seen as a lesser figure performing a lesser task, even though she is of pre-eminent importance to [others]” (Miller, 1986, p. 40). Through participating in the growth and development of others, women know the pleasures of close connections and the value of helping others grow while growing themselves (Miller, 1986).

It would be difficult, if not impossible, for women to participate in the growth and development of others without cooperation. Although society is built, in many ways, on competition, cooperation is nonetheless necessary and often falls to women. For example, women in families and the workplace “are constantly trying to work out some sort of cooperative system that attends to each person’s needs” (Miller, 1986, p. 41). Finding ways as women to grow, cooperate, and survive within the structures of society requires personal creativity, which entails an unremitting struggle of (re)making new visions for oneself (Miller, 1986). As men struggle to reclaim and reintegrate these
aspects of themselves, the aforementioned characteristics of women can and should be reframed as strengths (Miller, 1986). It should not go unnoticed that these very strengths are often used to describe caring and effective teachers.

Despite women’s relational strengths, disconnection is inevitable. From the perspective of RCT, disconnection occurs due to the differential distribution of power in society (Jordan, 2008; Miller, 1986), and can be seen in non-relational settings where growth-fostering relationships are discouraged or stifled (Hartling & Sparks, 2008). One such nonrelational setting is the “survival cultures” in which many public school teachers work (p. 180). In the context of mental health, Hartling and Sparks describe survival cultures in which clinicians become chronically overwhelmed or overburdened by the demands of their jobs. Consequently, they may abandon relational behaviors . . . because the goal of the work is to survive the immediate crisis or complete the urgent task. In an attempt to respond to excessive demands, clinicians . . . may adopt the nonmutual practice of self-sacrifice or selfless giving in the heroic attempt to meet the needs of their clients . . . Perpetual self-sacrifice eventually takes its toll on the therapist, putting her or him on the path of illness, burnout, and other forms of personal or professional disaster. (p. 180)

It is striking how this echoes the current educational climate of increased accountability amidst the depersonalization of teaching. Given this, resilience within a survival culture becomes paramount to teacher retention. Framing resilience through the lens of RCT “requires an analysis of the relational conditions that . . . allow people to thrive despite exposure to many forms of adversity” (Jordan & Hartling, 2002, p. 60). “Taking an RCT perspective might ultimately lead to defining resilience as the ability to connect, reconnect, and resist disconnection in response to hardships, adversities, trauma, and alienating social/cultural practices” (Hartling, 2010, p. 54). This means that teachers, and others, can find resilience in and through relationships. Such a view of resilience enables a reexamination, from a relational perspective, of the characteristics associated with resilience. For instance, temperament, intellectual development, self-esteem, internal locus of control, mastery, and social support become recast a less individual (Hartling, 2010; Jordan & Hartling, 2002). From the perspective of RCT, temperament is viewed as moderating relationships, and relational development becomes intertwined with intellectual development (Hartling, 2010; Jordan & Hartling, 2002). Self-esteem, imbued in individualism and competition, is reframed as social esteem and a sense of worth, which grow through feeling valued in relationships, and an internal locus of control shifts to mutual empowerment (Hartling, 2010; Jordan & Hartling, 2002). Finally, “mastery and competence grow through participation in supportive relationships” (Jordan & Hartling, 2002, p. 64), and social support is recast as a two-way connection that fosters mutually empathic and mutually empowering growth (Hartling, 2010; Jordan & Hartling, 2002). Although it is noteworthy that resilience, in an RCT framework, occurs in and through relationships, those relationships happen against the backdrop of specific sociocultural contexts, which can either facilitate or oppress one’s ability to be resilient (Hartling, 2010; Jordan & Hartling, 2002).

**Study Goals**

The current research, outlined below, contributes to a line of inquiry focused on teacher support and retention by concentrating on how teachers’ early career experiences affected their commitment to the profession, and thus their retention (Cochran-Smith et al., 2011). As related to retention, I viewed the teachers’ experiences—and the resilience inherent in those experiences—through the lens of RCT.

In line with most research exploring the roles of teacher preparation and learning to teach on teacher retention, this case study was qualitative, employing semistructured interviews to collect
data and the constant comparative method for data analysis (Glaser & Strauss, 1967; Lincoln & Guba, 1985). Guided by a RCT framework that positions growth, and thus learning, within and through relationships (Miller, 1986), specific research questions addressed in this study were as follows:

1. What experiences influenced teachers’ decisions to remain in the teaching profession?
2. What factors impacted teachers’ decisions to remain in the classroom from year to year?
3. How was teachers’ resilience to remain in teaching shaped in and through relationships?

Method

Participants and Context

For this qualitative case study, I conducted interviews with three female teachers—Ms. Harris, Ms. Taylor, and Ms. Jones—to unpack the decision-making that accompanied the annual renewal of their teaching contracts. Each teacher participated in the National Science Foundation Robert Noyce Teacher Scholarship and Stipends, Phase II supplemental grant at a large research-intensive public university in the southern United States. Below, I discuss the responsibilities of each teacher for the supplement grant.

Ms. Harris, a science teacher in an urban, primarily African American public high school, served as a mentor teacher for the secondary teacher education program. For the purposes of the grant, she prepared an exemplary lesson for integrated mathematics/science that focused on Punnett squares and heredity. Ms. Taylor, a mathematics teacher at an inner-city public high school, and Ms. Jones, a special education teacher at the same school, worked with Ms. Harris to develop the lesson, incorporating accommodations and modifications for students with special needs. Ms. Taylor and Ms. Jones taught and videotaped the lesson at their school, for use with teacher candidates in the teacher education program. Ms. Taylor also assisted Ms. Jones in creating a handbook for working with students with special needs as a resource for the teacher education program. In addition, they gave a presentation on working with students with special needs at a meeting of the program’s student organization. For her work with the supplement grant, Ms. Harris received a gross salary, including benefits, of $13,000. Ms. Taylor and Ms. Jones each received $6,500 in supplemental salary, including benefits, for their work with the grant.

Despite a specific focus at the onset of this research study on the influence of supplemental funding and involvement in professional organization on teacher retention, the most remarkable parts of participants’ experiences centered on relationships with their students, colleagues, and administrators. This was true, even when participants discussed supplemental funding and professional involvement. Therefore, the focus broadened to look closely at how participants’ resilience was shaped in and through relationships throughout their careers.

Data Collection and Analysis

Although I intended to interview each teacher multiple times throughout the academic year, teachers’ schedules along with their school calendars and testing expectations did not permit this. Rather, I scheduled interviews with each participant based solely on her preferences and availability. This meant that I often combined sets of interview questions.

In the first interview, I was interested in learning about participants’ motivations to become a teacher as well as early career experiences that influenced their decisions to remain in the teaching profession. The second interview focused on any supplemental funding participants might have received, the levels of their professional involvement, and the nature of their professional involvement. In the final interview, I asked participants to discuss recent experiences that
influenced their decisions to stay in the classroom as well as factors that might impact their decision-making. Though none of the interviews focused specifically on the relationships in which participants engaged, their responses highlighted the importance of relationships to participants’ classroom experiences and decisions to remain in teaching year after year. Given this, the RCT framework was an appropriate lens through which to make sense of participants’ experiences. This will be discussed further in the findings and conclusions.

Audio-recordings of the interviews were transcribed and data were analyzed using the constant comparative method (Glaser & Strauss, 1967; Lincoln & Guba, 1985) within question sets. This occurred in two phases. First, open coding was done to identify, examine, classify, and categorize the data (Strauss & Corbin, 1990). Next, through axial coding, I sought to draw connections between categories that resulted from open coding (Strauss & Corbin, 1990). Then, selective coding was used to further develop and refine the categories identified in prior stages of data analysis (Strauss & Corbin, 1990).

Careful reading and coding of the data made evident the variety of ways each participant discussed her relationships with or connections to others. This prompted me to then reexamine the data through the lens of RCT to look purposefully at the role of relationships within each category or theme, enabling me to tell the larger story of participants’ experiences.

Limitations

In this case study, I set out to focus, in part, on the roles of supplemental pay and professional involvement for three mathematics and science teachers involved with a Robert Noyce Teacher Scholarship and Stipends, Phase II supplement grant. Consequently, their participation in the supplement grant had a direct and immediate effect on their professional involvement and whether they received supplemental pay. Given this, the small sample size and the specificity of the research context may impede the reader’s ability to generalize findings (Merriam, 2001). However, descriptions of participants’ grant activities, professional involvement, and notable experiences should allow readers to determine how closely this research context matches their own and, therefore, whether findings could transfer to their context (Merriam, 2001, 2002). Based on the descriptions, it should be apparent that these teachers shared universal experiences that may resonate with both novice and experienced teachers alike. Highlighting the relational nature of these experiences sheds light on the often taken-for-granted work of teachers.

Following, I highlight major themes from the interview data, and provide recommendations for teacher preparation, induction, and professional development centered on the research questions and goals.

Findings

The findings discussed here represent participants’ experiences throughout their teaching careers, with attention given to notable experiences that influenced their commitment and decisions to remain in the teaching profession, and factors that affected their decision making. A brief description of each participant’s background is offered below. Then, findings are organized and discussed by themes across participants’ early career experiences, influential experiences, and decision making. The RCT framework is applied to each theme to enable consideration of whether and in what ways participants’ resilience to remain in the teaching profession was supported in and through relationships.
Entry Into the Profession

The participants in this study on teacher retention boasted a combined 41 years of teaching experience, and their reasons for entering the teaching profession were as varied as their pathways into the classroom (see Table 1 for a summary of participants’ backgrounds).

At the time of the study, Ms. Harris had taught high school science for 5 years. She decided to become a high school science teacher after working as a teaching assistant at her university. As she explained, “I thought it was really fulfilling and really refreshing when I taught a lesson and the students actually learned something from it.” Because of this, Ms. Harris earned her teaching license through a university-based, graduate-level, alternative licensure program. In the program, she had two student teaching placements—one in middle school and one in high school—which helped her “find out where my passion was. My passion is actually for high school.” Ms. Harris was the only participant to receive supplemental funding—a scholarship through the university—during her teacher education program.

Table 1. Participant Backgrounds

<table>
<thead>
<tr>
<th>Participant</th>
<th>Preparation</th>
<th>Years of Experience</th>
<th>Grade Level(s) Taught</th>
<th>Subject(s) Taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Harris</td>
<td>BS biology; university-based, graduate-level (MAT), alternative certification program</td>
<td>5</td>
<td>High school</td>
<td>Biology; physical science</td>
</tr>
<tr>
<td>Ms. Taylor</td>
<td>BS math; university-based, licensure-only alternative certification program</td>
<td>23</td>
<td>Middle and high school</td>
<td>Sixth-, seventh-, and eighth-grade math; Algebra I; Algebra II; geometry; advanced math</td>
</tr>
<tr>
<td>Ms. Jones</td>
<td>BS vocational rehabilitation services; district-based alternative certification program</td>
<td>13</td>
<td>High school</td>
<td>Special education; inclusion science; inclusion math</td>
</tr>
</tbody>
</table>

Note. BS = bachelor of science; MAT = master of arts in teaching.

On the other hand, Ms. Taylor earned her teaching license through a university-based, licensure-only alternative certification program. She was motivated to become a teacher because she, herself, had good teachers who inspired her to pursue a teaching career. Specifically, she admired “their patience and [that] they appeared to love what they did.” With a bachelor’s degree in mathematics and teaching licensure, Ms. Taylor had taught secondary mathematics for 23 years at the time of the study.
Ms. Jones also received her teaching license through an alternative pathway. With a background in vocational rehabilitation services, she was hired to teach special education courses by a school district in Texas, and completed the district’s alternative certification program. As Ms. Jones explained,

I have a degree in vocational rehabilitation services, and right before graduating from college I attended a job fair and was hired by [the school district] to teach special [education] because of all of my experiences and background . . . with students . . . and adults with disabilities.

Ms. Jones was motivated to become a teacher due to her background experiences, and by her mother, a former special education teacher. Ms. Jones was the only participant involved with professional organizations during her teacher preparation. At the time of the study, she had taught mathematics and science in inclusion settings for 13 years.

Early Notable Experiences

After getting to know each participant’s backgrounds and motivations for going into teaching, I sought to understand notable experiences from early in her teaching career that influenced her to stay in the profession. Following, I discuss the common themes across participants’ responses; however, it is important to note that with their responses, participants seemed to blur past and more recent experiences. This is somewhat to be expected, as emotional responses, rather than precise timeframes, are probably more memorable when recounting noteworthy experiences. Common themes across the notable early career experiences shared by participants included interactions with colleagues and administrators, the prevalence of bureaucracy, and their work with students.

Colleagues and administrators

Overall, participants discussed their colleagues positively and administrators as both positive and negative influences on their decisions to remain in the teaching profession. Colleagues were discussed mainly as positive emotional supports. For example, Ms. Taylor noticed a trend over the past 5 years that her students seemed to be less passionate about learning. Rather than taking students’ apathy personally, she decided to talk with other teachers and through these supportive conversations realized that students’ attitudes toward learning were not because of her, specifically, but rather could be the current generation of students.

Administrators, on the other hand, could be a source of support or a cause of professional unrest. Ms. Harris’s administrators were very supportive of her teaching and ideas and played a strong role in her decision to remain in the profession. Most notably, the administrators at Ms. Harris’s school were supportive of her interest in and efforts to start a science club, from which she drew professional energy and pride. Additionally, Ms. Harris’s administrators supported her decisions to disregard the school district’s instructional specialist, who insisted that Ms. Harris change one of her science units from 6 weeks to 3 weeks. She met with the principal to discuss her instructional decisions, and of this meeting, she said, “But fortunately at the end of the meeting, the principal saw it my way and he allowed me to continue to move [through the curriculum] at the pace that I was moving.”

Conversely, unstable school administration caused professional unrest for Ms. Jones. Changes in school leadership coupled with recurring reductions in force across the school district led to questionable job security, and though Ms. Jones managed to find a teaching position from year to year, the instability caused her to question whether she should remain in the profession. As she explained, “the change of the guard [at her school] and then other schools being taken over by the state, being under the state charter system, it forces others in.”
Prevalent bureaucracy

Ms. Jones’s experiences point to the second theme of participants’ notable experiences—bureaucracy. Ms. Jones felt the pressures of bureaucracy in the budgetary constraints that necessitated repeated reductions in force. For her, “it’s been one thing after the other,” as, over the past 7 years, she was laid off twice and had to reapply twice for the same job. As mentioned above, she “managed to stay afloat and have a job every year, but you never know from year to year what’s going to happen, so it hasn’t been very stable.” This climate of job insecurity caused her to consider leaving the profession from time to time.

For Ms. Taylor, her perceptions of the prevalent bureaucracy in education caused her to question the qualifications and motivations of those making important educational decisions. Pointing out the pervasiveness of noneducators involved in decision-making, she explained, “we have a lot of people who are noneducators making education decisions and they really don’t understand the complete dynamics of what’s going on and what needs to be done.” Rather, and supporting Ms. Jones’s experiences, Ms. Taylor felt bureaucrats ”make decisions based on fiscal reforms and what’s popular instead of what’s going on currently [in classrooms].”

Ms. Harris echoed the meddlesome nature of bureaucrats in education when referring to the incident with the instructional specialist, outlined above. Of this, she exclaimed, “I’m not a bureaucrat, okay. A bureaucrat’s the one who[’s] just solely concerned with procedures and rules at the expense of common sense. I’m not a bureaucrat. I make common sense decisions.”

Work with students

Each participant talked about her students when discussing noteworthy experiences that influenced her to remain in the teaching profession. In fact, despite some of the negative experiences highlighted above, it was their passion for working with and reaching their students that kept Ms. Taylor, Ms. Harris, and Ms. Jones in the classroom year after year. Even with the instability of Ms. Jones’s teaching position from one year to the next, she decided to remain in the profession because of her students. She loved working for “the light bulb moments.” As she explained,

With the students [with special needs] that we work with, if you’re able to convey one thing that you’re teaching and you see that light bulb come on and they get it, even if it’s just for that day, if they’re able to retain it, you feel as if you’ve accomplished something or you both have accomplished something . . . So it’s mainly for the kids in why I’ve stayed in [teaching] as long as I have.

Likewise, Ms. Taylor prided herself on taking time and succeeding with students who underperformed, soaking up the immense responsibility of teaching other people’s children. When she reflected on her teaching career, she noted,

It was my personality or something my administrators saw in me, but I would always get those kids that were struggling . . . And I guess my a-ha moment that told me I needed to stay would always be if kids who were borderline disciplinary problems and you come to realize that their discipline problem is because they are afraid of failure and then you get them and all of a sudden when the light comes on and they start learning, they’re no longer discipline problems.

After all, for Ms. Taylor it all came down to this: “the only way I can honestly make it through is knowing that I’m helping somebody’s child. I’m making a difference in children’s lives.”

Ms. Harris learned a lot from the students she taught and the ones she worked with in the science club. That she always learned from students and her student learned from her science instruction
both fulfilled and refreshed Ms. Harris in her career. In fact, she took great pride in the quality science instruction she provided to students, always keeping student learning at the fore of her instructional decisions. As described above, when an instructional specialist from the school district, who wanted her to teach a unit in 3 weeks rather than 6, questioned her instructional decisions, Ms. Harris met with her principal to discuss the reasons behind her instructional decisions, and, ultimately, the principal agreed with Ms. Harris’s pacing. Of this she explained, “And teaching. What is teaching all about? The number one reason that we teach is for student learning to take place . . . I’m here for the students. I’m here to make sure that they learn.” Interestingly, Ms. Harris believed she prevailed in that situation by being a “rebel,” something she was happy to do if it meant keeping focus on the best interests of her students.

**Early career experiences through an RCT lens**

Considering participants’ early-career experiences from the perspective of RCT highlights both the growth-fostering and growth-hindering nature of their relationships with students, colleagues, administrators, and bureaucrats. Notably, Ms. Harris, Ms. Taylor, and Ms. Jones viewed their participation in the growth and development of their students as a strength. To this end, participants’ interactions with students, colleagues, and some administrators (such as with Ms. Harris) promoted growth, development, and thus resilience, in and through relationships. In these contexts, participants found and structured ways for themselves and others to grow, cooperate, and thrive. However, while tasked with participating in the development of their students, some of the teachers’ autonomy and decision-making was stripped from them by administrators and bureaucrats. Participants were expected to help students grow; yet, in some instances were limited in their own growth and development. This circumstance points to the limitations and influence of context on resilience from a relational perspective.

**Influential Experiences**

When asked about recent experiences that caused participants to question whether they would remain in the teaching profession next year, their answers echoed the influential experiences discussed as part of their early career experiences. Ms. Taylor again detailed bureaucracy and the fact that non-educators who lacked full understanding of education were making important decisions:

> People who do not understand the dynamics of what happens in the classroom are making decisions about the classroom . . . They don’t see the entire picture of the skills the students come in with as opposed to what you want them to attain, and sometimes they set very unrealistic expectations about what should happen, as opposed to what will happen.

She was quick to point out, however, that she persisted despite the bureaucracy by focusing on the importance of helping someone else’s child:

> I’m making a difference in children’s lives and some of them are very capable, and the ones that are capable, you’re able to reach them; and the ones that aren’t capable, you’re able to make them see that they are better than what they have presumed they were, and it becomes especially true in math.

Ms. Jones felt underappreciated by society and her school, a point undergirded by low teacher pay in Louisiana. She pointed out that “not being appreciated” caused her to question whether she would remain in teaching next year, emphasizing that “special ed[ucation] teachers are the red-headed stepchildren on campus.” Because of this, she felt she had to fight relentlessly to do her job:
I have to fight for space every year just for a room so that I can teach . . . I have to fight constantly for my kids to be allowed to be involved in different things [at the school] . . . You meet resistance, and it’s every year, you have to fight that.

Beyond her continuous fight to do her job and serve her students, Ms. Jones acknowledged that low pay was also an issue: “No one feels they’re paid what they’re worth. But in my opinion, they do not pay teachers what they’re worth.” She questioned whether it was financially feasible to remain in teaching, explaining

What about my kids, you know? If I had the money . . . some of us have three jobs, you know . . . So you miss time with your kids because you’re trying to make up for the difference that you don’t have in pay to continue to be able to take care of you and your family.

Despite the “myriad of things” that could cause teachers to question whether they will remain in the profession, Ms. Jones, like so many other dedicated teachers, kept “coming back because if you don’t do it, who will? . . . I just do it because I love the kids.”

At the time of the study, Ms. Harris was not facing any experiences that caused her to question whether she would remain in the teaching profession next year. Quite the opposite, Ms. Harris was preparing for upcoming opportunities to teach Advanced Placement and dual-enrollment classes. She was excited to learn more about science and science teaching during summer trainings. As she explained,

I love science. I get to learn more . . . My students and I will learn together. So that’s what’s making me excited, the fact that I get to learn more, gain more knowledge in biological sciences . . . My students, they have a thirst for knowledge . . . They want to know more and I get to teach more in a dual enrollment class.

These occasions for professional growth were likely to influence Ms. Harris to remain in the teaching profession next year, as she looked forward to “refin[ing] some of my skills” and “brush[ing] up on my [science content knowledge].”

**Influential experiences through an RCT lens**

Despite working in a survival culture in which they were underappreciated (and underpaid), the growth-fostering relationships participants had with their students were paramount to their work as teachers. Through participants’ stories of and about their students, the “five good things” (Miller, 1986, p. 3) that characterize growth-fostering relationships were evident: These teachers talked about (a) an increased enthusiasm for teaching, (b) an enhanced ability to take action in the best interest of their students, (c) expanded clarity of their relationships and work with students and others, (d) an amplified sense of self-worth, and (e) a desire to continue improving the lives of students through their teaching. Their strength, and thereby resilience, was drawn in and through their relationships with others—namely, their students.

**Decision Making**

From these influential experiences, the factors with the greatest impact on participants’ decisions to remain in the classroom from year to year, across their careers, were of no surprise. Ms. Taylor stayed because of her “passion for the field. A compassion for children.” Ms. Jones stayed because of her students and the school climate. As she explained, “It’s the students . . . but it’s also where I work . . . So I like where I am and I like being able to expose my students to all the different programs and opportunities that we offer at my school.” Ms. Harris stayed because she enjoyed influencing students’ lives positively toward science. For instance,
When a student comes up to me and says at the beginning of the school year, “I want to be a lawyer,” but then after taking my class, they decide they want to be a dermatologist and they tell me, “Well, you inspired me to change my mind about my future plans.” That helps to keep me going.

These reasons for remaining in the profession across a career were different, though, from the factors that might influence participants’ decisions to stay in their current classroom setting next year (Table 2). The factors, then, tended to be more specific (e.g., love of science, working with great people) and more personal (e.g., current family/childcare situation). Expanding on her “passion for teaching . . . and helping children,” Ms. Taylor added that “my family and the ties and strength of my family” also influenced her decision to continue teaching. Ms. Harris echoed her love and passion for science and science teaching, and her desire to see her students succeed. Of this, she explained, “They’re learning how to think about science . . . how to analyze it and develop some critical thinking. The students grow. That’s the inspiration. That’s all the inspiration I need to see the change in my students . . .” Ms. Harris also appreciated “working with great people.” Ms. Jones continued teaching because of the students:

It’s like a fix for me. I really like my kids . . . I’m kind of addicted to it. I love when they call me and say, “Ms. Jones, I got a job,” you know because I helped them fill out that application . . . Seeing them at them at the beginning and seeing them at the end of their secondary [education] career. And what they accomplished. That’s what it is for me, is just seeing that child in my eyes literally grow up from where they were in ninth grade to where they are in twelfth grade . . .

<table>
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Note. Numbers in parentheses indicate the number of participants (out of three) who discussed a specific factor.

Factors that might make decisions to stay in the classroom easier related to pay and voice/agency within the classroom. Ms. Taylor put it succinctly: “monetary compensation for staying and more input into what happens in the classroom.” Yet, pay also complicated decisions to remain. Specifically, the economy was of concern. Though cost of living increased, teacher pay was stagnant. Because of this, Ms. Taylor’s decision would be complicated if a more lucrative opportunity with less stress became available. As she explained,

With the economy the way it is and teacher programs changing and things like everything’s going up except our salaries, and teachers are looking for a way to supplement their salaries and other opportunities come along and a lot of teachers just walk away because it’s already mentally draining and frustrating to be in the field, and then you’re not making the money of your counterparts who don’t have to put up with this kind of stuff all the time. So monetary opportunities complicate it . . . There are a lot of things that I would do more of if I didn’t have to go to my second job.
Current family/childcare situations, student readiness, and voice/agency (i.e., if voice is not heard) would also complicate participants’ decisions to remain in the classroom next year. Here, representative quotes illuminate participants’ sentiments related to these factors. Ms. Taylor highlighted tensions between her job expectations and her current family/childcare situation, explaining,

My child is 4 years old, and I’m facing the dilemma next year of where to put him into school, because I have to be at school before 7 o’clock. But extended daycare [at the] elementary school doesn’t start until 7 o’clock.

Related to student readiness, Ms. Jones explained,

Our ninth graders that are coming into this upcoming school year are being . . . [promoted] because the test scores aren’t coming back until September, October. So a big issue for us as special educators or regular educators, you’re going to have a lot of students . . . they’re going to be waived up. So you just automatically get to go to ninth grade. Well, a lot of those students are not ready.

On issues of teacher voice and agency, Ms. Harris rationalized,

A thing that would make me leave is if my voice is not heard . . . Sometimes I have strong convictions, beliefs that . . . I’m not gonna change without a doubt . . . As a teacher, I should be given the authority to choose my own pathway and not be forced into the same mold with all other teachers.

Changes in school leadership—unless new leadership stifled voice/agency—were unlikely to influence participants’ decisions one way or another. For instance, Ms. Taylor explained that “sometimes [changes in school leadership] can be so extreme that it does [cause teachers to leave the school], but usually if you’re a teacher who does what he or she is supposed to do, then principalship doesn’t alter you.” As Ms. Jones summed up, “at the end of the day, I’m not here for [the administration]. I’m here for the kids. So I’m just gonna do what I have to do.”

In light of the factors discussed above, it was interesting to consider whether participants, if asked to decide on the day of the last interview, would stay in the classroom for the next school year. Ms. Taylor indicated she would not; rather, she would like to work with teachers to help them improve their mathematics instruction: “I want to help teachers. We have a lot of teachers that are not ready for Common Core . . . I want to help teachers be able to teach.” She went on to add, “I want to be a teacher leader and instructional specialist and ultimately go into principalship. But I think principalship is a little bit down the road for me. Right now my immediate task is in helping teachers.” Ms. Jones’s response was two-fold: no, because of poor teacher pay; yes, because of her students. She explained,

If you’re asking me monetarily, I would say no because for my family I need to go on and move out of the classroom . . . But if money had nothing to do with it, if I could be paid what I was getting in Texas, I’d probably still be in the classroom because I enjoy my kids.

Ms. Harris indicated she would return, unless “a more lucrative offer came to me, [then] I probably would reconsider.” She did, however, talk of leaving the classroom at some point in the future to pursue a doctorate in curriculum and instruction.
Decision-making through an RCT lens

Although the enjoyment and benefit of growth-fostering relationships with students and colleagues were reiterated in participants’ stories of decision-making (as previously with their discussions of influential experiences), the toll of participating in the growth and development of others became more visible here. Because “[g]rowth is one of the—perhaps the—most important, most exciting qualities of being human” (Miller, 1986, p. 40), teachers who foster the growth of students engage in a noble profession. However, this work is not unproblematic. In fact, teachers, like “most women seriously question the values and procedures of our current institutions. The ways they are required to operate and to treat colleagues and their own families conflict with deeply held values” (p. viii). This played out as Ms. Jones and Ms. Taylor attempted to navigate and reconcile the needs of their families with the demands of their profession.

Much of their balancing act revolved around overcoming the survival culture in which they worked. Like many survival cultures, education is plagued with low and stagnant salaries, inadequate funding, and unrealistic demands (Hartling & Sparks, 2008). Though each participant viewed participating in the growth and development of her students as important, worthwhile work, each recognized the limited resources (i.e., funding and time) at her disposal. Despite the supplemental funding each received through her work with the Noyce supplement grant, none of the participants discussed this or other supplemental funding (e.g., stipends for being a nationally board-certified teacher or serving as department head) as particularly helpful in overcoming low and stagnant pay. On the contrary, Ms. Jones and Ms. Taylor each worked additional jobs to supplement their teaching salaries. Time away from family to work additional jobs exacerbated the difficult choices they had to make for their families to meet unrealistic job expectations.

Discussion of Findings

The findings of this case study reiterate the role of working conditions, particularly the social contexts for teaching and learning, that influence teachers’ work (see Johnson et al., 2012). Specifically, teachers’ colleagues and administrators impacted directly what teachers did and how they accomplished their goals in the classroom. The impacts of relationships, both growth-fostering and growth-hindering, were evident in the experiences recounted by participants. Bureaucrats, seen by participants as interlopers in the educational process, likewise affected the efficacy with which teachers did their jobs, demonstrating that sociocultural contexts can either facilitate or hinder one’s ability to be resilient (Hartling, 2010; Jordan & Hartling, 2002). These teachers, however, were resilient and overcame the politics of public education, including low teacher pay and dwindling respect from society, due to their love for and dedication to their students. A relational look at resilience enabled consideration of “the relational conditions that . . . allow people to thrive despite exposure to many forms of adversity” (Jordan & Hartling, 2002, p. 60). These teachers’ stories highlight the ways in which resilience through relationships with their colleagues and students has helped them to persist in teaching in the face of a survival culture marked by low and stagnant salaries, inadequate funding, and unrealistic demands (Hartling & Sparks, 2008).

Conclusions and Implications

The stories and experiences of the participants in this study should come as no surprise. Nationally, public school teachers report, “the most rewarding aspects of teaching involve helping students” while “some of the greatest challenges . . . come from external policies and constantly changing demands” (Center on Education Policy, 2016, p. 12). Specifically, teachers find it satisfying when they make a difference in the lives of their students and help them succeed academically. Furthermore, “large majorities of teachers believe their voices are not often factored into the
decision-making processes at the district (76%), state (94%), or national (94%) levels” (p, 13). At the school level, teachers’ perceptions of whether their voices and opinions are considered hold implications for their job satisfaction (p. 13). This is true in other survival cultures, such as nursing, as well (Nedd, 2006).

In a survival culture marked by low and stagnant salaries, inadequate funding, and unrealistic demands, it is unsurprising that in a recent national survey an estimated one-fifth of public school teachers reported limited earning potential as among the most significant challenges they face as teachers. For school and districts to keep their teachers, something needs to change with regard to teacher pay, as “there is substantial evidence that teachers are paid less than comparably educated workers . . . ” (Johnson et al., 2005, p. 37). To the teachers in this study, these discrepancies are no surprise. Although there are no simple answers or endless funding sources, better base pay and increased opportunities for supplemental pay could be of direct benefit to teachers, students, and schools. Specifically, increased income could reward, rather than distract from, professional work and responsibilities. This is in direct contrast to the additional jobs some teachers, like Ms. Taylor and Ms. Jones, work to make ends meet financially. Raising teacher pay, however, is no silver bullet, as

the role that compensation plays in teachers' career decisions is complicated. First there are many ways in which a [school] district might distribute additional pay, and arguably, some are more effective than others in attracting and retaining skilled and committed teachers. Second, the effects of pay on teacher satisfaction and retention are not independent of working conditions; high pay coupled with poor working conditions may do little to promote retention. (p. 37)

In addition to addressing issues of teacher pay, changes within this survival culture to promote teacher retention can also occur through promoting collective action and organizing individuals to challenge the social/cultural/political devaluation of relational skills, which is manifested in our society as low salaries . . . inadequate funding, and unrealistic demands. Unfortunately, working in a survival culture consumes so much time that individual [teachers] rarely have energy to devote to changing the system. Consequently, connection, collaboration, and collective action may be the essential keys to transforming these environments. (Hartling & Sparks, 2008, p. 182)

Such opportunities for connection, collaboration, and collective action may be fostered during teacher preparation, induction, and professional development.

Specifically, active professional involvement is necessary for teacher retention across the career trajectory. For example, participants identified interactions with and support from colleagues as positive notable experiences. This is not surprising given that teachers “are influenced by the quality of their work with fellow teachers and administrators” when “decid[ing] whether to stay in their current school, transfer to another, or leave teaching for a different career” (Johnson et al., 2005, p. 67). It, therefore, makes sense to aid teacher candidates and in-service teachers in expanding their networks of supportive colleagues through early and sustained professional involvement. Typically teachers who begin their careers with strong professional involvement with persist in such activities throughout their careers. Therefore, teacher education programs need to model for teacher candidates what strong, positive professional involvement can and should look like. This can be done by actively promoting on-campus professional organizations, and facilitating candidates’ participation in local, state, and national professional organizations. These opportunities for
professional involvement should be discussed and encouraged in early professional education courses, too. Additionally, candidates should be encouraged to attend and present at relevant professional conferences. What is more, given the bureaucracies within which teachers work, as emphasized by Ms. Taylor and Ms. Jones, teacher retention could be improved if teacher education programs prepared candidates to recognize issues and opportunities related to structure, agency, and healthy opposition (Hartling & Sparks, 2008). This could be accomplished by promoting advocacy with professional organizations and assisting teacher candidates to find and develop networks of supportive, likeminded colleagues.

Because “students are best served when schools are organized to promote interdependence and collaboration among teachers” (Johnson et al., 2005, p. 68), interaction, collaboration, and professional involvement among in-service teachers should also be encouraged. At the school level, this can be accomplished through teachers’ engagement in professional learning communities that focus on student learning, collaboration, and data-driven results (DuFour, 2004). Furthermore, teachers’ involvement in professional organizations should be supported by school administration. This can include funds or release time to attend and present at relevant local, state, and national professional conferences. These would be proactive steps for teacher retention given the reasons teachers tend to become involved in professional organizations—to get new ideas and to have their voices heard. Additionally, opportunities for such professional development can be a means of keeping in-service teachers in the classroom. In fact, “professional development that raises student achievement could have another benefit: in increasing teachers’ efficacy, it may make them more satisfied and thus, more likely to remain in schools and in the profession” (Johnson et al., 2005, p. 90). Finally, differentiated roles and career ladders can also help retain in-service teachers.

Differentiated roles, such as mentor teacher and department chair, give experienced teachers like Ms. Taylor expanded authority outside of the classroom without necessarily creating a structure of hierarchy (Johnson et al., 2005). Conversely, career ladders establish a hierarchy of merit-based rewards, sometimes by dividing the teaching career into stages with increasing responsibility and leadership and other times by rewarding outstanding teaching (Johnson et al., 2005). Regardless of the ways in which differentiated roles and career ladders are enacted, “research indicates that differentiated roles and career ladders, if effectively implemented, may satisfy experienced teachers’ need for variety, new challenges, and increased responsibility. In this way, new roles may help retain veteran teachers and invigorate their work in schools” (p. 93).

In addition to the sustaining and renewing effects of professional involvement, teachers’ sense of mattering can impact teacher induction and retention (see Curry & Bickmore, 2012, for a discussion of mattering and school counselor induction). From the perspective of RCT in which resilience is both relational and contextual (Hartling, 2008; Jordan & Hartling, 2002), mattering matters a great deal. Specifically, “mattering implies that people invest in us because they are sincerely interested in furthering our welfare” (Elliot, Colangelo, & Gelles, 2005, p. 224), and relates to RCT’s concept of relational competence, which is a feeling that one matters to the other—be it colleagues, students, parents, administrators, or bureaucrats—in a relationship (Jordan & Hartling, 2002, p. 57). Without such, the relational resilience (Hartling, 2008; Jordan & Hartling, 2002) experienced and enacted by teachers within a survival culture would do little to promote teacher retention. Matters of both teacher induction and retention are paramount to ensuring science and mathematics classrooms across the country are staffed with highly qualified, caring, and effective teachers. Exploring teachers’ experiences, including their resilience, through the lens of RCT provides a unique perspective for considering what supports and sustains the work of teachers.
References


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