

Paper Title:

Grappling With Ready-Made Narratives Around Race, Ethnicity, Motivation, Achievement and
Educational Opportunity in Mathematics

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Session Title: IPS 1

Session Type: Interactive Paper Session

Presentation Date: Tuesday April 12, 2016

Presentation Location: 3018 San Francisco Convention Center, San Francisco, California

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Abstract

A prominent feature of K12 education is the widespread endorsement of what MacLeod (1987) referred to as the “achievement narrative”. This narrative articulates a direct link between individual motivation and effort in schooling and academic achievement, and is employed by a range of educational stakeholders. In STEM domains, this narrative is often coupled with one that a special intelligence is required for people to do math and science. We argue that the tendency to enlist such narratives to make sense of math and science achievement is problematic with respect to the views students from nondominant (and dominant) racial, ethnic and linguistic backgrounds develop of their intelligence and capacity for success in STEM. Narratives such these obscure the role of broader sociopolitical structures and hierarchies in shaping individual and group success in school. In this paper, we analyze the negotiation of such master-narratives by students from nondominant backgrounds as they figure themselves and others in the world of school achievement, and learning mathematics. We draw upon Ochs and Capp’s (2001) notion of *lived narratives* to explore the kinds of stories students evoked in positioning themselves and others around academic and mathematics achievement. Our analysis demonstrates the importance of initiating and orchestrating conversations that support students in explicitly grappling with these master-narratives.

Challenging Achievement-Motivation Master Narratives

Individuals make sense of themselves, their activities, ideas and social others through stories (Holland, Lachiotte, Skinner, & Cain, 1998; Nasir, 2011; Daisy & Jose-Kampfner, 2002). They tell these stories to themselves and to others as they attempt to make coherent sense of their past experiences, the current situation, and what they imagine for themselves in the future (Bamberg, 2002; Ochs & Capps, 2001). By narrating their experiences in a linear way, and comparing their perceived path to those of other (groups of) people, students are constructing possible selves, and bounding the set of people they can envision becoming (Oyserman & Fryberg, 2006; Holland, Lachiotte, Skinner, & Cain, 1998).

When individuals tell stories about groups of people, they are also—by virtue of their association or identification with particular groups--indirectly describing something about themselves. For example, recounting the story that “students who are successful in school “work hard”, divides the world into groups of people “who are successful” and “who are not” and attributes characteristics to each group. In telling this story, an individual is indirectly locating herself in one of these groups, based on her level of success. The fact that this act of locating oneself (and one’s community) can take place without the knowledge of the story-teller is of particular concern to us.

In narrating stories of the self or other, individuals are also locating people, resources and activity within a particular *kind* of world. In the story described above, which we could call the world of “school achievement”, effort can overcome other obstacles to success including educational resources, pedagogical practices and overall systemic injustice. Drawing on Holland et al (1998), we view students’ narrative acts as participating in the co-construction of the world of educational success. For example, in describing why some students are more successful in

school than others, students may ascribe characteristics to individuals (and groups of individuals) that are drawn from a set of categories (e.g., “hard-working”, “lazy”, “smart”, “doesn’t pay attention”) that they deem relevant to the world of educational success. With respect to issues of equity, students’ stories about the world of educational success illuminate perceived relations between individual characteristics, actions, and consequences in relation to broader social processes and systems.

Students draw on a range of resources in the story-telling process. These resources can take abstract as well as material form. Research has shown that the way that students perceive themselves with respect to science and mathematics, and their sense of intelligence and promise impact decisions to pursue higher education areas of study in STEM (Wang, 2013). We are particularly interested in students use, both their adaption and contestation, of *master-narratives*. Master-narratives are, by definition, detached from everyday life, simplifications of complex social phenomenon, and ready-made (Bamburg, 2004). While they are ubiquitous in everyday conversation, we know little about how students elicit them to figure themselves and others in the world of STEM achievement. In this study, we investigated how and which kinds of master-narratives would be evoked as students constructed stories with the first author and each other about achievement and success in school and mathematics. We explored the kinds of worlds these master-narratives served to evoke, and which narratives and other resources were useful in re-configuring a world of academic achievement based upon individual motivation and effort, especially pertaining to nondominant groups of students.

Stories frequently told by and about students in relation to achievement in mathematics and science draw from a larger master-narrative about the direct correlation between individual motivation and achievement. We refer to this as the *achievement-motivation master narrative*.

As these stories go, individual students can be more successful in mathematics and science by exerting effort and overcoming obstacles that arise in learning these subjects. This story has particular implications for school mathematics and science, where learning the subject matter is treated as straightforward and a matter of mastering received knowledge. A growing body of work suggests otherwise; that educational practices and policies in mathematics often result in inequitable opportunities to learn between groups of students from different racial, ethnic, and socioeconomic backgrounds (Nasir, Hand, & Taylor, 2008; Zavala, 2012; Cobb & Russell, 2014).

In this paper, we put forth a theory of how achievement motivation master narratives may add to our understanding of how students from marginalized backgrounds construct mathematics success and failure. We draw on focus group data from five Latin@ high school students in a diverse school in the northwest to illustrate how master narratives of achievement in mathematics are drawn upon and contested as students and the interviewer co-construct narratives of Latin@ success and failure in school. The locally constructed narrative is the major focus of our work because we believe that eliciting and discussing how aspects of achievement motivation narratives appear in students explanations of their own success and failure in school can lead to methods for challenging how such narratives serve as barriers to achievement.

Situating an Analysis of Master Narratives and Counter Narratives

While the misalignment between the achievement-motivation master narrative and findings of research in mathematics and science education is becoming more widely accepted within the education community, research indicates that it has less traction among the broader population. This study sought to understand how in the stories they told, students from non-dominant backgrounds claimed, adapted, contested and rejected various achievement motivation

master narratives around STEM achievement. Drawing upon Oakes and Capps (2001) notion of living narratives and Davies and Harre's (1990) concept of positioning, stories about mathematics and school achievement that students told in the course of interviews with the researchers are analyzed with respect to content, conversational features, and positioning.

Two contemporary explanations for differential performance in STEM have gained traction in the broader audience: stereotype threat (Steele, Spencer, & Aronson, 2002), and growth mindset (Dweck, 2007). We will describe each in turn, and why these popular notions, though valuable, may not go far enough in actually capturing students' sense-making processes as to why students achieve differently in STEM fields, creating a need for analysis of master narratives.

Stereotype threat is the idea that stereotypes about variations in performance in any setting have the power to influence performance if the stereotype is evoked and if a person in that setting identifies with the group (Aronson & Steele, 2002; Steele, 2010). A well-known study involves students at Stanford who were collectively considered very good at mathematics (Spencer, Steele, and Quinn, 1999), who were all going to take a test. When the test facilitator told the group that women tend to do more poorly on this test, a stereotype of women's underperformance was evoked. The women in the group ended up doing more poorly on the test. The impact was attributed to the evocation of the stereotype putting a "threat in the air," and impacting the outcome. A key assumption of stereotype threat is that success in a field required "domain identification," that is a student must come to identify themselves as aligned with the domain before they can feel an effect of stereotype threat.

Stereotype threat is no doubt powerful because of its predictable and observable effect. One might even argue that because of the pervasiveness of this theory stereotype threat itself has

taken on dimensions of a master narrative. But the study of stereotype threat leaves little recourse for how to challenge and dismantle these threats. Studies do an excellent job of documenting the effects, but do little to address how the stereotypes have an immediate effect on student performance. Even in a study that sought to find ways to interrupt performance, researchers found that framing the task as “a challenge” may have helped but did not undo the effects of stereotype threat, leaving further questions about what identity resources students draw on to rise to a challenge, or not (Alter, Aronson, Darley, Rodriguez & Ruble, 2010). When seeking to understand what kind of moderating effect internalized racial identity had on stereotype threat, researchers concluded that even when a person did not believe the stereotypes associated with their group they still did not do better on a performance test, leaving questions about the nature of interplay between racial identity, beliefs about self, and achievement outcomes (Davis, Aronson, & Salinas, 2006). We argue that approaching the analysis of stereotypes through the lens of locally constructed narratives allows students to challenge the “threat in the air” by deconstructing the power of those narratives, constructing counter-narratives, and ultimately changing their own, and others’, belief systems. This would potentially remove barriers to both domain identification and power of stereotype threat from their own paths.

The results of research into growth mindset have gained traction among educators because of the power to use brain research to counter notions that people cannot learn. A “fixed mindset” refers to a belief that people are born innately with smarts, and that is unchangeable. This divides the world into people who are smart and people who are not (Dweck, 2007). The appeal of the growth mindset research is that science tells us our brains can grow, therefore there are no smart and not smart people, just people who all have the capacity to learn. The power of this thesis is that students who subscribe to a growth mindset can see themselves as in a learning

process, which breaks down barriers to success. We argue that while growth mindset is a compelling avenue to support students to see themselves as learners, growth mindset is based in brain research that does not take into account institutional forces and historical patterns of marginalization and trauma. This creates a situation in which understanding the brain science may not be enough for students from historically disenfranchised communities to move beyond the entrenched racialized and classed narratives of who can do well in STEM areas, and perhaps who even belongs in STEM classrooms.

It is in this contemporary context that we offer an analysis of the achievement motivation master narrative, and it's locally constructed meanings and way that students challenge it, as a way to expand the conversation of how students see themselves as academic people and mathematical people, or not.

Narrative: Stories We Tell About Ourselves And Others

Bamberg (2004) defined narrative as a "discourse genre." It is a type of talk, similar to argument, explanation, reasoning, etc. Narratives are useful for explaining how things work because they "order characters in space and time" (p. 354). They connect past to present and describe how people and things change as a result. Bamberg also argues that narrative tells us something about "the presentation of selves" that other genres may not.

Individuals draw upon particular narratives to re-figure the social worlds they inhabit. As a representation of both sustained shared meaning-making and individual positioning in moment-to-moment activity, a narrative does not capture the whole of an individual's lived experience at any point, but instead distills an aspect of it that relates to broader social meanings. They are tools for sense-making and aligning oneself with particular social and cultural communities. Bamberg (2004) wrote, "As such narratives provide the possibility of a format that has become

the privileged way of fashioning self and identity, at least in 'modern times,' which is open to a certain fluidity, to improvisation, and to the design of alternatives." (P 354).

The narratives we analyze here draw on the discourse genre idea from Bamberg (2004), but are constructed by students as they describe their understanding of school and mathematics achievement. Narratives can be detached or embedded in everyday lives (Ochs & Capps, 2001). Embedded narratives originate with elements of a narrators life, are part of everyday conversation. Detached narratives have a level of distance to them, and may be generated in an analytic setting, in which someone is asked to explain how something works. Even within detached narratives, one might find aspects of the story embedded in life, such as explaining how racism works by telling the story of something that happened to your mother.

In there framework for analyzing everyday narratives that emerge through talk, Ochs and Capps (2001) describe the significance of constructing *experiential logics*, or narratives that contain explanatory power based on the linkage of past, present, and imagined future events. Narratives are rife with these "free-flowing temporal border crossings" (P. 199). But narratives also contain temporally organized explanatory sequences, which link events in ways that give meaning to outcomes:

Explanatory sequences in everyday personal narratives resemble scientific hypotheses when they not only provide explanations of the lived world, but also are open to challenge and revision. They also resemble logical explanations when they interweave events in terms of premises, implications, entailments, and consequences. ...Narrative storylines tend to be cast as specific situated affordances, wherein some particular property, condition, or behavior facilitates and makes probable the realization of some other property, condition, or behavior. (PP 157-158)

The concept of narratives being challenged and revised is powerful, since it suggests a mechanism to influence the conclusions of one's experiential logic about a particular situation. In the present analysis, for example, the ability to challenge a students' notion that Latin@s just need to study harder to succeed in math could be challenged through another students experiential logic that institutional racism, as narrated by a teller about their or a family members experience, could be a stronger influence. Hence, the first teller's narrative around success would be challenged, by the suggestion that there is some other "condition or behavior" that influences the outcome.

Bamberg (2002) cautioned about drawing too much inference about an individual from narratives. Rather than try to understand who a person is, he was interested in "stories [as] rhetorical tools for point or claim making" (p. 358), whether or not they reveal a point of view of the speaker. He stressed the important difference between describing self as a character in a story, and the narrator as a speaker in a conversational event at a certain time and place. And yet, narratives are always acts of identity making. "By offering a narrative, the speaker lodges a claim for him/herself in terms of who he/she is" (p. 359). Counter narratives are constructed when the speaker wants to insure that the assumptions inherent in a meta-narrative aren't automatically assumed/imposed. Counter narratives are constructed in opposition to dominant narratives. They are defined by each other, but dominant narratives are given more power. That is why counter-narratives are important – they are a way to push back against dominant narratives.

Master-narratives have particular affordances for people in these sense-making processes. Because of their power and pervasiveness, master-narratives are a ways to locate the self in a particular world, and can serve as identity resources. For example, in the dominant master

narrative of achievement motivation in the STEM world, drawing on this narrative means I may ascribe my failure to succeed as a physics student because I did not work hard enough and was not properly motivated enough to learn the material. Therefore, because I failed, I must not be very hard working or motivated when it comes to physics. This could lead me to see myself as not a *physics person* because the attributes of success in the master narrative are not my own, and therefore I cannot take on an identity as a successful science person.

Examination of the way the achievement-motivation master narrative manifests locally in students' narratives of success in STEM holds implications for equity. First, it helps to counter colorblind notions of learning mathematics, because interrogation of the narrative may lead to examination of institutional and structural features that may bar students from success in STEM, which may lead to examinations of racism and marginalization. Second, by specifically challenging the achievement-motivation master narrative, teachers and students can disrupt its power. But this work starts with an examination of how the Achievement-Motivation master narrative is evoked in the locally constructed narratives that students construct as they reflect on what makes students successful in math and science.

Our point is not to dismiss a particular narrative, but to recognize tensions involved in situating them within the lived experiences of nondominant youth. Youth may even draw on the same narrative in different ways, perhaps on the one hand to make sense of their life as aligned with a particular narrative of achievement, while on the other hand to work with knowledge of the narrative as a starting place to resist it. Important to disrupt master narratives of achievement motivation because of the implicit and explicit prejudices towards non-dominant groups, while recognizing that as they navigate complexities of everyday life youth draw on the master narratives in constructing local narratives of achievement.

Analyzing Lived Narratives of Latin@ Youth

Eliciting Master Narratives: Designing Interruptions

The data for this study were taken from a larger study on Latin@ youths' mathematics identities. The first author gathered the data from a diverse high school in the Pacific Northwest during the 2010-2011 school year. Five Latin@ students, in 9th to 11th grade and with varying preferences for conversation in Spanish or English, participated in the focus groups. Pertinent characteristics of each student are in the table below (see Table 1)

Table 1: Student Characteristics

Focus Group	Teacher	Name	Grade/ Age	Previous Schooling	Interview Language
1	Ms. Williams	Samuel	9/ 15	US Pacific NW	English
1	Mr. Anderson	Ignacio	9/ 15	US Los Angeles/ Pacific NW	English
1	Mr. Anderson	Anita	9/ 15	US Pacific NW	English
2	Mr. Anderson	Rubén	9/ 15	Mexico: primaria ¹ . Middle School in Pacific NW	Spanish
2	Mr. Anderson	Luis	11/ 17	Mexico: on and off. Third year in US high school	English/Spanish

A central feature of each focus group was the use of a graphic to elicit students' ideas about how race/ethnicity and school achievement are related. In this case, the researcher utilized the proxy of grade attainment (A through E) for achievement. The graphic of grade distribution (see figure 1) was taken from actual district data from the prior year. The graphic shows grade distribution data (of semester course grades) by ethnic group. Summing up all the bars of a particular ethnic group totals 100%. For example, the graph shows that of all the grades earned by Hispanic students, about 26% were As, about 25% were Bs, about 22% were Cs, about 12%

¹ *primaria* is approximately elementary school, *secundaria* is like middle school, and *preparatoria* is like high school in Mexico.

were Ds, and about 15% were Es, for a total of 100% of all grades achieved by Hispanics. It was selected to be used as a starting point for discussions of race and achievement with the students since talking about sensitive issues like racism can be harder to breach with younger people without a common starting point. The graphic was selected for specific reasons:

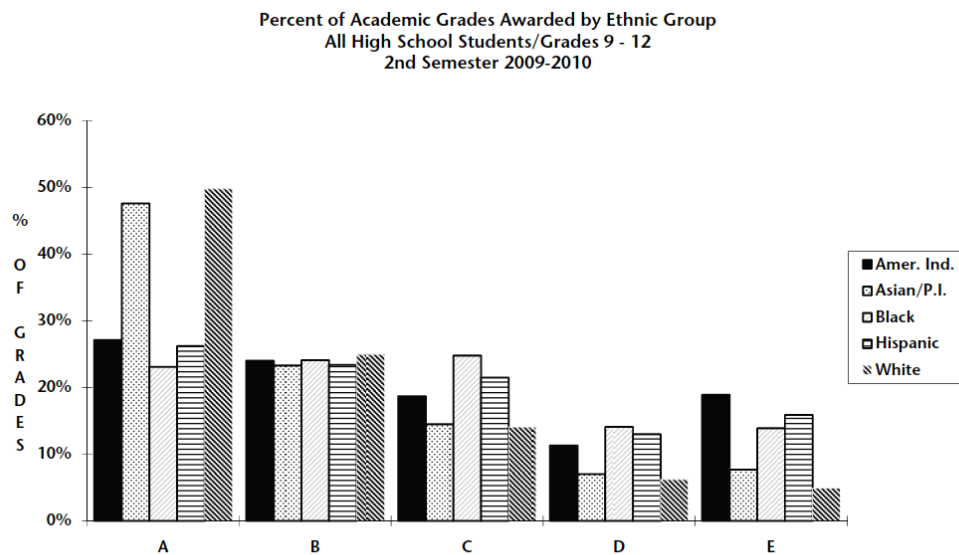
- 1) It was real, quantified data
- 2) It was local data that the students might “see themselves” in
- 3) It was grade data, and the students had evoked grades as a measure of achievement throughout the study in interviews and observation, and
- 4) It illustrated the particular master narrative of racialized achievement in a particularly stereotypical way – the Asian and White student groups achieved more higher grades, according to the graph.

The goals of the study from which the focus group data comes from were to understand how issues of race, language, and culture intersected with other identities in the development of Latin@ youths’ mathematics identities. Using the graphic as a starting point in the focus group discussions allowed us to have a conversation that made race very explicit by reifying racialized academic achievement patterns. The question was whether and how the students would challenge the dominant narrative reified in the graphic, or whether and how they would narrate a world in which that pattern of achievement was also their norm.

To encourage conversation, the first author grouped the focal students into two groups based on language preferences and number of years in the US. As it turned out, focus group 1 had Rubén and Luis, who were good friends, and focus group 2 had Anita, Samuel, and Ignacio, who were all freshmen but did not know each other as well. Ignacio and Anita were in the same

math class, and attended the same elementary school, while Rubén was in another math class at the time with another teacher.

Figure 1: Graphic of Grade Distribution



Analyzing Constructed Narratives

Ochs & Capps (2001) work was utilized as an initial framework for coding. Specifically, we sought to capture the nature of the narratives under construction in each focus group through three features of narratives as described by Ochs & Capps (2001):

- 1) *Tellability*: Highly tellable narratives have a taken-as-shared or taken-as-fact quality to them. In our data, this was evidenced by the number of tellers who agreed, added on to, or elaborated around a particular storyline, and the enthusiasm or certainty with which tellers participated. Low tellability was evidenced by challenges to the narrative under development, or little participation in constructing a particular narrative.

- 2) *Moral Stance*: weak to strong positions about what is good, what is right. “Narrators of personal experience evaluate protagonists as moral agents, whose actions, thoughts, and feelings are interpreted in light of local notions of goodness.” (Pg 47) In this study, strong moral stance was evident in vocal inflections, the presence or absence of hedging, and the form of challenges to the narrative.
- 3) *Embeddedness*: detached or connected to surrounding discourse. Embedded narratives have the talk features of regular conversation. A narrative that is more detached may be characterized by one person doing most of the telling among a group of tellers, or may be characterized by a departure from the narrative under construction.

We examined these particular features within the narratives under construction in the focus groups. We also coded for turn taking and positioning of students in relation to each other as they co-constructed narratives. Finally, we open coded exchanges for what was being narrated about who can achieve in mathematics or school in general. We used those open codes to identify what narratives were evoked as students constructed narratives of achievement that impact themselves and others. We discuss the results in the next section.

Findings

The findings show that in each focus group, students drew on different lived experiences of each other or others not present in the interview to provide evidence of how two dominant narratives manifested in their telling of achievement in mathematics: First, each group evoked the stereotype that Asian Americans were good at math, but in one group it was described within a temporal sequence of actions that lead to the outcome for Asian students, and went unchallenged; whereas in the other group the narrative was called out as a stereotype, and challenged. Second, each group suggested a wider range of factors influencing Latin@

achievement, though the Achievement-Motivation narrative was evoked to describe who could succeed as part of one groups telling of how achievement works, whereas it was explicitly challenged with lived experience and structural features of schooling in the other.

The findings are organized by focal group's discussions. The first focus group is Rubén and Luis, two more recently emigrated students from Michoacán and Oaxaca, respectively. The second is the group of Ignacio, Samuel, and Anita, all students who have attended either all schooling or school since first grade (Anita) in the US. In our analysis, Anita's perspective holds the most influence over the focus group discussion, which in our analysis means that perhaps the tellability of the narrative in that group is more narrow than in focus group one, where the two students play off of each other to construct their narrative.

Focus group 1: A highly-tellable tale of Asian achievement, and language bias, unchallenged

In the creation of their narration, Rubén & Abel use the graphic on grade distribution by ethnicity to co-create a story of Asian and White dominance when it comes to smartness. They speak with strong moral conviction when it comes to justifying Asian smartness as a function of being Asian and doing certain things like studying all the time, and they do not problematize it: The following exchange occurs when the students and the interviewer (first author) are looking at the grade distribution data. Luis had initially reacted that he though the graph makers exaggerated, because "we're not that dumb." When asked about what the data does say about Latin@s, the students also constructed a narrative around Asian smartness:

Interviewer: Because you also said this doesn't make us look very good, is that what you were saying?

Luis: Eh.

RUNNING HEAD: GRAPPLING WITH NARRATIVES

Interviewer: Do you think this says something about Latin@ students and how they do in school? What do you think this says about them?

Rubén: Están diciendo que... */It's saying that... (trails off)*

Luis: That we're not that smart! *(Rubén and Luis laugh)*

Interviewer: Well, yeah, well do you think this has to do -

Rubén: Eh.

Interviewer: I'm not going to agree, do you think this shows how smart someone is, or what do you think this is getting shown here?

Rubén: No pues. Ahí esta diciendo que las. Los de aqui son los que tienen mas, los mas inteligentes. */Of course not. Here it's saying that those are the people who are getting better grades, the more intelligent ones.*

Interviewer: A sí, ¿quiénes? */Oh really, who?*

Rubén: Aqui los estos / *Here the these ones (points to White bar on graph in A section)*
los Whites. / *the Whites.*

Luis: *(inaudible)*

Rubén: *(in response to Luis) Aaa-í*

Interviewer: Okay.

Luis: Which is true. That Asians are smart.

Interviewer: You think it's true or is it a stereotype?

Luis: Well I think it's true. Asians are smart.

Interviewer: What has been your experience, how did you learn that?

Luis: Well, you can tell.

Interviewer: How can you tell?

Luis: They've been studying all day. I don't know, I don't know what they do -

Rubén: -- Les van caminando y van leyendo, y en el bus leyendo. // *They go walking and reading and in the bus they are reading.*

Luis: Es como no- / *It's like they don't -*

Rubén: Aaa-í

Interviewer: Ah so all of the Asian students you know are very studious?

Rubén: Y están comiendo con un papel escribiendo y leyendo. / *And they are eating and writing on the paper and reading.*

Later, the researcher's attempts to probe around connections between grade distribution and mathematical smartness lead to Luis problematizing whiteness as intelligence when he says, "I believe that Asians are (smart in math), but not White people. No offense, but I'm not sure."

Rubén's tendency to describe characteristics of groups of people is revealing of the characters he is creating as he constructs a narrative of achievement, and who is a principal actor in such a story. Later in the conversation, Rubén justifies why Whites should get good grades, taking whiteness to mean you are a native speaker of English because you were born here (how else would you be identified as white?). He argues that of course people who speak English better should do better in school, and in making that move he also positions Latin@s who are not native English speakers as not doing well in school.

They also move unproblematically from a graphic about grade distribution to talking about what this means in terms of math intelligence. This could be thought of as how they interpret smartness to be a general quality that must mean you are also good at math.

Rubén and Luis together craft a highly tellable narrative of how specific characteristics of racialized groups of students contribute to academic success. The laughter with which they

respond to the idea that Latin@s aren't smart could suggest both a coping mechanism, but also disbelief at such an outrageous idea. It seems more likely that they laugh because of a conviction that people may think Latin@s aren't smart, but they are being foolish.

The high-tellability and the strong moral convictions in Luis's and Rubén's narration also shows how challenges by the researcher in the form of questions to explore more deeply are countered with experiential knowledge. The sequencing of how studying is why Asian's do better, essentially the connecting of an event to an outcome, holds a strong explanatory power. This narrative also holds elements of the master narrative of achievement motivation, racialized in this case because it is Asian students who are perceived to be putting in the effort to succeed. However, Rubén's assertion that white students do better because they are native speakers of English points to not the traditional achievement-motivation narrative, but rather a narrative of home-field advantage, suggesting that this narrative may be constructed by immigrant students and function as a barrier to success.

Focus group 2: A highly-tellable tale of systemic discrimination of Latin@s in society as both motivating achievement and discouraging it

In this focus group's discussion, the students began with an examination of the grade distribution graphic and brainstorming why the distribution might look like it does. This led Ignacio to say "They are known for that," which prompted Samuel to say "Isn't that like a stereotype?" That exchange characterizes many of the exchanges in this group, in which dominant narratives of who can achieve and who will have fair opportunities if they work hard were challenged with a high level of teller agreement.

For example, Anita steered the narrative of why Latin@s aren't performing better towards a narrative of context influencing outcome, and away from individualized achievement

motivation. In the excerpt below, Anita describes how a Latin@ individual may feel personally unmotivated given structural inequities (lack of financial resources for college, possibility of encountering racist hiring practices) and may draw on that as a resource to not try as hard in school. Even when challenged, she narrates a typical experience for many Mexicans as an explanation for how educated Latin@s may still face discriminatory hiring practices in the US:

Interviewer: So, I guess I have a trickier question, I know this might be difficult to speak for other people, but what is your hunch about why Latin@ students are not, why isn't our bar up here, you know? (*draws line in the A section.*) What are the things you can think of that impacts why Latin@ students don't have a bigger bar in the A section.

Anita: I don't know, because I know some people that think, well, why would I study if I might not be if I might not get a scholarship even if I have all As, or a good point average they might just choose other people. And, um, if I do have good grades to get into college, without a scholarships – like I was watching this show and they were asking Obama questions and one girl was like, well why would I go to college and spend all that money when I'll still end up like cleaning houses or offices. Because like she can get a thing, but it maybe it just not work out, because most Latin@s they don't get the jobs they want even if they apply for scholarships.

Interviewer: So, but why does that happen?

(*3s silence*)

Anita: I don't know.

Interviewer: So even if some Latin@ students get in to college, finish with their degree, they

can still end up cleaning houses?

Anita: Yes. Like, well, that might not be like very likely for them to end up cleaning houses if they have a degree and everything. Because like, also, people that study and have a degree in from Mexico, and they come over here to make a business or whatnot, it won't work out for them because that degree doesn't count over here, it only counts in Mexico.

Interviewer: Yeah.

Anita: Because my cousin she studied to be a lawyer and she came over here and she's working as a dishwasher with her degree and everything here to be a lawyer, [because that doesn't] count over here.

Taking the lead in the narration of Latin@ underachievement in this setting, Anita provided structural reasons as to why a person may experience a lack of motivation. Samuel was the second most frequent contributor of the students, and when not speaking he was often nodding in agreement with what Anita had to say. When the researcher turned the conversation back to their own personal experiences, they narrated a coherent sense of how an understanding of your own racial identity and familial experiences with oppression can be resources for achieving academically, but the challenge is to stay motivated:

Interviewer: Right. So what does this mean for education, like I'm interested in thinking what it means for mathematics in particular but like when you come to school knowing what you know, and hearing the experiences from your parents and your cousins and these experiences you've had yourselves, does that – does that - do anything is that at all on your mind at

all when you come to school and it's time to do work, or. You know, does it influence how you think you should be doing in school?

Anita: Well, for me I kind of like I don't know I feel bad about myself sometimes for not like trying like the best I can, and like not doing as well as I could be doing on quizzes and stuff, and then it brings me back to thinking I could end up like my mom or dad or cousin and like washing dishes or whatnot, and then it kind of makes me try harder, but then I forget about it and I go back down again.

Interviewer: Mm-hmm. What about for you Samuel?

Samuel: Um, it kind of motivates me, because some Hispanics might not be as fortunate, so like I try to take the opportunities I get to try to do good.

Interviewer: Okay. What about for you Ignacio?

Ignacio: It kind of motivates me but it also puts me down. Because we are not as fortunate as others. We're basically gambling with our lives, because it's like no matter how hard you study, you can also be working places you don't want to be. So you're basically risking, you are being risky about it. And so it puts you down. So it motivates you, but you're thinking about it, in class, in school, no matter how much you're trying to get rid of it, you're still thinking about it the whole time you're in school. Or, yeah.

Even with the high tellability around challenges to the achievement motivation narrative, the students construct a counter-narrative that is not entirely strong in moral stance. It is as though they know the master narrative is not right, there is still an element of their success that must depend on it (trying the best you can) in parallel with your emotional journey as to whether

the “risk” or “being risky” with putting yourself out there is worth it. As Anita answers the question first, her comments are full of a tension between the master narrative of achievement motivation, and the experiential logic of what happens to the uneducated family members in her life. But she also adds, one cannot always function with that on your mind, and the weight of her identity as a Latina becomes both a burden as well as a resource. Samuels’ response captures the idea of a racial identity as a resource, but as the cost of others in his community. Because other Latin@s may not be as fortunate, he needs to take advantage of his educational opportunities for his own sake, and in some ways for theirs. Ignacio’s response is the one that is most puzzling, and one could imagine the need to dig into the meaning of “risky” and what is being “risked” in his words. In every students’ comment there is something of the duality of being Latin@ and striving to achieve, and having your identity readily available as a positive resource, but also as something not widely understood to be an advantage.

In each of the focus groups, the locally constructed narratives of school and mathematics achievement have attachments to the achievement-motivation master narrative, both in the sense of who can succeed and who cannot. Racial identities, specifically evoked by the grade distribution graph, are figured into the narratives in ways that draw on stereotypes as experiential logic, and the lives of other Latin@s also as experiential logic, to challenge or support the narrative. In each discussion, the key to constructing each narrative either to support or counter the master narrative seemed to be experiential logic. This idea is discussed further below.

Discussion: The Role of Experiential Logic in Supporting and Challenging Master Narratives

The goal of this paper was to put forth the theory and rationale for why eliciting narratives of school and mathematics achievement from non-dominant youth is an important part

of transforming schooling outcomes from those students in the US. Drawing on definitions of narrative as a genre, and analytic techniques for understanding narratives constructed in everyday talk, we illustrated how researchers might conceptualize student's talk as starting points for understanding how students' figure themselves and others in terms of school achievement. The goal is to better understand how racialized narratives of achievement, and other master narratives of achievement motivation, might be elicited as an entry point to shift the power such narratives hold.

Striking to us across both groups' discussions is the idea that experiential logic plays a powerful role in providing evidence for a counternarrative. This raises the question as to whether students who stick to the master narrative, like Rubén and Luis, are missing out on something, or whether they might not see themselves in the master narrative to begin with and thus have a harder time drawing on counter narrative since it doesn't impact their sense of selves.

We want to suggest that it is possible to design experiences and representations that students can later draw on as resources in narrating themselves and others. This seems reasonable given the way that students already use others as examples to make sense of master narratives. In the same way that Rubén engaged in a character creation as he ascribed characteristics to groups of students to bring the stereotypes around them to life, so too could students' sharing of experiences that counter such notions bring to life new possibilities for future selves. It may be that students in the room with other students challenging the dominant narratives of achievement motivation are the most powerful tools we have to counter the stories that serve to marginalize non-dominant youth.

Certainly, questions arise out of the analysis, such as:

- How should educators (researchers and teachers) elicit and draw on this information? What tools exist for engaging in these discussions with students?
- How does creating space for students to co-construct narratives of racialized achievement lead to challenging such narratives in ways that benefit students from non-dominant backgrounds?
- What resources do students from marginalized communities need to be able to challenge the master narrative, and create counternarratives that could serve as identity resources?

Students do not benefit when they are divided into socially constructed groups, and pit against each other to succeed, and that is precisely what the persistence of a racialized achievement master narrative in mathematics does. To attack this detrimental message at its source, we may all benefit from a deeper understanding of how achievement motivation master narratives are a barrier to the possible mathematical selves our brilliant children can all become.

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