INTRODUCTION

This article is about performing the art of research in mathematics education. It engages general debates about the production of knowledge and, within that, more specific debates about reflexivity and the place of one’s own subjectivity in the research process. Situated beyond “the cosy slumbers of past scientific ‘pretensions’” (May 2003, 2), it seeks a more democratic approach by attempting to take into account the place of emotions and unconscious interference both in relation to the researcher’s own subjectivity and in relation to intersubjective relations between researcher and research participants, for understanding
the practice of research. It begins with Lincoln and Denzin’s (2000) vision of qualitative research as “simultaneously minimal, existential, authoethnographic, vulnerable, performative and critical” (1048). The focus is on performing the self as researcher, both within the data gathering process and in the construction of research reports.

The performance of self as researcher is not a new theme of course, since writing oneself into the research, if not celebrated or embraced as it is in much feminist research, is at least condoned in mathematics education. Putting the researcher into the research is considered a way to move beyond subscribing to a particularly modernist set of assumptions informing conceptions of what it means to know and what it means to know others. This is a set of assumptions to the effect that researchers are able to put themselves in another’s (participant’s) place and know his or her circumstances and interests in exactly the same way as she or he (participant) would know them. Following from those kinds of understandings comes the belief that researchers will be able to produce “paradigmatic instances of the best knowledge possible, for everyone, in all circumstances” (Code, 1995, xi).

This way of thinking has come under interrogation from Foucault (1972) who has provided a critical analysis of how the particularly powerful modernist discourse determines who has access to the production, the distribution, and the legitimation of knowledge. The disruption of what Derrida (1976) has called the end of ‘pure presence’ has represented an immense challenge to researchers in mathematics education. For one thing, objectivity has been close to many a researcher’s heart. Giving up control and mastery and the understanding that knowledge is made by the abstract, interchangeable individual (researcher), abstracted from the particularities of his or her circumstances, has forced us to think about a practice that would acknowledge researcher complicity in the research process. For another thing, it has required us to reassess concepts like reliability, generalisability and validity that are part and parcel of the classical episteme of representation. To this end some have chosen to write themselves into the research - to make their core researcher self visible and voiced.

Granted, the new attention to the reflexive self makes the complex relation between researcher and researched a lot more transparent, but it signals a mere surface understanding about how subjectivity and intersubjective negotiations are actually produced. How can we take on board lessons learned from Foucault about how subjectivity is formed through multiple discourses? How can we explain the researcher’s sense of self with regard to her complex and continually changing relation to others? And, for that matter, how do desires and fantasies map onto this sense of self? Questions such as these are about theory. They are also about methodological ways of proceeding with, and writing up research. Doing research and embracing the researcher’s self-identity as if it were a given essence does not adequately encapsulate the way in which subjectivity is formed through feelings and emotions and through unconscious interference. By asserting their own subjectivity through a narrative layer reflexive researchers mask the way in which their subjectivity and ‘voice’ are produced.

I am attempting to understand what it is that structures a more democratic narrative experience. In that attempt I have two main objectives. One is a theoretical interest that involves examining the issue of subjectivity and how intersubjective negotiations take shape in relation to data gathering and the construction of research stories. Foucault’s understandings of how subjects are produced within discourses and practices, Lacan’s (e.g., 1977a, 1977b) arguments about narratives of the self, and Zizek’s (e.g., 1989, 1998) related examination of how subjectivities are constructed across sites and time, have all been
highly influential. Their work tells us that self-conscious identifications and self-identity are not simple, given, presumed essences that naturally unfold, but rather, are produced in an ongoing process, through a range of influences, practices, experiences and relations that include social, schooling and psychodynamic factors. This brings up the issue of emotion and unconscious processes. I propose that a conceptual frame derived from this body of work offers a way of understanding a sense of self that is simultaneously present, prospective and retrospective, as well as rational and otherwise.

A second objective is to speculate what these understandings of the researcher’s subjectivity tell us about the production of knowledge. Using data from my own research on girls in mathematics schooling, I place my ‘self’ under scrutiny as I explore the multiple layers of performing the art of research. This is the point where the interest moves from establishing truth to an understanding of how meaning is produced and created, and specifically, how these productions are influenced by fictions and fantasies. My purpose in doing this is to keep the research conversation going and specifically to accommodate the researchers’ subjectivity, intersubjective negotiations, and the place of emotions and unconscious interference in these two, in performing the art of research.

CONFRONTING KNOWLEDGE PRODUCTION

We have come a long way from wholesale acceptance of the canons of truth and method of research. To date, albeit in small bites, the criteria for evaluating and interpreting educational research have been questioned, and this has informed a revised thinking about the concepts of legitimacy and representation. More specifically, it has led to a re-evaluation of the idea that researchers are able to capture lived experience - that they are able to speak on behalf of others. This heightened sense of awareness of the limits of research to explain social relations has crystallised into alternative research reporting approaches and new forms of expression. Steering a middle course between supporting long-held epistemological and ontological preoccupations that prop up the search for reality and an effort to understand the conditions of knowledge production itself, research in the social sciences has scrutinised the place of the researcher in the research process. Expressed most aptly as a move away from the “Cartesian ‘epistemic exaltations’ of the self” (May 2003, 11), contemporary researchers have recognised the researcher’s position of privilege in knowledge construction and transformed it into “a more self-conscious approach to authorship and audience” (Coffey, 2003, 321).

Taking the lead from social science, scholars within mathematics education began to suggest that it is not enough to connect the researcher to the questions, methods, and conclusions of any research, but that such a relationship should be avowed and made transparent (see Burton, 1995, 2003; Cabral & Baldino, 2004). In writing the reflective self and research voice into research texts, contemporary work in the social sciences has emphasised the negotiation, physicality, and crafting of personal relationships within the research encounter. Reflexivity, in these accounts, has become a methodological resource for authorising the researcher’s self into the account.

...the researcher-self has become a source of reflection and re-examination; to be written about, challenged and, in some instances celebrated. In more general terms, the personal narrative has developed as a significant preoccupation for many of those who espouse qualitative research strategies...There is an increasingly widespread assumption that personal narratives offer uniquely
privileged data of the social world; personal narratives (re)present data that are grounded in both social contexts and biographical experiences. The personal narratives of the researcher have formed part of this movement, to be told, collected and (re)presented in the research and writing processes. (Coffey, 2003, 313)

The ‘self’ or ‘researcher identity’ written into the research account is a technique used to expose power and normatively constituted relations amongst those involved in the research. The strategy puts paid to objectivity, acknowledging instead that relationships and experiences, far from being bracketed out during the practical, intellectual and social processes of a research project, are in truth integral to it. Deeply implicated in the production of knowledge, and driven by an epistemic responsibility to get perceptions ‘right,’ the researcher seeks “the courage not to pretend to know what [she] does not know [and] the wisdom not to ignore its relevance” (Code, 1988, 191). The important point to stress is that the researcher self in these accounts is most often expressed through a self who is a “fixed point of departure or arrival” (de Lauteris, 1984, 159) - a self that one draws upon to interpret the world. Thus, there is a certain level at which the practice of the researcher assumes a core true self.

Theoretical and methodological issues to do with the concept of the self and its textual visibility have been critiqued on a number of fronts (e.g., Adkins, 2003; Brown & England, 2004, 2005; Walkerdine, Lucey, & Melody, 2003). Such writers take pains to emphasise that there is no core self; instead the “self, like those of the research participants, is created as both fiction (in the Foucauldian sense) and fantasy” (Walkerdine et al., 180). It is an effect of the experience of interacting with social groups, cultures and institutions. One appropriates different ‘selves’ in relation to those interactions. In this line of thinking, giving the researcher a voice, as a methodological practice, resonates with Beck’s (1992) notion of ‘reflexive modernity,’ in which individuals seek out by strategic means a coherent life story within a fractured landscape. However, the claim that reflexive forms of action are demanded from contemporary life has been fiercely debated (e.g., Adkins, 2003; Skeggs, 2003, 2004; Walkerdine, 2003).

The terms of the reflexive researcher debate centre around the tendency to believe that the addition of a researcher layer to the narrative has the effect of countering the effects of power, privilege, and perspective, and believing that it does this by “guarding against over-familiarity and the effects of context on the relationships that are formed in the field” (Coffey, 2003, 314). The claim that reflexivity has occurred is counterclaimed with the insistence that the insertion of one’s self into the account often fails to engage the very problem of narrating experience, neglecting to ask what it is that “conditions and structures the narrative impulse” (Pitt & Britzman, 2003, 756). As a version of the rational actor, the reflexive self clearly does not have the effect of making relations between the researcher and participant transparent. The self has a tendency to “move uncomfortably between the individual and the social or cultural without resolving, or satisfactorily exploring, the tensions inherent in this tussle” (Bibby, 2008, 37).

Authoring one’s biography into the research account, without giving attention to the constitutive interplay of subjectivity, obligation and democratic practice, has the effect of romanticising the self. It is a self that suspends experience in the world, and this, in turn, “underplays the importance of relationships and forms of reciprocity and obligation that are embedded within them for understanding the identities and practices in which [researchers and research participants] engage” (Thomson, Henderson, & Holland, 2003, 44). Such forms of reciprocity and obligation are never straightforward no matter how ‘detached’ and
'objective' a researcher may attempt to be. As Skeggs (2003) tells us, “centring the self is a particular technique of eclipsing and de-authorising the articulations of others” (360). What telling the self does do, in fact, is privilege and inscribe “a hierarchy of speaking positions” (Adkins, 2003, 332). Hooks (1990) captures the hierarchy in the following:

No need to heed your voice when I can talk about you better than you can speak about yourself. No need to hear your voice. Only tell me about your pain. I want to know your story. And then I will tell it back to you in a new way. Tell it back to you in such a way that it has become my own. (345)

None of this is to suggest that the researcher should remain an invisible participant. Abandoning the practice of researcher reflexivity is not the objective here. Nevertheless, drawing attention to the implicatedness of the researcher in the production of knowledge primarily through the researcher’s personal story, does not tell us the full story. In understanding the subjectivity of the researcher, the subjectivity of the participants, and the intersubjectivity of the two, out of which the research account is produced, other factors become crucially important. Because the research process involves close encounters between people, the place of emotions cannot be overlooked. What needs to be emphasised here is that the concept of the authorial self, held in place so that the voice might surface, has been found wanting.

UNDERSTANDING SUBJECTIVITY

In taking the authorial self to task, it is helpful to think of the subjectivity of the researcher as involving identifications, relationships and experiences, that are not in any way straightforward, but are rather, “mediated by multiple historical and contemporary factors, including social, schooling and psychodynamic relations” (McLeod & Yates, 2006, 38). What are being raised here are questions of a fundamental epistemological nature. The bad news is that the theories that we typically use in mathematics education do not tend to deal with such issues. More often than not, our theories do not capture and explain subjectivity as a discursive constitution and fail to explain relations between positionings that work in contradictory, conflictual and emotional ways. The good news is that it is possible to work with a number of conceptual tools that allow us to deal with the complex interplay between hierarchies of social categories and the processes of self-formation that are at work in the practice of research.

One of the ways subjectivity has been explored in recent scholarship is through spatial metaphors that model research as a space that seeks to define and monitor subjectivities. Research constructs particular positionings for people and both creates and lends coherence to the understandings that those in the research process construct of themselves. Within the practices of research, researcher subjectivity is historically and situationally produced in relation to a range of constantly changing processes. In scholarship that draws upon these understandings (e.g., Blunt & Rose, 1994; Keith & Pile, 1993; Pink, 2001) the notion of a ‘real’ identity or ‘true self’ is an illusion. Pink (2001) elaborates that the “self is never fully defined in any absolute way….it is only in specific social interactions that the…identity of any individual comes in to being in relation to the negotiations that it undertakes with other individuals” (21).

We can draw on Foucault (e.g., 1984, 1988) to explore the dynamic self/social spatiality. For him, identity is historical and situationally produced; it exceeds singular definition precisely because it is always contingent and precarious. His concept of
discursivity allows us to make connections between social process and individual biography. In Foucault’s (1977) formulation, discursive spaces trace out what can be thought, said and done by providing people with a viewpoint of the social and natural worlds. They are, above all, knowledge producing systems (Walshaw, 2007). But describing how the subject is produced and regulated in multiple and contradictory discourses, is not the same as subjectivity - the condition of being a subject. De Lauretis (1984) tells us that subjectivity:

is an ongoing construction…[T]hus it is produced not by external ideas, values or material causes, but by one’s personal, subjective engagement in the practices, discourses, and institutions that lend significance (value, meaning, affect) to the events of the world. (159)

Understanding how this process operates for the researcher and researcher participants requires conceptualising how they live their subjectivity at the crossroads of a range of often competing discourses. In searching for a theory of the self that can offer a model of interpretation that extends beyond the historical and personal, I have found psychoanalytic theory particularly helpful. Arguably, psychoanalysis has many shortcomings, yet the theories of scholars, such as Lacan and Žižek, provide us with the tools for understanding the self in relation to social, cultural and psychic processes (Britzman, 1998; Ellsworth, 1997; Evans, 2000; Felman, 1987; Jagodzinski, 2002; Pitt, 1998; Walkerdine, 1997; Walkerdine, Lucey, & Melody, 2002). Grosz (1995) maintains that psychoanalytic theories are “wide-ranging, philosophically sustained, incisive, and self-critical” (191) and offer complex and well-developed theories of subjectivity.

Subjectivity, for Lacan, is not constituted by consciousness. Rather, conscious subjectivity is fraught and precarious. For him, the reduction of interpretation to conscious experience covers over the complexity in which researchers find themselves. In the Lacanian assessment, the researcher is one whose ontological status remains permanently unclear. That status is constantly under threat precisely because consciousness is continually subverted by unconsciousness processes. In other words, the self is not “the autonomous source of spontaneous, self-originating activity” (Žižek, 1998, 5).

Lacan grounds his development in what he calls the Symbolic and the Imaginary registers. The Symbolic identification (constitutive identification) allows the subject to assume the place from where she is being observed, from where she looks at herself as likeable, and worthy of being liked (Žižek, 1989). In particular, the positioning of ‘researcher’ foregrounds a particular subjective position and, as a consequence, the narratives that one is led to endorse are often not chosen through rational deliberation. Lacan (1977a, 1977b) maintains that it is through the unconscious that we come to understand the network of symbolic social relations that structures what we can and cannot do. If the Symbolic represents the constitutive identification, the Imaginary represents the constituted identification through which the subject identifies herself with the image that represents what she would like to be. Arguably, the Imaginary and the Symbolic registers of subjectivity are responsible for processing different sets of ‘data,’ yet both function interdependently, working together to inform the subject’s experience of self and sense of perception.

The central issue here is that the researcher’s consciousness is not the strategic organizer of her intentions or her experience of the research process. Unconscious processes will always interfere with conscious intentionality and experience (Britzman, 1998). Clearly then, the researcher is not the coherent, pre-given and transparent self of
current research reports who is in control of her own thought. As Žižek puts it, “(t)he Cartesian ego, the self-transparent subject of Reason, is an illusion; its truth is the decentred, split, finite subject thrown into a contingent, nontransparent context” (2).

Methodologically, the Lacanian understanding of the self highlights the difficulty in producing a research account that tries to avoid problems concerning speaking for others, even when the researcher exercises reflexivity about her relation to the research participants. If, as Lacan suggests, the unconscious is the place where our sense of self is developed and the place where we find out the kinds of interpretations that we can make (Lacan, 1977a, 1977b), what does that mean for the subjectivity of the researcher and, for that matter, the truthfulness of her research report? Is it possible to tap into unconscious levels of awareness? How can we deal with these issues systematically?

CONTEXUALISING THE EXPLORATION

Before we begin to answer these questions, some preliminary contextualizing is necessary. The paper is backgrounded by some serious thinking about the epistemic responsibility of the researcher. It began with a project that explored the subjectivity of girls enrolled in a senior secondary school mathematics class (Walshaw, 1999). This was a project that drew heavily on Foucault’s ideas, including the idea that knowledge is mediated through the discourses that are made available to us. It seemed to me that Foucault’s ideas might have something useful to say, not only about the creation of mathematical knowledge in the classroom but also about understanding the data and writing up the account of the project.

One of the crucial issues for meaning construction is what Foucault calls the politics of the gaze. It is not merely the subjectivity of the student that influences the way data are reported; rather, the researcher’s own subjectivity inflects the observational, interpretive and organizational choices that are made. It was these kinds of ideas that I attempted to express at the annual conference of the Mathematics Education Research Group of Australasia in Sydney (Walshaw, 2001) and at the annual conference of the International Group for the Psychology for Mathematics in Norwich (Walshaw, 2002).

In an effort to capture the relationship of the researcher with the data, I wrote about the project using an experimental form of writing (Walshaw, 2005). Taking the lead from Lather (1994), Middleton (1995) and Mol (1998) whose accounts work both within and beyond dominant textual forms, my analysis of an interview with one student used a split text format, consisting of double layer of participant’s voice and researcher’s voice. The transcript of the interview was included in a section at the top of the page, almost in its entirety. The lower section underwrote the interview through a post-structural analysis of mathematical identity. Multilayered with the student’s own narrative of classroom experiences and affiliations, with learning and teaching, and with theory and method, the design gave structure to a constantly changing mathematical identification that moved forward, even as it folded back onto itself.

The alternative textual method represented my effort to capture the dynamic between gendered subjectivity and schooling, to conduct research in a more interactive way, and to be accountable to student’s struggles to identify with mathematics. The strategy seemed to acknowledge Valero’s (2004) argument that “the practices of ‘practitioners’ intermesh with the practices of ‘researchers’ and the role of the researcher evidences their mutual constitutive character” (50). It highlighted contradictions in what the student was telling me,
allowing the reader to grasp a sense of the complexity surrounding gendered subjectivity in mathematics. At the same time, however, the textual strategy did not seem to produce satisfactory and conclusive answers to the question of the epistemic implications of researching others.

The hard thinking about the place of the researcher in knowledge construction continued during a project on girls in a primary mathematics classroom. The study (Girl Power) is a longitudinal exploration into the construction of gendered and classed difference in New Zealand, and within that, represents an attempt to trace how mathematical subjectivities develop over time. The interest is in exploring changes over time in girls’ thinking about schooling in general and about mathematics in particular, and in investigating their thinking about the future. The initial part of the project has now been completed as a two year qualitative study of 33 girls at three primary/intermediate schools, servicing respectively, low, middle and high socioeconomic communities. After reporting on a group interview with a small number of girls (Walshaw, 2006a, 2007), and on individual interviews undertaken with girls and with their mothers (Walshaw, 2006b, 2007), and reflecting generally on the project’s data, I considered my own emotional response to what I heard and saw - how I responded to data which resonated with me or conflicted with my worldview. How did I respond to data that I could not fully comprehend, and to stories from the girls and mothers that felt contrived for my purposes? How could I possibly know what they were saying in the way that they knew? Thinking about this question led to a number of others:

What fantasies and dreams do I conjure up about the work I do as researcher at this school with these students?
How do I imagine the students in this research view me?
In what ways do my feelings and reactions to their stories influence my understanding of the data?

WORKING WITH SUBJECTIVITY

The discussion that follows focuses on three episodes taken from my own research practice. It focuses on the subjectivity of the researcher and the subjectivity of research participants as each performs the art of research. The ideas the examples embrace are used as a counterpoint to current thinking about researcher reflexivity and as a potential vantage point for highlighting the centrality of emotion in the research process. Drawing out instances from the two projects referred to above, I have tried to develop a coherent line of thinking that systematically deals with traces of recognition and misrecognition, and in which issues of transference and defence come to the fore.

Understanding who I am and who you see

We start with an interview with a group of girls [aged 11] conducted in a committee room in the school’s administration block before the lunch break during a regular day. The specific group under investigation comprised a cohort of four girls all of whom had attended in the first year of the Girl Power study a small urban school servicing a low socioeconomic population. The following year into the study, the girls all moved as Year 7 students to an Intermediate school for the next two years in the same locality. This is the customary practice in New Zealand where this study took place. The latter school’s roll was approximately three times the size of their primary [elementary] school. Like the primary
school, it attracted students from an ethnically mixed urban area.

The previous year I had spent three weeks observing and recording in the girls’ mathematics classroom. I had interviewed them individually and had also interviewed their mothers. Now, another year on, I was seeking a group interview from them. The girls familiarised themselves with the audio recording equipment before the interview by asking each other questions and playing the recording back to the group. Since they had a lot of fun doing this, as a consequence, I prepared myself for a productive interview. The interview schedule dealt with questions about the classroom. I told them that what I was interested in for the group interview were the students in the classroom - the boys and the girls. What do the students do, and how do they behave?

Shanaia opened the conversation by saying:

Shanaia           Well, the boys, they’re just like the most disgusting boys I’ve ever met on the earth ‘cause you know last year at primary school the boys were a lot more behaved, but the ones in my class they’re just disgusting, farting on peoples’ desks, throwing bugs in your hair and doing everything.

This was not exactly what I had expected to hear. To be frank, I was taken aback, downright shocked, that a student would talk in this way to someone who, I imagined, they thought embodied respectability and authority. My classroom observations did not substantiate Shanaia’s claim. We will consider this extract from the position of Shanaia, as research participant in a group situation, and also from the position of me, as researcher. The interview provided Shanaia with a power and a voice to oppose masculinities confronted in the classroom and to assert herself as “more mature and educationally focused than the boys” (Reay, 2001, 157). Through her words about what is ‘normal’ and ‘not normal’ gendered practice in the classroom, she produced an image from her previous classroom of the normal, conforming male student. Precisely because she was well aware from the study’s Information Letter that I was interested in *Girl Power*, it is possible to understand her response as produced in relation the popular media discourse of female power and to what she fantasizes I wanted to hear. The fantasy is built around complex social processes, involving the public, parents, schools, and the media, and in particular, a press obsession with falling social standards that have punctuated societal understandings of young persons’ behaviour. It is easy to read the same critical assessment of young people’s behaviour as “out of control and a threat to the moral order” (Lucey & Reay, 2000, 193) that is given an airing in the public arena.

Yet I am feeling most uncomfortable about the response. Shanaia has assigned an identity position to me to which I cannot identify. Perhaps her intention is to shock? I do not participate in a network of social discursive practices in which language such as ‘farting’ is typically used. Nor, do I imagine, do the teachers. Lacan’s Symbolic Identification places me in a particular positioning from where I am being observed by Shanaia and the rest of the group. That is to say, coming into this school as researcher has foregrounded a particular subjective position. Yet the self-as-researcher that has been designated for me through a cultural and hierarchical order is merely a fabrication that exists in the space between the girls and me.

What images do I have of myself in this context? What images do I choose to identify with? Because I had no desire to set myself apart from the teachers at this school, I had taken steps to ‘fit in,’ such as deliberately ‘dressing down,’ ‘talking the talk’ of the teachers, and being discreet and unobtrusive in the classroom. It is the visual-spatial images
(and the illusion) of my place in this school as ‘fitting in’ that represents what I would like to be at this school during this interview. There is a conflict in this image I hold of myself in that I am still the researcher in this interview and there is no escaping from the symbolic identification assigned to me. The Symbolic works with the Imaginary to inform my experience of self in this context. The two Lacanian registers worked together, shaping my conflicting experience, producing anxieties and defences about what I was hearing and about the direction that this interview might take. They also worked together to inform the kinds of interpretations I made about the contents of the interview and the ‘truthful’ account that I subsequently produced.

It is my contention that the fantasies, defences, and anxieties, operating to deal with self-image, conflict and contradiction in this episode, lend support to the notion that subjectivities are multiple and continually in motion. What does the notion of multiple subjectivities mean for the notion of reflexivity? In speaking about the researcher’s multiple subjectivities and in taking account of emotions and non-rational processes, we go against the grain of speaking about the core self embodied in reflexive researcher accounts. In that the stories that the researcher and the participants tell are often not thought about and told through rational deliberation, the notion of reflexivity is seriously undermined. Unconscious processes on the part of the researcher, on the part of the participant, and within the space between them, will always intervene.

Understanding the self-in-conflict

The second instance is taken from the research on girls and mathematics (1999) in which Rachel is talking to me about what it is like to learn calculus for the first time in Mrs Southee’s classroom. She had expressed an immediate, enthusiastic interest in participating in the research. Mrs Southee, too, had indicated that Rachel would “likely be of considerable interest” to my research. Rachel presents as lively and fun-loving. Her liveliness contrasted with the ‘sophistication’ and ‘poise’ of the other girls in this class. She has an infectious laugh. “Giggly” is how Mrs Southee put it. Every mathematics lesson, she sat herself at the same desk in the middle bank of paired seating arrangements at the front of the classroom, alongside her friend Kate. As Year 10 students, the two of them were the only two ‘extension’ girls in this Year 12 class, and as such, were obliged to wear a school uniform. I could not find myself completely in her giggly disposition, yet, as researcher, I could identify with being an ‘exotic other’ in her mathematics classroom. It is with regard to ‘being different’ in the mathematics classroom that I felt a powerful empathy with her story.

Rachel has just told me about her previous year’s success with mathematics and how her achievement promoted her to this class. She explained:

I just seem to be good at doing exams. I’ve got a lot of friends - they know the stuff in class and I could sit there and it goes right over my head. But I get into an exam and I’m surprisingly clear-headed and a lot of people just get stressed out about it and I don’t. It doesn’t worry me because I think if I go in there and I don’t know it, then I don’t know it. There’s nothing I can do about it so there’s no point in worrying. But I did, I worked quite hard last year. I spent ages going through the pink Mathematics Workbook and I was going over and over and over it. Trig [Trigonometry] was the worst bit. I couldn’t do trig last year, and then like two days before the exam I was looking at it and it finally clicked. I spent about six hours just on trig that day and right at the end I just got it, and my parents were trying to make me
I go to bed and, no, I’m really understanding this. I’m not giving up now. I just did a lot of study. Always read and do examples. Working out answers, checking them and making sure, and if I don’t get it, I go back and try and figure it out, and if I still don’t get it, I get my brother to have a look at it or I ask someone at school the next day.

As researcher listening to her story, I have an understanding of Rachel’s mathematical ‘experience’ as fixed and immutable. She is able and she is motivated to learn. I have in Grosz’s (1990) words, “branded” her, with “the marks of a particular social law and organization, and through a particular constellation of desires and pleasures” (65). I wanted to hear about her good fortune, and her achievements. I had deliberately chosen her as my ‘case’ in order to question the assumptions typically held about girls in mathematics. I wanted to provide evidence that research founded on those assumptions, while it claimed to tell the truth about girls, in fact regulated them and overlooked other important aspects of subjectification that cannot be contained within that discourse. An ‘extension’ student’s story, I believed, would problematise normalized gender patterns in mathematics. Through her accomplishments she would reveal how it is possible to subvert the status quo and how to ‘do gender in mathematics’ differently.

As she began to tell me what mathematics is like for her this year, there was a sense that Rachel’s self was a fabrication - a fiction (in the Foucauldian meaning), changing moment by moment within the structures of the discursive situation in which she is located. I found it difficult to understand that the self in mathematics this year, which she was telling me about in the interview, was the same self in the narrative a few moments previously.

...Mrs S, she tends to go right over my head and I don’t tend to ask questions from her because last time I did that she tried to explain and it just went, well, I sort of understood half when I asked the question, and by the time she’d finished I understood none of it! I don’t know. But I don’t have a very good relationship with her, because we’ve had a few arguments in the past. My auntie works in the music block and she really likes Mrs S, but the guys, they know that I laugh really easily and they keep making me laugh in class and she just gets really frustrated with me because when I start laughing I can’t stop and so she starts to get really angry at me. And apparently no one has ever heard her raise her voice before she met me. So it’s a bit stressed there. I’m just trying very hard not to let the guys get to me now. Then I don’t have to laugh.

Listening to her story I felt deeply dismayed. In my understanding, Rachel was a bright and capable student, caught up in practices and discourses that prevented her from succeeding in mathematics. I felt upset that she was the victim of surreptitious classroom practices that appeared to create a detrimental effect on her achievements and on her sense of self. I imagined that in broaching the issue, she wanted me to know her pain; that she also wanted me to continue this line of conversation. But would pursuing this issue mean that I became caught up in a situation that was beyond my powers or role to address? Who am I listening to her story? Who does she see me as? I attempt to put my identity outside of myself; into the image of myself. Yet I cannot determine that image. Feeling wedged between a rock and a hard place - between being impartial non-involved researcher, on the one hand, and caring about her well-being in mathematics, on the other - I opted for further clarification as a way of dealing with an uncomfortable experience.

[MW: The boys who sit behind you?] Yea. Mostly, Blair and Richard, he’s one
of the bad ones as well.

[MW: The girls in the class don’t stir you up?] No. Because the only one I really talk to is Kate. Blair - he just likes really to get me in trouble and he has done for the last three years and he’ll just keep on doing it and there’s nothing I can do so I just try not to sit in front of him. And hope that he doesn’t sit in the row behind me …

Rachel’s story is full of contradictory mathematical experiences. It is told within the space that both of us share in interview, and hence cannot escape the effects of her own desire to relate a coherent and compelling account that allows me, the listener, to attempt to understand. Thus, at one level, the story is a construction of a personal mathematical biography that develops through a set of thematic clusters to do with success and peer and teacher-student conflict. And, at another level, the account registers disruptions and tensions that have the effect of undermining the coherent and cohesive story. In looking beyond the literal reading of what she said, her story evokes traces of other events and interpersonal relations that create a counter story to the one related to me at this moment in time. Together these two ‘stories’ open up important aspects of her subjectification as it relates to being a female senior mathematics student.

Rachel sees herself as simultaneously able and struggling in mathematics. I see her as victimised. What needs to be emphasised here is that between the identifications she and others, like me, have of her, there will always be a divide. There is always a trace of misrecognition that arises from the difference between how one party perceives itself and how the other party perceives it. As a consequence, Lacan maintains, the very existence of the subject consists of closing the gap between images received within the Symbolic and Imaginary realms. Both Rachel and I, during the course of the interview, worked independently at closing the gap. As Žižek (1989) has put it: The subject “put(s) his identity outside himself, so to speak, into the image of his double” (104).

Understanding the desiring self

Rawina is the object of attention in the third excerpt. She is 10 years of age and a student in the mathematics class at a school servicing low socioeconomic families, where I am conducting my research on Girl Power. In the interview she tells me that she has three brothers and four sisters and that most of them do not live with her. She lives with her mother and her mother’s boyfriend and is the oldest of the children living at home. She likes teaching the children at home ‘how to do their times tables.’ She explains that she can do this because she knows all her tables ‘except her eights and sevens.’ She would prefer to be the baby in the family because the baby ‘gets spoilt.’

In my classroom observation field notes, before the interview, I made a note of the extremely tidy and accurate work she does in her mathematics exercise book. As she says, ‘maths is one of my cool workings. I like doing maths.’ Her neat and tidy work and her diligent and attentive behaviour in the classroom, I imagine, represents an effort to please her teacher. Silent with her peers, she doesn’t talk in the classroom unless requested. In her words, ‘I’m mostly an insider girl, not an outsider.’

I gather evidence to support my view that Rawina wants to please her teacher. I record that she seems very keen to answer the teacher’s questions and to complete the work set for the day. She seems to want to get things right. Through her contributions to mathematics classroom discussion, I observe that Rawina consistently contributes to what Lacan has
called symbolic processes - in this case, the symbolic processes of what will come to count as logic and mathematical knowledge. In short, she constructs for her teacher a benchmark version of a student’s mathematical logic and knowledge in this classroom.

In classroom observations, then, I projected onto Rawina the position of ‘needing to please.’ In attempting to understand why she might desire to please her teacher, I draw towards Lacan’s point that desire is, first and foremost, the quest for a secure identity. It is a “positive production, the energy that creates things, makes alliances, and forges interactions between things” (Grosz, 1994, 75). Rawina can receive her teacher’s approving gaze by positioning herself as able and conscientious in whole class interactions. Through the emotional mirroring that takes place in these whole class encounters, Rawina’s identification of herself as a mathematics learner in this class becomes provisionally secure. I felt comfortable with this line of thought. She desires the desire of the teacher. She desires emotional resonance. As Grosz (1994) has put it, “Desire desires the desire of an other” (65). For Rawina, this desire is socially advantageous. She could not be that person in that classroom without relationships, location, networks and a history that allow her to fabricate a presence of self-coherence and effectivity.

At the end of the daily classroom observations, the teacher and I chatted about the lesson and about organizational matters for the research. Shortly before I was due to interview Rawina at her school, her teacher gave me a list of the mothers who have agreed to be interviewed. I noticed that Rawina’s mother was not included on the list and asked the teacher if the consent form might simply be late in coming. I was told not to expect an interview with Rawina’s mother because “she is an alcoholic.” This information produced an unexpected distress. Feelings of anger, pity, and helplessness emerged and I became aware of my own imaginings about Rawina’s everyday life. Created from the ‘victim’ positioning I then projected onto Rawina, these intense feelings fed into the research encounter with her, determining a way to conduct and understand the interview with her that followed. They influenced my attentiveness to and deviation from specific detail within the interview schedule.

M: Is this the first school you’ve been to?
R: Oh, I’ve been to heaps of schools, but I’ve forgotten their names. But this is my best school.
M: What makes this the best school you’ve ever been to?
R: Because all of the teachers are nice to me and every time I go to another school I miss my teachers…
M: Do you play netball?
R: No.
M: No sport?
R: Oh, I used to play touch and rugby and soccer, but I don’t play them any more.

I asked this question about sport in the knowledge that all New Zealand school children, irrespective of social class, are actively encouraged to participate in sport. Non-participation would signal home responsibilities that I fantasised would prevent Rawina from participation.

R: Mostly everybody talks to me and I don’t muchly talk to them because I’m mostly one of those quiet girls.
M: Do you think your mum is like that too?
R: She likes talking heaps.

It is important to understand that the positioning I have projected onto Rawina may well be resisted by her. Indeed, it is not difficult to see that this may be the case. I felt positioned by her as ‘university lady,’ as one who wants to hear about schooling and particularly about mathematics, and one who has no specific interest in other aspects of her life. Hence, responses must avoid reference to the home situation. What does she ‘see’ of me? I have no way of knowing for sure how she views me as researcher. Nor do I know whether I projected the ‘university lady’ positioning of myself onto her, or whether we created this positioning together.

The point that needs emphasizing here is that any research story that is told about Rawina in the Girl Power study is not a simple ‘factual’ story of material that is told by researcher through conscious processes. It is a complex and ambivalent story. Stories like these, as Walkderine, Lucey, and Melody (2003) have argued, move us along from Foucault’s notion of subjectivity as discursive positioning. Which is because the research story has developed in the space that researcher and researched share, from their fantasies and defences, rather than ‘social fact.’ And it developed from the positionings the researcher and researched have of each other, which descend from those defences and fantasies.

M: If you could be anything you wanted to be when you left school, this is way in the future when you’ve done all your schooling and it’s time for you to think about what you might do as a job, what would you like to do if you could be anything at all?
R: There’s actually heaps of things, one of them is I want to be a teacher and the other one is I want to be a police officer and a lawyer. Those are all the things I want to be.

It is not difficult to see why Rawina’s responses might mean something for her at more than the rational level; how they might mean something to her psychically. She is constantly trying to close the gap between how she sees herself and what she might become. In her life history she has found instances or episodes, or what Lacan calls a ‘quilting point,’ that will provide her with a marker, a strategic place from where she will make her choices about how to close the gap between her current and future life. It is triggered in this case by experiences with support from teachers and law enforcers. Having secured those markers, Rawina can begin to dream of her “imagined transformation of status” (Walkerdine, 2003, 254).

I came away from this interview feeling deeply upset. Yet outwardly Rawina appears cheerful and happy. It seems to me that within this research encounter, elements of the psychoanalytic notions of transference and counter-transference could be detected, in the sense that Rawina’s pain was transferred to me and I responded to her transference by counter-transference. In providing this episode I am not attempting to deal with researcher intrusion by placing myself in the narrative. Biographical stories and forms of reflexivity typically cannot deal with the fantasies and the emotion produced by both parties in research. I wanted to demonstrate how research encounters, like every aspect of social life, invoke imaginings about ‘the other.’ I wanted to show the central part that fantasies and emotion play in the way we gather data and produce an account of the encounter.

CONCLUSION
Research is about performing an art. It has a lot more to do with fictions and fantasies than we might suspect. In working towards a theoretical understanding of the researcher’s self, issues of emotion and unconscious interference have come under scrutiny for the part they play in the subjectivity of the researcher, the researched, and in the space they both share. It has been argued that the performance of self as researcher is about a discursive positioning that is constantly changing in relation to the discourses and practices researchers find themselves within, and in relation to their intersubjective relations with the researched. ‘Intersubjective relations’ are not meant to convey simply those relations operating at the conscious and accessible level of awareness. They are intended to include the emotions and unconscious processes. In my formulation of researcher self, fictions and fantasies play a central part.

If it is axiomatic that non-rational connections get caught up in the research account, then where does this leave current accounts of reflexivity or the authorial self? I would suggest that accounts that write the researcher into the process or that practice reflexively speaking for others, promise more than they can deliver. An alternative that significantly enhances the practice of reflexivity and the practice of writing oneself into the research is to begin with tools taken from psychoanalysis and to acknowledge the intrusion of the self in all research endeavours. In describing episodes taken from specific research encounters, I have provided a first steps approach at what this understanding might mean for methodology - how we might begin to confront, rather than slide over, the delicate issue of emotion within the research process. The approach offered a way to understand processes within the research encounter that give form to difficult, contradictory or conflicting experiences from the past, the present and even those anticipated in the future.

Subjectivity is the cornerstone of the research encounter. Centralising subjectivity in the research process means just that. It means that the researcher can never hope to be detached. Talking about researcher bias is not a particularly fruitful exercise and this is because the subjectivity of the researcher is always implicated in the complex and dual-pronged research encounter. The researcher self is always performed in and for others. Methodologically, the researcher can never truly know what she is seeking and why, because “the fictions of subject positions are not linked by rational connections, but by fantasies, by defences which prevent one position from spilling into another” (Walkerdine, Lucey, & Melody, 2003, 180). Our research accounts need to acknowledge that research is more than the elements of trust, doubt, humility, and power. It is about fictions and fantasies and the complicity and fragility of these in relation to others.

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