TOWARDS A THEORY FOR SUPPORTING CREATIVITY IN SCHOOLS

by

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ABSTRACT

Education recognizes that creativity is important for students and society. However, teachers have scant direction about how to support it, in part because current understanding of what works is piecemeal, as is the empirical research on creative school environments.

This dissertation explores the breadth and depth of the experiences afforded to secondary students in a Western context that support and stifle creativity. This work focuses on student perspective as the meanings that students make of their creativity-experiences determine their consequences.

I used a constructivist grounded theory methodology to guide this research, with the focus of study secondary school experiences of creativity encouragement and discouragement. The experiences students described to me encompassed both the human and non-human elements in the learning environment with which students interacted, and students’ responses to these interactions. In this retrospective study, postsecondary students chose and reflected on experiences that they had two to five years earlier and described the consequences of the experiences in their current lives. Three hundred and sixty-nine students communicated the experiences and their reactions to them through an online questionnaire, and fourteen students through more in-depth, iterative interviews.

Through constructivist analytic approaches, three conditions for the support of creativity in secondary schools were conceived: freedom, meaningful challenge, and teacher belief. The parallel opposite conditions—constraint, lack of meaningful challenge, and lack of teacher belief—led to creativity discouragement.

In my study, the consequences of creativity-encouragement entailed expanded creativity behaviour and beliefs, enhanced learning, and prosocial beliefs and behaviour. In parallel opposition, creativity-discouraged students consequently curtailed their creativity behaviour and
took on diminished beliefs, contracted from learning, and took up anti-social beliefs and behaviour. These consequences lasted into the present day for many students. The responses were psychologically driven by students’ positive/negative emotions and students’ decisions about competence and identity. These findings are discussed in light of intrinsic motivation, self-efficacy, and self-fulfilling prophecy.

The grounded theory developed in this dissertation enriches understanding of the conditions required to support youth in their creativity in education contexts and describes the consequences of this support (or its lack) on students’ future behaviour and beliefs.
DEDICATION

This dissertation is dedicated to Josh and Jacob,

whose creativity continues to inspire me.
ACKNOWLEDGEMENTS

It was a privilege to hear the stories of the undergraduate students who took the time to tell me about their secondary school experiences, and even better to get to know some of them. I am utterly grateful for their generosity of spirit.

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CHAPTER 1

INTRODUCTION

“Today is geometry class. We’re studying points, lines, and cubes.”

The nine-year-old in the second row, the one the other kids call four eyes, put up his hand.

“Miss,” he said, “I have some questions. How long has the cube been there? How long is it going to be there? How much does it weigh? And what is its temperature?”

This child was thinking for himself. This child was creative. This child’s name was Buckminster Fuller. He was later kicked out of Harvard, seriously contemplated suicide, then went on to invent a three-wheeled car, stackable bricks, and sphere-shaped buildings. He wrote 28 books and went back to Harvard in later life as a professor—without ever earning a university degree.

Society might, eventually, value people like Fuller but does it know how to school them? Does our curriculum encourage people like Fuller? Or discourage him from throwing himself off a bridge? Is it feasible, or reasonable, to ask such encouragement of schools?

The purpose of the work was to develop theory that captures how secondary students interpret their interactions with the empirical world of school, to understand how these interactions influence them and their creativity. This research explored secondary school experiences that encourage and discourage creativity in secondary students, using emotion as a “sensitizing concept” (Charmaz, 2014, p. 30).

I used emotion as a sensitizing concept in this work, a term coined by Blumer (1969) and described by Charmaz (2014, p. 30) as a “tentative tool for developing . . . ideas about processes.” I remained prepared to dispense with this sensitizing concept should the data suggest that emotions were unimportant to the process of encouraging/discouraging creativity. The
choice to explore a role for emotion from the outset came from discussions with senior members of the Critical Thinking Consortium (a Canadian education organization), who communicated their view of creativity at the time as a subset of critical thinking, which they then defined as “to make a reasoned judgment on the basis of relevant criteria” (Roland Case, personal communication), though the formal, current stance of the organization is that critical and creative thinking are “mutually reinforcing dimensions of one form of thinking” (Gini-Newman & Case, 2015). I saw this stance echoed in some literature (e.g., Bailin, 1988). In keeping with the definition of creativity as “the generation of novel products of value,” the Critical Thinking Consortium views quality, rigorous thinking to be productive and reactive. Without denying a role for critical thinking in the creative process (in keeping with Cropley and Cropley’s (2010) “verification” and “validation” phases of their creative process model), I was concerned that viewing creativity as a type of critical thinking problem might lead to strategies to support it that actually undermined it. Several readings lent credence to this worry; the conditions conducive for creative or divergent thinking have been suggested by experiments to be in opposition to the conditions conducive for analytic or convergent thinking (described in detail in Chapter 2). Also, evaluation, even the thought of evaluation, has been suggested to detract from creativity (Amabile, Goldfarb, & Brackfield, 1990). In researching and thinking about the nature of creativity in relation to my understanding of critical thinking, I happened upon emotion as a possible distinguishing feature of creativity, or at least a potential feature of creativity that if attended to might enhance the kinds of strategies employed to support it.

The inclusion of emotion as a sensitizing concept led to the following, three specific aims of this study, to explore:
how students make meaning about secondary school learning experiences that encourage and discourage their creativity, and the role of emotion in that meaning-making;

the consequences of these creativity-related experiences on students’ further meaning-making and actions into the present day, and the role of emotion in these consequences; and,

the elements of these experiences that lend secondary students to interpret them as encouraging/discouraging, and the role of emotion in that interpretation.

This thesis is presented in seven chapters. The first chapter provides background context to my work: the impetus for exploration of the concepts of creativity and emotion in a secondary education context. It also situates me, the researcher, in the work. Chapter 2 is a literature review of the sensitizing concept, emotion, in relation to creativity that emphasizes the particular link between the two phenomena and provides further rationale for my use of emotion as a sensitizing concept in this study. Chapter 3 details my chosen methodology: constructivist grounded theory, its philosophical underpinnings, and the methods that flowed from it. Chapter 4 outlines the analytic methods used: from coding through to theory development. Chapter 5 introduces the theory that represents the core findings of this work and outlines the conditions for supporting creativity in schools: freedom, meaningful challenge, and teacher belief. In Chapter 6 I elucidate findings on the consequences of the creativity encouraging/discouraging experiences: expansion/contraction of student interaction with the world, including further creativity, learning, and sociality. I also consider the psychological drivers involved in these consequences and detail evidence from this study on the relative importance of the conditions that led to these positive/negative consequences. Namely, students’ positive/negative emotions and decisions of competence and identity were the psychological drivers of these consequences, and conditions of
meaningful challenge and teacher belief were relatively more important than freedom in the manifestation of these consequences. In Chapter 7, I discuss the theory in relation to extant literature and highlight new insights, implications for practice, and directions for further research. Chapter 7 is divided into three sections: supporting creativity, the consequences of creativity, and the psychological drivers involved in creativity. I also address limitations of this study, its potential generalizability, and end with concluding remarks.

**Research Purpose in Context: Creativity and Society**

This dissertation focuses on creativity: an abstract though familiar concept that is generally agreed by education jurisdictions, industry, and governments in Western societies to be important for individuals and society. To illustrate its importance to individuals, I offer the words of Auschwitz survivor Shoshanna Kalisch, who describes the importance artistic expression had for her and fellow victims:

> We sang in the ghettos and concentration camps. Songs were sung even in the death camps. They were the only means of expressing our sadness and grief, defiance and hope. When our spirits sank, the songs took over; they helped us to keep our faith that life held some meaning. (Weiner, 2014, p. 51)

The creative expression shared by these people in these darkest circumstances extended to organized lecture groups, unofficial learning sessions, and the oral sharing of memorized written works. Being party to these activities made the prisoners feel “human again” (Weiner, 2014, p. 133), preserving their selves as well as their connection to community. More generally, manifestation of creative thinking and behaviour has been espoused by numerous creativity researchers to be important to emotional well-being and overcoming life’s hardships (Czikzentmihalyi, 1990; Moran, 2010; Richards, 2010; Runco & Richards, 1997).
Fostering creativity in youth has benefits that go beyond well-being. The benefits of creativity for youth include enhanced cognition (e.g., IQ, visual spatial skills, auditory skills, attention, and memory), academic skills such as literacy and numeracy, and social skills (Winner, Goldstein, & Vincent-Lancrin, 2013). Educational experiences with creativity, particularly the arts, have also been shown in research studies to have the potential to improve academic success (Craft, Chappell, & Twining, 2008; Freund & Holling, 2008; Kendall, Morrison, Sharp, & Yeshanew, 2008; Schacter, Thum, & Zifkin, 2006; Winner et al., 2013). For example, the sensory enrichment from the interaction with music involved in a project for children living in poverty has been correlated with stronger brain encoding of speech, neural speech processing, and higher reading scores (Kraus, Hornickel, Strait, Slater, & Thompson, 2014). A meta-review (Hetland & Winner, 2001) also describes solid links made in research between reasoning and verbal skills and music and drama experiences.

Moving beyond individuals into social groups, creativity has been associated with the health of communities (Florida, 2002), and governments have recognized its importance to economies (e.g., Conference Board of Canada, 2008; White House, 2011). Not surprisingly, the Western education system has also espoused creativity’s importance. To support this claim, I offer evidence from one jurisdiction—Ontario, Canada—where I live, which has an official postsecondary mandate whose first sentence reads: “Ontario’s colleges and universities will drive creativity, innovation, knowledge, skills development and community engagement through teaching and learning, research, and service” (Government of Ontario, 2018). The Fullan Report (Fullan, 2013) commissioned by the Ontario Ministry of Education considers Creativity and Imagination one of six key qualities on the agenda for sustaining improvement and focused innovation in K-12 schools. A quick perusal of Ontario’s curriculum documents show they cite
“creative thinking skills” repeatedly as an aim for students (e.g., science (Government of Ontario, 2007); language arts (Government of Ontario, 2006); math (Government of Ontario, 2005)). In a recent review, Kereluik, Mishra, Fahnoe, and Terry (2013) ask what knowledge is important and identify creativity as a key competency. The desire to attend to creativity in education is much more widespread; nearly 57 million views of Sir Ken Robinson’s (2006) TED talk “Do schools kill creativity” suggest so.

However, there is little understanding of the conditions in current Western education contexts that support student creativity, and there is no indication in the literature that understanding is richer in other contexts either. Hennessey and Amabile’s (2010, p. 585) review of empirical research on creativity notes that “the recent educational literature reveals surprisingly few direct investigations of creativity in the classroom.” While progress has been made, to my knowledge, large-scale empirical surveys of current pedagogical practices that influence creativity are decidedly rare. The literature on the “pedagogy for creativity” largely consists of specific experiments of piecemeal techniques, case studies, and program evaluations (e.g., see reviews by Davies, Jindal-Snape, Collier, Digby, Hay, & Howe, 2013, and Hunsaker, 2005), often of informal education programs.

Attending to creativity in schools has an ethical dimension. Education philosopher Maxine Greene describes in her vision of a “a curriculum for human beings,” students who are treated not as “predefined, fixed, separate” but rather “a [self] . . . in the making” (Greene, 1993, p. 213), students who are given opportunities for self-expression, the space to create themselves and their lives, students who can “shape my story, discover my purpose and possibilities for myself, and reach out to pursue them” (p. 213). The spirit of her words is echoed in Article 13 of the United

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The child shall have the right to freedom of expression; this right shall include freedom to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of the child's choice.

To me, creativity in the school context is a fundamental right of every student, and the realization of this right, if it is feasible at all, is controlled by schools. This grounded theory study aims to explore the fundamentals of how schools can and do influence creativity. In keeping with the turn in grounded theory methodology toward “attentiveness to ideas and actions concerning . . . individual and collective rights and obligations” (Charmaz, 2014, p. 326), it is hoped that these understandings may be applied to education praxis with the aim of creating a better, more ethical world for all.

**The Situational Context: Creativity in Secondary Schools**

The three teenagers sitting in my backseat were being transported to an event in town. It would not be long before they’d be driving themselves. But for now, they relied on parents like me to taxi them. I’d been forewarned by my son not to make too much conversation, to avoid topics relating to dating, or school subjects, and especially not to say anything that might be interpreted as parental advice. “On a scale of zero to five, how much do you think school has taught you to conform?” I asked, “zero being not at all and five being to an extreme.”

“Five” they answered in near unison.

Then, they proceeded to explain with youthful confidence why it is good and necessary for school to teach conformity: “It’s how society runs, if we don’t conform there’d be chaos.”
This study focuses on secondary school experiences for two reasons: because secondary school experiences are central to the lives of adolescents, a pivotal time for development and formation of adult behaviour; and also because secondary school was a highly appropriate option to obtain retrospective insight into the consequences of creativity-related experiences on young people.

Secondary schools in the Canadian public school system generally consist of four years, Grades 9 through 12. The curriculum is divided into discipline-specific courses, and students take several courses at once, moving between these subjects throughout the course of a day. In Ontario, a typical Canadian jurisdiction, English and math courses are mandatory, as well as some science, history and geography, and a few other subjects. A variety of extra-curricular activities are often available, the scope of which depends entirely on the school and its staff volunteers, ranging from sports to fine arts, sometimes science and other topics as well. Facilities also vary greatly from school to school. Often, but not always, teachers have undergraduate degrees in the subject they teach.

During secondary school, the majority of young people’s immediate career choices are constrained through streaming into course programs such as academic versus basic courses. The subjects students take and do not take also determine whether and what kind of postsecondary education can be pursued. Secondary school is a formative time for young adults, and what happens to youth in secondary school has immense influence on who subsequently fills what societal roles. Experiences of encouragement/discouragement of creativity in secondary schools have direct consequences for society in whatever ways they have consequences for students beyond graduation as they enter adult life in society.
Adolescence also marks a period of unrest, where social concerns and emotions are heightened and mental health issues are likely to first manifest (National Alliance on Mental Health, 2019; World Health Organization, 2017). Adult health is also affected by adolescence, as wellness habits acquired by teens tend to extend into adulthood (World Health Organization, 2017). Mental health issues among adolescents are a serious issue worldwide (World Health Organization, 2019) lending more reason, given the link between creativity, emotion, and well-being, to understand if and how creativity can be encouraged in secondary school environments.

Teenagers are a highly appropriate choice for a population in which to study creativity. As a group, secondary students are creatively mature or approaching it, and can thus be considered more creative than their younger counterparts (Vygotsky, 2004). Theory of mind has largely developed by this age (Valle, Massaro, Castelli, & Marchetti, 2015) and teenagers are thus as able as adults to not only be creative but also reflect on their interpretation of events and to articulate the meanings they make of creativity-related experiences, and their subsequent actions.

Furthermore, interest in education research is growing for work that positions students as “protagonists” (Cook-Sather, 2014). However, qualitative studies of student perspectives in the field of creativity are relatively rare. Postsecondary students’ conceptions of creativity have been gathered by Oliver, Shah, McGoldrick and Edwards (2006) at two universities in the United States, and Chan (2013) among a group of nursing students in Hong Kong. Clark and Zimmerman (1987) report on student experiences in a summer arts institute, and Burnard and Swann (2010) report on student experiences in a visiting artist program in the United Kingdom.

This study’s exploration of the varied creativity experiences of hundreds of students aims to contribute to filling these gaps.
Myself in Context: Creativity, Emotion, and Me

Several years ago, at the very start of this PhD work, I was sitting in a small lecture theatre without windows, listening to an engaging speaker with a bright smile. When he suggested I consider why I want to spend years of my life studying creativity, I took up the challenge. He wasn’t asking about practical reasons: careers and life circumstances. He was asking about real reasons, personal reasons, bottom-of-the-well reasons. Why? I thought, why do I care so much about creativity?

The answer hit me thirty minutes later somewhere on Sir. John A MacDonald Boulevard, and I wept. I care about creativity, really care, because throughout my life it has been a chief means of interacting with the world. In the isolated existence of my childhood, my creations were a means to communicate. The pathetic part, the part that wrung tears from my eyes, is that my creations—writings in particular—were my “friends.” I could read or revisit what I wrote and it was familiar and kind. My words and the voices in my head could not hurt me, not like real people could. Growing into a serious writer who shares her work, writing as interaction has also grown. With writing, I connect. For me, writing is relationship.

I’ve thought about this revelation from time to time in the intervening years, and as a researcher of creativity I have paid close attention to my own creative acts and the accompanying thoughts and emotions. And I’m pleased to say that I now see creativity as much more than safe connection: creativity is also an enterprise of expansion. I create to find out what happens. The layers of unknown to explore are unending, and it is not the answers that matter so much, but the thrill of the expedition. Creativity is a means to learn about our world. There’s the mystery of understanding and interacting with others’ creativity and others’ worlds, and there’s the mystery of the interaction between the conscious and subconscious. Through creativity, I learn of
unknown parts of myself. I bring them to light, I manifest them. Creativity is not just a source of comfort, it is the source of my agency.

I care deeply about creativity as a fundamental channel of joy and purpose, in my life and in others’ lives, and I bring this bias to this work. I unabashedly assume that creativity is positive—something worthwhile to support, for all. As the previous section on creativity and society suggests, I am not alone in this belief.

Other relevant biases and personal philosophies I bring to this work also cannot be avoided and have informed my methods, interactions with participants, and interpretations of the data (Charmaz, 2000, 2006, 2008, 2014; Clarke, 2005, 2006). For one, I am a parent of two creative sons, and I have been party to their inner struggle to conform versus self-express in the public education system. Consequently, I have approached this research with the expectation that experiences that discourage creativity are common. I’ve noted, too, that discouraging aspects of the environment feature rarely in creativity research in any context (although it does feature here and there; e.g., Amabile & Kramer, 2011; Runco, Acar, Campbell, Jaeger, McCain, & Gentile, 2016). Overtly exploring discouraging experiences as well as encouraging experiences is one of the main contributions of this work.

I also assume creativity can be cultivated. As Plucker, Beghetto, and Dow (2004, p. 85) overtly declare, “Decades of research on positive training and educational effects and, lately, environmental techniques for fostering creativity strongly refute [the] myth” that we are born creative—or not. Scott, Leritz, and Mumford’s (2004) quantitative analysis of 70 studies of creativity programs concludes training has a positive impact on creative performance across contexts and audiences. As a trained secondary biology teacher, who has worked as a curriculum developer for nearly two decades, I’ve developed teaching resources that have included learning
activities and materials for middle-school and secondary school in a variety of subject areas. I think some of these activities encouraged creativity in the students exposed to them. I also ran a writing group for teens for several years. From these experiences, I have developed the belief that it is possible to support creativity in secondary schools while attending to prescribed curriculum. As a parent and secondary/post-secondary educator, I feel dismay at the words of creativity researchers Beghetto and Kaufman (2014) that

Now that teachers are also being asked to support creative thinking . . . it makes sense that they would want techniques that can instantaneously support the development of students’ creative potential. Unfortunately, creativity does not develop this way . . . (p. 56)

I assume we can do much better, and probably are already—hence the driving desire to find out what is going on in schools right now, and to explore the process of how and why it works, if it does.

My training in evolutionary biology, and my own life experiences and research, have contributed to a stance that leans toward the support of creativity as primarily supporting the creative individual and her unique self-expression. While I recognize the relevance and authenticity of the sociocultural conception of creativity (Czikszentmihalyi, 1999; Glaveanu, 2010; Sawyer, 2006), I believe it describes and illuminates the characteristics of creativity as a macro-process, rather than describing, illuminating, or helping to support the micro-process of generation undertaken by the human being(s) doing the creating. I argue for the inclusion of self-expression in the definition of creativity in the next section of this chapter.

Here, I wish to state unequivocally that I have conducted this research to the best of my ability with all these biases in mind, making methods and analytic decisions that nurture the communication of participants’ perspectives (Corbin & Strauss, 2008) and taking pains to remain
aware and upfront about how my bias may have influenced the theory I constructed (Charmaz, 2014). I have “scrutinized research decisions and directions” and have freely applied my unique perspectives to this work, embodying constructivism by “constructing the method of analysis, as well as the analysis” (Charmaz, 2008, p. 403). My transparency in my involvement in the meaning construction of this work is one aspect of rigour in the context of my chosen methodology (Tobin & Begley, 2004). I position myself as an active player in this research through reflexive accounts where appropriate in this document.

My epistemological and ontological stance has thus informed the nature of the subject of this study as well as the chosen methodology. To summarize briefly, I am a constructivist who believes there is an empirical world. Constructivism is about recognizing that the reality human beings have in their minds is based on our definitions of it. All research findings about the empirical world are affected by interpretation, in keeping with the constructivist stance described by Guba and Lincoln (1989, p. 43) as “asserting . . . that realities are social constructions of the mind, and that there exist as many such constructions as there are individuals (although clearly many constructions will be shared).” Everything is filtered through human perception, which varies from individual to individual, and is heavily influenced by language and all other aspects of the social environment through time (Mead, 1934; Blumer, 1969; Vygotsky, 1987). I philosophically resonate with Petra Munro Hendry’s (2010) notion that all human research, the asking and answering of questions—whether through myth or experimental science—comprise narrative stories that we create to understand. As a constructivist grounded theory researcher, I believe all honest inquiry activities have the potential to elucidate understanding, and even if the resulting research products are no more than interpretative storytelling, the understanding individuals glean from them is valid, though probably not to everyone.
I also accept that humans are evolved animals. Two billion years of interactions with the environment have been encapsulated in our genes, and those genes influence our thinking, feeling, and acting. Evolution, for example, plays a role in grammar (Pinker, 1994), as well as the artistic drive (Turner, 2006). Even culture itself, it can be argued, is a biologically inherited human trait (Boyd & Richerson, 2005). I contend that we are not always consciously aware of these inherited influences, but they are ubiquitous and ever present. I offer two well-researched summaries of how our perceptions (Eagleman, 2011) and daily decision-making (Kahneman, 2011) are unconsciously affected by our biology.

This evolutionary stance is important for this research for two key reasons. For one, it informs how I define and view creativity as an adaptive behaviour, which belies a further assumption about this work; I believe creativity is innate and that all human beings are creative, a view shared by many other creativity researchers (e.g., Hennessey, 2015; Richards, 2010; Runco, 2004; Sawyer, 2006). I believe creativity is a natural function of human behaviour because art and invention can be traced throughout the entirety of human existence (Turner, 2006). Creative behaviour is also observed to a lesser degree in nonhuman animals as well (Gabora & Kaufman, 2010). For another, my evolutionary stance informs how I define and view emotions as adaptions that drive behaviour in adaptive ways (such as avoiding sources of fear, like sabre-tooth tigers and snarling Rottweilers (LeDoux, 1996)), while also being subject to interpretation and cultural influence. Emotions have an underlying biological basis (Darwin, 1872; Ekman, 1999; Izard, 1991), as well as being filtered, shaped, and created by the social human’s consciousness (Hochschild, 1979; Ross, 2006; Barrett, 2017).

I do not find it difficult to reconcile an evolutionary stance with a constructivist stance. Instead of considering awareness of the divide between representation and reality a crisis, as
described by Denzin and Lincoln (2008, p. 18), I think it merely more accurately characterizes the complexity of our “data,” our world, and the humans that inhabit it and create the data to describe it. As grounded theorist trailblazer Barney Glaser said, “all is data” (Glaser, 2001). Put another way, “there is no one thing that is true. It is all true” (Hemingway, 1940/2003, p. 467).

A grounded theory approach, with its focus on interactions between individuals and groups of individuals and their environment, allows me to represent something of the complexity of these multiple truths as they manifest in the lives of human beings (Charmaz, 2014).

**Definitions in Context**

In this section I define creativity and emotion. My working definition of creativity emphasizes risk-taking and self-expression and does not emphasize the value of product. My definition of emotion is based on a combination of relativist and biological definitions.

**Creativity**

When I first came to this work, I noticed two things about the prevailing definition of creativity, *the generation of products that are novel and appropriate to some context* (Bailin, 1988; Plucker et al., 2004; Starko, 2014). First, the definition fundamentally describes creativity as an act: a behaviour. The generally accepted definition of creativity begins with “the generation of” (Starko, 2014, p. 12), while philosopher John Hope Mason’s (2003) definition of creativity begins with “to act in the world, or on the world” (p. 7). Glaveanu et al. (2013, p. 1) advance a conception of creativity as “creativity as action and of creative work as activity.” Karwowski and Beghetto (2018) conceptualize creativity most recently as agentic action.

The second thing I noticed about the prevailing definition is that the characteristics or qualifiers embedded within it refer to the nature of the product, not the nature of the action that produced it. This has consequences. As cognitive scientist Margaret Boden (2013, p. 8) stated,
“Because the notion of positive valuation is included within the concept of creativity, the class of “creative” ideas is not a natural kind.” It is a moving target, and this definition cannot help teachers or students judge effectively whether creative behaviour has occurred. Runco (2004) also argues that the focus on creative product, which requires an external reference to make a judgment, does not meet the needs of educators who deal largely with creative potential. He points out that potential cannot necessarily be judged by creative performance, particularly when students may not yet have had the opportunity to explore their creative interests, experience the domains in which their creativity might best be expressed, or the time to develop the expertise necessary to make substantial contributions to a creative domain (Bailin, 1988; Bloom, 1985; Gruber & Davis, 1988). Speaking from a sociocultural perspective, Beghetto and Kaufman (2014) state in their article about creativity in education that

Having a broader understanding of creativity can help teachers recognize that the smaller . . . levels of creativity are most appropriate to emphasize in their classrooms. Although this recognition is helpful, it does little by way of helping teachers understand how they might actually go about supporting the development of their students’ creative potential. (p. 56)

In a recent editorial, Glaveanu (2017, p. 338) suggests that the emphasis on value not only excludes youth, but is socially unjust:

If value is understood in economic or cultural terms, as it is often the case (hence the growing popularity of creativity and innovation studies), then we might very well exclude children from discourses about creativity. More than this, we end up excluding members of economically and socially disadvantaged groups, contributing further to their disempowerment.
To find a way out of this conundrum, so I could explore how students perceive their creativity has been encouraged/discouraged in school settings, I created a working definition of creativity based on the characteristics of it as action/behaviour, while respecting the prevailing definition. In this research I define creativity-related experiences as experiences that encouraged/discouraged students to take risks and:

- generate or pursue your own ideas;
- make something unique that no one else made; and/or
- express your unique self.

This working definition differs from the prevailing definition in the following ways: it specifies risk-taking and it includes self expression, both as characteristics of the creative act. Also, it does not specify that the resulting product be valuable for creativity to have occurred.

**Risk-Taking.** Taking risks, and the propensity to take risks, has been associated with creativity in a number of experiments in various contexts including undergraduates and the workplace (Chavez-Eakle, Lara, & Cruz, 2006; Dewett, 2004, 2006, 2007; Eisenman, 1987; El-Murad & West, 2003; Madjar, Greenberg, & Chen, 2011; Nieuwenhuizen & Groenewald, 2006; Simmons & Ren, 2009; Shalley, 1991; Shen, Hommel, Yuan, Chang, & Zhang, 2018; Tyagi, Hanoch, Hall, Runco, & Denham, 2017). Palanski and Vogelgesang (2011) not only found that feeling safe to take risks was related to creativity in their study of adults’ workplace experiences, but also that the effect of leaders’ behavioural integrity on creativity was mediated by this sense of safety. An inherent role for risk-taking in creativity makes sense, as creativity happens in a social environment and involves producing something novel; humans are biased against the novel (Mueller, Melwani, & Goncalo, 2012; Wearing, 2009). As creativity psychologists
Rubenson and Runco (1992) describe, being creative has “psychic costs,” including the risk of being socially unacceptable.

**Self-Expression.** The act of creativity entails self-expression; the artifacts that result from creative action cannot be isolated from the person(s) doing the creative action; the self is expressed through creation. Dancer Martha Graham’s words capture this idea:

> There is a vitality, a life force, an energy, a quickening that is translated through you into action, and because there is only one of you in all time, this expression is unique. And if you block it, it will never exist through any other medium and will be lost. (de Mille, 1991, p. 264)

One of the fundamental concerns of grounded theorists is the interaction between human beings and their empirical world. I view creativity fundamentally as an interaction between individuals, or groups of individuals, and their environment, including its human and nonhuman elements. John Dewey connects the expression of the creator’s self in an artistic work to this interaction (Dewey, 1934, p. 156), “Underneath the rhythm of every art and every work of art there lies, as a substratum in the depths of the subconsciousness, the basic pattern of the relations of the live creature to his environment.” Glaveanu’s (2012) interactive conception of creativity is that of an actor taking an action to make an artefact. He provides an excellent description of the nature of the interactions involved that also captures the nature of this interaction as an expression of self:

> creative action emerges out of actor–audience relations that both produce and are mediated by the generation and use of new artifacts (objects, signs, symbols, etc.) within a physical, social, and cultural environment. In the end, this environment and its affordances are also gradually transformed by creative action because the schema presents a dynamic
integration of the five A’s: actors, audiences, and affordances in interaction, dependent on properties of local settings that are themselves part of the creative cycle. (pp. 71-72)

To create is to imprint the self on the empirical world. The brain and body of the self, the unique view of the world, the accumulated experiences and learnings, and the self’s culture at a particular moment in time, are all encapsulated in creative artifacts. The actor cannot be separated from her culture. “The actor is necessarily defined by a system of social relations and cultural traditions regulating these relations” (Glaveanu, 2012, p. 72). The actor cannot be separated from her experiences and learnings. This includes the Master narratives she has been taught in her context (McLean et al., 2018) and also her unique learning of knowledge and skills through interaction with her environment, her crafts, and her peers (Dewey, 1934). Even ideas are interactions with the environment. As John Dewey (1938, p. 44) said, “even when a person builds a castle in the air he is interacting with the objects which he constructs in fancy.” The generative act cannot be separated from the “internal psychological dimension” either (Glaveanu, 2012, p. 73), and this mind cannot be separated from the body that carries it, nor the two billion years of evolutionary history that have shaped it. In this conception of creative action as self-expression, the expression is deliberate. A painting on a cave wall is a creative expression of one’s self; a footprint left in the mud is not.

To interpretivists, the notion of self is the interpretation of a person’s mind of their own being: their conception of themselves. As sociologist Ken Plummer (2014, para. 10) put it, “the self is a process built out of encounters and endowed with shifting meaning.” For me, the self being expressed is interpretation, and a process, but it also includes what Hochschild (Willig, 2017) calls a “core” self, which remains constant. Hochschild considered this core self the consequence of early experiences in childhood. I, however, consider the core self to be not just
the interactions between a child and the empirical world, but also the experiences of the genetic components of human cells interacting with their environments for two billion years before the birth of a child. While this core self contributes to the uniqueness of the students’ expression of it, it is the perception of these students about their selves, its uniqueness, and if/how they’ve expressed it that determines whether the event was significant to them, what meanings they made of it, and if/how it influenced their subsequent actions and interactions. When analyzing data, my epistemological viewpoint led me to ask questions about how and why the interpretations of students and their social context has influenced the meanings they made of their experiences, and the actions they subsequently took. I also assume, however, that any student behaviour may involve inherited proclivities toward that behaviour however malleable the manifestation of these proclivities may be.

My inclusion of self expression in a working definition of creativity is in keeping with the approach promoted by creativity psychologist Mark Runco (2008) for education contexts. “These are personal and new for the individual, not on any larger scale. This approach is consistent with the educational premise “to understand is to invent,” and it allows educators to target students’ self-expression” (p. 1).

**Value of Product.** I did not specify the value of the product of creativity in my working definition because it is unclear who would be judging the value in a school context. By limiting this study to experiences that were comprised of teacher-judged products of value and/or student judged products of value, I could well have excluded many creativity-related experiences.

However, through a memo freewrite, I considered ways that I might remain cognizant throughout the study and its theory construction about how this working definition, including the
value of product, could influence my findings and the study’s contribution in the eyes of other creativity researchers. I came up with three ways to check for my definition’s influence:

- Analyze the experiences of creativity-related students through the lens of the prevailing creativity definition, seeking experiences that do not fit the prevailing definition;
- Ask interview participants two questions to “test” whether they were describing creativity broadly: Which of the three elements of the definition did the experience encourage/discourage? and, Do you think it was your creativity that was encouraged/discouraged by the experience?; and,
- Pay attention to product value in the data, and its implication for the resulting theory.

Emotion

Emotion might be described as a concept, or representational scheme, to make sense of an aspect of human experience. Feelings might be described as the conscious, mental experience of an emotion (Damasio & Carvalho, 2013). Author of the foundational textbook The Psychology of Emotions, Carroll Izard (1991, p. 14) states there is no consensus on a definition for emotion, though she offers this basic attempt: “an emotion is experienced as a feeling that motivates, organizes, and guides perception, thought, and action.” I use this working definition of emotion in this work.

I view emotions, like creativity, to be interactions between the individual who feels them and their empirical world, making them particularly suitable, like creativity, for a grounded theory study. Philosopher Robert Solomon (2007) makes a strong argument for emotions as interactions between individuals and their environment. He claims all emotions, even those provoked by memory, imagination, or poetry, involve a reaction to the external. We fear
something external to us. We grieve for something external to us that we’ve lost. We rejoice at objects, events, and interactions with others. Succinctly (p. 20), “emotions are about the world.”

Emotions furnish a ready example of interpretivism, however, because any two people can interpret the same situation and feel completely different emotions in relation to it. Fear of dogs, for example, or the reaction to a Jackson Pollock painting. Sociologist Arlie Russell Hochschild (2017) described the interpretivist’s philosophical stance towards emotions as “feelings are fundamental to our apprehension of reality. One doesn’t begin to ‘know’ anything without them” (p. 189). While I believe that there are strong social (Hochschild, 1979), cultural (Solomon, 2007), and individual (Barrett, 2017) influences on emotion, there are also underlying biological components. I conceive of emotions as phenomena with cognitive, physiological, sociological and behavioural elements that mediate interaction between individuals and their empirical worlds, filtered as they are through perception and culture and all its rules. This view differs from that of other constructivists in the degree of importance I place on the biology of emotion. In describing the constructivist conception of emotion, James Averill (1980, p. 305) stated emotions are “social constructions” but that the constructivist view does not “deny the contribution of biological systems to emotional syndromes; it does, however, imply that the functional significance of emotional responses is to be found largely within the sociocultural system.” I view emotions as functional adaptations and motivational drivers that precipitate action (Montag & Panksepp, 2017; Röttger-Rössler & Markowitsch, 2009). It is natural for social ostracization to be highly distressing, for example (Kurzban & Leary, 2001), and avoiding situations that cause emotional pain is common (LeDoux & Gorman, 2001).
I see these two positions of emotions as biology and emotions as interpretation as compatible. This dual view of emotions has influenced the meanings I have made of this research, the questions I’ve asked, the data generated, and its analysis.

**Conclusion**

This thesis marks my initial exploration of how education might better support creativity. It is a first voyage into the complex situation that is both familiar, and unknown. I can only understand this strange world through the eyes of students who have lived it and have been willing to share their interpretations of it with me.
CHAPTER 2
CREATIVITY AND EMOTION: A LITERATURE REVIEW

My one and only poetry slam took place in a dark upper floor of a local bar with a small stage in the corner and 40 portable chairs crammed 'round. I was only there because my sons were slamming. For the most part it was torturous. The guy with the backpack made me wonder for a second if he wanted to blow us all up as he stomped on the stage in anger. But he was only mad at his girlfriend for breaking up with him. My son talked about an early sexual experience. He made the audience laugh and they thought he was being glib, but he ended with a vulnerable note that made me ponder male and female. Mostly, the poems were badly organized strings of verbiage ending in rhymes. It was more than boring. It was uncomfortable.

Like being pricked with a fork.

I found it frightening how happy the fork bearers seemed to be, how oblivious to their impaling.

I found it fascinating how driven these people were to create, rubbish or no, and then wield their art forks, publicly.

This brief vignette contains plenty of emotion. The creators were emotional, and these emotions were reflected in their works. Their performance was emotional, and so was their impact on their audience. This chapter reviews the literature pertaining to the connection between creativity and emotion. I undertook this review to understand if and how emotion might influence secondary students’ creativity experiences, and hence its utility as a sensitizing concept in this grounded theory study. The review addresses the broad question: how are emotion and creativity related in ways that might be relevant for education settings?
I begin this chapter with an outline of the literature review’s scope, and my methods in conducting it. I then introduce in broad strokes the key ways that creativity and emotion are described, defined, and measured in the literature. The key themes to emerge from the empirical body of work reviewed were the following: how emotions influence creativity—both emotion as a state, and emotion as a trait; how creativity influences emotions; and, how emotions are important in the lived experience of creativity. I used these themes to organize this review, though creativity and emotion are so tightly entwined that this structure should not be interpreted as a statement about the nature of the emotion/creativity connection. The chapter ends with a summary and discussion of this review’s implications for secondary schooling.

**Scope and Methods**

Emotion and creativity research have been escalating for several decades. To date, the bulk of the literature exploring a link between creativity and emotion does not have an education focus, but rather aims to either understand the nature or process of creativity or seeks to promote creativity in the workplace. In this review, I explored the empirical literature that links creativity and emotion that I judged to have broad potential bearing on secondary education.

I used two main databases to search for articles, ERIC and PsychInfo. Creativity is a major area of research identified by the American Psychology Association and the body of literature in psychology is broad and deep. I also used Proquest to search for relevant theses. I used “creativ*” as a title or keyword search term, and “emoti*” or “affective” as keyword search terms. An update to the review was conducted in April, 2019 to ensure recent publications are taken into account. My purpose in this review was not to generate a comprehensive overview but rather to explore the breadth and depth of the links between creativity and emotion, and to get a sense of the type and degree of these connections. Based on the abstracts obtained through this
search, I sorted articles into groups according to theme and removed any articles that did not relate to human behaviour in any way relevant to education settings.

**Creativity as Described in the Literature**

We all have implicit conceptions about creativity (Sternberg, 1985), and these conceptions vary. The field of psychology is currently dominated by sociocultural perspectives of creativity (e.g., Csikszentmihalyi, 1988, 1999, 2014; Sawyer, 2006) that explain how societies come to view and accept some works and their producers as creative. Commonly, including in education contexts, creativity is defined as the generation of products that are novel and appropriate to some context (Stein, 1953, Bailin, 1988; Plucker et al., 2004; Starko, 2014). Boden (2003) and Simonton (2012) add a third criterion to the definition, the element of surprise. Sternberg and Lubart (1995) extend creativity to include behaviour that promotes a creative product’s acceptance in broader society. In this light, Sternberg and Lubart suggest creativity is to buy ideas “low,” when no one else recognizes their worth, and sell them “high,” by convincing others they are valuable.

Two popular frameworks seek to organize thinking about the nature of creativity. The 4P model (Rhodes, 1961) views creativity as a phenomenon of people, process, products, and press. Creativity can be a trait of individual people, it entails a process, it describes its products, and it is influenced by the environment, or “press.” Glaveanu (2012) based his interactive 5A framework on the 4Ps, favouring an interactive view of creativity in which the elements of actors, actions, artifacts, audiences, and affordances (environmental influences) cannot be separated from each other.

A third framework considers the difference in creativity of eminent creators and the rest of us. Stein (1953) first suggested the label *big C* to describe creativity that shifts a paradigm and
little C to describe everyday creativity. Beghetto and Kaufman (2007) and Kaufman and Beghetto (2009) added further divisions: pro C—the less eminent works of professional creators, and mini C—the construction of personal knowledge and understanding. This framework applies to education settings in that the creativity of most teachers and most students operates at the “lower” end of the spectrum, with their potential for “higher” creativity unrealized.

There are many measures of creativity used in research that relate to these definitions to varying degrees. Teresa Amabile designed a Consensual Assessment Technique (1982) for measuring creativity based on the definition that “a product or response is creative to the extent that appropriate observers independently agree it is creative” (p. 1001). In this measurement of creativity, seven judges within a domain (visual arts, writing, science, etc.) rate the creative quality of creative products.

Other pen and paper creativity tests measure an individual’s level of creativity by asking for creative thinking responses. Torrance’s tests (1962) are probably the most known. Some studies use a combination of methods, including these pen and paper tests, as well as the rating of a person’s creativity by peers, teachers or supervisors, and/or self-assessments (e.g., Zhou & George, 2001; Mackay & Moneta, 2016).

Many psychology studies focus on elements of creative thinking that are related to creativity, rather than creativity per se. Divergent thinking is one such element (Runco, 2008), and it commonly features in the literature as a means to understand some measurable aspect of creative thinking, or creativity potential. The alternate use task asks participants to think up as many uses as possible for a simple object (e.g. paper clip or brick).

The Random Association Test (Mednick, 1962) is another psychology test sometimes used in creativity experiments: two words remotely associated are shown and the task is to find the
link between them. This is a creative, convergent thinking task—there is only one solution possible, that requires thinking “outside” the box rather than analytically sorting through options. The difference between divergent (‘brainstorming’) and convergent (one solution) creativity matters and some studies that look at both kinds of creative tasks have gotten opposing results (e.g., Chermahini & Hommel, 2010, 2012).

**Emotion as Described in the Literature**

Conceptions of emotions differ greatly. Lisa Feldman Barrett (2017, p. xii) believes that emotions are constructed in the brain; they are learned concepts, and not ‘hard-wired.’ Emotions “are not universal but vary from culture to culture. They are not triggered; [we] create them.” For Barrett, emotions are “a product of human agreement” (2017, p. xiii).

Grounded theorists Corbin and Strauss (2015) state as one of their underlying assumptions that

Action has emotional aspects. To conceive of emotion as distinguishable from action, as entities accompanying action, is to reify those aspects of action. For us, there is no dualism. One can’t separate emotion from action; they are part of the same flow of events, one leading into the other. (p. 23)

Most psychologists, as represented in the reviewed literature in this chapter, consider emotions to be adaptive functions of human psychology. I, too, believe emotions are adaptive as well as learned and cultural, what Röttger-Rössler and Markowitsch (2009) call “bio-cultural processes.” I believe it is worthwhile to consider type and degree of emotion entwined with action because emotions are drivers of thoughts and actions (Montag & Panksepp, 2017; Röttger-Rössler & Markowitsch, 2009).
The contexts of the studies reviewed have undoubtedly influenced their findings, in keeping with constructivist perspectives. For example, overt cultural comparisons of emotional creative expression (Kornilov, Kornilov, & Grigorenko, 2016) and emotional response to creativity (Cho, Lee, & Yoo, 2018) suggest subtle but definitive ways the emotion/creativity connection can differ with context.

Emotions are discussed in the literature as both a trait and a state. Emotional traits involve a person’s disposition to react to the environment in particular ways. For example, people with depressive tendencies are inclined to feel sad for extended periods of time. Emotional traits might also include tendencies toward emotional processing and behaviour, such as emotional regulation, detecting emotion in others, expressing versus repressing emotions, and mental illness that affects emotions. Emotion-related traits might be considered inherited to a degree but are not static—they can be influenced by culture, other aspects of the environment, and learning (Izard, 1991; Mesquita & Karasawa, 2002).

Emotional states involve the body and mind’s temporary reaction and response to a situation or the thought of a situation (Solomon, 2007). They are “affect, perceptions of meaning in the world, and conceptual knowledge about emotion . . . bound together at a moment in time” (Barrett, Mesquita, Ochsner, & Gross, 2007, p. 5). Emotions are interactions, when information about the external world is translated into an internal state (Barrett et al., 2007). Feeling happy after watching a comedy clip or feeling relaxed after making art are examples of emotional states. Emotions are far from separate from thoughts or the body (Damasio, 1994; Izard, 1991). The relationship between emotion and cognition is complex, however, and in some circumstances, it appears as though emotions prevail over reasoning (Haidt, 2001; Kahneman, 2011), though humans manage and control their emotions in deep and superficial ways.
Affect is a term used in psychology to describe the experience of emotions or feelings. A common framework considers affect as one of three domains of psychology: cognitive, behavioural, and affective (Stangor, 2011), or roughly speaking thoughts, actions, and feelings.

Two common frameworks are utilized in psychology to describe emotion. Izard subscribes to the discreet emotion framework (Ekman, 1999) in which several basic, innate emotions such as anger, fear, joy, and disgust can be identified based on facial expression, physiological profile, antecedent, behaviour, and function. Scholars differ on how many of these basic emotions exist. Ekman originally described six—the four listed above plus surprise and sadness. Izard (1991) includes interest or curiosity, shame, and guilt, but suggests love is a complex combination of the other basic emotions.

The second main framework for describing emotions consists of a matrix with two dimensions: degree of activation or arousal, and degree of pleasantness or valence. According to this conception, all emotions can be plotted on the matrix according to arousal and pleasantness, or valence (Russell & Barrett, 1999). For example, rage is high arousal and low pleasantness, while joy is high arousal and high pleasantness, and boredom is low arousal, low pleasantness. Mood relates to emotional valence, a “good mood” being a state of pleasant feelings, with a “bad mood” being a state of unpleasant feelings. Both these frameworks feature in the literature reviewed. Some studies directly compared the influence on creativity of valence of emotions versus arousal of emotions.

Emotion and creativity have been linked in the development of a new concept: emotional creativity, a particular kind of creativity conceived by constructivist James Averill (2009) and defined as “the ability to experience and express original, appropriate, and authentic
combinations of emotions” (Averill & Thomas-Knowles, 1991, p. 269). The novel products of value in this creativity are the emotions themselves. This viewpoint is significant in part because it considers emotions as learned. So, if creativity and emotions are tightly linked, then emotional learning is one route to fostering creativity.

Emotions are often named and tested through self-assessments (e.g., Positive and Negative Affect Schedule, Crawford & Henry, 2004; Trait Anger Test, da Costa et al., 2018). Usually more than one test is administered to participants. In experiments designed to alter emotional states and test the effect on creativity, participants do an emotion test before and after the treatment.

**Definitions in this Review**

I have not attempted to limit the scope of literature reviewed based on any one definition or measurement of creativity or emotion. From my perspective, the conceptions and measures of creativity in these studies are more likely to be parts of creativity, or related elements, rather than some other entirely different human trait. However, attending to what is being measured and how is important for reasonable interpretation of the findings. Similarly, the varying interpretations through which emotion is defined and studied have undoubtedly influenced study findings. I believe that however obtuse the reality of emotions, however complex the interplay between inherited, cultured, learned, and constructed emotion and its cognitive, physiological, and behavioural components, these studies still tell us something about the human experience of it.

This body of literature serves to inform my use of the human phenomenon of emotion as a sensitizing concept in this research. My aim is to apply what understanding I can glean from this review about the human experience of creativity with respect to emotion, to better understand the experience of my participants—students interacting with their education environment.
Emotions Influence Creativity

Multiple lines of empirical evidence address questions of emotions’ influence on creativity, ranging from neuroscience experiments to wide-scale, emic studies.

Emotion as a State

In multiple experiments, emotion has been induced in participants who are then given some creative task and their creativity measured. In a typical experiment, fifty-two university students were shown a short video expected to induce awe, an emotion the authors describe as “characterized by feelings of vastness.” Then, they were given Torrance creativity tests (Chirico, Glaveanu, Cipresso, Riva, & Gaggioli, 2018, p. 123). Their scores were compared to their creativity test scores after they’d watched a neutral video. Awe positively influenced these students’ creativity test performance.

Mood. The influence of mood on creativity is a particularly active area of research. Hundreds of experiments ranging from microinfluences of fleeting feelings (e.g., Topolinski & Deutsch, 2012) to longer term projects (e.g., Amabile & Kramer, 2011) indicate that provoking positive mood has a positive impact on creativity, including divergent thinking (e.g., Fernández-Abascal & Martín Díaz, 2013; Langley, 2018; Liu, 2016; Yamada & Nagai, 2015), creative problem finding (Chen & Plucker, 2016), remote association (Isen, Johnson, Mertz, & Robinson, 1985; Isen, Daubman, & Nowicki, 1987), insight (Subramaniam, Kounios, Parrish, & Jung-Beeman, 2009), and day-to-day creative performance (Amabile & Kramer, 2011; Conner & Silvia, 2015; March, Fisher, Ashkanasy, & Rowe, 2012).

The large-scale research of Amabile and Kramer (2011) in workplace environments demonstrates how positive mood enhances creative performance in real-world contexts. Employees emailed a daily diary to researchers once a day in which they outlined events,
thoughts and feelings, and their work performance. These entries were analyzed qualitatively and quantitatively and augmented with additional questionnaires of personality and dispositions, and interviews. Diary descriptions of good mood were associated with recorded creative endeavours as well as supervisors’ and colleagues’ monthly perceptions of creative performance. Stress, however, detracted from creativity. Other studies from natural contexts report similar findings (Connor & Silvia, 2015; Henderson, 2004; Jaassi, Knights, & Gupta, 2017; Tang & Naumann, 2017; Yuan, 2015).

At the other end of the scale, Masmoudi and Charif’s (2013) experiment with Tunisian university students demonstrates the influence of a tiny positive mood enhancer. They divided participants into two groups who were given differently worded instructions on a verbal creative task. The group that received the instructions, “We hope that you will do your best and have fun,” instead of “We inform you the test is difficult,” produced significantly more original written responses to several creative thinking questions. When the three words in the creative task were positive, such as cake, water, and sun as opposed to negative, for example bacteria, bomb, and stress, responses were also significantly more original. This kind of creativity enhancement through positive mood induction lasts between ten and 30 minutes (Baas, De Dreu, & Nijstad, 2011; Kaufmann & Vosburg, 2002; Tan & Qu, 2015).

Negative emotions’ effect on creativity has also been the subject of experiments. In keeping with the discussion thus far, negative emotions in a variety of experiments have been found to negatively impact creativity (e.g., Yeh, Lai, Lin, Lin, & Sun, 2015; Little & Wuensch, 2015). Anxiety is one of those emotions with a negative influence on creative performance—as determined by a statistical meta-analysis of 59 separate studies (Byron & Khazanchi, 2011). This meta-analysis involved a large amount of data, so it was possible for the authors to statistically
determine factors that influenced this relationship; the more complex the creativity task, the more negative the impact of anxiety. Also, the more verbal the creative task, the more negative the impact of anxiety. Of relevance for education contexts, the impact of anxiety on creative performance was more negative for children than adults.

Negative emotions associated with failure have potentially profound implications for creativity, because creativity fundamentally involves taking risks and taking risks involves failure (e.g., Petroski, 2006). Fear, shame, and perhaps guilt are emotions related to failure (Amabile & Kramer, 2011; Izard, 1991). Fear, including fear of failure, produces “tunnel vision,” a narrowed focus and reduced openness to options (Izard, 1991). As Carlos Osorio, founding director of the Master of Innovation Program Business School at the Universidad Adolfo Ibáñez, Chile, put it (2015), “the chances of one idea being a success is statistically zero” so failure in this context is inevitable. His five-year empirical study of student teams in the Masters’ program explored factors in the innovation process influencing the real-world success of their products after graduation. Osorio found that the emotional difficulties associated with failure were the limiting step; teams who are able to handle these feelings and continue to take risks achieved greater success. His data indicated that successful entrepreneurial teams failed often, sooner, and dealt with their failure with less frustration.

The influence of emotions on creativity has been examined in conjunction with aspects of the material environment that are also known to affect creativity. Incubation, a period of time between the giving of a creative task and the undertaking of it, has been found experimentally to enhance creativity, so Hao, Lie, Ku, Hu, and Runco (2015) set out to test the effect of positive mood combined with incubation on divergent thinking. They found that participants who had positive mood induced with a video and were also given incubation time had the highest
originality scores in a divergent thinking task. Body posture (Hao, Xue, Yuan, Wang, & Runco, 2017), and reading positive or negative horoscopes (Clobert, Van Cappellen, Bourdon, & Cohen, 2016) furnish two other examples of combinations of mood and other elements interacting in their influence on creativity.

A clear picture of positive influence of positive emotions on creativity and a negative influence of negative emotions on creativity has been painted in much of the literature. However, things are not so simple. Some studies also show negative emotions such as anger, sadness, or nostalgia can enhance creativity (da Costa et al., 2018; To, Fisher, Ashkanasy, & Rowe, 2012; George & Zhou, 2002; Ye, Ngan, & Hui, 2013; Yang & Hung, 2015). In a laboratory, Baas et al. (2011) tested the influence of anger on the quantity and originality of idea generation of undergraduate students. They found that anger had a positive effect on the number and originality of ideas generated, but this effect lasted only four minutes and declined after that. After sixteen minutes, anger resulted in fewer ideas than neutral or sad moods.

Fong (2006) evoked negative, positive, neutral, and mixed mood—both negative and positive at once—by asking her experimental participants to remember events from their lives, and view film clips prior to undertaking the creative thinking task of remote association between two words. The mixed mood group scored significantly higher. Other studies also found mixed emotions produced higher creativity than positive or negative emotions alone (George & Zhou, 2007; Kung & Chao, 2019).

Perhaps it is a shift in mood that enhances creativity (Desseilles, Chang, Piguet, Bertschy, & Dayer, 2012). Bledow, Rosing, and Frese (2013) call the effect of a shift in mood on creativity the phoenix model of creativity. However, evidence about the influence of an emotional shift is conflicting (see Mackay & Moneta, 2016).
**Hows and whys.** One explanation given to explain the influence of positive and negative moods on creativity is that arousal is important, not valence. Support for this idea comes from several studies. He, Wong, and Hui (2017) had subjects listen to positive and negative music and tested for creativity and affect. Both positive and negative music enhanced creativity and the authors conclude that arousal rather than valence is important. In another experiment, emotional arousal had a greater impact on the creative performance of arts students on a task involving writing titles for photos than emotional valence (Ristić & Milošević, 2017). This experiment has a methodological issue, though; the emotional manipulation is contained within the task itself, confounding variables.

Differences in context might influence the mood → creativity findings and explain the positive/negative affect results. One experiment manipulated positive and negative mood of Arabic-English bilingual speakers and gave them a Torrance creativity test (Kharkhurin & Altarriba, 2016). The positive mood enhanced nonverbal originality of their responses when the test was administered in English, but a negative mood enhanced nonverbal originality when the test was administered in Arabic. Culture matters. So does domain, with the arts being potentially more sensitive to positive mood enhancement than sciences (Sanchez-Ruiz, Pérez-González, Romo, & Matthews, 2015). Personality might also play a role; inclination to learn (To, Fisher & Ashkanasy, 2015), autonomy (Xiao, Wang, Chen, Zheng, & Chen, 2015), and a need for cognitive closure (Wronka, Bujacz, GocBowska, Rietzschel, & Nijstad, 2018) have all been found to influence the effect of positive/negative mood on creativity.

Kaufman (2015), and others (e.g., Jung, Mead, Carrasco, & Flores, 2013), have pointed out that analytic thinking and intuitive thinking are both important for many creative tasks. They think the disparity in the positive/negative mood—creativity research is due to differences in
analytic and divergent thinking aspects of creativity, and what kind of tasks are used in the creativity measurements. Several studies have set out to test this notion in experimental conditions and found support for it (e.g., Huntsinger & Ray, 2016; Tidikis, Ash, & Collier, 2017; Yeh, 2015). In a neuroscience experiment, participants solved more remote association problems and did so more often using intuitive thinking rather than analytic thinking when a positive mood was induced (Subramaniam et al., 2009). Analytic thinking is more deliberate, logical, and methodical while intuitive thinking is more rapid, defocused, associative, with many simultaneous representations; it is more generative (Kahneman, 2011).

Adaptive explanations for the mood-creativity connection posit that if the mind interprets mood as an indicator of the nature of the environment, then negative emotion might suggest a potential problem requiring attention (Baas, De Dreu, & Nijstad, 2008; Ivcevic & Hoffmann, 2017; Martin, Ward, Achee, & Wyer, 1993; Newton, 2013). The idea is that negative emotions signal potential stressful situations to which the brain responds with focussed, analytic approaches aimed at reaching the best possible solution(s). Stress has been shown to reduce free associative and divergent thinking (Coren & Schulman, 1971; Krop, Alegre, & Williams, 1969; Yeh, Lai, Lin, Lin, & Sun, 2015) and stress activates the more analytic functions of our brains in experimental conditions (Martindale & Greenough, 1973). Times of anxiety, when there are stakes attached to finding a solution to a problem, are not the best times to explore, play, or take risks.

Friedman, Förster, and Denzler (2008) induced positive or negative mood in college students by asking them to remember pleasant or sad and troubling events prior to being given a divergent thinking task. Half the participants were told the task was fun and silly, the other half were given reasons prompting them to believe the same task was serious and important. Negative
mood enhanced creative performance in the serious task and not the fun task, but the positive mood group did equally well on both types of tasks. The authors of the study suggest our brains use mood as information to tell us when to pay attention to problems, but we are able to recognize when the mood does not give us reliable information; the participants understood the importance of the task when prompted, regardless of their pleasant mood.

**Emotion as a Trait**

Two main lines of evidence relating to emotion as a trait contribute to understanding the deep connection between creativity and emotion. For one, multiple dispositions and aspects of cognition related to emotions have been experimentally described as important for creativity, though these studies are often correlational so it cannot be said how the traits relate, just that they do. Second, a substantial body of literature demonstrates links between affective disorders and creativity.

Highly creative people are more emotionally sensitive than the general population (Martindale, 1999). Artists are generally more emotional than creative scientists or the general public and are also more open to emotional experiences (Feist, 2004). Root-Bernstein and Root Bernstein (2004, p. 140) make the case that eminent scientists and artists possess common creative thinking tools, including an “intuitive, sensual, emotional, organic understanding of how things behave or what they mean.”

Emotional intelligence—the ability to recognize, interpret, manage and use emotions—has been found to be associated with creativity in multiple studies (Agnoli, Franchin, Rubaltelli, & Corazza, 2018; Chan, 2005; Chin, Raman, Yeow, & Eze, 2012; Guastello, Guastello, & Hanson, 2004; Parke, Seo, & Sherf, 2015; Pavlova & Komilova, 2016; Sahin, 2016; Sanchez-Ruiz & Hernández-Torrano, 2014; Takeuchi et al., 2015; Tu, Guo, Hatcher, & Kaufman, 2018). In a
study of secondary school students, highly creative students possessed a combination of the ability to regulate emotions as well as openness to experience in tandem (Ivcevic & Brackett, 2015). Emotional regulation ability has been related to high creativity in other studies, too (Kopcsó & Láng, 2017; Wu, Tang, Shi, & Luo, 2017).

Creativity has been demonstrated to have a strong link to intrinsic motivation, another emotion-related disposition (Amabile, 1996; Csikszentmihalyi, 1996; Peng, Cherng, Chen, & Lin, 2013; Stanko-Kaczmarek, 2012). Intrinsic motivation—task enjoyment and involvement—is a stable trait of individuals (Harter & Jackson, 1992) deeply connected to emotion (Izard, 1991; Hennessey, 2010). Hennessey (2010) reviewed a series of papers concerned with the relationship between positive emotion and intrinsic motivation including interest and excitement, happiness, surprise, fun, and elation. She concluded the body of evidence “make[s] a strong argument for the connection between motivational orientation and emotion” (p. 351).

Alexithymia—an inability to identify, differentiate, and describe emotions—is also inversely related to creativity. Low alexithymia was associated with high creative achievement in the arts in a correlation study involving thousands of adults in the Swedish Twin Registry (Lennartsson, Horwitz, Theorell, & Ullén, 2017). In an online survey, Theorell, Madison, and Ullén (2019) found a low alexithymia score to be associated with creative employment, but only for women and not men.

Other aspects of emotional psychology that relate to higher capacity for creativity include emotional creativity in a sample of business employees (Wang, Huang, & Zheng, 2015); deep acting—the ability to alter the internal emotional state to match external expectations—in a sample of flight attendants (Shin, Hur, & Oh, 2015); and, the ability to detect others’ emotions in a sample of the general population (Geher, Betancourt, & Jewell, 2017).
Highly creative persons tend to be curious (Chavez-Eakle, Lara, & Cruz, 2006; Puente-Diaz & Cavazos-Arroyo, 2017b), passionate (Puente-Diaz & Cavazos-Arroyo, 2017b) and proud (Damian & Robins, 2013). Optimists, who are more often in positive moods, exhibit higher creativity compared to the general population by one study’s reckoning (Rego, Sousa, Marques, & e Cunha, 2012). Byron and Khazanchi’s (2011) meta-analysis of the relationship between anxiety and Torrance creativity test scores revealed that people with a propensity to be anxious, trait anxiety, had significantly lower scores on creative tests. On the other hand, da Costa, Zhou, and Ferreira (2018) found that a tendency to be angry was related in the workplace to higher levels of a particular kind of creativity: thinking up new and better ways to achieve tasks.

Creativity and Affective Disorders. A number of excellent empirical studies suggest a link between creativity and affective disorders, including depression and bipolar disorder (Andreasen 1987, 2008; Jamison, 1989). A genetic component to the psychopathy/creativity link has been highlighted in a correlational study of staggering proportions, which examined 40 years of data for the entire adult population of Sweden, over one million people. Rates of mental illness (determined by treatment in the health care system) were calculated for people working in creative professions—defined as arts and sciences—as well as their first-degree relatives. They compared these rates to the rates of these illnesses among people working in non-creative professions. Generally, people in creative professions were more likely to have been treated for bipolar disorder than non-creative professions. The researchers also found that first degree relatives of people treated for schizophrenia, bipolar disorder, and anorexia nervosa were more likely to work in creative professions. One viable explanation for these results is that there is a genetic disposition which in “small amounts” lends itself to creativity, but in “larger amounts” results in mental illness that sometimes overwhelms the creative capacity, though the
mechanisms for the bipolar-creativity connection are unclear and likely to be complex (Johnson et al., 2012).

As suggested by the findings of the mood studies summarized in the previous section, “Emotions influence creativity,” the particulars of how and why affective disorders that influence mood affect creativity are at present unclear. Psychologist are actively trying to work out whether it is positive, or negative, mixed emotions, or the switch between emotions that is at the root of the relationship between affective disorder and creativity. Some studies suggest that in broad terms mania or elevated mood states experienced by bipolar people, rather than depression, results in higher creativity (Baas, Nijstad, Koen, Boot, & De Dreu, 2019; Holt, 2018), but mixed moods may play a role (Glicksohn & Boikova, 2018).

Negative emotions can, in some cases, foster deep observation and perseverance, both of which assist in the processing of ideas, and lead to increased creativity (De Dreu, Baas, & Nijstad, 2008; Forgas, 2013; Kaufman & Baer, 2002). Verhaeghen, Joorman, and Khan’s (2005) experiments suggest that creativity and depression are both related to rumination of thoughts, so perhaps it is rumination that has a positive influence on creativity. Another aspect of psychology—overexcitability in emotions and imagination—has been found to be associated both with creativity and higher levels of shame, depression, and anxiety (Martowska, Matczak, & Józwik, 2018). The psychological processes involved in both creativity and emotion are not simple. What is clear, however, is that there are multiple, strong links between creativity and emotion.

**Implications for Education**

As a whole, these studies suggest that supporting creativity in school settings could benefit from attending to student mood in small and large ways, and that tweaks and perhaps in some
cases fundamental shifts to the classroom environment are a feasible means to improve creativity. Strategies as small as positive wording of instructions for creative tasks, positive music, video clips, or anecdotes, a calm relaxing atmosphere, a few minutes of meditation, play, and presenting creative activities as fun when appropriate might all be effective. Tasks requiring analytic problem-solving, also creative in nature, may be aided by setting a tone of seriousness, and giving some authentic need for finding a solution.

Supporting creativity of students could also be enhanced through the support of students’ emotion-related dispositional traits. An experiment by Hennessey, Amabile, and Martinage (1989) provides an example of the potential. They gave school children “intrinsic motivation training,” which consisted of watching a video of two children talking with an adult about the fun and excitement of schoolwork, focussing on the intrinsic rewards rather than external rewards. A control group watched a video of the same children talking about their favourite activities. The students with training exhibited intrinsic motivation in the creative task of designing a picture book, and responded to external reward by becoming more, not less, creative in their designs. The creativity of students without this training was negatively affected by the reward.

Emotion, however, does not generally figure large in creativity programs currently, with the exception of de Bono’s six thinking hats (1999). Designed to promote parallel thinking in teams, group members take turns wearing different hats to guide their perspective. The white hat representing facts and information, the green hat idea generation, and the red hat emotions. However, here is little empirical research exploring the effectiveness of this method (Puccio & Cabra, 2010).
The studies reviewed provide reasons for considering differentiated instruction for highly creative students. The link between affective disorders and high creativity suggests that among those students with mental illness and/or emotional difficulties could be the next generation’s Woolfs and Van Goghs. Highly creative students might need extra affective support (Daniels & Piechowski, 2010) and there is some evidence from a large correlational study that highly creative students are more likely to drop out of secondary school (Kim & Hull, 2012).

The link between the negative emotions of risk-taking, failure, and creativity could pose a particular problem for public education settings where failure is often a ‘bad word,’ associated with low grades, and potential limits to career and life opportunities.

**Creativity Influences Emotions**

Creative activity provokes emotions. In a laboratory study, the effects of performing a divergent creative thinking task were tested with a group of 84 undergraduate students (Chermahini & Hommel, 2012). Two mood tests were administered immediately before and after the tasks; the divergent thinking task significantly and positively affected the mood of participants.

Emic studies in the workplace have explored the effect of creative days on employee mood. Tavares (2016) conducted an experiment with 170 employees. She assessed their creativity at work, as assessed by supervisors. Employees rated their positive emotions, and also did an optimism test. Verbal creative expression significantly improved mood. A similar study conducted with 95 employees of a high-tech company asked employees to do an optimism and enthusiasm test, and to rate the creativity and innovative environment of their organization. A correlation was found (Rasulzada & Dackert, 2009); the more creative the workplace, the more optimistic the employees.
Diary studies have helped demonstrate that positive mood occurs after and results from creative activity. Amabile’s daily diary study of 222 employees working at seven different companies showed that creative thinking led to positive mood (Amabile, Barsade, Mueller, & Staw, 2005). Conner, DeYoung, and Silvia’s (2018) diary study with 658 university students found that creative activity resulted in higher positive emotions the next day. Participants were more creative the next day as well and reported a high sense of meaning in life. This influence of creativity on positive emotions was statistically independent of personality traits, suggesting that it works this way for everyone, not just creatively-disposed people.

An effect of creativity on mood implies a possible positive feedback loop, whereby the more creativity a person engages in, the better they feel, and the more creative they’ll be. In workplace contexts, Amabile and her colleagues (Amabile et al., 2005) call this idea an “organizational affect-creativity cycle.” This positive feedback loop may well be more widespread than the current literature has explored. For example, one way that play might influence creativity is that it is fun and hence improves mood, which in turn influences creativity (Russ & Wallace, 2013). In fact, the same might be said of all intrinsically motivating creative activities: creative activities are enjoyable, and once this creativity → positive emotion pathway engages, the positive emotion → creativity pathway does too.

Creative activities may have a lasting impact on emotional development and well-being (Matthews, 2007; Whitebread, Coltman, Jameson, & Lander, 2009). Creativity might furnish human beings with tools for emotional coping, as suggested by a psychological study of a link between traumatic experiences and creativity (Orkibi & Ram-Vlasov, 2018). Among their study population, 252 Israeli adults, 64% of whom had been exposed to war as civilians, there was a relationship between a higher number of traumatic events and higher divergent thinking, higher
confidence in creative ability, and higher emotional creativity. Through statistical techniques, the researchers found confidence in creative ability and emotional creativity were related to the psychological outcome of the traumas; higher creativity resulted in positive growth as a consequence of the traumatic experiences.

**Using the Creativity/Emotion Connection**

Without a clear understanding of the hows and whys, creative activity has long been applied as art therapy to assist children and youth with a wide range of mental and physical difficulties (e.g., Anderson, 1992; Isis, Bush, Siegel, & Ventura, 2010; Massey & Burnard, 2006; McGuinness & Schnur, 2015; Sidney-Ando, 2016; Sullivan & Simonson, 2016).

Expressive creative writing whereby participants freewrite about emotive topics has been thought for some time to have a wide range of health benefits including improved immune system and emotional wellbeing (e.g., Pennebaker; Kiecolt-Glaser, & Glaser, 1988; Lepore & Smyth, 2002; reviewed by Frattaroli, 2006 and Frisina, Borod, & Lepore, 2004). There has been a recent explosion of research into the effect of expressive writing in a variety of contexts. These studies have had mixed results. Studies of the effect of expressive writing on post-traumatic stress disorder symptoms demonstrate the potential power of this creative activity on subsequent well-being (Canto, McMackin, Hayden, Jeffery, & Osborn, 2015; Sloan, Marx, Bovin, Feinstein, & Gallagher, 2012; Sloan, Sawyer, Lowmaster, Wernick, & Marx, 2015). In one experiment, five, 30-minute sessions of writing about involvement in a traumatic car accident were enough to result in significantly reduced PTSD symptoms that lasted at least 30 weeks when the experiment ended.

What participants write about matters. The influence of expressive writing on 75 Chinese high school students exhibiting high anxiety related to impending high-stakes testing was
explored (Shen, Yang, Zhang, & Zhang, 2018) using a protocol of 20 minutes of writing for 30 days. The key to this experiment is that half the students were instructed to write expressively about positive emotions, and it was this kind of expression that resulted in strong reduction of test anxiety. Writing poems about highly positive experiences not only resulted in more original poems in one recent experiment, but the positive emotions were also associated with reported enhanced personal growth as a result of the experience (de Costa & Rovira, 2015).

Journalling for three weeks about gratitude had a similarly significant effect on the positive emotions of 21 stressed out, first year college students who participated in an expressive writing experiment (Işık & Ergüner-Tekinalp, 2017). Booker (2018) did another experiment that directly compared the effects of writing about emotional events versus writing about gratitude in a group of new college students. Both kinds of writing had emotionally-related influences; the emotion-related writing group had more willingness to share their lives with others, with increased comfort in disclosing about themselves and more “heart to heart” conversations. The gratitude writers expressed greater life satisfaction and got involved with more group meetings.

It was writing about negative emotions, however, that had a positive effect on changes in alcohol consumption behaviour among 429 college students. Students were instructed to write once about an alcohol-related experience, either a negative or a positive one; students who wrote about negative experiences more often made subsequent positive changes in their alcohol consumption (Rodriquez, Young, Neighbors, Campbell, & Lu, 2015).

A meta-analysis (Reinhold, Bürkner, & Holling, 2018) of the research conducted into the effects of expressive writing on depressive symptoms in patients without post-traumatic stress disorder suggests there are no long-term positive effects to be had from brief, self-directed expressive writing although repeated sessions of expressive writing on more directed topics
might. Wong and Mak (2016) found that self-compassion writing three times in one week did not positively influence the emotions of their Chinese university student participants.

The influence of expressive writing on emotionally-related aspects of well-being appears to be complex. Differences between individuals, contexts, and protocols seem to influence the impacts of expressive writing on emotions and emotional well-being, though these experiments suggest further research is warranted to better understand how this creative activity might be utilized effectively to help people.

**How and Why Creativity Influences Emotion**

Teasing out these the details of how creative activity influences emotions could well shed light on the nature of interactions between different people, different creative activities, and different contexts. A qualitative study into the experiences of ten adult participants who use visual arts to process emotional distress unpacked some of the complex elements involved in the relationship between activity and emotion (McCreary, 2015). Art was experienced by these participants emotionally through three avenues: as self-expression, a distraction, and a means to a sense of accomplishment.

On the other end of the qualitative-quantitative spectrum, Fancourt and colleagues (Fancourt, Garnett, Spiro, West, & Müllensiefen, 2019) have developed a psychometric instrument to test the types of emotional regulation strategies used by people when engaging in creative activities. To do this, they conducted a pilot study of 740 adults, followed by an internet sample of 47,924 participants. Their study identified three ways that creative activity influences emotions: avoidance, approach, and self-development. Avoidance strategies involve using creativity to distract ourselves from negative emotion, or suppress or detach from it. Approach strategies involve using creativity to accept emotions, re-examine emotive situations to work
through them, or to solve problems. Self development strategies involve enhancing self-identity, improving self-esteem, and increasing agency.

The notion of distraction in relation to expression of emotion was tested experimentally by Fink and Drake (2016). They induced a sad mood in a group of participants and asked them to either write to express their feelings or write to distract themselves. Those who wrote to distract in this experiment showed a better improvement of mood from the writing activity than those who wrote expressively. The value of expression as opposed to distraction was suggested by an experiment by Wang et al. (2015), who provoked anxiety in a group of participants about to give a public speech, a condition that produced anxiety. One group of participants were asked to write about their stress in a reappraisal style, to think about it and its meaning, and reconsider the emotional response. A second group were asked to write something distracting—their weekly plan. Both groups, whether writing to consciously process emotions or to distract from them, reported a reduction in anxiety. However, when both groups were later re-exposed to the same stressful situation, the group that had written to reappraise their emotions had less anxiety, while the writing for distraction group’s anxiety went up again. The authors of this study conclude that writing consciously to process one’s emotions might be of benefit in the longer term.

In all, these studies point towards multiple routes by which creative activities, including expressive writing, influence emotions in the short and long term. They suggest a complex interaction between creativity and emotion in the brain and body, in behaviour, and in people’s lives that warrant further, contextual study.

**Emotion and Creativity Programs**

The connection between emotion and creativity has been utilized in the design and implementation of art programs to develop skill in both areas. Adults who participated in an
eight-session, visual arts workshop that engaged them in creative problem finding and idea
generation as well as overt emotional awareness reported increased skills in both creativity and
emotion (Ebert, Hoffmann, Ivcevic, Phan, & Brackett, 2015). Some of these same authors report
similar results from a six-week art workshop aimed at adolescents (Maliakkal, Hoffmann,
Ivcevic, & Brackett, 2016).

A quasi-experiment engaged undergraduates in a rehabilitation services course in an
expressive writing program and reported increased overall emotional intelligence resulted, as
measured by two established psychometric tests (Castillo & Fischer, 2017). Participants
demonstrated higher regulation of optimism and mood, use of their emotions, positive
processing, conflict processing, and liberating feelings.

The strong connection between creativity and emotion suggests there is great potential for
programs of this nature to develop competency in both creativity and emotion; the literature
reviewed suggests this is a highly underdeveloped arena.

Implications for Education

The literature reviewed strongly suggests that participation in creative activities would
provide secondary students tools for coping with disappointments and adversity and improve
enjoyment and overall happiness that could last over a lifetime (Csikszentmihalyi, 1996). These
are good reasons to attend to creativity and its positive outcomes in education contexts.

Since adolescents are more emotionally sensitive (Blakemore & Choudhury, 2006) with a
heightened propensity to feel negative emotions (Somerville, Jones & Casey, 2010), the effects
of creative activity may have particular and immediate benefits for a secondary school
population. Furthermore, adolescence is a time when peer groups and the task of developing self-concept take on more importance (Sylwester, 2007), and self-concept can be damaged by failure
(Izard, 1991). Addressing risk, failure, and the emotions that come with them is developmentally appropriate and could directly enhance the well-being of this age group as well as supporting creativity.

While opportunities for creative expression are considered beneficial for everyone (e.g., Richards, 2010), the body of empirical research detailed here suggests clear benefits for individuals with emotional difficulties to engage in expressive activities, such as creative writing, visual, and performing arts. Again, the adolescent population of secondary schools may benefit in particular from creativity experiences. The Canadian Mental Health Association (2019) states that between 10-24% of youth in Canada are affected by mental illness, but only one in five children who need mental health services receive them. The US statistics are comparable (National Alliance on Mental Illness, 2019), with 20% of youth affected by mental illness and one in two children who need it receiving mental health services. The positive impact of creativity on emotion makes attending to creativity in secondary school one feasible and legitimate route to partially meet this social need.

**Creativity as Emotive Experience**

Dancer Mary Wigman’s (1985) description of her composition process yokes her creativity to emotion:

my purpose is not to ‘interpret’ the emotions. Grief, joy, fear, are terms too fixed and static to describe the sources of my work. My dances flow rather from certain states of being, different stages of vitality which release in me a varying play of the emotions, and in themselves dictate the distinguishing atmospheres of the dances. (pp. 121-122)

In this section, I review recent literature that orients the emotional experience of individuals to creating and interacting with others’ creativity. The evidence for these roles of
emotion in creativity come from descriptions of eminent creators’ work, psychology and neuroscience experiments, and phenomenological studies that capture and analyze the experience of people engaged in creative acts.

The Act of Creating

The results of studies in a variety of contexts with children and adults indicate emotion, particularly positive emotion, is inherent in all aspects of the creative process. Amabile’s daily diary study (Amabile et al., 2005; Amabile & Kramer, 2011) demonstrated positive emotions were experienced concomitant with creative thinking and behaviour for their 222 participants.

St-Louis and Vallerand (2015) examined the emotions associated with the artistic process of passionate artists, looking at emotions of moderate arousal, like happy and sad, and emotions of high arousal, like excitement and nervousness across four stages of creativity: preparation, idea generation, production, and completion. The authors concluded that moderate positive emotions open up the artist to new ideas, while the high arousal emotions such as nervousness provide energy to complete a project. They conclude that negative emotions are not conducive to creativity, though they may be present. In their view, excelling at creative endeavour requires managing negative emotions.

Long-time creativity and play researcher Sandra Russ’s work represents a rare, concerted effort to empirically explore the connections between creativity and emotion in an education context. She (1993) suggested five ways affect relates to creative process:

1. Having access to affect-laden thoughts that may contribute to the content of the creativity;
2. Being open to affect, the ability to experience affect, which she defines as a feeling or emotion that is not cognition, including the anxiety and passion that the creative process entails;
3. Taking pleasure in challenge;
4. Taking pleasure in problem-solving; and,
5. Having cognitive control of emotion so it does not overwhelm the process.

Play is an important strategy for supporting creativity in children. It helps children feel comfortable with emotions and their expression (Russ & Fiorelli, 2010), as well as providing practice with divergent thinking (Russ & Fiorelli, 2010; Russ & Grossman-McKee, 1990; Russ, Robins, & Christiano, 1999). Play and its positive effects on creativity are not limited to young children (Anderson, 1994; Goldmintz, & Schaefer, 2007; Lieberman, 1977; Mann, 1996; Styhre, 2008).

In another example from a classroom context, Vass (2015) studied the discourse of 24 pairs of 7- to 9-year-old children engaged in a creative writing experience. She found emotion was an important element in content generation and review. Children drew from their own past emotional experiences as the drivers of story content, their emotion “triggering and channelling the creative flow” (p. 196). Students actively empathized with the emotions of the characters in their fictional stories, acting out emotional episodes as a strategy to make this connection. Emotions were actively shared by partners as well in the process of collaboration. This emotional sharing was also evident in the reviewing phase of the creative process when children made creative decisions about what they’d written. Pleasure was one of two main criteria these students used in decision-making, and this pleasure was communicated without reference to reasons or argument.

An arts-based research approach to exploration of the adult process of positive emotions integral in the art-making process elicited several themes that echo those of Vaas’s (2015) study with children. Chilton et al.’s (2015) study involved five professional art therapists who each
worked with a client in a collaborative art-making process exploring emotions. Positive emotions were expressed in the artistic products themselves through symbols and metaphor. Trust built between pairs led to a willingness to be vulnerable and take risks with emotional expression. Art-making in response to another’s artwork was empathetic, reflecting emotional understanding of the artist.

Curiosity and excitement are evident in all kinds of creative endeavours including science, even though creativity in science and math appears to involve shallower emotional states than artistic endeavours (see Feist, 2004 for a review, also Kozbelt, Dexter, Doles, Meredith, & Ostrofsky, 2015). Fiest (2004, p. 72) suggests the “discovery stages of scientific creativity are often very intuitive and emotional.” Inventor Nikola Tesla seems to have agreed:

I do not think there is any thrill that can go through the human heart like that felt by the inventor as he sees some creation of the brain unfolding to success . . . Such emotions make a man forget food, sleep, friends, love, everything. (as cited in Cheney, 2001, p. 141)

Henderson (2004) conducted in-depth interviews of four professional inventors. While they described their work as “requiring persistent effort over long hours without immediate reward” (p. 300), they also consistently and repeatedly described their work as enjoyable and fun, or as the author of the study described, “merriment alongside grueling effort” (p. 301). She used Russ’s model of the role of emotions in play to analyse the finer points of emotion in the inventing process. She added three more ways in addition to Russ’s five that related to the creative process of the inventors she interviewed: Affective pleasure in technical perspective taking—pretending to be the object being invented or the person using it; affective pleasure in focus—akin to Csikszentmihalyi’s (1990) concept of flow; and, affective pleasure in creating—the pleasure and pride felt as a consequence of bringing something new into existence.
Three recent studies explored the experiences of youth engaged in artistic practices from the creators’ perspective. A phenomenological study of the lived experience of eight young poets (Champa, 2016) highlights a range of largely positive emotions throughout the process, which they named as excitement, joy, and a sense of relaxation. Stress was also mentioned.

Six 12th grade students engaged in composing a digital, multisensory experience in an English language arts class described their goals for their work as emotionally moving their audience, and expressing themselves (Smith, 2018). A much larger survey of secondary students, 151 in the visual arts and 82 in creative writing, had similar findings (Harrington & Chin-Newman, 2017) in terms of motivations for their creative endeavours that indicated a consciousness about the link between creativity and emotion. These motivations included regulating their emotions, expressing their emotions, and feeling free.

The emotion in a creative work influences how creative it is judged to be (Cho, Lee, & Yoo, 2018; Hanauer, 2015; Sobrinho & Sanmartin, 2018). Creative works also have an emotional impact on their audience (Chin, Raman, Yeow, & Eze, 2012; Lüdtke, Meyer-Sickendieck, & Jacobs, 2014; Spendlove, 2007; Tschacher, Greenwood, Kirchberg, Wintzerith, van den Berg, & Tröndle, 2012).

**Implications for Education**

These studies provide further justification for attending to emotion in education contexts. Students are exposed to creative artifacts as a regular component of their curricula, and so have their emotions affected in positive and potentially negative ways.

Emotions have been studied in relation to biases against creativity. Lee, Change, and Choi’s recent (2017) experimental study compared how fear, anger, and happiness affected people’s feelings about creativity, particularly bias against it. They found that when people are
fearful, which is related to uncertainty, they judged creative artifacts as less creative than when they felt angry or happy. Recognition and appreciation for the creative works in the curriculum, be it Shakespeare or Galileo, are somewhat dependent on student emotional state. Teachers and peers are also likely to judge students’ creative works differently depending on their mood: another reason to attend to emotion in education—the emotions of teachers as well as students.

This finding could have implications for teachers in particular, as studies of teacher perceptions of creative students indicate negative feelings are common (Chan & Chan, 1999; Dawson, 1997; Scott, 1999). Risk aversion is associated with fearfulness (Lerner & Keltner, 2001; Kahneman, 2011), and risk-averse leadership in organizational settings discourages creativity (Amabile & Kramer, 2011). One small example illustrates how fear experienced by teachers might translate into the discouragement of student creativity: student questioning. Quality questioning is one aspect of problem-finding, which is vital to creativity (Getzels & Csikszentmihalyi, 1976; Starko, 2014). However, many teachers consider student questioning threatening (Rop, 2002), and student questioning in classrooms has been found in one observational study to be negligible (Chin & Osborne, 2008).

**Chapter Summary**

The body of literature reviewed demonstrates emotions are important to creativity, affecting all aspects of the lived experience of creativity. Emotions influence creativity and creativity influences emotions, and both type of emotion and degree of emotion matter. In all, the literature suggests multiple and numerous reasons to attend to emotion in conjunction with creativity in education settings. Emotions impact student capacity for creativity, the quality of their creative work, teacher attitudes toward student creativity, creative environments, aspects of tasks designed to elicit creativity, and student and teacher appreciation of creative works.
Emotion can be utilized to enhance creativity by using aspects of the environment that influence positive mood. The connection between emotion and creativity is broad so that supporting both could potentially enhance motivation and the persistence required to follow creative work through to completion, and then revise and try again in the face of failure. Fostering creativity in classrooms provides students practice with the process and the emotions that go along with it.

The emotion/creativity connection lends additional weight to the rationale for developing theory for supporting creativity in secondary school by suggesting benefits for supporting creativity that extend broadly to supporting student wellbeing in the short and long term. Using emotion as a sensitizing concept holds promise as a means of furthering understanding about how to support creativity and furthering understanding of how creative experiences influence secondary students.
CHAPTER 3
RESEARCH DESIGN: CONSTRUCTED GROUNDED THEORY

In this chapter, I outline constructed grounded theory methodology as applied to this study. I draw heavily on Charmaz’s (2014) descriptions of constructivist grounded theory and its method because I identify as a constructivist, believing that all knowledge is constructed (Bruner, 1966; Charmaz, 2000; Mills, Bonner, & Francis, 2006). In my own words, I see the empirical world of human beings as biologically informed and emotionally filtered and consciously and unconsciously interpreted in kaleidoscopic multiplicities, with some basic commonalities. Charmaz’s concept of grounded theory is highly attractive because she emphasized that grounded theory methods offer “systematic, yet flexible guidelines” (p. 1) to study processes, meaning-making, actions, and interpretations (Charmaz, 2008, 2014). The sections that follow detail this methodology and the methods I employed that flowed from it. I specifically discuss data generation and sampling, data management, and my participants in this chapter. Data analysis is described in detail in Chapter 4.

Theoretical Foundations

In this section, I address the philosophical underpinnings of constructivist grounded theory, and how they inform this work. All methodology is based upon philosophical paradigms, which determine how data are gathered and interpreted (Lincoln, Lynham, & Guba, 2011; Birks & Mills, 2011). When Glaser and Strauss (1967) developed grounded theory, they were situating qualitative research as a valid means of understanding the objective world by ‘grounding’ the development of social theory in the inductive analysis of objectively gathered qualitative data. They believed researchers could avoid their subjectivity, and their protocols included instructions
on how to achieve this, such as immersion in the field and no literature review until after analysis.

Straus parted philosophical ways with Glaser, though both continued to develop and write about grounded theory methods. Strauss’s work injected into the methodology a less positivist approach and emphasized interactions and interpretations, in keeping with symbolic interaction and pragmatic philosophy. He was exposed to these ideas by “the Chicago School,” a group of sociologists at the University that included John Dewey, George Herbert Mead, and Herbert Blumer (Chamberlain-Salaun, Mills, & Usher, 2013). The philosophical underpinnings of grounded theory in pragmatism and symbolic interaction were described by Corbin and Strauss (2008) in the third edition of their classic text. I briefly outline each, below.

**Pragmatism**

This philosophical stance "emphasizes the practical application of ideas by acting on them to actually test them in human experiences" (Gutek, 2014). For education philosopher John Dewey (1916), knowledge is provisional, its acquisition and alteration adaptive or useful. In a word, knowledge is pragmatic. Pragmatists believe that humans create knowledge; knowledge is not a mirror of reality. The influence of pragmatism is evident in the central tenets shared by all grounded theory (Timonen, Foley, & Conlon, 2018, p. 1): “(1) taking the word “grounded” seriously, (2) capturing and explaining context-related social processes, (3) pursuing theory through engagement with data, and (4) pursuing theory through theoretical sampling.” The knowledge that is created is useful because it is theory that explains what is seen in the data. Creating that knowledge is a pragmatic undertaking of capturing and explaining. Often, grounded theory is applied with a practical purpose in mind, such as improving systems (Oktay, 2012).
Symbolic Interactionism

Blumer (1969) coined this term, but the idea was heavily developed by his colleague, George Hubert Mead (Blumer, 1969). Symbolic interactionism has three premises:

1. Human beings act toward things on the basis of the meaning that the things have for them.
2. The meaning of things is derived from the social interaction that one has with one’s fellows.
3. These meanings are handled in and modified through an interpretative process used by the person in dealing with the things she encounters.

More colloquially, there might be a concrete world, but we only interact with it through the symbols, language, perceptions, and others’ interpretations of that concrete world that we have available to us. The four elements—meanings, actions, interactions, and self—inherent in symbolic interactionism are the fundamental concerns of grounded theory and are embedded in the methods used to study them (Chamberlain-Salaun et al., 2013). An example from Chamberlain-Salaun et al. (2013) illustrates the point.

Ascribing meaning . . . to data corresponds to the essential grounded theory methods of initial coding and intermediate coding. Continually reassessing meanings in the data is demonstrated in the essential grounded theory methods of constant comparative analysis. . . . Through the process of constantly comparing data codes to codes, codes to categories, and categories to categories, the researcher interacts with the data, continually reassessing meaning. (p. 5)

My research focuses on the meanings participants make of their creativity-related interactions within secondary schools; how these interactions influence the meaning made of further interactions with the world into the present day; how these interactions influence
participants’ actions during the experience and into the present day; and, how participant selves including their emotions interact with the world to produce these consequences. I assume that the meanings and actions of participants were of adaptive use to them. I also approach the entire study with the pragmatic aim of applying the understandings gleaned to improving the support of creativity in a secondary school context.

**Constructivist Grounded Theory**

Strauss’s version of grounded theory remained mechanistic in its methods (Bryant, 2009), and retained positivist assumptions about researcher objectivity (Charmaz, 2008). Kathy Charmaz (2000, 2006, 2008, 2014), a student of Strauss, brought other important developments to grounded theory: the consideration of the researcher’s subjectivity, and the loosening of rigid methods. In the 1990s, when Charmaz first coined the term constructivist grounded theory to describe her approach (Charmaz, 2008, 2014), she championed the extension of interpretivist logic beyond viewing the socially constructed world of participants to the social construction of the research itself. Researchers have an active role in conceptual development—data and research findings are co-constructed. Instead of denying it, Charmaz promotes considering the role of the researcher with transparency. Doing so allows “social constructionists [to] invoke the generalizing logic of objectivist grounded theory but do so in full view of their measured assessments, not in absence of them. The result promises to be a nuanced analysis that acknowledges and analyzes positionality and partiality” (Charmaz, 2008, p. 407).

The foundational belief that research is co-constructed affects the methods Charmaz recommends. For one, since participants construct their reality, it is their perceptions that matter for understanding, and interviews are reasonable means to collect these perceptions (Charmaz, 2012, 2014). My stance on creativity as a personal freedom leans naturally toward a
methodology that pursues data from student voices. It is the students who can best speak to if and how their creativity is encouraged or discouraged; it is their interpretations of their worlds that count as their reality. "If men define things as real, then they are real in their consequences" (Thomas, 1923). Further, from the perspective of symbolic interactionism, it is the very language that participants use, their words, that has informed and constrained their interpretations (Mead, 1934). Hence, the data collected for this research consists of the thoughts and feelings of students as understood through their written and spoken words.

This approach is not only in keeping with grounded theory methodology, which seeks to learn about “participants’ lives . . . how they explain their statements and actions,” (Charmaz, 2014, p. 3), but it has also been identified among creativity researchers as a gap in current understandings. Prominent creativity researcher Beth Hennessey (2010, p. 359), while explaining the difficulties in understanding the impact of the environment on creativity, notes that we must “strive to understand the impact of the environment from each individual’s own, unique perspective.” In an education context, this means attending to student voice.

In Charmaz’s view, the subjective nature of data and its analysis also left room in grounded theory for more flexible methods. When I read Charmaz, she seems to emphasize the purpose of methods rather than any one right way to go about it, because “like the studied phenomenon, the research process itself is never neutral or without context. It, too, is an emergent social construction” (Charmaz, 2008, p. 407).

I have briefly described historical developments in grounded theory methods, but this evolution has been more of a branching of the grounded theory family tree than a succession of the old with the new. Glaserian, Straussian, and Charmazian grounded theory methods are all
actively used in research. The more traditional methods are favoured by researchers with a post-positivist paradigm, and constructivist methods favoured by interpretivists (Charmaz, 2008).

In this work, I have aligned my epistemology and my research with an interpretivist paradigm, though I have also acknowledged I consider biology to have a deeper influence on human interactions and actions than other interpretivists like Clarke (2005, 2006) and probably Charmaz (2014). I have found it natural to employ constructivist grounded theory methods in my work and have practiced “methodological self-consciousness” (Charmaz, 2017, p. 34) to pay attention to my role, as researcher and human being, in the construction of it. As a researcher, my aim is to have utilized all I have to offer to provoke insight and deepen understanding of the process, and consequences, of secondary students’ creativity-related experiences.

In the next section, I briefly describe research methods and design, in relation to grounded theory methodology and my epistemology.

**Micro, Ecological, Constructivist Grounded Theory**

Charmaz (2014) and Clarke (2005) refer often to micro, meso, and macro levels of society, and the variation found in the scale of approach taken in grounded theory. These terms come from Bronfenbrenner’s (1979, 1995) human ecology theory, which describes the levels of environment/human interaction as concentric circles. The microsystem, the innermost circle, is the site where individuals interact with their immediate surroundings including their interpersonal relationships. The mesosystem is the site of interactions between various aspects of the microsystem. For a student, the mesosystem would include interactions between parents and the school. The macrosystem is the outer circle of interactions, the societal and cultural beliefs that all the other levels are embedded in.
Grounded theory varies in its focus from micro processes to macro processes (Charmaz, 2014; Clarke, 2005). My dissertation research emphasizes the interaction between students as individuals and their school environment—on the micro side of the continuum—with the unit of study participant students’ experiences in secondary school that encouraged/discouraged their creativity. I approach the interactions between students and their environment as one informed by their interpretations, the multiple interpretations of the others that comprise their social environment, their culture, and also their genes, as did Bronfenbrenner (Bronfenbrenner & Ceci, 1994).

I perceive and describe the interactions between my participants and their school environments that encourage/discourage creativity as experiences: what occurs at the self/world boundary—interaction—over time. As John Dewey (1938) expressed:

An experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment, whether the latter consists of persons with whom he is talking about some topic or event, the subject talked about being also part of the situation; or the toys with which he is playing; the book he is reading (in which his environing conditions that the time may be England or ancient Greece or an imaginary region); or the materials of an experiment he is performing. The environment, in other words, is whatever conditions interact with personal needs, desires, purposes, and capacities to create the experience which is had. (pp. 43-44)

It follows from this conception that in order to explore student experiences of encouragement/discouragement of creativity, I must attend to the environment the student is interacting with, what Clarke (2005) calls the situation. Clarke (2005, p. 23) advocates “using the situation as the locus of analysis and explicitly including all analytically pertinent nonhuman
(including technical) elements along with the human in situational maps.” My visual representation of the situation of this study (Figure 1) is akin to the ‘situational map’ of Clarke (2005), though not one of her prescribed examples of method.

In this situational diagram, the line through the middle represents the intersection between the Brofenbrenner’s inner circle, the individual, and all other levels in his model—relationships with peers, parents, and educators, school systems, and societal norms. The diagram also represents the nonhuman elements of the situation that might influence the experience of encouragement/discouragement of creativity, such as objects, equipment, and physical space. The diagram thus represents the whole situation of the student experience, both in time and space.

However, the boundary of interaction is more like a zone than a line; there is a space where elements of the world and the person intermingle, where the external and the internal overlap. This is where experience happens. This is where creativity happens, where emotion happens, and learning. This is where the world imprints on the student, and the student imprints on the world.

I call this realm the interactive space.

The experience, the situation I am exploring in this work, concerns the particular stretch of time when secondary students interacted with their school environment in ways that encouraged/discouraged creativity. I used the notion of interactive space and this diagram as a visual tool to guide initial coding and theoretical analysis.
As Blumer (1969, pp. 24-25, as cited in Clarke, 2005) suggest a diagram can, this visual scheme has influenced the foundations of my study and its resulting theory:

*The Possession and Use of a Prior Picture or Scheme of the Empirical World Under Study . . . [T]his is an *unavoidable* prerequisite for any study of the empirical world. One can see the empirical world only through some scheme or image of it. The entire act of scientific study is oriented and shaped by the underlying picture of the empirical world that is used. This picture sets the selection and formulation of problems, the determination of what are data, the means to be used in getting data, the kinds of relations sought between data, and the forms in which propositions are cast.*

**The Core Methods of Grounded Theory Employed in this Study**

The basic features that make a grounded theory study a quality grounded theory study vary with approach, and in accordance with epistemology. Recently, Timonen et al. (2018) sought and described the four features core to *all* grounded theory: (1) taking the word ‘grounded’ seriously,
(2) capturing and explaining context-related social processes, (3) pursuing theory through engagement with data, and (4) pursuing theory through theoretical sampling.

Oktay (2012) views theory as central to grounded theory (for obvious reasons) and lists four fundamental components that interact to produce this theory: theoretical sensitivity of the researcher, theoretical sampling of data, constant comparison analysis, and theoretical saturation as the point of analysis turning to theory creation. In *Grounded Theory: A Practical Guide*, Burks and Mills (2015) include in their diagram of essential grounded theory methods: purposive sampling, initial coding, concurrent data collection/generation, theoretical sampling, constant comparative analysis, category identification, theoretical sensitivity, intermediate coding, selecting a core category, and theoretical saturation, advanced coding, and theoretical integration. According to Creswell (2007), the resulting theory from this process explains an inherent process within a particular social context through the experiences of the people operating within it.

Charmaz (2014), whose approach I followed most closely, lists a number of features of grounded theory. However, she has clearly articulated her stance that grounded theory is not a recipe, but rather a diverse set of strategies (Charmaz, 2014, p. 12). “No set of rules can dictate what a researcher needs to do and when he or she needs to do it” (Charmaz, 2008, p. 403). Of Charmaz’s (2014, p. 15) “constellation of methods,” she considers the first five essential to call a study grounded theory.

1. Conduct data collection and analysis simultaneously and iteratively
2. Analyze actions and processes rather than themes and structure
3. Use comparative methods
4. Draw on data in service of developing new conceptual categories
5. Develop inductive abstract analytic categories through systematic data analysis
6. Emphasize theory construction rather than description or application of current theories
7. Engage in theoretical sampling
8. Search for variation in the studied categories
9. Pursue developing a category rather than covering a specific empirical topic

In this study, I have employed all nine of these strategies to varying degrees. The descriptions that follow in this chapter of my data generation and sampling methods relate to particular strategies: data collection and analysis informing each other (1), the deliberate embedding of comparisons in the research design (3), emphasis on contextual and theoretical variation in data generation (6, 8), and theoretical sampling (7). All other strategies are detailed in Chapter 4, which outlines my analysis.

The Question of Literature Review

Glaser and Strauss emphasized the importance that theory be developed inductively from the data observed on the ground. Glaser maintained that immersion in the literature about the process of interest was to be avoided, so second-hand knowledge would not cloud the researcher’s inductive powers. Strauss (Corbin & Strauss, 2008), too, continued to recommend caution with literature review, though reading and learning about tangentially related topics is considered helpful. Constructivist grounded theorists, Charmaz (2014) and Bryant (2009) among them, think literature reviews on the phenomenon of interest are reasonable. Thornberg (2012, p. 243) calls grounded theory preceded by a literature review “informed grounded theory.” Bryant (2009, 3.2, para. 2) offers excellent arguments: “if grounding in the data is crucial, then there is no reason why the extant literature cannot be part of that data;” and, “one can never enter a research area with an empty head; one can try to do so with an open mind, but sometimes it is precisely one’s prejudices—in the sense of prior judgments—that provide a basis upon which
innovative insights can be developed.” I share the constructivist mindset: avoiding literature review prior to entering a grounded theory study’s data generation makes no sense. If knowledge on a subject is to be avoided, then no grounded theory researcher should ever continue to study related phenomena. To avoid subjects of substantial knowledge, grounded theorists must logically avoid all situations and groups of people with whom they are familiar. They might as well limit their work to the moon!

My work as an educator and curriculum developer in K-12 and postsecondary contexts has provided me with a basic understanding of secondary school curricula in the North American context across disciplines. However, as a graduate student with personal experience of creativity (and emotion), but no professional knowledge of the substantial research in the field, I found it necessary to ground myself in the literature about the nature of creativity and a potential role for emotion in it to be able to effectively design the study. The literature review of the previous chapter focused on the interactions between creativity and emotion.

**Data Collection**

**Ethical Clearance**

I received ethical clearance for this research from the General Research Ethics Board (GREB) at Queen’s University on October 13th, 2017 (see Appendix A). Online questionnaire participants gave informed consent as part of the questionnaire itself; they could not advance to the survey until they had confirmed they had read the letter of information and agreed to it. I sent the letter of information by email to all potential interview participants at the time of invitation (See Appendix B for letters of information and consent forms). I brought two copies of the letter to the first interviews, outlined its contents verbally, and asked for a signature prior to proceeding.
**Data Generation and Sampling**

Decisions about what data to collect and how were influenced by the practical matters of time limits on my PhD dissertation completion, and the requirements of ethics review boards, which necessitated planning in advance. Such little inductive study of encouragement/discouragement of creativity in secondary schools has been undertaken, that I felt the first priority was to identify my situation of study and to “build in sources of comparison” (Charmaz, 2014, p. 23): encouraging versus discouraging experiences.

The topic of ‘creativity in education’ is very broad, and the realm of education immense. Geographic location, race, socio-economic, and other cultural influences are likely to affect how creativity is perceived and enacted (Sawyer, 2006). The scope of a PhD dissertation prevented me from encompassing the entire variation of school environments and their students in this research, a goal for grounded theory (Charmaz, 2014; Corbin and Strauss, 2008). I chose to focus on the experiences of secondary students because of what it has to offer in terms of developing our understanding of the situational elements in education settings that influence creativity toward developing a theory of how to support it. This focus is a limitation; my theory is contextual, and I discuss both its limitations and generalizability in Chapter 7.

To “generate solid data for systematically comparing and analyzing incidents” (Charmaz, 2014, p. 23), I chose to first survey second-year, undergraduate university students at one university in Ontario, who relayed to me their secondary school memories. I subsequently interviewed fourteen of these students, in an iterative process that including a one hour, one-to-one interview and subsequently one-hour, small group sessions, at which point I reached data saturation with respect to the major concepts arising from analysis. I was only interested in creativity-related experiences that students perceived to be “significant,” meaning experiences
that had stood out because they had been encouraging/discouraging. My reasoning was that experiences remembered, and interpreted by students as significant, years later would have been both meaningful and also held potential for understanding students’ consequent reactions.

Second year undergraduates also have at least one year of postsecondary experience with which to compare their previous experiences, to refine their perspective on their secondary school memories. Most relevant to the purpose of this study, however, a retrospective study of postsecondary students’ memories was the only feasible way I could connect the meanings students made of their secondary experiences to the consequences of those experiences at least two to five years later, into the present day (Burns, 1994; O’Donoghue, 2007).

Retrospective studies have been used repeatedly to study a variety of education-related experiences with both children and adults (e.g., Casey & Quennerstedt, 2015; Due, Damsgaard, Lund, & Holstein, 2009; Gladstone, Parker, & Malhi, 2006; Karsenty, 2004; Rivers, 2001a; Sidwell & Walls, 2014; Wall, Sperling, & Weber, 2001). While memories do deteriorate over time (Hudson & Fivush, 1991; Semin & Smith, 1999), events that are unique or of emotional significance such as those targeted in this study are stronger and more readily recalled (Dolcos, LaBar, Cabeza, & Purves 2005; Hudson & Fivush, 1991; Nigro & Neisser, 1983). For example, Rivers (2001b) directly addressed the reliability of memories in retrospective studies involving bullying and concluded that these recollections are often both vivid and accurate. In a much less dramatic example, a study of the memories of sixth grade children recalling a trip to a museum they took in kindergarten, Hudson and Fivush (1991) found that the quantity of remembered details declined over the six years. However, the memories that persisted were just as vivid. Even early experiences recounted by adults can be highly reliable (Brewin, Andrews, & Gotlib, 1993),
lending weight to the appropriateness of this method for gathering data about young adults’ perceptions of important events remembered that occurred largely two to five years previously.

Collecting data from a group of postsecondary students at one institution allowed me to effectively and efficiently access data about a large number of different secondary school experiences, from the variety of school environments in the “feeder” schools of this cohort.

I had ‘one shot’ at surveying undergraduates from the chosen university site, as the research office at the university tightly regulates surveys administered to the general student body and they had other plans for future semesters. Working with the research office to obtain a sample had several advantages: the dataset from the university included email addresses for each student for ease of communication, as well as associated data about participant sex (binary sex data had been collected), location of secondary school, and their undergraduate program. I was thus able to include a variety of disciplines ranging through the sciences, social sciences, humanities, and fine arts. This variety of disciplines further ensured that I had a variety of secondary school courses (the prerequisites for these programs) among the experiences of my participants from which they could choose to speak about. This breadth of participant experiences was useful to me as I also wondered if the culture of particular disciplines, i.e., the content, means, and methods of teaching, might also be an aspect of learning environments that influence creativity and emotion.

I asked for a large number of undergraduates to survey for two reasons: I was not sure how common encouraging and meaningful experiences would be; and, I needed to ensure I had enough variability from which to derive meaningful theory. My strategy was to scan the interactions between these students and their environment as fully as I could, to get a strong sense of the lay of the land, and generate enough quality data to facilitate “the discovery of
emerging patterns” (Glaser, in Walsh et al., 2015). Charmaz (2014) discusses surveys as elicited documents that “may provide insight into thoughts, feelings, and concerns of the thinking, acting subject as well as give . . . ideas about what structures and cultural values influence this person” (p. 47), with the potential for frank disclosure.

By combining this survey with multi-session interviews and eliciting creative writing pieces from interview participants between the first interview and the small group sessions, I aimed for “rich data” that were “detailed, focused, and full” (Charmaz, 2014, p. 23). Fullness for me meant breadth and depth, as it does for Charmaz who states that “broad and deep coverage” strengthens both “the precision and theoretical plausibility” of analysis (Charmaz, 2014, p. 89). I further wrote fieldnotes on interviews, and free-wrote memos throughout the process, which are recognised sources of information when using a grounded theory methodology (Burks & Mills, 2015; Charmaz, 2014). The difference between the survey data and the interview data led to differences in analysis methods, and allowed for direct comparison between the two datasets, aiding in the development of emerging theory, as further described in the chapter on data analysis.

**Theoretical Sampling.** Theoretical sampling is one of the hallmarks of grounded theory. Charmaz (2014) defined it as “seeking and collecting pertinent data to elaborate and refine categories in your emerging theory” (p. 192). This emphasis on data generation for pragmatic and theoretical purposes contrasts with that of positivist studies that aim for a population sample that is representative of the whole population. Bryant (2009, n.p.) suggests critics of grounded theory methods might view theoretical sampling as a way for researchers to look “for confirmation of their initial ideas, as opposed to trying to falsify or disprove them.” Recognizing my biases, I am sensitive to this criticism and aimed in this study to both seek pertinent data to
elaborate and refine concepts, while avoiding potential for my biases from unnecessarily and overtly curtailing student participants’ communication of their perspectives.

Theoretical sampling in grounded theory is about “following up on what is happening” (Charmaz, 2014). When analysis is conducted concurrently with data generation, leads and ideas that emerge can be pursued with further, focussed data generation. I used the questionnaire to gain a preliminary, broad understanding of what was happening. I then focused on interviewing participants with rich, varied stories to tell of their experiences. I further altered my questions during interviewing to pursue emerging theory and designed a new activity for the second session with participants, which was crucial for filling in an important gap in my emerging theory. I also designed my survey method to gather as much information about student perception of their experiences, and the situations within which they were embedded, to allow for theoretical sampling within the broad survey sample itself. I wanted to be able to follow theoretical leads by abductively reasoning out what other patterns I might expect to see, or not see, in a large number of anecdotal experiences and then look for these patterns.

**Theoretical Saturation**

In addition to the broad survey, to allow for iteration in data collection and analysis, I sought and obtained ethical clearance for four sessions with interview participants, a preliminary one-on-one interview, two small group sessions, and a final brief one-on-one. Creative writing solicited from participants between the initial interview and the two group sessions were also gathered. Theoretical saturation for understanding the meanings, actions, and processes involved in the encouragement/discouragement of these students’ creativity in secondary school was reached after the first two sessions, as far as indicated by the concurrent theoretical data analysis
during the allowed time frame. No major, additional insights resulted from analysis of the data from the last two sessions.

**Survey Methods**

In order to ensure variability among participants, I obtained a random sample based on key demographic elements (standard practice for the research office) of 2,241 second year undergraduates in the Faculty of Arts and Sciences at a mid-sized university in Ontario. This comprised approximately 1/3 of the second-year students enrolled in this faculty.

The expected response rate, according to research office statistics, for this survey was 25%. I received a total of 369 responses, denoting a response rate of 16.5%. Not all responses included anecdotes of encouraging/discouraging, creativity-related experiences. Some participants wrote about both, and some participants answered the other questions in the survey but did not write a response for the open-ended items. I defined an anecdote as any statement that contained information about the unit of study: the elements of the learning environment that encouraged/discouraged creativity, the student’s reaction to the situation, or consequences to students.

It is recommended that survey questionnaires take about 20 minutes to complete at maximum (Saris & Gallhofer, 2007), which limited the quantity of questions I could ask. Questions were designed carefully in accordance with my “one shot” situation; I piloted them with two groups of ten Bachelor of Education students, several education graduate students, and three education experts, two of them versed in survey design. My final questionnaire was prepared and administered using Qualtrics software. Each questionnaire contained two sets of questions. One set of questions asked about an encouraging creativity-related experience, and the other set asked about a discouraging creativity-related experience. Half the surveys began with
the encouraging experience questions while the other half began with the discouraging experience questions. Respondents were randomly assigned one of the two survey formats. This was done randomly because it was assumed that some respondents would fatigue and quit the questionnaire after describing one experience. I wanted to collect as many of both types of experience as possible, for exploration and comparison.

The crux of the questionnaire focused on two main, open-ended questions:

1. *Tell me about a time in secondary school when you were significantly encouraged to take a risk and:*
   - *generate or pursue your own ideas;*
   - *make something unique that no one else made; and/or*
   - *express your unique self.*

   I expressly used this definition and did not mention the word creativity in this question (though it was in the questionnaire’s title and letter of information) because individuals have innate understandings of creativity that do not concur (Sternberg, 1985), and many people equate creativity with the arts and aesthetics (e.g., Aljughaiman & Mowrer-Reynolds, 2005; Saunders Wickes & Ward, 2006). Avoiding the term allowed me to focus on creative activity that met my working definition and provided a common language in data collection and analysis. The second question was:

2. *How did this experience make you feel?*

   These two questions were designed to be as open-ended as possible. Anecdotal responses varied in length, but many were one sentence or two sentences (encouraging anecdotes median length: 48 words; discouraging anecdotes median length: 44 words). The number of respondents who wrote anecdotes are summarized in Table 1.
Table 1

<table>
<thead>
<tr>
<th>Type of anecdote written by respondent</th>
<th>Number of anecdotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Just encouraging</td>
<td>23</td>
</tr>
<tr>
<td>Just discouraging</td>
<td>22</td>
</tr>
<tr>
<td>Both encouraging and discouraging</td>
<td>209</td>
</tr>
<tr>
<td>Total anecdote respondents</td>
<td>254</td>
</tr>
<tr>
<td>Total anecdotes</td>
<td>463</td>
</tr>
</tbody>
</table>

The wording of the second question, *how did this make you feel?* was intended to provoke expressions of emotion, following the wording recommended by Patton (2002). I further provided a list of fifteen emotions and asked participants to select the one emotion that was most prominent in the experience. The list of emotions was taken from research that explored the emotional reactions of secondary and university students to schooling (Pekrun, Goetz, Titz, & Perry, 2002). This question allowed me to compare experiences based on different prominent emotions.

I also asked students about the strength of the emotion associated with the experience, using a graphic representation of a ladder with the rungs representing a scale of 0-10, a method derived from Cantril’s (1965) life satisfaction questionnaire. The same ladder was used to ask about strength of encouragement/discouragement. These questions allowed me to explore through simple statistics if and how emotion related to student perceptions of their encouragement/discouragement.

To search for patterns about the situations that provoked a sense of creativity encouragement/discouragement, I included questions to “delineate the context, scenes, and situations” and “the conditions under which specific processes emerge” (Charmaz, 2014). I
asked, for example, whether the experience was extracurricular or part of regular classroom activities, and the type of school. The questionnaire is included in Appendix C.

**Interview Methods**

Initial analysis of the questionnaire data informed the interview methods. In a process of purposeful sampling, questionnaire respondents who described encouraging/discouraging experiences in secondary school from a variety of situations and with rich detail were identified and thirty of these respondents emailed and invited to participate in the interview phase of the research. However, I was not able to recruit sufficient interviewees through this method, so eventually put out a recruitment call to all survey participants.

Fourteen students met me for a one-hour interview held in a convenient, neutral location: the university library in the winter semester of 2018. I endeavoured to present my authentic position of ‘student supporter’ to engender frank discussion while aware, also, of a power imbalance; I, as researcher, parent, and middle-aged person, was a potential authority figure. I brought students soft drinks of their choice. I positioned myself beside the table in the room rather than behind it, and I sat with relaxed, open body language. I first asked all participants why they decided to participate and offered to aid them when possible by offering additional references about creativity or discussing their creative writing.

The goal of the first interview was to explore in as much depth as possible students’ experience and situations surrounding creativity-related encouragement/discouragement in secondary school. To do so, I asked for detailed narratives of one, significant creativity-encouraging experience, and one, significant creativity-discouraging experience. I reminded students of the experience they had mentioned in their questionnaire and offered to speak about that or another experience of their choice that they had thought about since. Several students
opted to speak about another experience they’d considered significant since completing the online questionnaire. I was focused on dissecting the phenomenon to define its conditions, to understand the process of students’ meaning-making and action during these events, and to consider if/how this process had led to further meaning-making and action into their present lives. I followed Charmaz’s (2014) advice and constructed a detailed interview guide, with a series of open-ended questions.

Participants were asked to imagine themselves back in the encouraging/discouraging situation, to look around in their minds and notice where they are, who was there, and what was going on. Then I asked participants to tell me the story in as much detail as possible from beginning to end of their experience of being encouraged/discouraged to take a risk and: generate or pursue their own ideas; make something unique that no one else made; and/or express their unique selves. I used my professional knowledge of learning activities, and interest in young adults’ thoughts and feelings, to freely follow leads during the interview and clarify student responses; I “started with the participant’s story and fill[ed] it out” (Charmaz, 2014, p. 87), asking for details on aspects of the situation such as the response of others present, grades, and materials provided.

I also paid attention to mysteries in students’ stories or nonverbal communication that might signal cognitive dissonance or emotion, or underlying meanings participants had not fully brought into consciousness, the interview conversation itself “being an emergent event” that provoked participants’ “reappraisal of a taken-for-granted discourse” (Charmaz, 2014, p. 85). These students were exploring a discourse about their pasts, from a different location in their present. I freely probed and questioned such interpretations in questions later in the interview.
Given the subject of my study, I felt it was important that I did not avoid emotion, and I showed my emotions: delight at a lovely story, disheartenment at a sad one.

I asked about encouraging creativity-related experiences first and discouraging experiences second in every interview for two reasons. I thought that talking about discouraging experiences might influence participant mood and detract from the positivity involved in the encouraging experience. I wanted to give the recounts of encouraging experiences as much room to breathe as possible. Secondly, I did not want my biased expectation of discouraging experiences, or my emotion at hearing these stories, to colour students’ recounts.

Other questions were prepared based on the examples given by Charmaz (2014, pp. 66-67); Appendix D presents the complete interview guide. I asked about emotions, the elements in the situation that encouraged/discouraged, and student identity. I went into depth about the consequences of the experience into the present day. After an early key interview marked a turning point in my analysis, I added questions about teacher motivation and teacher attributes. I dropped questions about the particular elements of creativity in my working definition that were encouraged/discouraged after I’d reached data saturation; participants all stated all three elements in my working definition were encouraged/discouraged in their experiences. I took field notes with particular attention paid to nonverbal cues of emotional reactions that I’d observed. When interviews ended, I walked out of the library with the students. Many students indicated that they had “really enjoyed” the interview experience.

I also requested that participants write creatively any way they wished about an encouraging or discouraging creativity-related secondary school experience of their choice (see Appendix D). I employed this narrative strategy (Daiute, 2013) in the hope that style and form of creative writing might generate more data about students’ thoughts and feelings than mere
content. Following the narrative interviews, eleven participants wrote creatively about an encouraging or discouraging creativity experience—either the same narrative told to me in person or a different one of their choice. The other three interview participants, Liz, Diane, and Christine did not participate in this, nor any subsequent, phase of the study.

Analysis of this first set of interviews revealed a gap in my data. While these students could rhyme off a list of emotions that they felt from start to finish during the experience, they did not naturally connect emotions to the meanings they made of the experiences, nor the consequences of the experience on their subsequent beliefs, attitudes, and behaviours. There was a disjoint that had me doubting whether emotions were the drivers of human behaviour that I’d read about in my literature review. I devised an activity (see Appendix E) that I felt could help me dig into this puzzle.

Four discussion group sessions with between two and four participants were conducted in the same library study rooms. When students arrived, they were given ten to twelve minutes to fill out a chart. The chart asked them how they respond in attitudes and behaviour to six emotions: the three most prominent emotions from the encouraging experiences, and the three most prominent emotions from the discouraging experiences, as relayed in the questionnaire. As a group, we discussed each emotion in turn, making direct comparisons of similarities and differences. We then discussed the emotions expressed implicitly or explicitly in the creative writings. Finally, I asked participants if and how the emotions involved in the experiences they’d described from secondary school influenced their consequential attitudes and behaviours. Again, I took field notes immediately following these sessions.
Participant Checks

Interview participants were invited to read my findings. I emailed them the rough draft of the dissertation, inviting them to comment. Participants were also invited to change their pseudonym to one of their choosing if they wished. No participants requested any changes be made; several indicated the findings represented their thoughts and feelings accurately.

Data Sources

These methods produced five kinds of data sources, as described in Table 2, each denoted in the text of this dissertation by the abbreviation listed in column 2. The data analysis produced additional data sources, including narrative plots and diagrams, as described in detail in Chapter 4.

Table 2

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Abbreviation in Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaire responses</td>
<td>S (participant #)</td>
</tr>
<tr>
<td>One-hour, initial interview transcripts</td>
<td>NI (participant pseudonym)</td>
</tr>
<tr>
<td>Small group sessions with interview participants</td>
<td>SGS (group #)</td>
</tr>
<tr>
<td>Interview participant creative writing, brought to small group sessions</td>
<td>CW (participant pseudonym)</td>
</tr>
</tbody>
</table>

The Students

Demographics of Participants. The demographic information collected about survey participants and their schools is presented in column 2 of Table 3. Column three presents the demographic information available for interview participants. This table presents both the variety of the participant data collected and delineates the context of this study.

I checked whether my questionnaire response rate was biased by “sex” by conducting a chi-squared test. More females responded to my questionnaire than expected by chance alone: $\chi^2$
(1, N = 369) = 5.31, p = 0.02. This is in keeping with findings that more females participate in online surveys in postsecondary research contexts (Saleh & Bista, 2017; Smith, 2008).

Table 3

Demographics of Participants

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Questionnaire Participant Numbers (% out of a total of 369 participants)</th>
<th>Interview Participant Numbers (% out of a total of 14 participants)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>9 (2.4)</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>284 (77)</td>
<td>11 (78.6)</td>
</tr>
<tr>
<td>21</td>
<td>50 (13.6)</td>
<td>2 (14.3)</td>
</tr>
<tr>
<td>22</td>
<td>14 (3.8)</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Other</td>
<td>12 (3.3)</td>
<td>0</td>
</tr>
<tr>
<td>Sex(^a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>281 (76.2)</td>
<td>11 (78.6)</td>
</tr>
<tr>
<td>Male</td>
<td>88 (23.8)</td>
<td>3 (21.4)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>not available</td>
<td>9 (64.3)</td>
</tr>
<tr>
<td>Asian</td>
<td></td>
<td>5 (35.7)</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>School Setting(^b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>284 (77)</td>
<td>13 (92.9)</td>
</tr>
<tr>
<td>Private</td>
<td>48 (13)</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Both</td>
<td>6 (1.6)</td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>31 (8.4)</td>
<td></td>
</tr>
<tr>
<td>School Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ontario, Canada</td>
<td>290 (78.6)</td>
<td>12 (85.7)</td>
</tr>
<tr>
<td>Other provinces</td>
<td>43 (11.65)</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Other countries</td>
<td>36 (9.8)</td>
<td>1 (7.1)</td>
</tr>
<tr>
<td>Degree Program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor of Arts</td>
<td>159 (43.1)</td>
<td>4 (28.6)</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>127 (34.4)</td>
<td>8 (57.1)</td>
</tr>
<tr>
<td>Bachelor of Education</td>
<td>62 (16.8)</td>
<td>2 (14.3)</td>
</tr>
<tr>
<td>Other</td>
<td>21 (5.7)</td>
<td>0</td>
</tr>
</tbody>
</table>

\(^a\)The university collected this binary sex data at the time of student admission.

\(^b\)Participants were asked for the school setting separately for the encouraging experience and the discouraging experience. Some respondents had a different type of school setting for each experience, both a private school and a public school. Some respondents did not answer this item.
Constructivist grounded theory pays attention to the participants’ understanding of their experience, including the situation of the experience, and their interactions in it (Charmaz, 2014). In this section, I provide a description of each interview participant’s stories of their significant encouraging/discouraging creativity-related experiences that form the context for the theory.

**Alice.** Alice did not particularly like her rural high school, in part because sports “was very much a focus” while creative writing was “shoved to the side.” Her encouraging story comes from creative writing class. She enjoyed—"the chance to just do something creative every day” even though the teacher and her peers seemed disinterested and uninvolved during class-time. There was no instruction, but rather printed assignments given and a lot of independent work. The meaningful encouragement came from feedback the teacher wrote on one of her assignments. Alice still remembers the description; her writing was “haunting” and “beautiful.” Alice had been told she was good at writing by other teachers, but there was something about the specificity of this teacher’s comment that made Alice believe she had something unique in her style that she could develop. Maybe she could be a writer, after all.

Alice is the first person in her extended family to attend university, which gave us something in common and a point of empathy. Alice relied on her school guidance counsellors to help. She did not know literature or writing was an option and had decided on pursuing law. At her school, each student in grade 12 was given an appointment with the guidance office, and when she was called down for her appointment, the woman was on the phone. The woman did not get off the phone—the entire time. Instead, she pushed pamphlets across the desk at Alice for science and business diplomas at the local community college, then signalled for Alice to return to class. Alice decided university must not be that important. She was confused. She applied for
her school choices and programs last minute when a guidance counsellor came to her in class with the form and told her she had to decide right then and there.

Bridget. Bridget disliked the subject of French, so her mom made her a deal: avoid French but only by taking a technology course instead. Bridget knew and liked one of the technology teachers and she decided to take his design in ironworking course. She was the only female, and her male peers had an unwelcoming, “aggressive attitude.” The teacher lent Bridget some “protection from the boys,” showed her how to stand up to them, and allowed her special access to a wood-fired forge he built outside. Bridget is petite in stature, and she could not achieve what the others could through brute strength. She had to think differently. She emerged from the course proud of herself and what she was able to accomplish. She learned how to be “bigger,” and that she is capable of “heavy-lifting.” The great mark she got—revealed at the end of the course—was just a bonus.

Though she’d done fine in Grade 9 and 10 math, Bridget struggled in Grade 11. She felt like an outsider in her class, where the teacher favoured the smart kids, while she “was the idiot always.” With the help of her brother, Bridget found different methods to understand and perform math problems, rather than those the teacher taught. This did not go over well, and the crux of her discouragement was a test on integrals. On a question worth six marks, Bridget used her own method to arrive at the correct answer. She was docked three marks for not using the method taught in class. Bridget failed the test, and when she talked to the teacher, she was simply told that she had lost the marks for not using the method the teacher wanted her to follow. Bridget concluded that creativity is not allowed in math, or science. She could not do math, or science, and should change her science career plans pronto. Bridget’s “huge internal emotional
response” led her to decide “I can't do this, so therefore I can't go to any university, I can't do anything . . . this is where it stops for me.”

Charles. Charles is an international student from China who wanted to participate because he’d been thinking about education in China, and in China he “didn’t have any opportunity to talk about it.” Before beginning, he wanted to tell me that in the questionnaire, he had been a “little angry” and he had not thought of anything encouraging, but now that he’d “calmed down,” he did think of something. Early in secondary school, he had taken an elective visual arts course, though many of his peers used the time in class to study for more serious subjects. This made Charles sad. There was not a lot of skill instruction involved in the course, but materials were given, and time to “think about what you want to show, to share.” He created, imagined, and felt free. Charles trusted his teacher; she was the only one he could “share emotion and thinking” with, including how he felt about the education system. “She kept the secret.”

Charles spoke a great deal about the discouraging nature of the Chinese education system, and many of the teachers and courses he encountered in his secondary experience. He relayed how one teacher explained that the goal was “to make them all like hamburgers.” But he understood and empathized with the system, too, and the need to efficiently decide who goes to university. Taking risks, going outside the circle, going against advice of teachers and parents was dangerous and to be avoided. Once, he wrote a negative opinion about the Chinese education system on an opinion essay. He failed because the teacher did not agree; he was told his ideas were “wrong.” Charles decided to hide his natural, risk-taking self, though his teachers still saw him as “different.” He believes he is “different.” He is conflicted. He tries to keep the risk-taking part alive, but also stay safe and please others. Hence his decision to come to Canada for university, to “save himself.”
Chloe. Chloe and I talked about her experience in Grade 12, when her music teacher gave a final assignment worth 50% of their grade—to compose, record, and perform a song. Chloe played clarinet and was favoured by her teacher because of her musical talent. She was a bit annoyed by the assignment, as she felt overworked, and nervous too, as she was about many aspects of life. Her teacher verbally reassured her, sat down with her, and helped with technical questions as well as calmed her nerves. He said things like, “you’re fine, you’re a great musician. There’s no need to be stressed.” In the end, Chloe found it enjoyable to have the freedom to do what she wanted and was proud she’d figured out how to use the recording software. She decided she is “creative” and “not boring.”

Chloe had been a part of her private school’s fundraising club for many years. At a meeting in Grade 12, she suggested an idea, but the president of the club shot it down. Chloe asked why, but the president had no real answer. Peers expressed agreement with Chloe to no avail. The two teachers who ran the club stayed silent. Chloe was quite sure that they had unjustly chosen the president themselves, a student they favoured, even though she was not best for the position, supposedly decided by election. Chloe was angry. She continued to go to meetings but decided that “if her opinion was not valued or taken seriously,” she would “be mindless and do what [she was] told, but she would “be a complete and total bitch” about it.

Christine. Christine described herself to me as a teacher’s pet. She loves words, a passion she’s pursuing as a linguistics student. In Grade 10, her love of words was fostered by a teacher who understood that teenagers “want to push their boundaries.” This teacher designed interesting and unusual assignments that went well beyond the five-paragraph essay. She requested creativity of students, asked for their unique style and voice, and aesthetic elements. This teacher allowed Christine to do something “outrageous” in Christine’s eyes: a book report on a book of
her own choosing, even though it was 1000 pages long. This teacher trusted her students. She also encouraged Christine to take risks with her writing, and suggested she submit pieces for publication.

Christine’s Grade 9 English class experience stood in stark contrast. In her first term of high school, Christine would sometimes vomit before heading to school, afraid of “walking the green mile” to her English class, to sit with her other “cellmates” in the “jail” presided over by “the executioner.” The teacher called out students, and if they did not respond “perfectly” with “what she expected,” she “ridiculed” them. Christine slapped her hand on the table during our conversation while she added, “[slap] in front [slap] of everyone [slap].” Student work was publicly displayed to be criticized. Students were called upon by the teacher to criticize their peers. Christine had a strong need to please. She asked the teacher how to get a good grade, and was given a formula, which she followed. She felt she could do nothing right. Christine learned from this experience that some teachers cannot be trusted. And, criticism is to be feared.

**Cindy.** Cindy grew up in China and emigrated on her own as an adolescent to British Columbia to attend secondary school. In Grade 11, she took an elective course in Innovation and Design designed by the teacher. The course overtly taught a number of competencies, such as time management and working in teams, coupled with design principles and open-ended projects. Creating a documentary about a topic of strong interest—Chinese medicine—had a particularly strong impact on Cindy. She took a lot away from the experience including learning about her strengths and weaknesses, the benefits of journalling, and the pride and joy of struggling through a challenge.

Grade 12 English class presented Cindy with another challenge: a room full of peers she did not trust, who were unkind and unwelcoming, and an assignment to publicly present to them
a revealing of her “true self.” She anxiously found a way to work around the problem: she presented a creative metaphor of herself as a pond by day that comes alive with fairies of imagination at night. The teacher was impressed and gave her a high grade, for which Cindy was relieved as she had taken a risk. She learned from the discouraging experience that she is resilient and hopeful by nature, and there is always a way to get around difficulty, with creativity.

_David._ In grade 11, David took a woodworking course. The teacher recognized his ability—he’d helped his dad with renovation projects—and let David work independently at his own pace. When it became clear that David was well ahead of schedule, the teacher gave him a task: the law teacher, who happened to be one of David’s favourites, needed a gavel. Would David make it? David did make it, which required training on the lathe, a piece of equipment no other student was allowed to use. The teacher provided the training, and assistance. David was thrilled, and took the challenge as far as he could, embellishing the gavel with decorations that suitably impressed his woodworking and law teachers. David learned he was good with wood, that he enjoys manipulating physical objects to be creative, and that enabling constraints can foster creativity. He also learned that if he “really wants to do something, he can do it.”

In grade 10, David was looking forward to his visual arts course as he enjoyed drawing. David drew his still-life bowl of fruit the way he’d always drawn, with little “feather lines.” When his teacher saw what he was doing, she told him he was doing it wrong. He was confused. “How can you do art wrong?” he asked.

“Real artists don’t use feather lines,” he was told.

David took another sheet and did it the teacher’s way. But he felt sure his feather-lined version looked better, and he handed that in. When he got a failing grade because he’d used an
“inappropriate drawing style,” he was flabbergasted. His peers, good artists in his mind, agreed with him. He responded by becoming disruptive in class. He stopped trying. He was disappointed that his teacher did not address his behaviour, nor the root of the problem. David decided as a consequence of this experience that “I can’t draw so I don’t draw.” The experience was so painful he avoided all forms of visual representation whenever possible.

Diane. Diane’s burning interest in global development was spurred by the *Me to We* book gifted to her by her grandmother. She went to Kenya with a Me to We group, and when she returned in Grade 11 to her small town high school, she wanted to bring some of what she’d learned and felt to others. She asked a teacher, her track coach, if she thought it would be possible to start a global development club. The coach not only thought it was a great idea, she offered time and support to make it happen. The club ran through Diane’s Grade 12 year. She planned and organized activities about other countries in the world and with the help of her teacher, raised $10,000 for a school in Haiti. Diane learned that she can stretch herself, and that she can be a leader.

Diane considered her Grade 12 English teacher to be a role model, and when the teacher mentioned that she’d gone abroad to do her university degree, Diane went up to her after class to ask her about it. When the teacher mentioned her undergraduate degree in English, Diane said, “that sounds interesting, maybe I should keep it open.” The teacher discouraged her, “waved it off” and told her to just write on the side. Diane told me in our conversation that this was no big deal, she just said “okay” and that was it. The advice matched her parents’ thoughts, anyway. Now, Diane is switching majors because life sciences is “soul draining.” There’s a part of her that wonders what would have happened if she’d pursued writing or journalism as a career.
Diane learned from this experience that she listens to others’ opinions and is not so in tune with what she wants for herself.

Kinjal. The pre-International Baccalaureate (IB) Program at Kinjal’s high school involved a year-long assignment in Grade 9: teach yourself something new, anything you want, as long as you have never done it before. Kinjal had a teacher assigned to her to meet once a month to check on progress, and in a year she would present a product of her learning in a “fair,” along with all the other preIB Grade 9s. She was required to journal as well as to write a short essay at the end of the project detailing what she’d learned for a pass/fail grade. Kinjal taught herself how to play guitar, but her project leader pushed her asking, “What else might you do? Where can you take this?” Kinjal taught herself how to compose a song, recorded it, and played it at the fair. The experience taught her that she loves learning, being independent, being social, and being creative. Kinjal felt like she’d found herself and her place in her new school.

The IB program was also the source of Kinjal’s discouraging creativity-related experience. The intense program attracted Kinjal because of its challenge. But she found her Grade 11 experience of extra content in the limited courses offered in the program disappointing. The assignments were all the same, that was the point; and it was all so difficult, the grades were bell-curved. She didn’t like how the IB students seemed to consider themselves elite. The mode of teaching and learning, lectures and textbooks rather than discussion and creative activity, did not suit her. She quit the IB program. She did not regret the choice and was pleased to be taking courses she enjoyed like psychology, where she could be creative and discuss issues.

Kirsten. Kirsten loves writing and told me she volunteered for the study because she “felt stifled in high school,” and wanted to help make a difference. Her encouraging story, “a bright spot” in her secondary career, was an independent, Grade 10 health assignment that tasked her
with creating her own personal well-being magazine over the course of the semester. Kirsten took the assignment seriously, and with regular check-ins with her teacher heeded her suggestions to go further, to reveal her genuine self, and speak openly. Kirsten showed only her parents the final product. The assignment showed Kirsten that creativity can be useful, not just a hobby. It taught her that she can be funny. And, after that, she “had more of a voice.”

Kirsten was excited in Grade 11 when her biology teacher told his students to bring in a substance from home to test its antibiotic properties. She’d recently read a couple of scientific articles about honey’s antibiotic potential. She brought some into class, looking forward to doing some real scientific exploration. The teacher had other ideas. He said she couldn’t test it, it wasn’t scientific, it had not come from a pharmacy. When Kirsten told him she’d read scientific articles, he demanded to see the evidence but since she was at a class desk without her laptop, Kirsten could not deliver. She was embarrassed; she did not feel like she fit in with her peers. This made her feel worse, and like an “imbecile,” and anxious—because this teacher graded tests harder for students he didn’t like. She also felt a little guilty—was she being “a spoiled millennial”? Kirsten did not ask questions in class after that; she’d stuck her neck out and it hadn’t gone well.

*Liz.* Drama class in Grade 12 was a transformative experience for Liz. The culminating assignment in particular stood out for its encouragement of creativity, and its effect. In small groups, students were to choose a play and rewrite it in absurdist style, essentially taking every element of it and making the biggest absurd twist on it. There were no other instructions, though the teacher offered advice during the process such as “look at it from another perspective,” as well as suggestions for technical aspects of drama. The plays were performed for the class. Liz remembers her grade: 98, which meant a lot because it was proof that Liz had impressed her
teacher and made her proud. From the experience Liz learned, to “just push yourself, do it, no internal criticism.”

Prior to Grade 12, Liz was the only one running for student council president. She still wanted to give a speech along with candidates for the other positions. She wrote a rhyming speech, filled with personal references to the school and its students, like a famous musician who had attended the school for a time, and the hall monitor who students were very fond of because he looked after them. She had to send it to the vice principal first, who called her into her office to tell her that pop culture and personal references had to go. So did the rhyming. Liz had put her heart into the speech and she got teary-eyed. The VP asked what was wrong, “are you stressed?"

Liz went home unsure if she was going to go through with the speech, or the presidency. Her mom told her not to “let anyone tear her down.” So, she wrote another speech, and she was president. The year was filled with efforts to plan activities that were shot down, till she felt “numb.” Liz learned that she is resilient. She also avoids working with administration now. She might have gone into university politics but has avoided that too.

Marie. Marie’s art-focused school offers a film and communications course, which can be taken for multiple years. This meant that she and several friends had several years’ experience with short films by the time they got to grade 12. So when their teacher gave them another short film assignment, they had the confidence to think they could produce a full-length film. They pitched the idea to their teacher, who agreed despite the enormity of the challenge, provided they handed it in by the end of the semester. They set to work. They wrote the script, then shot the scenes, driving into the country for many of them, sometimes at dawn to catch the sunrise. They worked into the night, filled in for each other when other obligations got in the way, and managed despite the stress of a car accident that disrupted filming and work schedules. They
persisted and they succeeded. The teacher and peers who viewed the film were speechless. Marie is now a Drama major, who wants to make commercials.

In grade 12, Marie liked English and writing English essays but she did not like the book *A Brave New World*. When she saw the options for essay questions, she thought they seemed all the same and required her to have liked the book. She decided she would have to turn the question on its head to complete the task, and asked her teacher about it, who said she should just “go off the questions” and that “she should know how to write a basic essay.” Marie was excited about her idea, and worked all weekend on it, still excited when she handed it in. The result was a grade of 52%, and a request from the teacher to “come see me.” The teacher asked Marie why she wrote it that way, then suggested to Marie that later in life even if she doesn’t like something, she’ll still have to do it. Marie thinks that writing for English teachers is about catering to the way they like it, their essay structures, or their opinion, and “it’s annoying.” But, she learned what this teacher wanted her to do, and she conformed to the expectation, including using lots and lots of literary devices. She needed the grade for university.

*Mark.* A teacher at Mark’s high school organized a technical crew that looked after the lights and sound for school performances. The crew had ownership of its own space, a budget, and responsibility for maintaining equipment as well as independently overseeing performances. Students needed to apply for positions on the crew, and if accepted received training from a former student. Mark was on the crew with a friend, and the whole group became like “family.” He was proud of his role, his contribution to the school community, and his on-the-spot creative problem-solving during performances. Being a part of the tech crew changed Mark. He had more of a voice in classes, he worked with the crew on schoolwork after hours, and his academics improved. He felt he belonged; he was happier.
In Grade 12 English, Mark was given the assignment of interpreting a poem and presenting it verbally and in writing. He chose a poem he was quite sure promoted equality among races. The teacher seemed bored during his performance, which did not surprise him; it was par for the course. But he was surprised by his poor grade, and the lack of response by the teacher when he asked her why the grade was so poor. There was no feedback, no explanation. He, in consultation with his classmates, decided the poor grade came about because the teacher did not agree with the notion of equality for all. They had noticed she had marked down other assignments with a similar theme. And, she definitely favoured the girls over the boys. Mark concluded that some people do not like, or want, creativity.

**Data Management**

Interviews were recorded on a portable device and transcribed using temi.com. All interviews were listened to in their entirety and corrected on the temi.com web site. At this stage, all participants were given pseudonyms to protect the identity of participants, and the resulting Word files of the transcribed interviews were stored securely on a password-protected computer with access restricted to the researcher. Additional interactions were recorded as field notes following each interview.

I managed all data according to Queen’s University policy and The Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. Personal details used for contact and consent purposes were kept separate from computerised data in a locked filing cabinet. Data was used only for the declared purpose of the study, as outlined in the letters of information. Data will be stored securely for five years.
Data Analysis

In accordance with constructivist grounded theory, the data from questionnaires, interviews, creative writing, and small group discussion sessions were analyzed through a variety of methods. Open, focussed, and intermediate coding of transcripts and questionnaire responses precipitated theory building. In addition, emotional analysis of the experiences, narrative plot analysis, diagramming techniques, memoing, and statistics were also employed. Constant comparison throughout the process was based on several axes including: prominent emotion, discouraging/encouraging experiences, as well as between participants, questionnaires and interviews, and codes and concepts. The following chapter provides a thorough rendering of the methods used to theoretically analyze the data generated in this study.

Chapter Summary

This chapter outlined grounded theory methodology and its methods, as employed in this study. I described the theoretical foundations of grounded theory and explained how they related to the subject of this study: experiences in secondary school that encouraged and discouraged creativity and the role of emotion in those experiences. I employed a constructivist grounded theory research design, following Charmaz (2014). The design was guided by my exploratory research question, the epistemology and ontology of constructivist grounded theory as it intersects with my own philosophy, and the requirements of my PhD program. All recruitment, data collection and management followed ethical protocols. To generate data, I conducted an online survey to gather hundreds of anecdotes from second-year undergraduate students about a significant experience they remembered from secondary school in which they were encouraged/discouraged from being creative. The students in this study were recruited from a sample provided by a university’s research office. As per grounded theory methods, I used theoretical sampling to recruit 14 information-rich participants from the survey sample with whom I conducted semi-structured interviews and small group sessions.
Interview participants also provided a piece of creative writing related to the study question. All interview participants had a meaningful experience that they perceived to have encouraged and discouraged their creativity. The questionnaire and interview participants’ stories depict a variety of experiences from a variety of schools, grade levels, subject disciplines, curricular and extracurricular activities, and situations. These perceived experiences, as told through questionnaire anecdotes, interviews, and creative writing, provided the data to generate a grounded theory toward supporting creativity in schools.
CHAPTER 4
DEVELOPING THE THEORY

Charmaz (2014, p. 320) considers analysis elemental to grounded theory. It “shapes the conceptual content and direction of the study.” For Corbin and Strauss (2015, p. 58), analysis refers to both the interpretation of data as well as “the thought processes that go behind assigning meaning to data.” Tracing and accounting for analytic choices, then, not only shapes the development of theory but also provides the reader insight into data interpretation and theory construction to facilitate their own judgment of the findings and their quality.

Multiple aspects of analysis can influence the quality of a grounded theory study. For Charmaz (2014, p. 337), the criteria for quality constructivist grounded theory are credibility, resonance, usefulness, and originality. She relates credibility to analysis methods: systematic comparisons in the analysis; categories that cover a wide range of empirical observations; and, strong, logical links between data/analysis/argument. Charmaz’s inclusion of resonance and usefulness relate to Beck (1993) and Cooney’s (2011) concept of transferability or generalizability. Hendry (2010) used the term verisimilitude to describe the ‘truth’ or validity of “symbolic” stories like art and literature. Perhaps the generalizability of a constructed grounded theory from one group of people to another lies in such verisimilitude, its resonance. Charmaz (2014, pp. 337-338) relates resonance to data analysis in several ways: categories portray the fullness of the studied experience; both liminal and unstable, taken-for-granted meanings are revealed; links are drawn between larger collectivities, institutions, and individuals when warranted; and, the analysis offers deep insights to participants or people who share their circumstances. Usefulness, too, relates to analysis for Charmaz in how the analytic categories suggest generic processes.
This chapter describes my data analysis process, drawing on the guidance of Charmaz (2014). First, I outline the strategies I used throughout the analysis, situating them within the foundations of traditional and constructivist grounded theory. Next, I outline analytic strategies particular to this study—plot analysis (Daiute, 2013) and statistics. Then, I describe my coding processes through the lens of traditional grounded theory, constructivist grounded theory, and the particulars of my process of this study that led from coding to theory. The analytic choices I detail involved successive levels of abstraction through comparative analysis: initial coding and initial categories, through focused coding and clustering of focused codes toward the development of theory. The chapter finishes with a flowchart that summarizes the use of all the strategies described within the analytic process, according to data sources and through time.

This transparent accounting of how the theory presented in Chapter 5 was rendered demonstrates the richness, depth, and variability in my data and my interpretations of it, to build a theory that represents the complexity of the situation of study.

Grounded Theory Analysis Strategies

In this section, I outline strategies I drew from traditional grounded theory foundations, constant comparative analysis and memoing, and describe how the sensitizing concept of emotion, as well as encouragement/discouragement, were utilized as nodes of constant comparison to aid in the development of theory. I further describe how diagramming, as conceived by the constructivist Clarke (2005), was employed in this study and argue for the inclusion of two particular strategies in my analytic process, narrative plot analysis and statistics. Together, these strategies provided ways and means for me to seek and perceive patterns that were appropriate to my varied data and contributed in unique ways to the organization of codes. Both the products of these strategies and the nodes of comparison between data sources and
participants they furnished contributed to the layers of abstraction and meaning-making that took me from data to theory.

**Constant Comparison**

Charmaz (2014, p. 340) states that “successive levels of abstraction through comparative analysis constitute the core of grounded theory analysis.” She (2014, p. 342) defines the constant comparative method as an iterative, inductive process to compare “data with data, data with code, code with code, code with category, category with category, and category with concept.” Constant comparison emanates from all aspects of the analysis described in subsequent sections of this chapter. It was instrumental in my construction of the theory of supporting creativity in secondary school. In particular, I used two explicit nodes of comparison, discouragement/encouragement and emotions. Comparing encouraging to discouraging experiences furnished a depth of contrast for exploring how schools can and do support creativity. Emotions furnished a depth of contrast and a framework for exploring how students interpret and react to their creativity-related experiences.

**Encouragement/Discouragement.** At each stage of coding, sorting, and categorizing, I analyzed encouragement and discouragement separately. The research design allowed this, as the two experiences were discussed separately, both on the questionnaire and in the interviews. I always went through the encouraging experience data first when doing a complete sweep of survey anecdotes, transcripts, or other materials because I wanted to ensure I did not overly emphasize discouragement due to my personal hunch that discouragement was so prevalent. I coded encouraging and discouraging data separately because I did not assume that the two processes were representing the same phenomenon in opposing directions. I gave the data room
to show me how encouragement and discouragement of creativity were related, and I remained open to differences as well as opposing parallels.

During initial and intermediate coding, it became obvious that there were indeed opposing parallels between encouragement and discouragement and I then iteratively, and systematically, checked for these parallels between survey and interview data, and across all codes and concepts.

This opposing parallel lent theoretical weight to my theory of supporting creativity, reminiscent of the “flip-flop technique” subscribed by Corbin and Strauss (2015) and Glaser’s (1998) “paired opposites” coding family, but it also contributed to the usefulness of this theory in highlighting how attending to the discouragement of creativity in school contexts can be a means to support it.

**Emotion.** Emotion as a sensitizing concept was employed as a node of comparison at all levels and within and between all data sources.

*Questionnaire.* As described in Chapter 2, the survey included an open question about how the encouraging and discouraging experience made participants feel, as well as a question asking participants to select one of 15 emotions as the most prominent emotion involved in the experience. The findings from this question were used as a main point of comparison for all other analyses of questionnaire anecdotes, including the meaningful elements in the situation, the meanings made, and the actions taken by participants in response. A prominent emotion was chosen by 306 survey respondents for encouraging experiences, and 307 survey respondents for discouraging experiences. The prominent emotions are illustrated in Figures 2 and 3.

The most common prominent emotions selected for the encouraging experiences were pride, enjoyment, hope, gratitude, and joy. Participants who selected these five emotions as prominent made up 81% of the total number of participants who responded to this item. The
most common emotions participants selected for discouraging creativity-related experiences were frustration, anxiety, disappointment, boredom, and anger. Eighty-two percent of participants selected one of these five emotions as the most prominent in conjunction with a perceived discouraging experience.

*Figure 2.* The percentage of participants (out of a total of 306 respondents) who chose each illustrated emotion as the most prominent emotion they felt in association with an encouraging creativity experience.
Figure 3. The percentage of participants (out of a total of 307 respondents) who chose each illustrated emotion as the most prominent emotion they felt in association with a discouraging creativity experience.

I used the prominent emotion for each experience to directly compare all facets of interest in the experiences described in questionnaire anecdotes, codes and concepts. For example, to explore how grading as an element of the learning environment related to encouragement/discouragement of creativity, I compared grading practices between incidents
that evoked the prominent emotions of pride, enjoyment, joy, gratitude, and hope, and between frustration, anxiety, disappointment, boredom, and anger. I then compared the grading practices between the positive emotions and negative emotions. This comparison strategy was crucial for understanding the potential role of emotions in the encouragement/discouragement and proved to be pivotal for understanding how some conditions that encouraged creativity related to the consequences to students of these experiences. In order to use this strategy of comparing between prominent emotions, I limited my focussed coding of questionnaire responses to the 388 anecdotes for which participants indicated one of the five most common primary emotions of their encouraging or discouraging experience: 200 encouraging anecdotes and 188 discouraging ones.

In addition, I open-coded all qualitative responses in the questionnaire for mention of emotions and grouped the emotions identified into the six major emotions using Parrott’s (2001) hierarchy as a means to effectively seek out additional emotion patterns in the large amount of data. I did this to explore what emotions questionnaire participants were feeling in addition to the one prominent emotion they selected out of the list. This line of analysis did not produce meaningful patterns and was abandoned.

*Interviews.* Seeking understanding of participants’ emotional reactions and their causes and consequences, I conducted an emotion-specific analysis of interview transcripts. In a Microsoft Excel spreadsheet, I listed every emotion mentioned by a participant during their interview, along with the object or cause of the emotion, and any consequence of that emotion, as exemplified in Table 4. In a sense, this analysis can be considered a version of Corbin and Strauss’s (2015, p. 157) “paradigm strategy” to analyse conditions, actions-interactions, and consequences in the data but focussing on emotion as the interaction in particular. This
comparison of emotions relating to cause and consequence suggested patterns in particular aspects of the environment important to students’ creative experience that informed the construction of the theory.

Table 4

An Example of Cause and Consequence Emotion Analysis

<table>
<thead>
<tr>
<th>Participant</th>
<th>Experience (enc/dis)</th>
<th>Emotion mentioned</th>
<th>Cause/Object</th>
<th>Consequence</th>
<th>Code Consequence</th>
<th>Code Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloe</td>
<td>dis</td>
<td>anger</td>
<td>idea dismissed without reason</td>
<td>“bitch,” didn’t speak, desire to nonconform and uphold rights of unpopular stance. “I will do my duty but I'm not going to have a great spirit about it”</td>
<td>Antisocial</td>
<td>Constraint-opinion</td>
</tr>
</tbody>
</table>

I directly questioned participants about their emotions, and direct comparisons were made between interview participants’ emotional responses to their experiences and the responses relayed in questionnaire anecdotes. I also compared emotions expressed in interview transcripts and participants’ creative writing. As described in Chapter 2, my participants did not naturally in our initial interview conversations connect their emotions provoked in a situation to their other reactions to the situation, including shifts in beliefs and behaviours. This prompted me to conduct an activity with them in subsequent small group sessions that teased out the role of emotion. The data about emotion gathered from these learning sessions were then directly compared to the emotion data from the previous interviews.
Memo Writing

Many grounded theorists consider memo writing to be an integral part of data analysis and theory construction, (Birks & Mills, 2015; Charmaz, 2014). Charmaz (2014, p. 164) offers a pithy description of its function in grounded theory: “Memo-writing encourages you to stop, focus, take your codes and data apart, compare them, and define links between them. Stop and catch meanings and actions.”

I drew on the recommendations of Charmaz (2014) in writing memos. Memos were particularly useful to me during the initial phase of research in working out my epistemology and its relationship to methodology, seeking preconceptions and answering the question, “why do I care?” I also found memos useful for capturing thoughts about interviews, particularly elements of nonverbal communication and reflexive observations; and, in the later stages of analysis, I wrote many “advanced memos” (Charmaz, 2014, p. 170), working upward and downward between categories, concepts, and codes toward theory construction. I found freewriting of memos was particularly useful during abductive reasoning in this latter process. Abductive reasoning—logical inference from observations to the most likely explanations—distinguishes grounded theory (Charmaz, 2014), and I made use of it by considering “all possible theoretical explanations for the observed data, and then form[ing] and test[ing] hypotheses for each explanation until arriving at the most plausible theoretical interpretation of the observed data” (Charmaz, 2014, p. 200). Memoing and abductive reasoning were integral to the delineation of concepts and their relationships. Memos helped me to further pinpoint how my beliefs and assumptions related to my emerging theory.

Most, but not all, memos were written by hand in a spiralbound notebook. These memos were drawn on in the theory generation process to clarify meaning and contextualize the
constructed theory. I wrote memos throughout research design, data gathering and analysis, through to the completion of the writing of this dissertation.

**Diagramming**

I relied heavily on visual representations throughout analysis to explore and reason through potential relationships between data, codes, and concepts. Diagrams have been an integral element in grounded theory since its inception (Buckley & Waring, 2013). Corbin and Strauss (2015, p. 85) define diagrams in the context of grounded theory as “visual devices that depict relationships between analytic concepts.” Diagrams, like memos, are a means for the researcher to interact with the data (Corbin & Strauss, 2015; Charmaz, 2014). Barreto, Garcia-Vivar, and Marcon (2018) call grounded theory diagrams “visual memos.”

Clarke (2003, 2005) enhanced the role of diagramming with her notion of situational mapping. In her introduction to the concept of situational analysis (Clarke, 2016, p. 89) she explains her stance: “the root metaphor for grounded theorizing shifts from social process/action to social ecology/situation—grounding the analysis deeply and explicitly in the broader situation of inquiry of the research project.” This opening up of the subject of a grounded theory analysis to the human and nonhuman elements of the environment, combined with diagramming, led to the notion of situational mapping. For Charmaz (2014, p. 219), situational maps “show positions and processes,” “can plot the relative strength or weakness of relationships,” and show how a “grounded theory fits together.” She (Charmaz, 2014, p. 220) describes situational mapping as going beyond traditional versions of grounded theory “because it accounts for the material environment, non-human actors, discourses, and structural elements that shape and condition the studied situation.” Clarke (2005) provided numerous examples of situational mapping, ranging from lists of words visually arranged on a page to represent their connections, to abstract webs of
relationships between different social elements at different social levels. I did not directly apply Clarke’s examples in my study. However, I did embrace the spirit of situational mapping, and the range of diagramming methods I used fall within this scope, in addition to more traditional flow charts and process diagrams outlined by Charmaz (2014) and others (e.g., Birks & Mills, 2015; Oktay, 2012).

I diagrammed during analysis in a number of ways, freely associating potential connections between elements in my study through visual arrangement of concepts on a page. Diagramming was often done by hand in my research journal, in the margins of printed summaries, tables, lists, and other forms of diagrams as well as in conjunction with free-written memos. Other diagrams were designed using flowchart software (draw.io). My approach to diagramming resonates with Miles and Huberman’s (1994) description of the value of diagrams to theory:

> Conceptual frameworks are best done graphically, rather than in text. Having to get the entire framework on a single page obliges you to specify the bins that hold the discrete phenomena, to map likely relationships, to divide the variables that are conceptually or functionally distinct, and to work with all of the information at once. (p. 22)

I heavily relied on visual representation to analyse the relationships between codes and concepts for both questionnaire and interview data. Other visualizations I used in theory development are described in more detail in the sections to follow on coding and theory development. One diagram in particular was used through most of the analytic process, a “situational map” of sorts.

**A Situational Map.** Diagramming played a major role in my theory development, beginning with the mapping of the situation (Figure 1), which led to the notion of interactive space that became a sensitizing concept during intermediate/advanced analysis. Diagramming
the interaction between the learning environment and students with my “situational map” proved to be a crucial analysis strategy, providing me a spatial and temporal setting, and a cognitive one, to place, organize, and scrutinize relationships between emerging concepts.

As described further in a later section in this chapter, the data lent itself to three initial categories very early in analysis: the learning environment, the student’s reactions in the moment including meanings made and actions, and the consequences of the experience on the student into the current day. I readily mapped these categories onto my diagram of the interactive space (Figure 4), and iteratively compared and referenced emerging concepts using this diagram. My aim in this study was to emphasize interactions between secondary students and their environment. Because it is in the realm of the learning environment that creativity is supported or restrained, attending to elements in the material environment were crucial for my work.

Figure 4. Three areas of interest in the situation of encouraging/discouraging creativity in school: the learning environment that furnishes the conditions for creativity, the student’s reactions/actions/meanings made of the experiences, and the student, post-experience when consequences of the experiences manifest.

The diagram entails a spatial component but also a temporal one, corresponding to the diagram from top to bottom, in keeping with Dewey’s notion of experience as interaction and
continuity (Dewey, 1938). In my situation of interest, the initiating event is situated in the learning environment, which presents an opportunity or challenge related to creativity to students. The student interacts with their environment through the experience and embedded in this interaction is the encouragement/discouragement of creativity. When the experience in school is over, the consequences to students potentially continue into the present, and the theoretical future beyond the diagram.

The distinctions between these three categories are blurry because all elements involved in the situation—the learning environment, meanings made, actions, and consequences beyond the experience—are intertwined. The elements of the interactions cannot be separated entirely. From a symbolic interaction perspective, “people enact meanings and make them real through interaction—and that interaction may be with other beings, objects, and conditions in the material environment” (Charmaz, 2014, p. 269). Applying this stance to the phenomenon of this study: the elements of the learning environment that encourage and discourage creativity cannot be separated from the student responses as it is within the students, as a consequence of their meanings made, that encouragement and discouragement happen. Students are not passive receptacles who receive and interpret these experiences: students’ responses, including emotion and creativity, are interactions between what is within them and their environments. The consequences of these experiences on students beyond the incident include continuing interaction with the environment, such as future creativity, and so too cannot be separated from the interactive space.

**Extended Grounded Theory Strategies**

I align with Charmaz (2008, p. 401), who believes research methods are tools and “strategies are just that – strategies for creating and interrogating our data, not routes to knowing
an objective reality.” Constructivist grounded theory as perceived by Charmaz (2014) is flexible; it welcomes multiple theoretical perspectives (p. 279), methods (p. 325), and strategies (p. 12) in so much as they might contribute to insightful theorizing. I used two analysis strategies not common in grounded theory studies, narrative plot analysis and statistics.

**Plot Analysis**

Narrative analysis fits well with grounded theory (Lal, Suto, & Ungar, 2012). Both are based on the notion that how people view their situations become their situation. “How they name things affects what they know, how they know it and the actions they take” (Charmaz, 2014, p. 272). People “name” and “view” their situations through stories; narrative is a way that “human beings give meaning to their experience of temporality and personal actions” (Polkinghorne, 1988, p. 11). I asked interview participants to tell me about an encouraging and discouraging creativity-related experience in as much detail as possible. How they chose to story their experience reflects the meaning they have made of it. Participants naturally, without prompting, relayed their experiences to me as narratives with a basic plot structure (Daiute, 2013) that included a beginning and an ending. Following Daiute (2013), I analysed each of these stories according to the following plot points: initiating action, complicating action, high point or turning point, resolution strategies or how narrators responded to the high point, the ending, and any coda or moral/philosophical meaning narrators include in their story-telling. Again, this analysis is in keeping with Corbin and Strauss’s (2015, p. 157) “paradigm strategy” of analysing conditions, actions-interactions, and consequences; the plot points are a more elaborate version of the same theoretical process, with the antecedents being the conditions that led to creativity, and the consequences being what followed. I conducted narrative analysis to better understand the meaning participants made of their experience through the elements of
story they chose to tell, and the order they chose to tell them in. I further used the temporal element in plot as a means of understanding how emotions connected to the process of creativity and thoughts, actions, and meanings participants made during their experiences.

The basic narrative structure as described by Daiute (2013) is fundamentally based on conflict or challenge. The initiating action is a challenge, the complicating actions deepen this conflict or challenge, the climax is the point where the challenge is at its greatest, and the resolution strategies are used by the main character to solve the problem. This conflict or challenge approach applied to my participants’ discouraging experiences, but it did not apply readily to their encouraging experience stories. I did a literature search for narrative studies that included a plot analysis of positive narratives so I could replicate their method. I found none.

Instead, I considered what the equivalent of each plot point might be in a positive narrative, seeking the underlying concept behind each plot point, devoid of negative or positive valence. This led to the following adjusted points for narrative plot analysis

1. Initiating action (challenge or opportunity)
2. Complicating actions (that affect the challenge or opportunity)
3. The high point, the point at which the most has gone wrong or right
4. The response of the character(s) to the high point, be it resolution strategies or further changes in behaviour/attitudes/philosophy as a result of the high point.
5. The ending
6. The coda

In addition to this plot analysis, I also identified participant emotions mentioned directly or indirectly in conjunction with each of these plot points and recorded them in a Microsoft Excel spreadsheet, as shown in Table 5, to see patterns through direct comparison of plot points and
emotions between participants. I further added “narrative stance,” the “character” participants portrayed their former student selves to be such as victim, high-achiever, etc. This too is shown in Table 5.

**Statistics**

The presence of statistics in a grounded theory study, a qualitatively driven study from an interpretivist, constructivist stance, might at first blush seem out of place. Charmaz (2014) suggests the root of the question of mixed methods in grounded theory comes from the difficulty in mixing epistemologies, as quantitative data has been associated with a post-positivist stance. Charmaz (2014) said two things that indicate her brand of constructivism is in keeping with mine: she concluded that “whatever the mix or combination . . . the criteria for effective mixed methods research rest on the analytic coherence of the research product, integrated findings, and illumination of the research problem(s)” (p. 325). She also stated that several theoretical perspectives can be integrated, as “purity fosters preconception” and “theoretical integration may expand and enlarge your methodological directions and your theoretical insights” (p. 279). Simple statistics were an appropriate tool for me in that they provided a means to see patterns in the large amount of questionnaire data that I would not be able to see otherwise. The use of statistics and the patterns it revealed solidified my decision to maintain distinct and separate questioning regarding encouraging and discouraging experiences. Furthermore, it alerted me to a potentially stronger role for discouraging experiences, which I subsequently addressed directly with participants in conversation.
### Table 5

*An Example of Plot Analysis: Diane’s Encouraging Creativity Experience*

<table>
<thead>
<tr>
<th>Plot element</th>
<th>Diane</th>
<th>Diane emotions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting encouraging</td>
<td>small town rural high school, low diversity, coach's office</td>
<td></td>
</tr>
<tr>
<td>Initiating action/ challenge or opportunity encouraging</td>
<td>book by Me to We</td>
<td>inspired</td>
</tr>
<tr>
<td>Complicating action(s)/events that influence high point encouraging</td>
<td>trip to Kenya, conversation with teacher, admin permission</td>
<td>anxiety, love, passion</td>
</tr>
<tr>
<td>Most important complicating element perceived by participant that led to high point encouraging</td>
<td>“I had a teacher I felt close with that I could share and express my ideas.”</td>
<td>care</td>
</tr>
<tr>
<td>High point encouraging</td>
<td>start of club</td>
<td>anxiety</td>
</tr>
<tr>
<td>Resolution strategy(ies) / how characters respond: psychological, speech, action point encouraging</td>
<td>friends jealous, that was just a fun day, I think this actually helped me make the decision to go to England for university. It kickstarted thinking I can do this. definitely learning about has made me more conscious more about sustainability and living. Action: I became vegan. We did a whole school survey asking where people would want to help build a classroom, collective action fundraising</td>
<td>Sad, empathy, curiosity, joy,</td>
</tr>
<tr>
<td>Ending encouraging</td>
<td>fundraising $10,000 to build school in Haiti</td>
<td>pride, passion, confident, happy, mot ↑</td>
</tr>
<tr>
<td>Coda encouraging</td>
<td>none</td>
<td></td>
</tr>
<tr>
<td>Narrator Stance encouraging</td>
<td>ambitious, achieving student</td>
<td></td>
</tr>
</tbody>
</table>

### My Coding Process

Charmaz (2014, p. 111, 113) introduces coding as naming segments of data with a label that categorizes, summarizes, and accounts for each piece of data. The codes “explicate how people enact or respond to events, what meanings they hold, and how and why these actions and meaning evolved.” The aim of coding is an interpretive rendering that illuminates studied life. In
this section, I describe my coding processes, beginning with a discussion of how my approach relates to traditional grounded theory coding methods and constructivist grounded theory coding methods as subscribed by Charmaz (2014). This section ends with an outline of my particular methods for coding in the later stages of theory building, and a flowchart that relates all strategies and coding processes to my data sources, through time.

**Traditional Grounded Theory Coding**

Glaser (Holton, 2010) identified two kinds of coding which he called *substantive coding*—working with the data directly, and *theoretical coding*—a second phase of abstraction. Glaserian analysis has a set, step-by-step process (Holton, 2010, n.p.) that “proceeds from the initial open coding of data to the emergence of a core category, followed by a delimiting of data collection and analysis for selective coding to theoretically saturate the core category and related categories.” The inductive and deductive elements of this procedure are indicative of Glaser’s positivist stance of seeking objective truth in the data. Glaser (2002) maintains the process remain simple in order to avoid “forcing the data.” Straussian analysis also entails systematic methods for coding and theory development (Corbin & Strauss, 2015), that are “highly structured” (Kenny & Fourie, 2015). I align with Charmaz (2014) who does not ascribe to prescribed step-by-step methods for coding. As per Charmaz (2015, p. 148), my analytic strategies were “emergent, rather than procedural application,” with the exceptions noted throughout this chapter: narrative and emotion analysis, and the application of a pedagogical framework to compare elements of the learning environment. Two types of codes used in traditional grounded theory were not applied in my work, axial coding and Glaser’s (1978) theoretical coding.

**Axial Coding.** Axial codes specify properties and dimensions of a category. They were
developed by Strauss (Corbin & Strauss, 1990, 1998; Strauss, 1987) to ask systematic questions about the axis of a category such as when, where, why, who, how, and with what. I agree with Charmaz (2015, p. 149) that axial coding imposes an analytic frame onto data that may “limit what and how researchers learn about their studied worlds.” I followed a more conceptual analysis method that allowed more abstract conceptual categories to emerge from the meaningful patterns I observed during my interactions with data. This does not mean that I avoided codes that revolved around categories or concepts, but rather I did not systematically impose axial coding nor use many differential labels to describe levels of codes and concepts.

**Theoretical Coding.** Glaser (1978, p. 72) described theoretical coding as “how the substantive codes may relate to each other as hypotheses to be integrated into a theory.” Glaser developed a range of theoretical codes, a series of theoretical, relational terms like “degree,” “dimension,” “conditions,” and “consequences” and many more combinations (Glaser, 1998). I agree with Charmaz that merely applying theoretical codes imposes a framework on analysis, equivalent to Straussian axial codes.

I did not explicitly attempt to use theoretical coding, although my research design provided a natural “paired opposite approach,” comparing encouraging/discouraging experiences. As I looked at the codes and concepts developed for encouraging experiences and compared them to the codes and concepts developed for discouraging experiences, I saw parallels (everywhere!). I refined my codes and concepts to represent these opposing parallels. For example, the concept “I can” in the encouraging experiences became “I can’t” for discouraging experiences. Similarly, when I named the concept “expansion into the interactive space,” for encouraging experiences, I named the equivalent concept for discouraging experiences “contraction from the interactive space.” In the end, the theory I constructed follows a pattern that relates to Glaser’s (1998)
theoretical coding, and Corbin and Strauss’s (2015) conditional matrix: *conditions* for creativity and the *consequences* of creativity feature prominently.

**Constructivist Grounded Theory Coding**

Constructivist grounded theory methodology explicitly implicates me, the researcher, as an active participant in the interpretation, translation, and representation of participants’ lived experiences and the social processes embedded within that experience (Charmaz, 2003). At all stages of analysis, I considered the influence my beliefs and assumptions have had on the language I use and my interpretation of others’ language. This reflexivity is the subject of this section. I also outline my choices in language to label elements of analysis.

**Reflexivity While Coding.** As I reflected on how my prior ideas about supporting creativity influenced my coding, I did notice words laden with theoretical meaning cropping up that related to the creativity literature, in particular “motivation” and “product value.”

Intrinsic and extrinsic motivation play a prominent role in the ‘supporting creativity’ literature as described in Chapter 3. With this theoretical construct in mind, when I noted questionnaire participants in the survey mention motivation directly or indirectly, I connected the code with my reading and paid attention to it. I did a complete reading of all the data looking for motivation indicators and made a point to seek patterns relating to this code. In second and third readings, I checked specifically for instances of motivation relating to the creativity experiences in narratives, such as Christine’s interview statement about how she felt about her Grade 9 English class, “To wake up in the morning dreading everything, [I didn’t] want to get out of bed.” I separated these instances from motivation relating to future activity, such as Kirsten’s response to her biology teacher’s refusal to allow her to test honey’s antibiotic properties, “I found myself being less explorative about learning for a little while.”
“Product value,” another code with theoretical implications, came from a direct reference to the common creativity definition. This focused code was ultimately abandoned, however, because it did not fit as well as “meaningful to students,” which better encompassed characteristics of the creative experiences that students reported as significant such as responsibility and making a difference to others. The code “meaningful to students” led into the category “meaningful challenge,” one of the three conditions for supporting creativity in schools in the constructed theory.

I also took pains to be careful in my analysis of discouraging experiences to not consider them as more damaging because of my prior hunch this would be so. I took note of discouraging experiences that did not have strong negative consequences, such as Cindy’s experience; she found a way to circumvent the assignment in which she was asked to unveil her true self in an unsafe peer environment, and concluded as a result that she was strong, resilient, and optimistic. I looked at these situations carefully, both Cindy’s and others whose narratives did not involve strong negative, longer-term consequences, namely Alice, Mark, Marie, and Diane. These cases were more “the exception than the rule,” including a few questionnaire anecdotes that described positive motivation to pursue creativity as a direct consequence of a discouraging secondary school experience. These experiences and participants’ reactions to them furnished crucial data for me to understand the underlying processes involved in the degree of negative consequence.

However, I also scrutinized the words and my notes on these interviews for signs and signals that the consequences were more negative than participants overtly described. Diane, for example, said it was “no big deal” that her English teacher discouraged her from pursuing writing as a career. But she subsequently spoke of her program of studies in university as “soul destroying” and expressed hesitation and doubt about what other life paths might have brought
Actions and Meanings. Charmaz (2014, p. 116) begins her section on initial coding of data with advice to “code for words that reflect action.” Her reasoning for this focus is to avoid coding for types of people that “casts them with static labels,” which minimizes recognizing “variation in the studied phenomenon” (p. 116-117). Coding for actions through the use of gerunds, she elaborates, curbs tendencies to make conceptual leaps that evoke extant concepts and theories; it helps the researcher to remain open.

Charmaz (2014, p. 114) also states that in coding it is important to remain “open to all possible theoretical directions.” So, I did not limit myself to coding for actions but rather sought all aspects of the situation, including human and nonhuman elements, thoughts, feelings, actions, beliefs and behaviours, treating all as potential units of meaning. For me, this meant that I did not limit myself to the use of gerunds, nor constrain my coding practice by attempting to focus on them. Most importantly, I felt that this practice would limit and colour my codes in directions that might emphasize actions at the expense of understanding the thoughts and feelings of students, which would give me indicators of the meanings they made of these experiences. It was also crucial for me to explore the elements in the environment that provoked these thoughts, feelings, and behaviours.

I might have put the gerunds, “feeling” and “thinking” in front of many of my initial codes, but that would have been unhelpful and inefficient. Imposing gerunds on my coding practice would have felt unnatural to me and would likely have interfered with my theoretical sensitivity by distracting me from seeing what I could see in the data.

In the final stages of my analysis, I looked at the concepts in my theory and considered whether they could be turned into gerunds. To illustrate, two conditions in learning environments
that encourage creativity in my theory are “meaningful challenges” and “teacher belief,” which I could re-write as “being challenged meaningfully,” and “believing teachers” but I do not think these gerund labels are helpful in this instance. “Being challenged meaningfully” suggests that the challenge is imposed upon the student from an external source. In fact, while the learning environment must allow and often supplies the challenge, the challenge can—and often did among this study’s participants—come from within the student. Some students were not given a meaningful, creativity-related challenge in secondary school; they created it.

**From Codes to Theory**

In this section I describe my process of initial coding of data from questionnaires, interviews and small group sessions, and creative writing, through the intermediate stages of building concepts and the assemblage of these concepts into a theory for supporting creativity in secondary school.

**Initial Coding.** Charmaz (2014) suggests that in our interaction with our data we must dig to interpret participants’ tacit meanings. Initial coding involves naming each “word, line or segment of data” (Charmaz, 2014, p. 113). Initial coding is about making fragments of data and asking what meanings can be gleaned from them.

**Coding Questionnaire Anecdotes.** I conducted initial coding of all anecdotal responses in the survey using Microsoft Excel. As I interacted with the data this way, I paid attention to tentative categories, which I added as terms/labels to the initial coding header in my table to keep track and remember them for future use. As I went along, I used these emerging terms in my initial coding, as recommended by Charmaz (2014, p. 115):

By engaging in thorough coding early in the research process and comparing data and codes, the researcher can identify which codes to explore as tentative categories . . .
selecting categories expedites inquiry because the researcher then uses these categories to sort large batches of data and simultaneously evaluate the relative usefulness of these tentative categories.

Excel allowed me to manage large amounts of data, sort it as I wished, and create new columns to populate with new focused and selective codes as new categories emerged. I went through all anecdotes during initial coding three times, refining codes and checking that I’d captured all the potential units of meanings I could.

In my initial coding of the second major question asked in the questionnaire, “how did this make you feel?” I noticed that responses were often not about emotions at all:

- “as though my ideas were valued” (S383)
- “it made me put myself out there and give everything I had even if it meant I could fail” (S8)
- “it just felt like I couldn't write about what I wanted to” (S81)
- “it made me not want to go to school and to drop the program.” (S353)

These comments, as well as others like them embedded in the anecdotes, told me that the data I had gathered contained not just emotional depictions, but also thoughts, meanings made, and actions that were deeply relevant to these students. The anecdotes also contained descriptions of human and nonhuman elements of the situation that were influential in these reactions. I created a second column specifically for data that related to consequences to students and read through all anecdotes and responses to the “how did this experience make you feel?” separately. At this stage, I had two categories of codes: one that related to aspects of the learning environment or situation and another that related to student reactions within/to the situation. I added an additional column for initial codes that related specifically to emotions, and later I
divided consequences of creativity to “in the moment” reactions and long-term consequences. I read through all anecdotes for each of these types of codes separately three times, refining as I went to ensure I had not missed potential units of meaning. Table 6 shows the coding for questionnaire participant S35, whose narrative anecdote read:

Being a part of Drama club; I was able to take a risk and perform in my school's production when I had no theatre or acting experience before. It was through the encouragement of my peers and my teacher that I was able to have such a positive experience. I was able to break out of my shell and find my passion in acting and I was able to make new friends.

Table 6

Example of Initial and Focused Coding of a Questionnaire Anecdote

<table>
<thead>
<tr>
<th>Initial Codes</th>
<th>Focus Codes I</th>
<th>Focus Codes II</th>
<th>PED CAT</th>
<th>Conseq</th>
<th>Conseq Focus Codes I</th>
<th>Conseq Focus Codes II</th>
</tr>
</thead>
<tbody>
<tr>
<td>drama club, take a risk, perform, school play, no prior experience, encouragement of peers, encouragement of teacher, positive experience, able to break out of shell, find passion in acting, able to make new friends, feel good about self, find new passion</td>
<td>public performance, peer social influence, teacher social influence, shyness, passion, made friends, ability</td>
<td>club, presentation, arts, challenge, peer belief, teacher belief, acceptance, freedom-personality</td>
<td>learning activities, social environment</td>
<td>break out of my shell, find my passion in acting, make new friends, confidence</td>
<td>Identity-found passion in acting, confidence - I can make new friends*, I can express self, wellbeing-belonging, sociality +</td>
<td>identity, wellbeing, social+, I can</td>
</tr>
</tbody>
</table>

Note. + denotes enhancement; *indicates this code was strongly expressed in the student’s text.

aPED CAT refers to the five-category framework I applied to the anecdotes as a point of comparison of the elements in the learning environment that influence creativity

bConseq is an abbreviation for consequence

The initial coding of questionnaire data influenced theoretical sampling in subsequent interviews in the following ways:
• I retained the plan to focus half the interview time on discouraging experiences;
• I asked numerous, direct questions of students about the consequences of their creativity-related experiences into the present day; and,
• I asked students direct questions about their teachers, grades, peers, and other potential elements present in the learning environment to clarify the involvement of these elements in the creativity experiences.

Coding Interviews and Small Group Sessions. All interview transcripts were converted into a table in Microsoft Word, each row representing a paragraph of speech by one speaker, as interpreted from the voice recording by the temi.com transcription software/service. Using the highlighting tool, students’ words were divided into three types: emotions, student reactions, and elements in the learning environment. At this stage, all emotions were highlighted throughout participants’ transcripts. These were used later to analyze the causes and consequences of all emotions in the creativity-related experiences, as described in a later section of this chapter.

First, I went through all the data paying close attention to consequences to students of the experience which I highlighted in green, then I coded separately for reactions in the moment and consequences into the present day separately. I highlighted elements in the learning environment yellow and coded these separately. An example of this coding is illustrated in Table 7. Asterisks were used to indicate at an early stage particular initial codes and participant words that might indicate relationships between codes, delving into the hows and whys of encouragement/discouragement of creativity and its consequences.
Table 7

*An Example of Initial and Focus Coding Interview Transcripts*

<table>
<thead>
<tr>
<th>Transcript: Yellow-learning environment; Green-student response; Purple-emotions</th>
<th>Environment</th>
<th>Student Reaction</th>
<th>Focus Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>creative outlet interested in journalism and writing careers</td>
<td>cool experience-16 page magazine “I really like that feeling”-role in creating project; seeing it all come together at the end</td>
<td>product value-substantial, matches student interest, career motivation+ enjoyment-process, creativity fulfillment, self-expression audience reaction+ dismiss positive feedback</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* This example is from Kirsten’s encouraging experience. + denotes enhancement.

**Creative Writing.** The two pieces of creative writing given to me by interview participants were not coded in this way. For the most part, these writings were a written account of the same experiences relayed to me during the interview conversation. Instead, these written accounts were compared to coded transcripts for student reactions, particularly emotions tacitly expressed, to deepen my understanding of students’ interpretation of these experiences and their meaning.

**Intermediate Coding.** My analysis progressed in successive waves of abstraction from initial coding through intermediate coding. I wrote memos and diagrammed through this process to explore insight, questions, and relationships between data, codes, and emerging concepts.

I used the term focused codes to describe all intermediate coding between initial codes and the theory. Charmaz (2014) uses the term “focused codes” to describe codes that move analytically one step up from initial codes. Focused codes might be initial codes that are used
more frequently and/or have more significance; hence they “condense and sharpen” data (Charmaz, 2014, p. 138). Focused codes might also be groupings of initial codes. They are more conceptual; they synthesize, analyze, and conceptualize larger segments. In what follows, I describe my intermediate coding for all data sources.

*Questionnaire Coding.* I selected focused codes during the first, second and third passes of my questionnaire data as I compared participant experiences and asked myself what the initial codes implied with respect to how or why creativity was encouraged/discouraged, and the consequences of this encouragement/discouragement for students. I compared codes with codes, interpreting those that I felt had greater analytic power, seeking patterns. I did not shy away from considering focused codes as potential larger concepts in the theory.

For elements in the learning environment, I inductively coded and grouped codes, but I also sorted initial codes in the questionnaire with a framework that described different aspects of the learning environment to see if it helped to compare and distinguish participants’ experiences. Charmaz (2014, p. 117) advocated using a framework if it provides a “starting point for initiating your analysis” and helps to “remain alert to variation and difference.” The framework included learning activities, assessment and evaluation, social interactions, physical resources, and overt teaching of skills/habits of mind. I did this to create a point of comparison for elements in learning environments that were more or less important for supporting creativity.

I looked for patterns in the incidence of elements among questionnaire anecdotes by tabulating focus codes in Microsoft Excel. This produced a number of summary tables as follows: elements in the learning environment/context, consequences to students of creativity, and student reactions in the moment. Each of these tables was created from the focused codes, or cluster of focused codes, for encouraging and discouraging experiences separately. All of the
numbers of incidents of mention of each code were converted to percentages for easy comparison.

I visually studied these tables for patterns, and codes that were closely related that formed clusters. For example, wellbeing encompassed focused codes about reduction in anxiety, and a sense of belonging. Looking for patterns in the table for points of comparison, I looked for instances where one particular emotion or code or emotion/code combination stood out for being much more prevalent, or much less prevalent. Table 8 summarizes the consequences of discouraging creativity to students as reported in questionnaire anecdotes.

Table 8

*Reported Consequences of Discouraging Experiences from Questionnaire by Primary Emotion (% of 188 Narratives)*

<table>
<thead>
<tr>
<th>Prominent emotion</th>
<th>Identity</th>
<th>Risk-taking</th>
<th>Career</th>
<th>Learning</th>
<th>Personal Growth</th>
<th>Mot</th>
<th>Social impact</th>
<th>Well-being</th>
<th>Social-ity</th>
<th>Total anecdotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger</td>
<td>11</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6+ 17-</td>
<td>6</td>
<td>7</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Anxiety</td>
<td>50</td>
<td>15</td>
<td>9</td>
<td>15</td>
<td>6</td>
<td>0+ 9-</td>
<td>0</td>
<td>24</td>
<td>9</td>
<td>34</td>
</tr>
<tr>
<td>Boredom</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>5+ 30-</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Disappointment</td>
<td>55</td>
<td>10</td>
<td>14</td>
<td>14</td>
<td>17</td>
<td>3+ 21-</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>29</td>
</tr>
<tr>
<td>Frustration</td>
<td>29</td>
<td>8</td>
<td>1</td>
<td>16</td>
<td>13</td>
<td>6+ 16-</td>
<td>7</td>
<td>3</td>
<td>5</td>
<td>87</td>
</tr>
<tr>
<td>Total anecdotes</td>
<td>33</td>
<td>10</td>
<td>4</td>
<td>13</td>
<td>11</td>
<td>17</td>
<td>5</td>
<td>7</td>
<td>6</td>
<td>188</td>
</tr>
</tbody>
</table>

*Note.* Mot refers to motivation to engage in further creative activity; both positive motivation (+) and negative motivation (-) were reported. Other than the positive motivation, all consequences reported are negative: a decrease in learning, a diminished identity, etc.

While I am using numbers here to discern patterns, note that this is no different than printing out segments of text and grouping them; the numbers simply allowed a way to compare
larger numbers of segments of texts than would be possible with a pile and sort or visual clustering technique. In a sense, this questionnaire provided breadth of experience data, while the interviews provided depth of experience data to complement. These tables and their numbers are data in themselves, which I used to explore relationships between codes to build theory. I also used statistics to further understand patterns in the questionnaire data where appropriate, at this stage.

*Interview and Small Group Session Coding.* Focussed coding of interview and small group session data occurred after coding of questionnaire data. I first approached the analysis of the interview data separately without reference to questionnaire focused codes, to be inductive without presuppositions. I then directly compared the emerging intermediate codes in the interview transcripts with the patterns I discerned in my questionnaire data.

One strong code in the interview data was sociality; encouraging/discouraging experiences produced changes in social attitudes and behaviour among many participants. I had not picked up on this pattern in the questionnaire data and went back to the initial codes in the questionnaire looking for it, tabulating its occurrence among anecdotes. It was not a prevalent element in the anecdotes, though of course this does not mean it was not a facet of these students’ experiences, but rather that they chose not to mention it in their brief narratives.

I focused codes and clustered focus codes for interview and small group sessions in separate stages for the following: longer term consequences to students; in the moment reactions including thoughts and feelings during the creativity-related experience; and, finally, elements in the learning environment. In addition, I employed several strategies unique to these data sources, including emotion analysis and plot analysis. Focused coding was an emergent process conducted in several iterations for each of these areas of analysis, to refine codes to better fit
data. For each area of analysis, I hand wrote focus codes on a summary sheet, tabulating their prevalence and the range of their characteristics, using asterisks to indicate important incidents (looking for extent of influence, not just quantity), and I clustered these codes as I went, considering relationships between them, adding higher level codes or concepts.

The emotion analysis traced all the causes and consequences of emotion provoked by a creativity-related experience as relayed during interview conversations. This table was then summarized in a diagram, Figure 5, which proved helpful in considering how prominent emotions related to encouragement/discouragement of creativity. The role of emotion in the creative process and its relationship to particular events within that process, supplied a point of comparison for the prominent emotions identified in the questionnaire, and their importance to student reactions.

For the plot analysis, I took my tables for each interview participant experience (see Table 5 for an example) and used a handwritten summary sheet to tabulate prevalence and range, to compare each plot point in participants’ narratives. In Figure 6, I am tabulating focus codes for coda, the ‘moral’ some students used as a conclusion to their narratives. I am seeking to understand the decisions students made about the meaning of their experiences, and to explore how these decisions might logically connect to each other.

The products of these analyses included the following: summary tables of clustered codes for questionnaire data organized by prominent emotion, summary tables of clustered codes for interview data and small group session data, diagram of emotions in the creativity process, and summary tables of clustered codes for interview data organized by plot point. I had students’ creative writing as an additional point of comparison.
Figure 5. The main emotions felt by students throughout the creative process.

**Concepts and Theory.** Focus codes and clusters of focus codes were used to develop the components of my theory. Charmaz uses the terms *categories* and *concepts* to describe the components of a grounded theory. Categories according to Charmaz (2014, p. 182) explicate ideas, events, or processes in your data . . . a category may subsume common themes and patterns in several codes.” She (2014, p. 341) describes the process of analysis that leads to a grounded theory as *categorizing*:

the analytic step in grounded theory of selecting certain codes as having overriding significance or abstracting common themes and patterns in several codes into an analytic
concept . . . from description to a more abstract, theoretical level. Then . . . define the properties of the category, the conditions under which it is operative, the conditions under which it changes, and its relation to other categories . . . Grounded theorists make their most significant theoretical categories into the concepts of their theory.

For Charmaz (2014), concepts are larger than categories. Concepts are the components of the developed grounded theory . . . abstract ideas that account for the data and have specifiable properties and boundaries . . . provide abstract understanding of the studied phenomenon and are situated in the conditions of their production in time, place, people and the circumstances of the research process. (p. 342)
Categories become concepts when they have “theoretical reach, theoretical centrality, incisiveness, generic power, and relation to other categories.” They subsume lesser categories and “hold more significance, account for more data, and often make crucial processes more evident” (Charmaz, 2014, p. 247-248).

Birks and Mills (2015) point out that the terms categories and concepts are confusing as used in grounded theory literature. I agree and think that the confusion is confounded by the terms themselves, words that are part of colloquial language and so carry a range of pre-existing connotations that exist outside of grounded theory, but are also related to the way Charmaz and others use them. I wrote a memo on the subject:

Memo: What are categories and concepts? (excerpt).

If the writers of grounded theory textbooks say things like “everything is a concept,” and that “concepts,’ ‘codes,’ and ‘categories’ generally mean the same or similar things” (Birks & Mills, 2015, p. 86), then I think I can approach analysis with the goal of pushing the groups of codes, what I’ll call concepts, to describe the most fundamental, abstract relationships between them I possibly can, without thinking about how many categories I’ve got, whether these are intermediate or advanced codes, categories, or concepts. I’ll let the data talk to me.

I have used the term “concept” to describe the primary components of the theory explicated in Chapter 5. In so doing, I have acted as a grounded theorist as Charmaz (2006, p. 92) described: “Grounded theorists look for substantive processes that they develop from the codes . . . creat[ing] conceptual handles to explain what is happening in the setting.” I have used the term “category” to describe three areas of focus in the theory as follows: the conditions for
supporting creativity, the microprocesses involved in students’ reactions during creativity-related experiences, and the consequences into the present day of these experiences.

Theory-Building. I used the tables, diagrams, memos, and all other data generated from coding to make a long list of propositions that summarized connections and relationships I saw from my coding. A segment of this list is shown here, for illustration purposes:

Memo: List of proposition statements (Excerpt)

- Expressed teacher belief in the students’ ability to achieve a task/fulfill an opportunity featured commonly in encouraging experiences, and more commonly than other elements of social interactions such as teacher guidance.
- Expressed expectation by teachers that students would take a risk or generate something novel also featured quite commonly in encouraging experience anecdotes.
- Many stories of encouragement of creativity featured descriptions of support teachers (or admin) had provided in terms of students’ efforts or ideas. Many students mentioned a sense of acceptance and belonging in a community, be it a school, a class, or a club.
- A few mentioned a positive audience response to their presentation, performance, or product.
- A few of these encouraging stories featured peer support, peer belief, and favouritism.
- Success was mentioned rarely.
- There were patterns in the links between social elements of encouraging experiences and the prominent emotions they provoked:
  - Expressions by teachers of belief in students were tied to prominent emotions of gratitude and hope, more than joy, pride and enjoyment.
  - Support given by teachers did not feature in experiences that provoked hope.
Hope is strongly associated with three (and only three) aspects of learning experiences: freedom of choice, challenge, and teacher belief – adding up to “I can do it.”

I holistically studied, iteratively back and forth, all materials including this list of propositions intensely for days while I asked, “what is the story here?” It was the close study of these patterns, in combination, that led to tentative concepts and categories that were diagrammed and their relationships teased out. I used constant comparison “from data and reaching up to construct abstractions and simultaneously reaching down to tie these abstractions to data . . . learning about the specific and the general” (Charmaz, 2014, p. 323). Through memoing and abductive reasoning, I reasoned out what my data could tell me. From this process, concepts were formed in three categories: student reactions in the moment, conditions for supporting creativity, and consequences of creativity experiences.

**Student Reactions.** Using the situation map (Figure 4), I created the following concepts to capture the key microprocesses of students’ reactions to creativity-related experiences: “I want to,” “I can,” and “I am.” These microprocesses accompanied and drove students’ interactions, interpretations, and the subsequent consequences of the experiences. I considered all data sources, including the data generated by my emotion and narrative analyses, to relate emotions to these cognitive features. I also asked students directly about the involvement of emotions in my second, face-to-face interaction with them, the small group sessions that followed the primary interviews. Teasing apart emotions from thoughts proved challenging and was not entirely possible in this study with the data collection and analysis tools I employed. I am left wondering whether Strauss’s (Corbin & Strauss, 2015) notion of emotion as inseparable from action has more credence than I naively gave it.
Conditions for Creativity. I repeated the comparison process using all sources of data and analysis to explore the conditions of creativity embedded in the learning environment and rested upon three concepts: freedom, challenge, and belief. I examined each concept’s boundaries and characteristics, seeking patterns in all situations relayed to me, including those where the concepts were not strong or absent altogether. I systematically plotted all intermediate codes onto the theory and its concepts to check for fit. As a result of this process, and its memoing, I refined the concepts to freedom, meaningful challenge, and teacher belief as explained in chapters 5 and 6.

Consequences of Creativity Experiences. I considered consequences of creativity experiences using my situational map. When I looked specifically at the focused codes for the consequences to students of their creativity-related experiences, I noticed that they could all be described as expansions of students’ interactive space—for encouraging experiences, and contraction of students’ interactive space—for discouraging experiences, as shown in Figure 7.
Figure 7. Student expansion into, and contraction from, the world as a consequence of encouraging and discouraging creative experiences.

The situation map approach only took me so far, however. In the final stages of analysis, I “plotted” my emerging concepts onto it, paying attention to the learning environment concepts on the left side and the cognitive and emotional responses of students on the right side. I saw natural temporal connections between concepts and realized I was looking at a process, which lent itself to diagramming the concepts as a left to right “formula,” a grounded theory that captured what my data told me about how to support creativity in schools, presented in Chapter 5.

I took pains to study my data at this stage, to see whether I might discern meaningful connections between the conditions for creativity, student interpretations and meanings made, and the consequences of creativity on their subsequent interactions. I was seeking to understand the path of if/how particular conditions led to particular interpretations led to particular consequences. It was tangled reasoning, with the wide variety of data source to piece together, and abductive reasoning proved useful. For example, in a memo I reasoned through how teacher
belief and freedom relate to students’ decisions of competence, that they “can” or “cannot,” as a result of creativity experiences:

Memo: Freedom or teacher belief?

If successful completion of challenge leads to “I can do it,” then shouldn’t failure lead to “I can’t do it”? However failure, while present in a few anecdotes, is not prevalent in the data, not the survey, nor the interviews, and some stated they were encouraged in their creativity despite failure. So, “can’t” seems more about being allowed and/or being evaluated as wrong: the words and judgment by teacher of “wrong,” rather than about quality or completion of product: (David, Mark, Marie, Liz, Christine, Chloe, Rachel, Charles, Bridget, Kirsten).

Comparing each discouraging experience looking to see whether constraint or evaluation were important for the decisions students made about I can’t/I am not might help.

• Constraint: Alice, Diane, Kinjal, Liz
• Evaluation: Bridget, Charles, Chloe, Cindy, David, Mark, Rachel
• Both: Christine, Kirsten, Marie

Conclusion: Students are deciding on the basis of teachers’ evaluation of their products whether they can or cannot do something, and they take on this evaluation as part of their identity: students take evaluation personally. However, students are also taking constraint—whereby they are prevented from doing something—to mean they are unable to do it. That reminds me of a questionnaire anecdote: “I remember classes being very strict on guidelines, etc., and not having the chance to expand and be creative” which made this student “feel like my ideas aren't adequate.” (S218).
Diagram of My Analytic Process. Figure 8 summarizes the entire analytic process, including the timing of data gathering, strategy use, coding, and theory-building.

Chapter Summary

Grounded theory analysis asks theoretical questions of our data to further our understanding of our participants’ experience. This chapter highlights how data analysis was approached and conducted, drawing on the flexible guidelines recommended by Charmaz (2014). I discussed reflexivity, as well as my approach to several, common points of grounded theory analysis including axial and theoretical coding, the use of gerunds, and delineating categories and concepts. I described how I used various analytic strategies and tools, including traditional grounded theory methods of constant comparison, memoing, and diagramming. I describe how I used two additional analytic strategies in this study, plot analysis and statistics. I outlined my interactions with the data step-by-step from the ground up, from initial coding through focused coding and clustering through to concepts, with examples to demonstrate transparency of theory development.

Chapter 5 introduces the theory of supporting creativity in secondary schools that arose from this analysis.
Figure 8. The analytical stages of developing and refining data in this study.
CHAPTER 5
THE CONDITIONS FOR SUPPORTING CREATIVITY

This grounded theory study explored creativity-related experiences in secondary school, as interpreted retrospectively by students, and applied in their lives into the present day. The theory describes the situation of the creativity-related experience, the interactions, actions, thoughts, feelings, and human and non-human elements embroiled in it.

In this chapter I present the theory and its three main conditions for supporting creativity, then I discuss the characteristics of each condition. I present evidence from my data to demonstrate how the theory and its concepts operate in secondary students’ lives, considering both encouraging and discouraging experiences. The chapter closes with the students’ thoughts and emotions embedded within, and driving, the processes of encouraging/discouraging creativity.

The Theory at a Glance

My experiential theory for supporting creativity in schools has three conditions: freedom, meaningful challenge, and teacher belief. These three conditions encompass the three ingredients required to support creativity (Figure 9). Alone, each condition is insufficient for substantial creativity, but in combination they encompass the main human and non-human elements in the learning environment-student interactions that I discerned supported student creativity in my study. The theory has one concept that describes the consequences of creativity encouragement/discouragement for students: expansion of the interactive space, which I discuss in detail in Chapter 6. Patterns of emotions and thoughts play an integral role in driving these conditions and their consequences.
Figure 9. A theory for supporting creativity in secondary school.

The Conditions for Supporting Creativity in School

Freedom

Freedom is one of three essential conditions for creativity. Theoretically, the freedom given does not have to be huge for creativity to take place. Even a jail-breaking convict can be creative, perhaps is required to be, but still there must be some degree of freedom for the escape. Whatever freedom is provided in this extreme situation will be utilized to achieve the goal. In the secondary school context of this study, freedom is the allowance given to students by teachers, the school, and education system for them to interact with their environment to take a risk and generate or pursue their own ideas, make something unique that no one else has made, and/or express their unique selves.
Encouraging Experiences. “The world was my oyster” (S150).

Freedom was mentioned directly or indirectly in more than half of the 200 encouraging questionnaire anecdotes I analyzed. The characteristics of this freedom varied but included the freedom for students to choose their own topic, such as the subject of an assignment in history or English; freedom to choose their own format such as making a sculpture or writing a song; the freedom to choose their own method, such as how to answer a math problem to arrive at the correct answer; and the freedom to express their own opinion rather than their teacher’s.

Freedom was a ubiquitous characteristic of interview participants’ narratives, though it was not necessarily called that by name. Students often spoke of “being allowed” to engage in some form of self expression, like choosing their own topic for a communication assignment (e.g., Cindy (NI) doing a documentary on Chinese medicine), format (e.g., Chloe (NI) composing a clarinet piece any way she wanted), or method (Mark (NI) solving lighting and sound technology problems however he wanted).

Freedom featured large in Marie’s (NI) encouraging experience when her film and communication teacher let her group create a full-length movie over the course of a semester instead of the short film assignment that he gave the rest of the class. Kinjal’s (NI) freedom was also large in her assignment to learn anything she wanted over the course of a year. She checked in with a teacher once every month or two to ensure progress was being made but otherwise worked independently.

Freedom is an externally given condition for creativity and can entail physical resources such as materials, space, and time that deepen the capacity for students to interact with their environment to build, generate, produce, pursue, and express themselves. Several participants spoke of time given for creative self-expression in conjunction with open-ended artistic activities.
that occurred as part of the school day. Charles’ (NI) encouraging experience was a visual arts elective in which he was given materials to “do whatever [he] want[ed] for the whole 40 minutes” and “that [felt] like freedom.” Here, materials were provided that allowed for artistic expression through interaction with the material world. Alice’s (NI) creative writing class, despite the disengaged teacher and peers, lack of instruction, and disruptive atmosphere also provided her with “the chance to just do something creative every day.” Some students in this study had their creativity encouraged through the allowance of special access to equipment (e.g., Bridget (NI) had access to a wood-fired forge and David (NI) had unique access to a wood-turning lathe). Marie could not have achieved the creation of a full-length film without special access after hours to the school’s equipment, including the editing software. Mark’s tech crew was started by a teacher, but the group had their own space, their own keys, their own budget, and full responsibility for running the school’s lights and sound, including the freedom to fail that went with it. Only the president of the crew had contact with the teacher in charge, minimally at that.

Though rarely mentioned, some assessment practices allowed students freedom to be creative. These practices included PASS/FAIL systems for projects and evaluation tools such as rubrics that emphasized effort, exploration, and discovery rather than difficulty.

My data show that it is possible for secondary school contexts to provide the freedom for students to engage in creative projects in every discipline. Encouraging anecdotes from the questionnaire responses feature science, math, social sciences, humanities, sports and outdoor education, and the arts. Arts—visual arts and performing arts—stood out as an area of particular encouragement in this study: about a quarter of creativity-encouraging experiences relayed occurred in conjunction with fine arts.
Freedom provoked all five prominent emotions. It was most commonly a feature of anecdotes for which enjoyment was selected as the prominent emotion (67%), and least common in anecdotes for which hope was selected as the prominent emotion (40%). Marie (NI) described the emotions she felt when she and her group approached their film teacher with the request to make a full-length film: “excitement and then adrenalin to go ask. When we got it we were really thrilled. I remember we wrote the script . . . for two weeks straight . . . we were just so passionate about what we were doing.”

**Discouraging Experiences.** “I understood I should have lied if I wanted a better mark” (S142).

In the paired opposite situation—discouragement of creativity—constraint was a characteristic of more than 50% of the 188 questionnaire anecdotes. I identified constraint as the exercise of control by the teacher, school, and system in curtailing students taking a risk and generating or pursuing their own ideas, making something unique no one else made, and/or expressing their unique self. Constraint also included lack of time or material resources.

My data of discouraging experiences portrayed a group of individuals commonly discouraged when they assumed they had more freedom to be creative than they actually did. Marie (NI) attempted to write an English essay that “reversed the question, still answering it,” Bridget (NI) attempted to do integral math questions with her own method, David (NI) attempted to draw with his “feather-line” technique, Mark (NI) wrote about the theme of equality in his poetry English assignment, and Liz (NI) wrote her student council presidency speech in rhyme. All these students relayed how they were told by their teacher after the fact that they were “wrong” in these actions. All of them asked the teacher “why,” not understanding the reasons for the constraint; none of them were satisfied with their teachers’ responses.
This common feature among the significant discouraging stories suggested to me that students who enter into a creativity situation in school with an expectation of freedom that is denied might be particularly discouraged. I garnered additional sense of participants who had their creative hopes dashed through plot analysis; four interview participants began their discouraging narrative with an initial statement about how a topic or activity was of personal interest, which they were prevented from pursuing or told after the fact was wrong.

Constraint took several forms in discouraging anecdotes and interview narratives that paralleled the characteristics of freedom in encouraging anecdotes, but in the opposite way. Not being allowed choice of topic featured in the data (e.g., Marie’s Grade 12 essay), as did constraint in courses or programs (e.g., Kinjal and her experience of the International Baccalaureate program). Other areas of constraint included restriction in format of product such as the five-paragraph essay (e.g., Christine’s Grade 9 English class); restriction in method such as requirements to do math problems in a particular way (e.g., Bridget’s Grade 11 math test on integrals); and the requirement to re-express the teacher’s opinion, which featured commonly in anecdotes and narratives about English and history courses (e.g., Mark’s Grade 12 English essay), but also in tales of event planning being governed by administration (e.g., Liz’s stint as student council president). All these narrative examples have multiple, parallel examples in the questionnaire data.

Constraint featured large in Kinjal’s (NI) discouraging narrative. She found the International Baccalaureate program constrained her course subject options, as well as the methods by which she engaged with the material, which were limited to lecture and gross memorization rather than creative assignments and discussion. She disliked the constrained format of assignments that required students to respond in one way, as outlined in the
instructions, in order to obtain the necessary grades to get into university. Liz’s (NI) discouraging narrative, too, featured constraint in her creative activities, first in the speech she wrote, but also in her student president tenure where she was further constrained in the words she used to address her peers as well as the fundraising activities she coordinated. She “felt like a puppet . . . It was like, this is what we want you to say and you say it. And there were tears and [she] said whatever they wanted [her] to say.”

Constraint of creativity featured in discouraging anecdotes that occurred in all disciplinary contexts in secondary school, including sports and fine arts. Constraint of method featured particularly in math contexts, and constraint of format and opinion in English and history essays. Numerous participants reported schools biased towards science and math or sports, which constrained their pursuit of artistic interests, which they linked to their creativity (e.g., Alice, NI). A questionnaire participant articulated how social valuing of non-arts subjects in school constrained their activity and their future:

I had this idea throughout high school that the only way I could really "succeed" was if I pursued something science related. All of the smartest kids in our school were taking those classes and it just seemed like the only option if I wanted to be thought of as someone who had a promising future. I know kids who were very intellectual at my school who did pursue the arts more, but they didn't seem to be considered for any of the scholarships or achievement awards like other kids in sciences and maths were. I have always had a creative side, but it didn't seem to be valued at my high school and so I quit the band and my piano lessons in order to keep up my high GPA in classes that I didn't even like (Chemistry, Calculus). I regret this now for sure. (S108)
A lack of physical resources did not feature large in anecdotes of creativity-related experiences; lack of physical resources such as materials, space, and time that constrained creativity was mentioned only a few times (<5% of 188 discouraging anecdotes analyzed). Grading practices did, however, figure prominently (23% of discouraging anecdotes). Good grades in the senior years were needed by students who wanted to pursue university—the scenario for all my participants. The use of low grades on assignments as a means to constrain students from expressing their opinions was perceived by students to be a large feature of some of the discouraging narratives relayed to me. Charles (NI), Marie (NI), and Mark (NI) all believed their language art teachers gave them low grades on essays because they did not agree with their teachers’ opinions. All reacted to the teachers’ actions by conforming in future assignments.

Grades were not just perceived as a potential tool used to control and restrict in senior grades, however. Some of the students in my study expressed deep concern about grades as part of an “anxious student” persona. Rachel (NI), Christine (NI), and Kirsten (NI) indicated they needed to have good grades, always. Because grades meant so much to these students, they were a tool through which teachers could restrict student self-expression. Grades for these, and other students in my study, functioned not just as instruments of control but also as indicators of “teacher belief,” as discussed in an upcoming section. Assessment and evaluation practices that supported creativity are also highlighted in the upcoming sections of meaningful challenge and teacher belief.

It is evident from my data that when given the freedom to do so, secondary students are capable of some tremendous creative feats, as the examples in the next section illustrate.
Meaningful Challenge

If creativity is a mountain, then supporting the creativity of the secondary students in my study involved providing meaningful challenge: metaphorically asking students to climb to the top. In using this metaphor, I do not mean to imply that the creativity mountain represents any one particular path or a concrete structured challenge. Rather, the meaningful creative task might be open-ended, rich in imagination, and playful—as well as challenging. In fact, it might be these typically creative characteristics that make the task challenging for some students.

**Encouraging Experiences.** “Out of my comfort zone” (S114, etc.).

More than one third of all 200 encouraging anecdotes in the questionnaire responses included some mention of challenge or degree of difficulty in the experience, such as a large output of time and/or energy out of the ordinary. Some students in my study came up with their own meaningful creative challenges—and just needed to be given the freedom to carry them out, like Marie, who made a full-length film in a semester (NI). Diane (NI) also came up with her own challenge, leading a global development club, which she initiated and ran over two school years. One student was urged by teachers to create a robotics course that became part of the formal curriculum (S186), another created and maintained a student radio show with their local station (S437). Dozens more undertook projects with ongoing school, community, and regional impact.

Pronounced challenges featured in Kinjal’s (NI) Grade 9 experience: teaching herself to play guitar, compose a song, then record and present it. The task spanned a year and involved hours every week of self-driven practice plus journalling. She spoke of first hearing of the challenge in an assembly for all Grade 9 students: “it was overwhelming and such a daunting
task because they said you could do anything.” Bridget’s (NI) entire ironworking course was physically demanding and required social assertiveness that challenged her to be “bigger.”

The meaningful challenges that led to creativity in my data were more likely to be imposed by external circumstances or a teacher than to be set by the students themselves. Rachel’s (NI) challenge was to overcome a concussion that impacted her cognitive abilities through her Grade 12 physics course while Bridget (NI) took the ironworking course because she struck a “deal” with her mother, who would only let her drop French if she took a technology course in its stead.

Cindy’s (NI) discouraging story presents a clear case of imposed challenge and how it supported creativity. In Grade 11 English, she was given the task of “unmasking her true self” in a presentation to her peers, who she did not trust. She found the social environment of that class unwelcoming and “unsafe.” Cindy took it as a challenge: “even though you don't make me feel comfortable, you know, it's my own learning experience. I'm going to do my best to give it a shot.” Instead of unmasking herself, she did a creative representation of her masked self as a pond that is still by day but comes alive at night with fairies of imagination.

**Discouraging Experiences.** “I was just filling out boxes” (S213). The discouraging experiences described in questionnaire anecdotes often mentioned a lack of challenge, particularly for anecdotes that provoked disappointment as the most prominent emotion (27%). Questionnaire respondents identified lack of challenge with boredom as well as disappointment: “there was no challenge—everything was straight forward and boring” (S240).

The anecdotes and narratives I gathered are peppered with stories of students who wanted to take on challenges large and small but were denied permission to do so, a situation confounded with the curtailing of “freedom.” Some students relayed in their anecdotes the
reasons they were given for being prevented from taking on challenge: often the chances of failing were too great, or marks would be lower. While well-meaning, these fears about students biting off more than they could chew may well have been unfounded. In my questionnaire data, neither success nor failure of projects played a large role in the descriptions of encouraging or discouraging anecdotes; what mattered is that the task was completed. Failure was mentioned in less than 4% of discouraging anecdotes. I was surprised by this, given my reading about fear of failure’s impact on creativity (see Chapter 3). However, in a memo I explored the phenomenon from my own perspective as a secondary student when I was given the assignment in Grade 12 chemistry of designing and conducting an experiment on anything I chose. I chose gas chromatography of the components of the artificial sweetener aspartame:

Memo: Design and conduct your own experiment (excerpt)

Why didn’t failure matter in the slightest? The thrill of doing something real, authentic, and exploratory overwhelmed the vague disappointment. There was freedom in pursuing something like a real scientist, there was possibility and hope. If I really wanted to, I could answer this question. I could go on, and try it again, and again. I could dig until I found out. I had no interest in doing so, but that did not matter. In that moment, I saw I could be a scientist, I saw the world as more accessible to me somehow. Just like the techniques I read about in the published paper by someone far away in a big university had not been beyond me. Science was not beyond me. Even chemistry was not beyond me. And I didn’t even like chemistry.

**The Meaning in Meaningful Challenge.** The challenge involved in creativity had meaning for the students in my study. Logically, if a challenge is not inherently meaningful for a student, then it might not lead to the risk-taking and meaningful interaction with the material
environment inherent to creativity. If a student has no interest in climbing a creative mountain, they are unlikely to set out to do so, and even less likely to reach the summit. My survey data provides deeper insight into what kinds of challenges secondary students find meaningful. In addition to activities that are difficult, unusual or unexpected, require lots of time and energy, and entail genuine responsibility, students also found challenges meaningful that were authentic, matched their personal interest, made a social impact, contributed to their future goals, and involved working with friends.

Making a social impact featured in about 20% of 200 encouraging experiences described in the questionnaire, and four out of fourteen narratives; evidently, encouraging creativity need not entail selfish, aesthetic, or commercially-driven initiatives. On the larger end of the impact scale, Diane (NI) initiated and ran a global development club in her small, rural community school that ultimately raised $10,000 for a school in Haiti. On the other, the positivity of David’s (NI) experience making a gavel was heightened by the positive impact it had on its recipient, the school’s law teacher who was “absolutely blown away” and “kept it on her desk all the time . . . like a little mantlepiece.” The varying scale of these social impacts was echoed in the meaningful creative activities described in questionnaire responses, which detailed social impacts as small as leading class debates for peers, to larger impacts on the school’s whole student body. Community-sized impacts, such as educating the public about issues and fundraising, also featured repeatedly.

Authenticity, when a creative activity clearly applied to the real-world outside the school context, featured in more than 15% of encouraging anecdotes detailed by questionnaire respondents. Here’s an example from a biology class: “I made a project about a physical illness that my mother has because it's something that's important to me, despite the fact that it barely
connected to what we were learning about . . . she had let me write about this topic that I cared about . . . and she had rewarded me” (S115).

Many significant, encouraging creative tasks involved challenges that matched students’ prior interests, such as Kirsten’s (NI) Grade 10 health assignment to design a magazine, which she found “cool” because she had a prior interest in journalism. Kinjal’s (NI) project of learning something “she’d always wanted to” evoked prior interest by design. Rachel (NI), too, had decided she “clicked with physics . . . from the get go” prior to her concussion, which presented her with a challenge that made her consider alternate career paths.

However, strong prior interest in the topic at hand was not a strong requisite for all encouraging experiences. Mark (NI), for example, was not particularly interested in light and sound technology, but rather wanted to be on the tech crew because three or four members of the crew were his friends.

Chloe’s (NI) encouraging story suggests that “meaningful” need not be strong for a challenge to encourage creativity, at least not at first. She was given a final assignment in Grade 12 music, a subject at which she excelled: compose a song for the clarinet. The challenge had a short time line, only four weeks, and she had to teach herself the software to record the song she composed. Her feelings about the assignment were ambivalent at best, “Nonchalant, like, okay, another assignment. I think I felt a little like annoyed because I was like, how much more musical stuff can a person do?” The challenge did not arise from within Chloe, and its meaningfulness was not discerned immediately. But the task itself proved to be meaningful; “relaxing” to do, and “oh my God, this shows me that I am creative, like Yay, I'm not boring.”

Challenging creativity-related activities were often undertaken independently and over a period of time. It is not surprising, given the constraints of curriculum and education schedules,
that 57% of the significant encouraging creativity experiences reported in the questionnaire occurred in extracurricular contexts (compared to 82% of discouraging creativity-related experiences, which occurred in curricular contexts). However, so many of the meaningful challenges undertaken by students in this study within their curriculum studies required such minimal supervision by teachers that it seems there is much more scope for authentic challenge within secondary school courses than currently exists.

**Teaching Strategies.** Particular teaching strategies that encouraged meaningful challenge were evident in encouraging questionnaire anecdotes and interview narratives. About 15% of the 200 encouraging anecdotes described how teachers and/or their assignments explicitly requested/demanded novelty and risk. When the teacher leading a student’s jazz band “made them do an improv solo” they found it “exciting” (S54). Liz’s (NI) drama teacher’s assignment to take a play script and turn it into an absurdist play was accompanied by instructions and pushes during the process to “put the biggest spin on it,” with directions like “you have to make it your own thing” and “look at it from another perspective.”

While Kinjal (NI) taught herself to play guitar, her teacher also pushed her to go further, which Kinjal (NI) described as

and what else can you do? . . . like *okay, that's great, but what else can you do? Is there anything more you can do?* Just getting me to think about it and trying to be as expansive and creative as I can be . . . *take it a step further . . . do something more . . .* just pushing me to my limit.

Kirsten’s (NI) teacher, too, during her semester-long, create-a-wellness-magazine assignment pushed for more, with feedback in the three or so checkpoints along the lines of, “I want to see a little bit more of why you do this exercise . . . Why does it make you feel strong,
tell me more about that . . . and . . . you know, you can be more real.” Students generally found this kind of formative feedback encouraged them to attempt more.

Though rare among survey responses, there were a few reports of grades being used by teachers to positively challenge students in two ways: through a pass/fail system, and by evaluating novelty, self-expression, and risk-taking. The pass/fail system, which Kinjal experienced, provided accountability, adding to the need to push through a challenge when she might not have done so on her own if given the freedom to slink away. Kinjal described how the PASS/FAIL grade required her to complete the project while also provided freedom from evaluation of product quality. Regular check-ins with teachers (e.g., Kinjal learning guitar and Kirsten creating a magazine) on long-term assignments were another strategy put in place to achieve the same accountability. Bridget’s ironworking design course teacher only gave grades at the end of the course, never after any one assignment.

One teacher designed an evaluation instrument for opinion essays that encouraged creativity. The unusual rubric was explained to students with the metaphor of Olympic diving scores, with marks given for greater risk, “in choosing a controversial topic, deviating from standard essay structure, arguing for a different side of an argument” (S33).

I asked interview participants about the grading of creativity-encouraging assignments whenever assignments were part of their stories. Encouraging grading practices emphasized effort (e.g., Marie’s film teacher, Liz’s Grade 12 drama teacher), and self-expression (Christine’s Grade 10 English teacher, Kirsten’s Grade 10 health teacher who graded her magazine, Charles’s visual arts teacher), further signalling teacher encouragement of challenge and the freedom to carry it out.
Teacher Belief

Given freedom and a meaningful challenge, some students needed an additional push up the creativity mountain. The support of an encouraging Grade 12 drama teacher encouraged Liz to take the script of a play and rewrite it in absurdist style. Liz (NI) related how: “I thought that I couldn't do it, but then . . . Miss R., she was like, just go for it.” Liz responded:

I'm too self critical of myself sometimes, so there are things that I don't do because other people will think this or other people will think that, but when I was on that stage, it was literally the most ridiculous thing I've ever done, but I allowed myself to do it and I allowed myself to be ridiculous and that was very freeing.

The experience transcended the context of Grade 12 drama, to Liz’s social interactions more generally. “Before Grade 12 I was very reserved and then after grade 12 like, ah, screw it, I'll just do whatever I want . . . even now, with my friends.”

Encouraging Experiences. “My teacher had a lot of faith in me” (S9).

Teachers who substantially supported creativity, or supported substantial creativity, demonstrated belief in their students through cultivating trust and relationship, direct verbal affirmation, and providing valuable guidance and intellectual resources through the course of a creativity challenge. Questionnaire respondents talked of teachers who inspired them, pushed them, and encouraged them, like one physics teacher who urged a student “to go a step farther in all the assignments I handed in because he truly believed I could” (S87).

Many interview participants described a relationship with a teacher that included mutual trust and respect, and that gave them a sense that the teacher believed in them as a fellow human. For some, this was due in part to a prior relationship. Bridget and Kirsten knew their encouraging teachers as family acquaintances; Diane knew her encouraging teacher as her track coach. Marie
had taken multiple courses with her encouraging teacher. Care also built trust and relationship. When Marie (NI) left her wallet in the change room, her teacher returned it to her home, and when Rachel (NI) had a concussion, her teacher contacted her parents to ask about Rachel’s wellbeing. Christine (NI) developed a relationship with her Grade 10 English teacher that included talks after class, an example of personal connection also described by Charles (NI) and his visual arts teacher. She was the “only one” he talked to about his emotions and what he really thought, and she “kept his secrets.”

The relative importance of teachers is highlighted by the sparse mention of peers as encouragers in encouraging questionnaire anecdotes—less than 5%. Even a positive audience reaction—which includes peers, teachers, and sometimes the greater community—feature in only about 10% of 200 encouraging anecdotes. In comparison, direct mention was made of teacher belief in more than 30% of encouraging questionnaire anecdotes and close to 50% of the anecdotes for which students chose gratitude and hope as the prominent emotions. Eight of the 14 narratives told to me by interview participants featured strong, pervasive teacher belief in students’ abilities to complete the creative challenges. This interview data provided insight into the compelling influence of a teacher who believes in a student and shows it.

Christine’s (NI) Grade 10 English teacher was “open-minded,” “accepting,” and “nonjudgmental.” “She just trusted us,” said Christine, “and that was really important for adolescent me to be trusted to make a good choice.” Christine connected this teacher’s verbal affirmation of Christine’s talent to her risk-taking and opening up to others:

people love to hear praises and . . . that [was] the catalyst that encouraged me to write more, to enter those contests . . . I felt that was the main basis, it was encouraging confidence.
With insight into her own adolescent condition, Christine further described the importance of this teacher’s belief at that time in her life.

Growing up you had such so much confidence, you don't care if anything goes wrong. Kids, you know, they fall and get back up again. It was so much of that in the creative process, like,  

*oh, I can write anything. I don't care what people say about it.* And then as you grew up, as puberty and everything is so self-conscious and you start losing, you don't want to share your stories, you don't want to share your ideas in case someone laughs at them. So when she boosted my confidence, when she helped me regain my self-confidence, I was more willing to take these risks and creativity to try different things, to share what I haven't shared before.

Marie (CW) described how she interpreted “Mr. D’s” permission to make her full-length film in the course of a semester in her creative writing. She depicted Mr. D as saying: “I would never want to get in the way of your creative design. As well as the fact you guys have never let me down before.” Marie and her group responded to this granted belief with, “we won’t let you down,” indicating a responsibility to do good by his faith in them. There was guidance through the process, also interpreted as belief; Marie (NI) felt like he was a “creative partner” rather than being “in charge;” they were working “with him,” not “for him,” suggesting he treated her and her group as though they were competent not inferior. His reaction to the finished product was also interpreted as confirmation that they had lived up to his belief in them: “when it ended, he was just crying and he said that was so good, that met my craziest expectations. It was awesome.”

Alice’s (NI) encouraging experience, which “helped develop [her] own writing voice” was primarily driven by teacher belief in the absence of many other aspects of encouragement.
The teacher was not engaged with the material of the Grade 12 creative writing course or its students but rather spent the time during class grading papers from her other English classes. Alice did not have a relationship with this teacher; she found her “intimidating” and did not approach her. Nonetheless, this teacher’s specific feedback on one assignment had particular impact, the words written in blue ink: “so poetic and haunting and remarkable.” With these words, Alice decided she “was finally doing something I was good at it.” Alice had heard from teachers in the past that she was a good writer, but she had not believed them. I was curious how these words from a rather disinterested teacher could have such power when other teachers’ praise had not. What was the difference? I asked Alice to elaborate:

when I was in Grade Eight, my teacher took me out to the hall and said he wanted me to try and focus on creative writing when I was in high school . . . And you'll have the odd creative writing assignment in some classes . . . and teachers would be like, wow, you're really good at writing . . . But then in that class, specifically sharing more specific, detailed feedback on my writing was something I really enjoyed.

“Did it mean more?” I asked.

“Yeah, it did, because I was trying to figure out if I really might have a shot with creativity writing.”

“Even more so than hearing that you have talent in this area from more than one teacher?”

“Yeah, I mean, because I think it’s really easy for a teacher to say that, you know, I think they might say that a lot.”

The difference between the two kinds of feedback for Alice was that she could believe the specific words but assumed the larger, more general praise was just something teachers say
because they are kind and do this often. This example demonstrates the power that a few words of belief about creativity could have on a student. It also foreshadows a major finding of my work yet to be discussed: it is students’ core belief in teachers’ benevolence that lends their perceived belief/lack of it such power.

In addition to verbal and written affirmation, energy and care expended, and celebration of student’s accomplishments, grades were also interpreted by students as an indicator of teacher belief. Liz said about the grade on her absurdist play assignment: “when I got the mark back I was very happy because I knew that I impressed her.” As this quote and others like it suggest, some students consider the evaluation of school assignments to be personal evaluations of their selves.

One creativity-encouraging experience relayed to me did not feature any teacher—Mark’s (NI) tech crew at his school. Though a teacher masterminded this club, the source of Mark’s encouragement, the key people who supported his creativity, were peers. He related: These “close friends in the school Tech Crew with me” were “like a family,” that “allowed me to better express my unique self because I was in this environment where I won’t get judged or feel threatened being myself” (Mark, CW). This example illustrates that teacher belief, per se, is not necessary to support creativity. It is belief in general, belief that the creative challenge can be brought to fulfillment, that matters. This belief can come from within a confident creator, or it can be shored up by external sources. Peers, as in Mark’s case, can supply the required belief, and parents can too, but most importantly in the school contexts in my study, it came from teachers.

**Discouraging Experiences.** “My teacher didn’t believe I was smart enough to research something on my own” (S68).
Teachers who substantially discouraged creativity often demonstrated or gave students the impression that they did not believe in their students. In keeping with symbolic interpretivism (Charmaz, 2014), what matters is whether the student interprets a situation to mean that there is a lack of teacher belief. Mirroring what was important with respect to belief in the encouragement of creativity, it was teachers, not peers, who were identified by discouraged students as the primary source of lack of belief. Peers had a meaningful negative effect on the creativity of some students in the questionnaire (about 8%) and two of the interview participants, through judgment and lack of acceptance. A negative audience reaction as a feature of discouraging anecdotes was also uncommon (<3%). In contrast, direct mention was made of a lack of teacher belief in about 15% of 188 discouraging questionnaire anecdotes, and seven of the fourteen interview narratives. This association between perceived lack of teacher belief and discouragement of creativity was strongest in anecdotes where anxiety featured as the most prominent emotion (35%), and not prevalent in boredom anecdotes (5%). Teacher/student interactions that led to this lack of teacher belief were described as cultivating distrust, biased and unjust behaviour, verbal insults or suggestions of student inadequacy, and withholding valuable guidance and intellectual resources. Many students also interpreted grades and being refused permission to pursue a meaningful challenge as indicative of a lack of teacher belief. In short, the students in my study took teachers’ words and actions personally.

The worst situation I encountered in my study to demonstrate the kinds of behaviours interpreted as a lack of teacher belief involved Christine’s Grade 9 English teacher. Christine (CW) creatively wrote a scene in which Christine gives a presentation:

Internally, I attempt to calm my nerves as I remind myself of all the preparation I’ve done, of all the effort I exerted to create something I could be proud of. In my peripheral,
I see her nod, timer in hand . . . It’s with no time at all that I reach my conclusion, just within the limits that she has imposed . . . Only silence follows after the last remnant of my voice, no applause or cheer. But that was what I had expected. After all, we are inconsequential. There is only her.

So I look nervously towards her, but what I see leaves me dumbfounded. She is sitting with her legs crossed, donning a placid smile, deceiving in its tranquility. There is no joy reflected in her soulless eyes. There is no kindness.

“Now class,” she begins, enunciating each syllable slowly in a lackadaisical tone, “can anyone tell me what is so wrong with her presentation?”

I feel my heart drop—the embarrassment and shame is visceral . . .

All I hear is the banging of the gavel.

The guilty verdict.

The clanging of the chains.

The lifetime sentence.

In addition to strictly imposed formats on assignments, this teacher also dictated the content of assignments, was overly critical (Christine (NI) felt like “everything [she] did was wrong”), and imposed public humiliation on students with words like “strike three you’re out” and “you’re out to lunch.” Christine (NI) interpreted her Grade 9 English teacher’s criticisms as evaluation of her personally, hinting with her words at a connection between lack of teacher belief and a sense of dehumanization. “It was always just like, other people can do it better. My teacher, she's always going to be better than me. I'm never gonna get her approval with my own ideas. I'm just a copy machine basically.”
If creative activities entail self-expression, there is some logic in taking criticism of product as criticism of the self as the self is embedded in the creative artifact. Liz (NI) described how she put herself into her speech for the student council presidency and was then confronted by her school’s administration who objected to the fact that it rhymed. “Well, it’s who I am as a person. This is me. And they’re like, yeah but we don’t need that.” She rather dramatically described what this felt like in her creative writing:

What once was a crisp page is now smudged and dripping in what I think is my blood. I watch intently as the red seeps through the white. Word after word, scratched and ripped out, as if it were my own body being ripped and scratched apart. (Liz, CW)

**The Power of Teacher Belief.** David’s Grade 10 art class situation represented a pivotal point in my understanding of why teacher belief can be so influential for secondary students. The person I am, the researcher with my experiences, independent spirit, and nonconformist streak, had difficulty at first understanding why emotionally intelligent, articulate students like David might take the actions of a teacher so seriously and conclude such negative things about themselves as a consequence. From my perspective, I wondered why he didn’t just brush off this teacher’s opinion.

I was even more curious when I questioned David (NI) about his teacher’s words, and he readily and quite forcefully articulated that she was wrong. He did not believe her; he concluded “she was wrong.” And yet, when I asked him what he learned from the experience he stated, “I learned that I am not good at art,” and acted on that belief, “I can’t draw so I don’t draw.”

The dissonance in his words and interpretations caused me to probe deeper into his interpretation of this teacher’s actions, and I asked what he thought her motivations were. His response was, “I think she just wanted me to recognize . . . that there was a different way that
was more appropriate for what I was doing and . . . I think, I like to think, that all she wanted to do was correct something that I was doing wrong and going forward that would make everything that I did better.” David also wondered if it was his “lack of respect for her knowledge as an art teacher that caused this?” Or, whether his larger physical stature and the respect he held from other students and teachers in the school may have made her “feel threatened and that caused her to have this sort of attitude towards [him].”

The empathy and well meaning ascribed to the teacher led me to ask all other interview participants about the motivations of their discouraging teachers. When asked, twelve out of fourteen readily ascribed positive motivations on the part of teachers for their discouraging behaviour. Even Christine (NI) interpreted the behaviour of her Grade 9 English teacher, “the executioner,” as well meaning. “What do you think was the teacher’s intent or motivation for being this way?” I asked.

“I think that because the [Ontario Secondary School Literacy Test] is the year after, that she was preparing us, because it's very standard, it's a standardized test. So she wanted us to succeed in my opinion.”

Incredulous, I pressed the question. “Do you have any reason, thinking about what was going on back then, to think that she actually meant well?”

“I feel that her personality is what drove the executor feel, because she's very blunt . . . I'm sure that because everyone was afraid of her, no one ever mentioned it to her, this is hurtful to me . . .”

Why? I asked myself. Why did these students so generously ascribe positive motivations to bad behaviour? And even go so far as to look for blame in themselves? (Kirsten (NI), too,
wondered if her feelings of shame and anger were her own fault because she might be “a spoiled millennial.”)

I memoed on the topic, which led me to consider the possibility that these bright, empathetic students entered into these experiences with preconceived beliefs that teachers are well meaning and have their best interests at heart. Teachers who build trust through relationship have a positive impact on students’ creativity because the student believes in them and accepts their opinion, like Bridget’s ironworking teacher. But teachers often don’t need to earn that trust; many of the students in my study walked into their classrooms with pre-existing trust and respect for their teachers’ opinions. Perhaps because the majority of teachers they’ve encountered in their education lives have been trustworthy and well meaning, when they came across a discouraging teacher who told them that they did a creative task wrong or gave them a poor grade, students often interpreted this negativity as a correct and just assessment of themselves, rather than a characteristic of that particular teacher, or the result of a particularly bad mood. Because most of the students in my study respected their teachers’ opinions, they believed their (perceived) judgments.

I “tested” the idea that students’ pre-existing belief in teachers’ benevolence makes them susceptible to taking teacher behaviour personally by comparing data for students who did and did not take discouraging experiences as personally. I abductively reasoned that if respect for the teacher’s opinion was an important element in students’ reactions, then I could expect students who did not ascribe positive motivations to negative teacher behaviour to have taken discouraging experience less personally and have lesser negative consequences. Did I have any incidents in which students did not show as much trust and respect for their teachers’ opinions? Yes, I did.
And, lo and behold, these students’ discouraging experiences had less impact. So, while David decided he can’t draw and avoided all forms of visual representation when his teacher said he did it wrong, and Bridget decided she can’t do math, Marie did not take her English teacher’s judgment personally. Instead, she decided that English teachers are “often narrow-minded” and require students to write essays that match their opinions. She did not ascribe positive motivations to her Grade 12 English teacher who required conforming opinions and writing style for good grades. Further, she decided she is capable of retaining her sense of self while working around them. It is as though she decided the English teacher, not herself, caused the problem. There were still negative consequences, and the consequences followed familiar patterns (discussed in detail in the next section), but she did not take the incident as personally, and the consequences did not extend so broadly or deeply.

Mark (NI), too, did not ascribe positive motivations to his grade 12 English teacher when she marked down his assignment. Mark and his peers decided she was “biased” against the opinion he’d expressed—equality—as well as males more generally. Mark (NI) decided that “some people don’t like creativity.” The negative effects of not having a voice lasted a couple of weeks and he reported no long-term consequences. These two cases are among the least negative in terms of consequences, with the students involved limiting the breadth of their negative conclusions about themselves, their creativity, and the world. Both took from the experience that they can work around the people in their lives who do not like creativity. Cindy and Marie (NI, plot analysis) both chose to end their discouraging stories with decisions about the effectiveness of “a work around,” and they both took a lot of positive self-affirmations away from their experiences.
In another memo, I connected these findings about the importance of teacher belief and students’ pre-existing trust in teachers’ judgments to conversations I had with two graduate student peers. My memoing landed on the notion that the belief in teachers’ benevolence runs much deeper than the secondary students in my study and might be reflective of a wider education culture. This is a large claim that warrants some description of the context for the memo: when I mentioned on separate occasions to two graduate student peers my finding that discouraging creativity experiences in secondary school were influencing the students in my study, they responded the same way. Both peers clearly and immediately asked if the finding was actually about “students looking to blame teachers or the system for their shortcomings.” The first peer responded with this statement during my initial analysis. The second peer response came much later—while I was contemplating the power of teacher belief—and I was immediately struck by how similar and automatic both responses seemed. Both peers are former secondary teachers. Both peers are exceedingly kind human beings, devoted to the well being of students.

Memo: Why assume students were blaming teachers? (excerpt)

Perhaps the best explanation is that it is difficult for teachers to imagine teachers as anything but benevolent and well meaning . . . The first instinct is that the students must be inaccurately imposing negative intentions on the teachers/school, not that the teachers are imposing their negative intentions on the students. Perhaps the narrative that TEACHERS ARE TO BE RESPECTED means TEACHERS ARE RESPECTABLE. Perhaps this narrative is dominant for more than the subset of high achieving youth in this study.
Summary of the Conditions for Creativity

Figure 10 summarizes the characteristics of the three main conditions for supporting creativity in secondary schools: freedom, meaningful challenge, and teacher belief. The figure also depicts the thoughts and feelings that buoy students through the fulfillment of a creativity experience, including the pre-existing belief that teachers and their evaluations are to be trusted.

What Drives the Student up the Mountain?

The students’ experience of having their creativity encouraged/discouraged is an interaction. The meanings they make of it, their interpretations and subsequent reactions, are predicated on their thoughts and feelings. I analyzed students’ thoughts and feelings to understand how students made sense of these experiences. Students’ pre-existing belief in teachers’ benevolence, the subject of the previous section, was one aspect of this analysis. Here, I outline students’ thoughts and feelings that propel them through the creativity experience to its fulfillment or stifling. These thoughts and feelings are the foundation for connecting creativity experiences to their consequences; they are the interpretations students took forward with them into the present day.

“If I have fun, I can do anything,” concluded Liz (NI). Enjoyment and passion for the activity supplied the emotional fuel that propelled students through creativity experiences. Enjoyment was chosen by 22% of questionnaire participants as the most prominent emotion they felt during a significant, encouraging creativity experience (Figure 2). Passion or love for the subject/activity was not one of the fifteen choices of prominent emotion available to questionnaire participants, though 24% of students mentioned it in their anecdotes anyway. These emotions were associated with the thought “I want to” do this, I am motivated to engage in this activity and see it through to fulfillment. The motivation was not just to engage, but to
Figure 10. The interactions between students and the conditions for supporting creativity in secondary school.

engage deeply. As one questionnaire respondent put it, “It made me focus more time on assignments as they were more fun and interesting.” Being allowed to “add our own personalities to assignments” was not only fun, it also caused the student “to work harder to truly understand assignments and remember them for the years to come” (S58).
Enjoyment “fuel” is strong stuff; it propelled teenaged Marie (NI) through the grueling time demands of creating a full-length film in a semester:

coming back from school, and coming back from hockey practice and coming back home, I get my car and we drive up north to go film these scenes and we'd be out filming until on a Wednesday night till 1:00 a.m. But it was so fun.

Plot and emotion analysis, anecdotes, and interview narratives all point to a degree of stress and anxiety in creativity experiences. In Kinjal’s (NI) case, being given the open-ended assignment to learn something independently over a year was a point of anxiety; she was “overwhelmed” and “daunted.” However, she, like most other students in my study, indicated that finishing a product and preparing to share it also represents a point of anxiety and excitement, through which enjoyment sustains.

On the flip side, just as students associated passion for a topic with encouragement and enjoyment, being prevented from following their own interests was associated with boredom. Boredom was chosen as the prominent emotion in 10% of discouraging creativity experiences and was associated with a lack of motivation in my data. Thirty percent of boredom anecdotes featured a mention of decreased motivation: “I don’t want to” do this.

I am not surprised that boredom featured as one of the five most prominent emotions associated with discouraging creativity experiences in the questionnaire data. I am also not surprised it was not more prominent, given that the question asked of them—to recall significant discouragement. Active discouragement of creativity might have been more memorable and more likely to have been reported in a questionnaire response than the absence of creativity.

Chapter Summary

This chapter provided an account of the experiential theory and the three conditions for supporting creativity. The students in my study experienced encouragement of their creativity in
secondary school when three key conditions were present: freedom, meaningful challenge, and teacher belief. The parallel opposites—constraint, lack of meaningful challenge, and lack of teacher belief—were the three key conditions that discouraged creativity in this context. Freedom entailed choice of topics for assignments, choice of format of products, and choice of methods in solving problems. Freedom also entailed having the space and time to be creative. Meaningful challenge in secondary school entailed a range of activities, often undertaken independently, that were difficult, were time and energy intense, were authentic, required responsibility, and had social impact. Secondary teachers demonstrated belief in students through relationship, trust and respect, and verbal affirmation of effort and competence. My study findings suggest that the completion of creative activity was more encouraging than the success or audience reaction to creative products. Encouragement and discouragement of creativity in secondary schools is a situated process, with students’ thoughts and feelings driving the experience and its outcomes. Enjoyment of creative activity and passion for a topic provided the motivational fuel that propelled students through the anxiety and frustration they experienced through the course of a creative challenge to reach its fulfillment. Prior core beliefs in the benevolence of teachers contributed to the power of teacher belief in encouraging/discouraging the students in my study.

In Chapter 6, I discuss the consequences of these creativity experiences for students, including the thoughts and feelings embroiled in students’ reactions. Through analysis of students’ thoughts and feelings, I am able to infer the relative importance of the three conditions—freedom, meaningful challenge, and teacher belief—in supporting creativity.
Imagine: you’ve climbed a creativity mountain. It was quite an experience. Being a creative experience, it entailed interacting with the material world, and so you learned something about the world. Your creative activity entailed self expression, and so you could well have learned something about yourself, too. And, there was an interaction with an audience, at least a teacher; you could have learned something from this interaction, about yourself or others. These statements hold, too, for equivalent discouraging creativity experiences. The experience might be over, but what has been learned continues.

In this chapter I detail the findings of my analysis of the consequences of the encouraging/discouraging creativity experience on the students in my study. The students in my study described consequences of these creativity experiences in secondary school that extended into their lives in and out of school, and into the current day. I did not ask about these consequences on my questionnaire, though many students included them as part of their anecdotes anyway. I subsequently asked students about these consequences directly in interviews and small group sessions.

I open this chapter with an overview of students’ psychological reactions, i.e., their emotions and their thoughts—their interpretations. The thoughts and feelings involved in significant creativity experiences are part of the process that determined how students interpreted them as encouraging and discouraging. They are part of the consequences of the experiences on these students’ lives, and they give form to further consequences. Encouraging creativity experiences provoked prominent positive emotions while discouraging creativity experiences provoked prominent negative emotions. Encouraging experiences provoked students to make
decisions about themselves—decisions of competence and identity—in positive directions: “I can” and “I am.” Discouraging experiences provoked similar decisions of competence and identity but largely in the opposite, negative direction. Students also made decisions about how they perceive the world as a consequence of these experiences, as bigger/smaller and positive/negative.

Combined with a strong tendency in these students to generalize their decisions beyond the context of the situation, the sum of these interpretations led to strong consequences for many students into the present day, which I describe as expansion/contraction in the interactive space. Several elements of the interactive space were altered; students described enhanced/diminished creativity, enhanced/diminished learning and pro/anti sociality as consequences of these experiences.

Interpretation is an ongoing process, throughout a school experience and seamlessly continuing through students’ selves into the present and their projected futures. Where the conditions supporting creativity during an experience stops, and the consequences of creativity during and after an experience begins, is fuzzy; the entire process is embedded within and impelled by students’ omnipresent, ever-evolving thoughts and feelings. Delving into these patterns gave me insight into the connections between the conditions for supporting creativity and the consequences of creativity experiences. I close this chapter with a discussion of my analysis, which suggests that supplying meaningful challenge and teacher belief were relatively more powerful supports for creativity for these secondary school students, with bigger consequences for them, than providing freedom alone.
At the Top of the Mountain: Students’ Thoughts and Feelings

Emotions

Imagine yourself at the top of a mountain, having just hiked up to the summit. Imagine this mountain as a “creativity mountain,” the hike up as a creative challenge, with your teacher as the guide who hiked beside you. As you rest looking at the view, your feat accomplished, what do you feel? Pride? It was difficult, but you persevered, and you did it! Do you feel joy? Perhaps the climb was exhilarating, perhaps scary, but now it is over, you’ve achieved your goal, and you feel happy, euphoric even, light, or relieved. You might feel hope, too. Hope that other mountains in your life can also be climbed. Or perhaps hope that you will be able to make the trek to see Machu Pichu after all. Is there a sense of gratitude? Perhaps simply for being alive, able to interact with the world, able to see the world from this unique perspective. You might be grateful that your legs and lungs were capable of the hike. You might feel grateful that you were given the opportunity to do it, that you had the time and resources required. And, you might feel grateful that your teacher guide was there for you, believed in you, urged you on when you were ready to give up and turn back. These four emotions—pride, joy, gratitude and hope—were the prominent emotions reported by students as consequences of the fulfillment of significant creative experiences.

Pride was the most frequently chosen prominent emotion out of all fifteen choices for encouraging anecdotes in the survey data. Pride was chosen as the most prominent emotion four times as often as joy, hope, or gratitude. In this study pride was associated with the fulfillment of a creative activity and its acceptance by its judge, usually the teacher. Joy in this study was associated with the fulfillment of a meaningful challenge. Hope is future-oriented, and in this study related to students’ perceptions about their accomplished creative activity foreshadowing
future positive interactions in the world, particularly involving career directions. Gratitude is largely a social emotion and featured prominently in this study in association with teachers demonstrating belief in the support of students’ accomplishment of a creative activity.

In contrast, creativity-discouraging experiences produced the most prominent emotions of frustration, anger, disappointment, and anxiety. As emotions, frustration and disappointment relate to the obstruction or failure of goal-directed behaviour (Miller, 1941), a lack of accomplishment. Frustration is associated with aggression (DeWall, Anderson, & Bushman, 2011) and is grouped by Parrott (2001) with anger. Anxiety is grouped with fear (Parrott, 2001); in the data it was particularly associated with social concerns such as lack of teacher belief.

Taken together, the constellation of positive or negative emotions radiated through further psychological expansions/contractions of the interpreted self and the world.

**Competence and Identity**

Students’ psychological responses to the fulfillment, or lack of fulfillment, of creativity had distinct patterns, with encouraging experiences provoking decisions of competence and positive shifts in identity. Discouraging creativity experiences often, but not always, provoked decisions of incompetence and negative shifts in identity.

**“I Can/I Can’t”**. Imagine yourself on the top of that creativity mountain again. Now you’ve done the climb, and feel good in the end, are you more or less likely to decide you can climb a similar mountain? More likely, I’ll bet. You have done it once, therefore you can do it again. The students in my study who fulfilled a creative activity decided, “I can.” A trickier question: now that you’ve climbed that mountain, are you more or less likely to think you can do other physical feats that you did not previously think were in range? The participants in my study, having scaled a “creativity mountain,” decided yes, they could do more. This kind of
generalization in interpretation beyond the specific situation/circumstances of a creativity experience was prominent and pervasive in my study, with thirteen of the fourteen interview participants making much broader decisions about what they could and could not do based on one incident. Bridget (NI) explained,

I had done something that was out of my comfort zone and I was achieving in it. So that was fulfilling that anxious part of me that's thinking, I can't do anything, but it's like, oh look, you can.

The same phenomenon was evident in questionnaire responses; 11% of anecdotes included “I can” decisions, particularly connected to anecdotes that evoked gratitude (18%). Gratitude is a social emotion, and was largely directed at teachers, suggesting to me that the source of the decisions about competence came from teachers who believed in their students.

When prevented from fulfilling creative activity, however, or if told that their creative effort was “wrong,” the students in my study concluded, “I can’t.” As discussed in Chapter 5, even when some students did not have the freedom to try to climb the metaphoric creativity mountain, they still concluded they were not able to do so. One questionnaire participant stated that their secondary school experience of avoiding failing grades had left them with the interpretation that they were “not able or capable to expand on [their] own ideas, [they] must cite and use other people’s work instead” (S182). Many of the students in my study tended to internalize external elements that obstructed their creativity; they took responsibility for the obstruction, or that they’d “done it wrong” and judged themselves as incompetent.

Seven of 14 interview participants exhibited this pattern of concluding they “can’t” as a consequence of a discouraging creativity experience. “I can’t” statements were present, but not prevalent in questionnaire responses, mentioned in only 5% of discouraging anecdotes. I do not
discern any direction in the data to indicate whether this reflects lesser influence of discouraging experiences on decisions of competence or not. Perhaps the students in my study were less likely to speak about “I can’t” decisions; perhaps they were more inclined to go straight to decisions of identity.

**I Am/I Am Not.** Imagine yourself back on the top of that creativity mountain again. Having decided you are able to climb a mountain, do you see yourself as someone capable of climbing a mountain? Are you a climber of mountains, a mountain climber? The decisions participants made about their competence translated into decisions about identity. This was a prominent consequence of encouraging creative experiences, with “I am” statements spoken repeatedly and strongly by all 14 interview participants and mentioned in 19% of questionnaire anecdotes, particularly those that provoked pride and joy.

Just like decisions about competence, these decisions about identity extended beyond the circumstances of the particular creativity experience. Metaphorically, the students in my study did not just decide that they are mountain climbers but also fit, brave, and/or resilient, reflecting whatever aspects of the experience students found important. To illustrate, the students I interviewed decided they are creative: good at writing (Alice, Christine), funny (Kirsten), creative with their hands (Bridget, David), good at solving problems (Cindy, Mark, Rachel), have unique style (Chloe), nonconforming (Charles), talented (Chloe), and love creativity (Cindy, Charles, Kinjal, Kirsten, Marie). They also decided they are valuable (Mark), good at academics (Mark, Rachel), determined (Cindy, Bridget), and bold (Bridget, Kirsten, Kinjal).

Kinjal (NI) described passionately in our interview conversation her expanded identity, as a consequence of her experience teaching herself to play guitar and compose a song.
there's more to me than I thought there was. Because at that point in time it was just what I knew about myself was [that] I was a swimmer and I was a daughter. I went to school and just those very set things about how other people saw me. And then during the project it was more about who I really am: I really like music and I really like being independent and I really like learning new things and teaching myself new things and I like interacting with people. It was a lot of just opening up, opening myself up and actually figuring out what's inside me and what makes me me. So it was just a lot of self discovery.

When participants were prevented from attempting a creative endeavour, or told that their effort was “wrong,” they also responded by making a decision about their identity. All 14 interview participants made repeated negative “I am” statements and 24% of questionnaire respondents did likewise. Again, these negative decisions about identity extended beyond the circumstances of the particular experience, and beyond creativity per se. The students I interviewed decided that they were were: unintelligent (Bridget, Kirsten), lesser (Bridget), a people pleaser (Alice, Diane, Kirsten, Liz), weird (Charles, Cindy, Kirsten), unconfident (Alice, Kirsten), inadequate (Alice, Bridget, Christine, Rachel), not good at art (David), not good at gym (Rachel), not the teacher’s pet (Kirsten, Christine), and “black and white” in their perceptions (Cindy). Some decisions were made about positive aspects of identity: resilient (Cindy, Christine, Liz), capable of conforming (Marie), like equality (Chloe), like/need creativity (Charles, Cindy, Kinjal, Liz), brave (Cindy), optimistic (Cindy), and don’t like conforming (Charles, Chloe, Liz, Rachel).

Positive emotions and accompanying positive decisions about competence and identity flowed in my study as a consequence of encouraging creativity experiences. Largely negative
emotions and negative decisions about competence and identity flowed from discouraging
creativity experiences. Students’ expanded/contracted interpretations of themselves translated
into further interaction and actions, and beliefs. Students in this study extrapolated their
creativity interactions into the future and adjusted their actions accordingly.

**Perceptions of the World**

As a consequence of creativity-encouraging experiences, students perceived the world
and their role within it as larger, with more possibility for interaction as a result. As a
consequence of creativity-discouraging experiences, however, students perceived the world and
their role within it as smaller, with less possibility for interaction as a result.

As a consequence of her encouraging Grade 12 drama assignment to rewrite the script of
a play in absurdist style, Liz (NI) felt like “there were no boundaries on the page.” But she
extended the specific interaction she had with the play script to more general interaction with the
world: “the boundaries that were set on the page kind of were gone, and it disappeared, and . . .
the whole world was open.”

In contrast, Chloe’s world shrunk when she publicly presented an idea for fundraising in
a club meeting and was told by the student president of the club, “that doesn’t work” (Chloe, NI).
In that moment, Chloe decided “if my opinion's not valued or taken seriously, what's the point? I
will literally be mindless and do what I am told.” Chloe’s ideas fell on deaf ears; the world of
this club was closed to her.

Bridget’s (NI) descriptions of her encouraging/discouraging experiences demonstrate
how the decisions she made about herself relate to how much of the world she can consequently
interact with. In her ironworking course, Bridget’s environment was very different to any she’d
been used to, “she was out of her comfort zone,” experiencing an expanded world. It forced her
to adjust: “it's a big thing where I had to be bigger than I usually am.” In this bigger world, her bigger self was forced to interact with the environment (i.e., be creative) in expanded ways:

I couldn't follow [the other students] because they thought differently than I did…so that course made me think out of the box or think a lot differently just so I could do everything, so I could get where I needed to go.

In contrast, when her attempt to devise her own method to answer integral math questions on a test was rejected, Bridget (NI) not only adjusted her notion of creativity in mathematics but beyond, to conclude that the world of creativity is smaller: “It made it seem like creativity just wasn't a thing in the sciences or in mathematics.” Her thinking went even further, illustrating a perceived sense of the world shrinking, and her self’s possibilities in it shrinking alongside it. She “really wanted to drop math and never take it again,” and decided, “I can't do this, so therefore I can't go to any university, I can't do anything…this is where it stops for me.”

The pattern of expansion/contraction that radiates through emotions, decisions of competence and identity, and perceptions of the world as a consequence of encouraging creativity experiences is depicted in Figure 11. To the far right of this diagram, students’ expanding interpretations manifest as expanded action, as described in the next section.

**Expansion/Contraction into the Interactive Space**

Looking at the consequences of creativity-related experiences through the lens of my situational map (Figure 4), I came to see the prevalent I can/I am decisions students made about their competence and identity as expansion into the interactive space. Participants decided they could do more, they were more, and then did more. Participants felt good as a consequence of a creativity-related experience, and this also drove them to expand their interaction with the greater world. This expansion of participants’ interactive space not only involved increased creativity,
but also enhanced learning, and prosociality. Conversely, discouraging experiences led to contraction of participants’ interactive space, including decreased creativity, retraction from or narrowing of learning, and antisocial beliefs and behaviours.

Creativity

Expansion of creativity was a consequence of encouraging experiences for participants in a number of ways: participants described an enriched perception of creativity, enhanced risk-taking, increased motivation to pursue further creativity, and enriched creative activity. In parallel opposition, consequences for the discouraging experiences included decreased risk-taking, decreased motivation to pursue further creativity, and diminished creative activity.

Expanded Creativity. Amongst the questionnaire anecdotes of encouraging experiences, 13% mentioned that the experience caused a desire to further create/express themselves in the
world. Bridget (NI) explained how her experience taking an ironworking design course translated into an expanded perception of her own creativity:

> When I first walked in, I was very uncomfortable in any creativity involving hand work. By the end of the course I developed into somebody who's like, *oh, I can think of a problem more with my hands and I can design things more to solve things and I can look at things a bit differently now*. . . . it showed me . . . there's different routes.

Christine (NI), too, attributed her grade 10 English course to an expansion of her ideas of what constitutes creativity in the external, material environment:

> I thought [creativity] only pertained to drawing or something like a specific subject. I didn't think you can be creative in other courses as well. And even in writing, I just thought it was . . . fictional stories . . . but afterwards it was like you can find creativity in everything you do, even in math, there’s creativity in math and how you solve equations and stuff . . . So it really broadened things.

Kirsten (NI) changed her belief and behaviour as a consequence of her semester long grade 10 health project, writing a magazine about wellbeing. She “started seeing [her] creative pursuits less as a time-wasting hobby and more something that I needed to do to make myself feel good and potentially for [a] future career.” She began to keep a journal, as did Kinjal (NI).

Alice (NI) and Christine (NI) attribute their pursuit of their subject of passion—creative writing—to their English teachers’ encouragement of creativity in this area, and Marie attributes her pursuit of her passion in film to the creative learning experiences provided by her grade 12 communications teacher (Marie, NI).

*Emotions and expanded creativity.* Participants commonly mentioned increased motivation to create/self express/act in the world in their questionnaire anecdotes when they identified joy or
hope as the primary emotion associated with an encouraging creativity experience. Twenty-five percent of anecdotes that identified joy as the primary accompanying emotion spontaneously mentioned enhanced further motivation to create or act in the world. Twenty percent of the hope anecdotes also mentioned further motivation for creativity. A questionnaire participant explained succinctly how pleasure felt in conjunction with creativity can lead to enhanced creativity: “I was very happy with the end result, which has made me want to take more creative risks . . . in the future” (S114).

Kinjal (SGS3) learned during her experience of teaching herself to play guitar that creative activity can ease negative emotion: “that is where the idea started of associating creativity as an outlet to anxiety . . . while I was feeling anxious, doing something creative helped relieve some of the pressure.” Now, when she’s anxious, creativity still “serves as an outlet . . . taking what's in my head, putting it out, and realizing it's not as bad helps me to deal with it and then move on.”

**Contracted Creativity.** Amongst the 188 questionnaire respondents who provided anecdotes of discouraging experiences, 16% mentioned diminished motivation to create/express themselves in the world as a consequence. Diminished risk-taking was mentioned as a consequence of the experience in 10% of these anecdotes.

Kirsten (NI) who brought in honey during a grade 11 biology class to test its antibiotic properties and was told by her teacher it was scientifically unreasonable, became “more cautious about asking creative questions” in all her classes as a consequence. She added:

even to this day when we're doing projects often I'm like, *I should stay closer with teachers' example instead of branching out. I might have ideas out there, far away from*
the norm. But no, I shouldn’t. To be safer, I have to just stay closer to their fit – their template.

A questionnaire participant (S56) described how their “secondary school career . . . that discourage[d] all creativity” led to curbed ability to be creative when given the opportunity. “[I am] now so afraid to express [my]self that . . . assignments with loose guidelines that are designed to promote creative thought are incomprehensible nonsense, which produces only anxiety and stress.”

As per the common theme, the constriction of activities often went well beyond the original context of the experience. David’s (NI) discouraging experience in art class resulted in an avoidance of all forms of visual representation, not just still life drawing. Long-lasting restriction of creativity was threaded through others’ discouraging narratives, too. When Liz’s (NI) school administration constrained her Student Council President ideas for fundraising activities, it “definitely did not make [her] want to work with administration ever again.” Liz also decided to avoid involvement in any political organization on her university campus generally because she would “still have so many rules and regulations to adhere to.”

A small number of questionnaire respondents were spurred on by a discouraging experience; 6% of the discouraging anecdotes mentioned an increased motivation to create/express themselves in the world, to prove a teacher wrong or “out of spite” (S249).

Emotions and contracted creativity. Decreased risk-taking was most commonly related to anecdotes for which anxiety was identified as the primary emotion experienced (15%). As an example, fear trying out for a sports team resulted in a decision to never try it again (S171). Boredom was more strongly associated with decreased motivation than other emotions among the questionnaire participants, featuring in 30% of anecdotes. David (CW) linked in a poem his
avoidance of visual representation into the present day, as a consequence of his Grade 10 art
teacher’s criticism, to avoidance of emotional pain:

Four years passed as though nothing changed,
I’m sure you quickly forgot that day.
But I will never forget the way I felt
When I heard what you had to say.
It stuck with me, even today.
I left that school with my heart set,
I would never draw or take art again.
The potential for someone to judge my soul
Holds me down like ball and chain.
Never again will I risk that pain.

Bridget (NI) implicitly connected her subsequent contraction from the subjects of math
and science to her emotional response, in so doing providing insight into how a single
discouraging event can lead to a contraction of career plans, “I had a huge internal emotional
response to this course and then that test which was like, well that's it for me.” There were
“prison walls” on the sciences and she could not partake. Luckily, her mother through “a lot of
encouragement” convinced Bridget to take the math course again, online, during the summer.
She had the same math teacher for Grade 12, failed again, and took that course online in the
summer too. She is now a science major.

Learning
Among the questionnaire anecdotes, 12% of encouraging experiences mentioned enhanced learning as a consequence, and 12% of discouraging experiences mentioned diminished learning as a consequence.

**Expanded Learning.** Kinjal (NI) reported that her encouraging experience, an independent project learning to play guitar, had direct consequences on her future learning. She perceived the “biggest” consequence of this experience to be that: “in the future I know how to teach myself new things and how to find resources.” Mark’s (NI) participation in tech crew had a less direct consequence on learning because he stayed at school studying with the crew. “I definitely view education as a more valuable thing because working there definitely made my academics go up, so I would be more interested in school that’s for sure.”

**Contracted Learning.** In contrast, Kirsten (NI) attributed her biology teacher’s refusal to let her test the antibiotic properties of honey because it wasn’t scientific to an increased dislike of school as well as a temporary decline in her attitude toward learning even though she “love[s] learning new things.” She wrote that as a consequence of the event, “it would be some time before curiosity tasted sweet to me again” (Kirsten, CW). The social environment of Christine’s (NI) Grade 9 English class had a cascading effect on her learning. She felt “dread to walk the green mile” to class each day and would “wake up in the morning dreading everything. You don't want to get out of bed. I'm throwing up . . . so it affected my other courses as well.”

**Emotions and Learning**

In small group sessions, participants discussed several ways the negative emotions embedded in these discouraging creativity experiences could result in diminished learning. Kirsten stated that she does not focus well when she is frustrated, anxious, or disappointed (SGS2). Alice, too, stated when feeling anxious she cannot “concentrate on anything else” (SGS2). Marie reported a
similar response to frustration, “caught up in her own mind” (SGS4), anxiety: “I'm very distracted when I'm anxious about something . . . I cannot focus on anything. I am very much in my own head space.” Chloe, similarly, stated that in an anxious state she’s “so focused on the one thing [she] can't think of anything else really” (SGS4).

**Sociality**

Changes to social beliefs and behaviours were a prominent characteristic of interview participants’ expansion/contraction. These beliefs and behaviours extended beyond the kinds of sociality involved in creative activity, to social interactions more generally.

**Expanded Sociality.** Ten of the fourteen narratives of encouraging experiences I heard in interviews entailed prosocial attitudes and behaviour as consequences, most commonly an increased “voice” or presence in class. Christine (NI) reported how her positive experience with an English teacher in grade 10 brought comradery with her classmates, even though she “wasn't very close to most of them”:

I felt a sort of kinship with the people around you . . . like a, *yeah, we all like our teacher, we all like these assignments, and then it was a discussion of all our ideas all the time. It’s like, *oh yeah, she'll probably like that. Yeah, she'll probably like that too.* It was just a very encouraging atmosphere.

The changes in sociality participants attribute to these creativity experiences extend beyond the specific context of the original event. Christine’s (NI) English class experience “made [her] come out of [her] shell a little bit more. The effects are still lingering.” When Rachel, an enthusiastic physics undergraduate received help from a teacher on an assignment that pushed her to think for herself, she decided “when you're being creative, it's okay to piggyback off of other people.” Projecting into her future, she converts this belief into action:
I especially don't need to be the person that sits in their office by themselves all the time and work on stuff by themselves and then that's it. It's okay to ask other people for help and to work with them on these kinds of things. (Rachel, NI)

Mark’s (NI) work with a team of peers on the tech crew suggests that the expansion is about more than practice with prosocial behaviour. About his experience he said, “It definitely made me more social. I was really shy before, but then through this experience, I learned that being myself, it’s not a negative thing” (SGS2). With this quote, Mark connects the aspect of self-expression inherent in creativity to the expansion of his sociality. By expressing himself and having it accepted, he acted more as himself in the world, gained further acceptance, and subsequently further interacted.

It was not working with others necessarily that provoked prosocial responses. Kirsten created a 16-page magazine in grade 10 for health class, which included personal information about herself according to her teacher’s instructions. Kirsten worked on the project alone, and the product was never shared with peers; only Kirsten’s teacher and parents saw it. And yet, Kirsten (NI) connected her prosocial reaction to the experience of self-expression.

I learned that I had a lot to say because I was really quiet, and I would just figure what I have to say doesn't matter…But putting it on paper and someone's going to read it—it was like, wow, you know, what I have to say can matter. And I think I had more of a voice after that. Which is important.

*Emotions and prosociality.* The prosocial behaviour reported in this study as a consequence of creative experiences might be in part attributed to good feelings that come with creativity; creative activity leads to positive emotions, and when people feel good they are more social. Bridget (SGS1) connected positive emotions to being, “much more willing to take people's
feedback and to listen to other people,” prosocial behaviour that might also enhance creativity. Marie (SGS4) credited the enjoyment she felt during the creative process to self expression, openness, sociality:

it made me way more open and way more accepting and I felt like I could be myself . . . I think it made me a more expressive person and free.

Gratitude was the emotion most commonly associated with positive shifts in social attitudes and behaviour in the questionnaire data. Positive shifts in social attitudes was also the most common consequence mentioned in gratitude anecdotes. More than 18% of these gratitude anecdotes mentioned positive changes in sociality, and positive changes in well-being. Since gratitude was also associated with teacher belief, it could be that teacher belief can directly affect subsequent sociality. In her narrative interview, Christine (NI) directly connected the positive emotions that resulted from her Grade 10 English teacher’s support to her current social responses:

If you thrust me into that unknown situation, a crowd of people, I'm still going to be like, oh no, a wallflower. But the positive feelings I associate with her, with sharing answers, if I have a situation in which there's someone who encourages you, I become more comfortable a lot more quickly.

The connection between teacher belief, gratitude, and prosocial behaviour makes it tempting to suggest ever-expanding waves of sociality can result from a teacher who supports a student prosocially, who in turn extends further prosocial behaviours to a broader circle of others, like ripples in a lake. This kind of “pay it forward” effect was described directly by Rachel, as part of her reaction to the encouragement she received from her Grade 12 physics teacher:
I want to be able to do what my teacher did for me when I went for help. He didn't just tell me the answer, he put me on the right path and put that sense of hope back into me and I find that because of this situation especially, I try to do that for other people when they don't understand something or they need help or whatever it may be. I try to put a sense of enjoyment in what they're doing into them. (SGS1)

Students in small group sessions also ascribed prosocial behaviours to pride, most of which related to enhanced assertiveness. When proud, Alice “is more confident in situations that usually make [her] feel uncomfortable, like talking to strangers” (SGS2). Kirsten, too, reported that she responds with assertiveness: “in situations where I might otherwise not be, I might take more risks, I might take more of a leadership role” (SGS2).

**Social Contraction.** Eight of the 14 narratives of discouraging experiences involved some aspect of antisocial attitudes and behaviour, withdrawal or social struggle. Feeling criticized or put down was one direct source of this behaviour. Christine’s (NI) Grade 9 English class with “the executioner” led directly to a lack of interaction between peers, as “everybody hunches down trying to hide from her . . . Everybody's not looking at each other, looking at the floor, pretending to take notes on nothing.”

Kirsten’s narrative about the biology teacher who said she could not test the antibiotic properties of honey described the classroom as a situation involving social risk, with the teacher playing a pivotal role. Kirsten (NI) worried the discouraging incident with her teacher and the honey would hold her “back socially.” She feared not only judgment from peers, but ostracization: “I was doing so well, people were talking to me, being nice to me, then you made me look like an idiot and they'll probably stay away from me now.”
Social contraction in the narratives in my study was, again, often generalized beyond the immediate situation. David (NI) attributed to his art teacher’s criticism about his method of drawing to a continued pattern of disruptive and disrespectful behaviour during the rest of the course. But he also attributed an ongoing sensitivity to being “neglected” or “slighted” by a professor to the Grade 10 incident. He relayed a recent event in an undergraduate lecture, to which he reacted with a lot of anger and “just refused to engage in any sort of discussion.”

*Emotions and antisociality.* A strong pattern of association between prominent emotion and negative changes in sociality emerged from the questionnaire data, with anger being more commonly associated to antisociality in anecdotes (17%) than other emotions. Anxiety was also associated with negative changes in sociality (9%) and well-being (23%). In opposing parallel, anger and anxiety as a negative consequence of social interactions were paid forward to others in future attitudes and behaviour.

Participants in the small group sessions described antisocial behaviour patterns as a response to all three negative emotions I asked them about: frustration, anxiety, and disappointment. Specific antisocial behaviours included hostility to others, increased introversion, physical withdrawal from others, increased criticism of others, less encouragement of others, and blaming others.

In keeping with the notion of frustration as an aggressive emotion (Miller, 1941; DeWall, Anderson, & Bushman, 2011), my participants described a range of hostile reactions to frustration. Kirsten stated (SGS2) she gets disagreeable, less thoughtful, and more likely to speak sharply to others (SGS2). Soft-spoken Alice (SGS2) said she is “rude,” “distant,” and “turns into a monster” while Bridget gets “short tempered,” Rachel “lashes out” (SGS1), and Chloe “will say the worst things ever” (SGS4).
Anxiety is a form of fear (Parrott, 2001), so participants’ descriptions of their withdrawal reaction makes logical sense as a protective mechanism. Kinjal said she gets “closed off” and “isolated” when anxious, and “stops” (SGS3). Alice “shuts in on [her]self, stays at home,” and “doesn’t talk to anyone” (SGS2), and Chloe said she becomes a “recluse” (SGS4). Taken together, these emotional responses provide insight into how creativity experiences that provoke these emotions led to pro/anti social behaviour in the students in my study, as well as expansion or contraction of their interactive space more generally.

Kirsten (SGS2) identified shame as her primary emotion in her experience with her Grade 11 biology teacher who told her she could not experiment with honey. She went on to say that shame, “is just like the opposite of pride,” and then explained the consequences of that shame, and the ensuing cascade of more negative emotion, and contraction socially, as well as from learning and creativity:

Whereas when I'm proud I'm more assertive, better posture and clear voice and everything, I became a lot more meek, which he didn't like so my voice became weaker. I would slouch, I was not assertive. I didn't take any risks. I did not ask questions about anything after that because I was ashamed. I experienced anxiety about it. I was, especially around him. I tiptoed around him for a little while. I avoided him. I avoided certain situations and people. I avoided him, my teacher…if I had a mark I wanted to contest, I would just leave it. I didn't want to challenge him on anything. I became disappointed in myself . . . it definitely changed how I behaved when I was curious about things. I wouldn't ask questions. I would just accept what I was told and just go along with it . . . cause I didn't want to feel that shame again. I didn't like the way it felt, and I
didn't want it to come back so I didn't want to feel anxious again so I could put those emotions off if I just studied.

**Big Support for Big Creativity**

In this section, I address the question of what kinds of encouraging/discouraging experiences in secondary schools have the biggest consequences for students. Supporting creativity in secondary school is complex, with many aspects of the situation contributing to the long-term consequences of these experiences including the interactions between the system of schooling and the students as human beings, students’ interpretations of incidents, their unique combination of genes and past experiences that feed these interpretations, the subsequent actions of students (and the influence of these actions on future interactions), and events that occur after the studied experience that reinforce or ameliorate these interpretations/actions.

However, the nature of my data presents two portals into the question of what creativity-related experiences in secondary school had the most important, long-term consequences on the students in my study:

- the relative power of encouraging versus discouraging experiences; and,
- the relative power of the conditions for supporting creativity (freedom, meaningful challenge, and teacher belief) in bringing about creativity consequences.

**The Power of Discouraging Experiences**

I asked questionnaire participants to rate the strength of the emotion they felt as a result of the encouraging/discouraging creativity experience on a scale of 0 to 10. I also asked them to indicate on a scale of 0-10 the strength of their encouragement and discouragement. This allowed me to ask if there is a connection in the data between the strength of emotion and the strength of the sense of encouragement/discouragement. A Pearson correlation test conducted in SPSS
(IBM, 2017) indicated a moderate to strong relationship: the greater the perceived encouragement/discouragement, the stronger the emotion felt (Encouragement: $r(290) = .62, p < 0.001$; discouragement: $r(287) = .55, p < 0.001$). Note that this correlation does not indicate whether stronger experiences caused stronger emotions, though this seems logical. It is possible, instead, that the stronger the felt emotion, the stronger the perception of encouragement/discouragement.

I compared the strength of emotion between encouraging and discouraging experiences with a paired-samples t-test. There was a highly significant difference in the scores for the strength of emotion felt in perceived encouraging experiences ($M = 2.57, SD = 1.71$) and the strength of emotion felt in perceived discouraging experiences ($M = 3.76, SD = 2.33$); $t(276)=7.442, p<0.001$. Perceived discouraging experiences were reported to produce more intense emotions than encouraging experiences; from the prominent emotion data, I can say these emotions are largely negative. So, the degree of discouragement and negative emotion provoked by creativity-discouraging experiences as reported for the 188 anecdotes in this study were greater than the degree of encouragement and positive emotion provoked by creativity-encouraging experiences as reported for the 200 anecdotes.

Taken together, these patterns suggest that discouraging experiences had a bigger impact on students. Direct discussion with interview participants upholds this interpretation. I asked the participants in one of the small group sessions if they thought there is a feedback loop in negative emotions and all four participants spoke loud and quick: yes, negative emotions led to further negative emotions (SGS1). I followed up with, “is there a difference between the feedback loops for positive emotions and negative emotions?”
“The negative emotions are a lot more difficult to break,” said David (SGS1), “whereas even oftentimes a very slight change in something can cause the positive ones to disappear very quickly.” Bridget (SGS1) added, “If I'm enjoying something, I'm just enjoying it and there's not a lot going on. But if I'm anxious about something or frustrated, it's such a present emotion that that's ALL I'm thinking about.”

Some discouraging experiences had some positive consequences. A small number of questionnaire participants mentioned a positive motivation to create/express themselves in the world in response to discouraging experiences. This positive motivation took the form of a student who believed in themselves wanting to prove a naysaying teacher wrong. Students in my study who had strong belief in their creativity were less likely to be negatively affected by discouraging experiences. In all, however, the findings of this study suggest that discouraging experiences are more powerful in their negative consequences for student creativity than encouraging experiences are in their positive consequences.

The Power of Meaningful Challenge and Teacher Belief

Returning, again, to the creativity mountain metaphor, imagine you are one of 30 students in a secondary school class given an opportunity to interact with the “creativity mountain.” What would happen under the following circumstances?

- you are given the freedom to do whatever you want on the creativity mountain
- you are given the task to climb to the top of the creativity mountain
- you are given the task of climbing to the top of the creativity mountain, and your teacher is going to be there encouraging you along the way
- you are given the task of climbing to the top of the creativity mountain, your teacher is going to be there encouraging you, and you have the freedom to figure out how to get to the top anyway you choose.

Before conducting this research, I thought that freedom was the primary condition required for creativity, and that this was what was largely lacking in secondary schools. I thought that if students were just given opportunities to follow their own natural creative proclivities, they’d create up a storm. But that is not what the data, as I’ve interpreted it, has said. Using the creativity mountain metaphor has helped me make sense of this. When I ask myself the question about what would happen on that creativity mountain if I was among a group of students given freedom to do what I wanted, I think that I, and many of my peers, would play around on the mountain. I might go up the trails, but if the peak was really challenging, I’d not get there. I’d choose to mess around with my friends instead, maybe climb a tree, or find other, smaller ways to express myself and interact with my environment. As a secondary student, I was not going to write a 15,000 word novel or do a science experiment unless someone presented me with the task and motivated me to do it (i.e., made me do it). On that mountain, I can imagine a couple of my classmates, the confident athletic students with pre-existing skills and a thirst for physical challenge who might have gone to the top, but not most of us. And without reaching the summit of a creativity mountain, the major consequences that go along with it—the pride, the motivation to do more big stuff, decisions about what I can do, who I am, and how big (and wonderful) the world can be—would not happen. With this metaphor, I can make sense of my study’s finding: meaningful challenge plus teacher belief are more important than freedom alone in the support of creativity.
There are several lines of evidence for this interpretation, including the few examples of experiences where freedom is more prominent than meaningful challenge and teacher belief. Analysis of prominent emotions and the conditions and consequences associated with them also provided insight.

**Freedom Experiences.** While freedom features in more than half of the significant encouraging creativity experiences collected in the questionnaire, very few of these experiences feature freedom predominantly; freedom almost always occurred in these anecdotes in conjunction with meaningful challenge and/or teacher belief. The same is true for encouraging narratives relayed by interview participants. Some examples, however, serve to demonstrate the kinds of consequences to be expected from freedom-dominated experiences. Charles’ (NI) rare opportunity to be creative in his visual arts course was meaningful to him, and it encouraged his creativity. He stated without hesitation that it encouraged him to generate and pursue his own ideas, make unique things no one else made, and express his unique self. It had positive consequences, too; he used “that process of painting to relieve the pressure, to find a way to make the pressure out of [his] mind…[to] just relax.” However, when I asked him about consequences in our interview, he said that the experience had not influenced his perception of creativity in any way. The art class did not “impact or influence how [he] behaved after that,” not “any of [his] actions.”

From a questionnaire anecdote, a “rare opportunity to do something creative in a science course” (S35) tasked groups of students with building a DNA strand with different supplies and labelling it. This experience was “nice,” and enjoyment was the prominent emotion chosen. The experience also had consequences: it allowed the student to “analyze the topic more and understand the concept better.” However, note the absence of powerful emotions and the lack of
generalization of the consequences beyond the specific topic, relative to other experiences in this study.

Looking at the flip-side, while discouraging experiences featuring constraint as their dominant condition may have stronger negative consequences than their positive counterparts, the patterns in the discouraging data still support the interpretation that freedom/constraint is less powerful a condition for creativity than meaningful challenge and teacher belief. To illustrate, one student (S239) found her art class was the most discouraging in her secondary school career, as it focussed on skills, not creativity. The course “made [her] feel quite apathetic . . . [she] wasn't frustrated because [she] was still doing well in the class but [she] didn't feel particularly passionate about the work either.” Note how the consequences in this anecdote revolved around immediate motivation, localized to the event, rather than the longer term and more general consequences of most of the experiences detailed in this study.

Meaningful Challenge and Teacher Belief Experiences. For comparison, there are some narratives which entailed little freedom, but featured mainly conditions of meaningful challenge and teacher belief. These experiences tend to have larger consequences than those experiences for which freedom alone is the primary condition. Rachel’s (NI) situation furnishes an example of an experience in which there is little freedom. Concussed, she struggled with her physics assignments. Her teacher supported her through this challenging time, providing strong encouragement and requiring her to continue to think for herself. Rachel (NI) articulated the consequence of the challenge of having to think for herself in these circumstances: “I think had that teacher not encouraged me to do better, I would still feel not so great about myself when it came to physics . . . I probably wouldn't be a physics major.”
When I asked Christine (NI) what was important in her encouraging experience with a Grade 10 English teacher, she described all three conditions:

…you can't just [say], *Oh, do what you want*, and then not give encouragements…on the other hand, if you go like, *yeah, you're great, just keep doing it as I tell you to*, it's not going to encourage creativity either. So, it's a mix of encouraging and giving confidence and promoting creativity by introducing different tasks or not eliminating them.

In Christine’s words, I hear freedom ("do what you want") without belief ("encouragement") does not support creativity. Belief without freedom ("you do what I tell you really well") does not support creativity either. What does work to support creativity is belief and creative challenge ("different tasks").

**Emotions, Conditions, and Consequences.** Analysis of prominent emotions and the conditions and consequences associated with them revealed patterns that link particular conditions to particular consequences.

*Freedom and enjoyment.* In the questionnaire data, freedom was associated with all the key prominent emotions, but featured most commonly in those experiences that primarily evoked enjoyment (66%). Constraint was associated with all the prominent emotions but featured most commonly for boredom-related anecdotes (70%). Challenge exhibited no real pattern across emotions, while teacher belief featured in 40% of the encouraging anecdotes on the questionnaire for which pride, joy, gratitude, or hope were chosen as the most prominent emotions, but less than 10% of the enjoyment anecdotes. Enjoyment, then, is more associated with the condition of freedom, and less associated with teacher belief.

As for the patterns of emotions and consequences of creativity experiences, enjoyment is the emotion least associated to consequences mentioned in the questionnaire. Enjoyment
anecdotes are least associated with decisions about identity, risk-taking, career choices, and improved well-being. Enjoyment was only associated with one consequence: learning (16% of enjoyment anecdotes). Hope, gratitude, pride, and joy are most strongly associated with consequences in the questionnaire.

To further explore the relationship between emotions and consequences, I asked participants in small group sessions how they behave in response to enjoyment. Chloe (SGS4) stated that she returns to her “different drafts of different book ideas” and “comes up with a new draft and a new plotline and new characters” when she’s in a good mood. Kinjal (SGS3) “wants more of this,” in her enjoyment state, and further described her enjoying self as “energetic” and “reckless.” David (SGS1), too, stated directly that he finds it easier to “go past my comfort level if I'm enjoying what's going on compared to if I wasn't enjoying it.”

In all, freedom is associated with enjoyment, which propels students through creative activities. Meaningful challenge and teacher belief however provoke other emotions more strongly: pride, gratitude, joy, and hope, and these emotions are embroiled in stronger, more-long term consequences and expansion of the interactive space.

*Constraint and boredom.* There is a parallel, opposing relationship between constraint/boredom and decreased motivation to continue through an activity. Seventy percent of questionnaire anecdotes that featured provoked boredom featured constraint, a much higher association than found for any other prominent emotion. Lack of teacher belief, in contrast was mentioned more in anecdotes for which the other negative emotions were prominent, but only in 5% of boredom anecdotes.

As for the patterns of emotions associated with consequences, a decrease in motivation to create was mentioned in one in three boredom anecdotes. In contrast, boredom was the least
associated of the emotions with consequences related to identity, wellbeing, and sociality. Boredom was not common in discouraging narratives told in interviews.

All in all, the consequences for constraint experiences that provoke boredom are weaker in terms of their related consequences. Constraining experiences produced boredom, which demotivated and disengaged students. Frustration, disappointment, anxiety, and anger, however, were more powerful emotions provoked by discouraging creativity experiences in which a lack of teacher belief and/or meaningful challenge occurred.

**Chapter Summary**

In this chapter I described the consequences to the students in my study that radiated from encouraging/discouraging creativity experiences in secondary school. Encouraging experiences provoked a constellation of thoughts and feelings, with predominant emotions of pride, enjoyment, joy, gratitude, and joy. Discouraging experiences provoked a constellation of thoughts and feelings, with predominant emotions of frustration, disappointment, anxiety, boredom, and anger. Encouraging experiences provoked strong, prevalent interpretations of enhanced competence and identity—“I can” and “I am” decisions—which students carried with them after and beyond the experience. Discouraging experiences provoked parallel but opposing negative interpretations by students of their competence and identity. Encouraging creativity experiences had consequences for participants after and beyond the event that included expanded perceptions of the world, and an expansion of their action in the interactive space related to creativity, learning, and sociality. Discouraging creativity experiences had the same consequences for participants after and beyond, but in a negative, contracted direction. Generalization was prominent in the psychological reactions that drove these consequences, leading to reaction beyond the source of threat and opportunity to encompass additional elements.
in the material world, expanding the breadth of consequences for students. There was evidence in this study that enjoyment propelled students through creativity activity, but experiences that provoked pride, joy, gratitude and hope were more powerful in terms of their long-term consequences. In parallel opposition, boredom was associated in my data to decreased/low motivation, but discouraging experiences that provoked frustration, disappointment, anxiety, and anger were more powerful in terms of their long-term consequences. In all, discouraging experiences were more powerful in their consequences than encouraging experiences. And, experiences that entailed meaningful challenge and teacher belief were more powerful than experiences that focussed largely on providing students with the freedom to play/self-express.
CHAPTER 7
SITUATING THE EXPERIENTIAL THEORY

This chapter summarizes, situates, and expands on the experiential theory for supporting creativity developed in Chapters 5 and 6. Chapter 5 outlined three key conditions for supporting creativity in secondary school: freedom, meaningful challenge, and teacher belief, and the psychological processes in students that fuel this “formula.” Chapter 6 outlined the consequences for the students in this study of the creative encouragement/discouragement they experienced in secondary school. These consequences were characterized by an expansion/contraction of their interaction with the world including aspects of creativity, learning, and sociality. Students’ positive/negative emotions, their interpretations about their competence and identity, and their changed perceptions of the world culminated in these expanded/contracted interactions. In this study, experiences involving meaningful challenge and teacher belief were relatively more powerful—in so much as they led to substantial consequences in students’ lives—than experiences primarily involving freedom.

In the sections that follow, I situate and expand on these findings through a discussion of their fit with current literature, new insights afforded by this work, and recommendations for further research. Recommendations for secondary school praxis are made where appropriate. First, I discuss supporting creativity, then the student psychology involved in the support of creativity, and finally the consequences of creative experiences in secondary school. Next, I acknowledge limitations of the study in relation to research design and data collection methods and discuss the generalizability of this work according to constructivist grounded theory principles (Charmaz, 2014). I conclude with a summary of the study and its findings.
Situating the Support of Creativity

This work developed a theory for supporting creativity, rather than a theory of creativity itself. The theory does not focus on the creative process, or what creativity means to students, but rather on how students interpreted interactions with their learning environment at secondary school and translated these interpretations into encouragement/discouragement of creativity. The theory I developed from my analysis of these students’ interactions relates to what, how, and why school environments support creativity. As Charmaz (2017, p. 39) said:

Constructivist grounded theory can lead to “why” questions without the type of generalizing impulse of objectivist grounded theory that erases variation and difference. Instead, constructivist grounded theory helps us to identify differences, locate our generalizations, and recognize the conditions of their production. These questions build on “what” and “how” questions to ask why our findings appear to be congruent with how we represent them. The answer raises more questions such as: What accounts for the representations we portray? Why is it that people act in ways that produce patterned outcomes?

With this work, I asked what, how, and why the students in my study were encouraged/discouraged in their creativity in the patterns that emerged from my analysis. In this section, I explore how my findings relate to the extant literature concerned with these questions.

Current Literature and New Insights

There are few models developed specific to supporting creativity in schools. Henriksen, Mishra, and Mehta (2015) reviewed creativity measurement instruments and found that 3% focus on aspects of the environment that support creativity, and only 19% involved K-12 school-aged children. In response to this gap, Richardson and Mishra (2017) developed SCALE (Support for
Creativity in a Learning Environment), an instrument for educators and administrations to identify and measure the ways their learning environment supports creativity. The categories of their model were based on a literature review and classroom observations and the report was edited by a team of school administrators. These categories are presented in Table 9, along with my interpretation of how the categories fit with the findings of my study. Soh (2017) approached the problem of supporting creativity in schools through teacher behaviour, creating a scale based on Cropley’s (1997) conditions for fostering student creativity. Also included in the table are Starko’s (2014, p. 138) list of “factors that influence” creativity and her “three keys to creativity in the classroom” from her 5th edition of Creativity in the Classroom, and Craft’s (2005, p. 43) list of “pedagogical approaches.”

Davies et al. (2013) conducted a systematic literature review of creative environments in schools, and the themes that emerged are included in Table 9 as well. Many of the studies cited in this review are case studies of specialized programs, which provided valuable insights into best practices. However, it is difficult to discern from these studies what aspects of the programs were responsible for the reported benefits on student creativity. For example, was it venturing outside school walls that influenced creativity, or the variety of new activities afforded students in these community spaces?

More empirical work has been done to help evaluate what kind of workplace environments encourage creativity, and these are cited in education texts about creativity as applicable to school environments (e.g., Craft, 2005; Starko, 2014). Amabile, Conti, Coon, Lazenby, and Herron’s (1996) KEYS scale for assessing perceptions of the work environment for creativity is included in Table 9, as is McLellan and Nicholl’s (2013) adaptation for the
secondary classroom of a creative climate model developed for industry (Isaksen, Lauer, Ekvall, & Britz, 2001).

Table 9

<table>
<thead>
<tr>
<th>Element in environment</th>
<th>Reference and context</th>
<th>Fit with my findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization supports creativity</td>
<td>Workplace: Amabile, Conti, Coon, Lazenby, &amp; Herron (1996); Davies, Jindal-Snape, Collier, Digby, Hay, &amp; Howe (2013)</td>
<td>freedom</td>
</tr>
<tr>
<td>Autonomy/freedom</td>
<td>Workplace: Amabile et al. (1996); School: Beghetto &amp; Kaufman (2014); Craft (2005); Davies et al. (2013); McLellan &amp; Nicholl (2013); Soh (2017); Starko (2014)</td>
<td>freedom</td>
</tr>
<tr>
<td>Sufficient resources</td>
<td>Workplace: Amabile et al. (1996); School: Davies et al. (2013); Richardson &amp; Mishra (2017)</td>
<td>freedom</td>
</tr>
<tr>
<td>Open-ended tasks/student choice</td>
<td>School: Craft (2005); Davies et al. (2013); Richardson &amp; Mishra (2017)</td>
<td>freedom</td>
</tr>
<tr>
<td>Multiple perspectives/multiple methods</td>
<td>School: Richardson &amp; Mishra (2017); Craft (2005)</td>
<td>freedom</td>
</tr>
<tr>
<td>Time for developing ideas/time flexibility</td>
<td>School: Craft (2005); Davies et al. (2013); McLellan &amp; Nicholl (2013); Richardson &amp; Mishra (2017); Soh (2017)</td>
<td>freedom</td>
</tr>
<tr>
<td>Variety of work areas/spaces, including outside school</td>
<td>School: Davies et al. (2013); Richardson &amp; Mishra (2017)</td>
<td>freedom</td>
</tr>
<tr>
<td>Play</td>
<td>School: Craft (2005); Davies et al. (2013); McLellan &amp; Nicholl (2013)</td>
<td>freedom</td>
</tr>
<tr>
<td>Organization impediments (negative influence)</td>
<td>Workplace: Amabile et al. (1996)</td>
<td>lack of freedom</td>
</tr>
<tr>
<td>Supervisor/teacher supports creativity</td>
<td>Workplace: Amabile et al. (1996); School: Craft (2005); Davies et al. (2013); McLellan &amp; Nicholl (2013); Richardson &amp; Mishra (2017); Soh (2017)</td>
<td>teacher belief</td>
</tr>
<tr>
<td>Mutual trust and respect between teacher and student</td>
<td>School: Craft (2005); Davies et al. (2013); McLellan &amp; Nicholl (2013); Soh (2017)</td>
<td>teacher belief</td>
</tr>
<tr>
<td>Peers support creativity</td>
<td>Workplace: Amabile et al. (1996); School: Richardson &amp; Mishra (2017)</td>
<td>belief</td>
</tr>
<tr>
<td>Risk-taking encouraged</td>
<td>School: Davies et al. (2013); McLellan &amp; Nicholl (2013); Richardson &amp; Mishra (2017); Starko (2014)</td>
<td>teacher belief</td>
</tr>
<tr>
<td>Informational feedback</td>
<td>School: Beghetto &amp; Kaufman (2014); Starko (2014)</td>
<td>teacher belief</td>
</tr>
<tr>
<td>Peer discussion/debate/collaboration</td>
<td>School: Richardson &amp; Mishra (2017); Craft (2005); Davies et al. (2013); McLellan &amp; Nicholl (2013); Soh (2017); Starko (2014)</td>
<td>sociality</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Conflict/destructive criticism</td>
<td>Workplace: Amabile et al. (1996); School: McLellan &amp; Nicholl (2013)</td>
<td>lack of teacher belief</td>
</tr>
<tr>
<td>Challenging work</td>
<td>Workplace: Amabile et al. (1996); School: McLellan &amp; Nicholl (2013)</td>
<td>meaningful challenge</td>
</tr>
<tr>
<td>Fostering learning in depth in any discipline</td>
<td>School: Craft (2005); Soh (2017); Starko (2014)</td>
<td>not prevalent</td>
</tr>
<tr>
<td>Encouraging problem finding and direct instruction for creative habits of mind</td>
<td>School: Beghetto &amp; Kaufman (2014); Craft (2005); Soh (2017); Starko (2014)</td>
<td>teacher belief, meaningful challenge</td>
</tr>
<tr>
<td>Creative teaching</td>
<td>School: Craft (2005)</td>
<td>not prevalent</td>
</tr>
<tr>
<td>Self assessment</td>
<td>School: Soh (2017); Starko (2014)</td>
<td>not prevalent</td>
</tr>
<tr>
<td>Structured time and activities (in balance)</td>
<td>School: Craft (2005); Davies et al. (2013)</td>
<td>not prevalent</td>
</tr>
</tbody>
</table>

The comparison offered in Table 9 indicates both how the findings of this study parallel current literature exploring environments that support creativity, and also highlights potential areas of new insight. First, some of the elements identified in creative environments from other studies do not fit well with the three conditions of my theory, such as balance of structured time and self assessment. These elements were present in my data; however, they did not rise to the surface as key conditions for creativity support as represented by my analysis of students’ anecdotes and interviews. When time was mentioned, it was more in relation to deadline pressures, which both encouraged and discouraged the students in my study. Self assessment was a component of two encouraging experience—Kinjal and Cindy’s required reflections on their learning. Neither participant spoke of this component as particularly important to their creativity encouragement (though they both continued the practice beyond secondary school).

**Domain and Creativity Skills.** Some of the items in Table 9 that did not feature prominently in my data derive from Amabile’s (1996; Amabile & Pratt, 2016) componential theory of creativity: domain-specific skills (e.g., technical skills in painting a picture) and general
creativity skills (e.g., problem-finding in visual art). These skills were present in my study particularly in so much as they bolstered students’ confidence, their belief in their abilities, and their capacity to complete a creative activity that was challenging them to push their boundaries. In my study it was not the acquisition of these skills themselves that mattered so much in creativity encouragement as reported by participants, but rather their influence on students’ decisions of competence and ability. Indeed, a focus on domain skills was more commonly a feature of discouraging experiences.

The domain skills involved in some of the encouraging experiences reported in my study were largely self taught, although a teacher was often available to provide advice. For example, Kinjal not only taught herself guitar and song composition without any technical guidance, she also taught herself to use recording software, as did Chloe. Kirsten’s magazine project was independent, and Cindy described how she used BBC documentaries as models for her own. In these narratives, it was the self-teaching of domain skills that supplied the meaningful challenge that propelled students through to creativity completion, and the subsequent pride and joy they felt.

Teaching of creativity skills was present in the narratives, such as the encouragement and modelling by teachers of open-mindedness, teacher requests for novelty and self-expression in student products, and gentle pushes to look at a problem from different perspectives, including that of the audience. Cindy’s teacher, however, spent time directly teaching creativity-related skills such as time management and design processes. However, the direct teaching of creativity skills was not prevalent or necessary a condition of the significant encouraging experiences in my study. When teachers taught creativity skills, students in my study took this teaching as an indicator that teachers believed that they could meet the creative challenge, or that they
themselves were competent in completing the challenge. McLellan and Nicholl (2013, p. 166)’s study of the experiences of students and teachers in design and technology courses are in line with my interpretation that the direct teaching of creativity skills are not key to supporting creativity in school. The courses McLellan and Nicholl studied followed the UK National Curriculum with clear inclusion of “focused tasks that develop knowledge, skills and understanding in relation to design and make assignments.” The responses of the students in this study include many narratives of discouragement, lack of challenge, constraint, and lack of teacher support for their ideas.

**Freedom and Teacher Belief.** The elements currently listed in the literature as encouraging creativity in school environments emphasize freedom, in keeping with the notion of the primacy of intrinsic motivation in supporting creativity (Amabile, 1983, 1997; Ryan & Deci, 2000). The focus on supporting intrinsic motivation emphasizes fun, playful, autonomous environments (Amabile, 1983, 1996; Beghetto & Plucker, 2006; Craft, 2005; Deci, Koestner, & Ryan, 2001; Hennessey & Amabile, 1987; Hennesey & Amabile, 2010; Starko, 2014). Relationship between teacher and student also features in the body of education literature concerned with supporting creativity, in keeping with the sociocultural perspective of creativity (Sawyer, 2006) and the recognition that creativity can be encouraged by others (Amabile & Pratt, 2016; Scott et al., 2004). Relationship is also a fundamental psychological need that is thought to promote a sense of intrinsic motivation, at least distally (Ryan & Deci, 2000). The role of intrinsic motivation and relationship as drivers of creativity in my study are considered in detail in the next section, “Psychological Drivers of Student Creativity.” In brief, relationships with teachers were important in influencing the decisions the students in my study made about their
competence and identity, and these decisions were more influential in terms of consequences for these students than freedom and autonomy.

**Challenge and Belief.** Dewey (1934) conceived of experience as it pertains to art as overcoming “obstacle,” suggesting that challenge is inherent in the creative process. Glaveanu et al.’s (2013) study of the creative process of sixty creators in five domains upholds this notion. The two extant measures of creative environments that include challenge are both from the workplace (Amabile et al., 1996; McLellan & Nicholl, 2013 adapted from Isaksen et al., 2001).

Indication for the importance of meaningful challenge as a condition for creativity in school comes from Craft (2005) who described her data from elementary and secondary student perspectives about creativity in their classrooms. Grade 5 students from a single school case study (Jeffrey, 2004, as cited in Craft, 2005, p. 58), stated “I wanted a challenge” and “I prefer the challenge and failing.” Secondary students in a pilot study conducted by Craft (2005, p. 67) also made similar comments, considering teachers who encouraged creativity to be “working them hard, offering them stretching work, and expecting them to think for themselves.”

Overall, the role of challenge in encouraging creativity, and the role of unchallenging experiences in curtailing creativity are minimally considered in the creativity literature, both in education contexts and beyond, though challenge and belief both featured large in my study’s findings. In addition, the findings of this study suggest that measures of creative environments for supporting creativity, as outlined in Table 9, might better take into account challenge and belief and also consider the relative importance of elements.

**Relative Importance of Environmental Elements.** One key study from a secondary school context provides a point of comparison for the findings of my grounded theory study. McLellan and Nicholl (2013) interviewed and surveyed teachers and students engaged in Design
and Technology courses at 15 secondary schools in the United Kingdom. These courses were chosen specifically because they were governed by a formal curriculum that aimed to support creativity through the design process. McLellan and Nicholl (2013) interviewed 126 secondary students and 14 teachers and surveyed 4996 students and 69 teachers about their current learning/teaching experiences in their design and technology courses. They asked these students and teachers about nine creative climate dimensions, adapted from an industry model (Isaksen et al., 2001), namely: challenge, freedom, trust/openness, idea time, playfulness/humour, risk-taking, idea support, debate, and conflict (which has a negative impact on creativity). Three of the nine dimensions emerged as most prevalent: freedom, challenge, and idea support (from the teacher), mapping directly onto the three conditions I found in this study: freedom, meaningful challenge, and teacher belief.

Andriopoulos (2000) and Andriopoulos and Lowe (2000) conducted a grounded theory study about the support of creativity in three creative industry companies. He found two different ways employee creativity was enhanced and mobilized: perpetual challenging and confidence building, which echo the concepts I found in this study of meaningful challenge and teacher belief (which was a chief source of confidence building in my study).

These twinned conditions of challenge and belief are echoed in Csikszentmihalyi’s (1990) concept of flow, a psychological state of complete absorption with a strong connection to creativity (Amabile & Kramer, 2011; Csikzentmihalyi, 1990). Flow ensues when a person engages in a moderately challenging activity that is well matched to their skill and confidence level. My analysis of the data suggests that many students in my study did not feel confident in their ability to achieve a challenge, but rather required the bolstering support of a teacher who believed in them when they did not believe in themselves. This is logical to me, given that
secondary students are likely to exhibit potential creativity as opposed to practiced pro-creativity (Beghetto & Kaufman, 2014), and hence may not be aware of their abilities in creative endeavours. This may be exacerbated by years of schooling in which challenge has been absent, as McLellan and Nicholl’s (2013) and Craft’s (2005) research suggests might be the case. If students are green behind the ears where their own creative behaviour is concerned, they may not be good judges of what constitutes moderate challenge that meets their skill levels. Student capacity to judge their own competence, and their propensity to take on challenges that are too big or too small, presents an unexplored avenue of creativity research. Teachers’ ability to bolster students’ confidence fits with Vygotsky’s (1978, p. 86) concept of the zone of proximal development, which he identifies as “the distance between the actual developmental level . . . and the level of potential development . . . under adult guidance, or in collaboration with more capable peers,” i.e., students may be capable of more with the support of a teacher. Indeed, the data in this study suggests teacher support through advice and guidance of domain and creativity skills was important in some instances. However, there was more: many students were capable of completing challenges independently without this kind of support. What they really needed was someone to say “you can do more” and “I believe you can do this.” Runco, Acar, and Cayirdag (2017) have recently explored young adults’ propensity for creativity in and out of school settings and found that the 254 undergraduates in their study exhibited significantly more creative potential when they were not in school than when they were in school. Students may have the ability to do much more creatively on their own with or without the guidance of an adult, they just do not know it. This lack of awareness of one’s limitations may actually enhance creative achievements, as suggested in The Creative Experience, a qualitative study of a range of professional creators from a wide range of disciplines, curated by Rosner and Abt (1970, p. 383):
Several interviewees refer to the fact that had they carefully weighed the extent of their lack of knowledge before beginning a project, or had they realized the boldness of their expectations, they would not have done what they did. Instead many of the contributors refer to the “blessed state of ignorance” in which they pursued their careers with confidence not considering their limitations.

That such ignorance of competence might lead to eminent creativity suggests that the conditions of secondary school may be more fertile ground for big C creativity than has hereto been envisioned.

Bolstering confidence might be particularly important to students and novices rather than professional creators. The results of a study of 60 creative professionals working in five domains (Glaveanu & Lubart, 2014) that explored the importance of others in creative lives of mature professionals suggests so. For these creative professionals, interactions with a wide range of others, from family to the general public, had a positive influence on creativity. Others’ influence was characterized by collaboration, recognition, and competition, rather than the bolstering of confidence that teachers lent to students in this study. Though perhaps recognition served to bolster confidence in these professionals. There is more to glean from studying the role that others play in the support of creative competency.

**Discouragement.** Also not prominent in the current literature about encouraging creativity are studies concerned with negative, discouraging environments, though the two workplace scales included in Table 9 do include “destructive criticism,” “hinderance of creativity from the organization” (Amabile et al., 1996), and “conflict” (Isaksen et al., 2001). Amabile et al.’s (1996) scale for assessing creative environments has 78 items, but only two of them pertain to negative aspects of the environment (Mostafa, 2005).
Runco et al. (2016) developed a scale to measure creative support in organizations based on several workplace scales, including the two in Table 9. While the details of this scale, called the RESC (Runco Evaluation of Settings and Climate) is only available commercially through rCAB (2011), it is meaningful to note that Runco included 18 out of 50 items as “barriers” to creativity. He used RESC to study creative communities across the United States (Runco et al., 2016) and found a significant correlation with low (perceived) barriers to creativity in a community and the creativity (as measured with various psychological tests) of the population living there. The findings of my study suggest measures of environments for supporting creativity pay closer attention to discouraging elements.

McLellan and Nicholl’s (2013) study of secondary students and their teachers provides strong, emic support for the finding that discouragement of creativity is important in secondary settings. While the thousands of students in their study, aged 11 to 16, were asked about nine dimensions of creativity encouragement in general terms, their responses led the authors to suggest that their creativity was more discouraged than encouraged. Students prominently spoke about a lack of freedom, challenge, and idea support regarding a program designed to do just the opposite. My study’s findings suggest that discouraging experiences may be more powerful than encouraging experiences in terms of the emotions they provoke and their consequences for students, which has implications for school administrators and education researchers seeking to enhance creativity in schools.

There are other precedents for these claims. Amabile and Kramer (2011), based on their emic work in workplace settings in which 238 employee daily diaries were studied, insisted that small negative events are more powerful than positive events in their influence on employee inner work life and subsequent creativity. Beghetto (2013, 2014) describes the potential for
negative events to result in the loss of one’s willingness to pursue a particular creative aspiration altogether, a phenomenon he calls “creative mortification.” He suggests (Beghetto & Dilley, 2016) that adolescents may be particularly susceptible to this retraction from creativity. In short, discouraging creativity experiences occur in secondary school settings and they matter.

_Why little challenge?_ The literature hints at some reasons for a lack of challenge in secondary schools. Grading practices, including system-wide emphasis on performance and standardized testing, may be influencing teachers’ behaviour (Beghetto, 2005; Beghetto & Plcker, 2006; Craft, 2005; Dishke-Hondzel, 2014). Some students in this study did mention standardized testing as the perceived motivation behind teachers’ discouragement of their self-expression. Hong, Hartzell, and Greene’s (2009) study lends further support for the impact of teachers’ evaluation mindset on creativity; they found among 178 elementary teachers that a learning goal orientation—selection of instructional materials that are challenging—was the biggest statistical predictor of creativity fostering practices. In contrast, teachers with a performance goal orientation, who focused on students’ test performance, did not report meaningful use of creativity fostering practices.

A UK study (Bullock, Bishop, Martin, & Reid, 2002) provides more nuanced evidence that a performative culture can curtail teachers’ encouragement of creativity. The secondary teachers in the study discouraged creativity in students’ project work because they needed to guide students to play it safe in order to achieve good grades. I noted similar threads in the anecdotes and narratives I collected. However, while the students in my study demonstrated awareness of biases and pressures of individual teachers and schools on the one hand, they also largely misinterpreted teachers’ desire to play it safe as a signal that they were incompetent and hence unable to meet a challenge.
Singh-Pillay and Ohemeng-Appiah (2016) found that 21 of the 30 South African Grade 9 teachers they interviewed about using the design process in their technology course were preoccupied with assessment of student product, seeking ease in grading due to work load and time pressures. Such everyday concerns in the lives of teachers who have their own personal and work-related challenges must also influence how much students can access their teachers’ time and energy to support them in pursuit of their own interests. The findings of my study suggest that teachers facing their own challenges would serve their students best by honestly communicating their limitations so as to avoid students assuming that “you can’t do this because I can’t afford the time to support you” means “you are unable to do this.”

McLellan and Nicholl (2013, p. 177) noted that the design and technology teachers they interviewed made little mention of level of challenge. These authors concluded that “some teachers do not recognise the importance of challenge.” The same study (p. 178) revealed concern on the part of teachers that students learn skills, complete tasks, and succeed to the extent that “ensuring students reached a particular point appeared to conflict with students’ desire for freedom to make their own choices.” Teachers also indicated on McLellan and Nicholl’s (2013, p. 179) survey that they generally perceived their students had more freedom and autonomy than their students felt they did. The implication of this study, and my study’s findings, are that educating teachers to make them aware of these issues is part of a reasonable effort to improve creativity support in secondary schools.

**Subject Discipline and Learning Activity Type.** The nature of my data allowed for comparison of disciplines and activities as sites of encouragement/discouragement in secondary school contexts.
Sites of creativity encouragement. Strong sites of encouragement in my study entailed extracurricular activities and fine arts, in keeping with others’ recognition of the importance of the arts for creativity in schools (e.g., Craft, 2005; Winner et al., 2013). Runco’s (Runco et al., 2017; Runco et al., 2016) recent contention that students are more creative outside school than within it lends further weight to the importance of extracurricular activity as a site for encouragement of creativity.

Within extracurricular activities, the findings of this work touched upon school-level biases that privileged sports and science through resource allocation, course availability, and preferential attitudes. Students perceived these biases to have limited their creativity. These student perceptions match those of a government report conducted in the United Kingdom (NACCCE, 1999), and suggests that teachers, schools, and government bodies interested in supporting creativity in their students would do well to consider the breadth of activities available. Finding ways to encourage multi-disciplinary creativity outside formal schooling echoes one of the main recommendations to come out of the European Union report, *Innovation and Creativity in Education and Training in the EU Member States* (Ferrari, Cachia, & Punie, 2009).

Encouragement of secondary students’ creativity in my study occurred in curricular as well as extracurricular contexts, throughout all disciplines including math, science, sports, and event planning within formal curriculum, as well as outside it. These findings, and the anecdotes about teachers in these disciplines who are encouraging creativity in a myriad of ways provide evidence that it is feasible within the confines of current education school systems and formal curriculum to encourage creativity in secondary students. There is much to glean from their example, their methods, and their approaches.
Sites of creativity discouragement. On the flip side, essay writing was a particular site of discouraging creative experiences for the secondary school students in this study, a finding that warrants further investigation. Given that discouragement of creativity can have a profound impact (Amabile & Kramer, 2011; Beghetto, 2014), this finding is disheartening. However, I take comfort in that such a specific cause of the issue makes addressing it more feasible, with potentially large benefits from small changes. Given that secondary English teachers are driven to become educators because of their passion for the subject (Ellis, 2003; Jarvis & Woodrow, 2005; Manuel & Brindley, 2005; Moon & Harris, 2016)—an inherently artistic one in so much as it studies creative products of artists—it seems feasible that teachers might be highly motivated to alter their praxis surrounding essays to be more creativity encouraging.

Discouraging experiences, however, occurred in every discipline, both in curricular and extracurricular contexts, suggesting that the challenges faced by educators and education jurisdictions is broad. Studies like that of Forrester and Hui (2007), Konstantinidou and Zisi, (2017), Leong (2010), and McLellan and Nicholl (2013) highlight the need for attention to be paid to the damage being done to student creativity in all kinds of classrooms in various locations around the world, in recent times.

Recommendations for Future Research

The presence of teachers who are encouraging creativity within formal secondary education settings, within curricular contexts, and across all disciplines stands as evidence that it is feasible to do so. The data suggest a number of strategies for teachers to support creativity within schools with formal curricula and resource limitations on par with the public school system in Ontario. Some strategies warranting further exploration include positive ways to assess for creativity, and the structuring of extracurricular activities for school-wide benefit, such as
Mark’s tech crew. This study suggests that larger, authentic challenges that match student interest and have social impact would benefit student creativity, but that lack of challenge might be currently widespread in schools. Teacher beliefs that influence the availability of these challenges are a key area for research aimed at understanding best practices for supporting student creativity. Students erroneously perceive a wide range of teacher behaviour and classroom structure as a lack of teacher belief. The prevalence, importance, and means to overcome these challenges are all areas to consider in future research.

The broader social conditions and consequences of trust in teachers and their beliefs about students awaits further research, as does ways and means educators can help protect students from the potentially negative consequences of this trust, while retaining the positive consequences. Teasing out the relative importance of student confidence in themselves in relation to their belief in teachers also awaits further research.

This work further highlights the importance of teacher behaviours that discourage creativity. Further research into teacher motivations for these behaviours may lead to reasonable recommendations for schools and educators to curtail them and their negative consequences. The findings of this study further suggest a starting place for the development of measures of creative school environments that consider relative importance of environmental elements and the inclusion of discouraging elements as well as encouraging ones.

Finally, creativity is thought to have both general and domain specific properties (Glaveanu et al., 2013; Plucker & Beghetto, 2004). More research into how creativity is operationalized and encouraged/discouraged in the different disciplinary contexts, both within curricular and extracurricular contexts, could provide education jurisdictions at all levels, as well as educators
and parents, invaluable directions for furthering student creativity and its positive consequences for individuals and society.

**Situating the Psychological Drivers of Student Creativity**

In *Art and Experience*, John Dewey (1934, p. 42) tied emotion to the self, interactions with the environment, and human processes:

> emotions are attached to events and objects in their movement . . . Emotion belongs of a certainty to the self. But it belongs to the self that is concerned in the movement of events toward an issue that is desired or disliked.

In this study, emotion propelled students through creativity encouraging/discouraging experiences in school and intertwined with students’ decisions about competence and identity to fuel the consequences of those experiences well after students had graduated.

Since creativity is emotional (reviewed in Chapter 2), and self-expression is inherent to creativity, the intertwined psychological imprint of creativity experiences on student feelings and decisions of self are logical. They are also linked, as Izard (1991, p. 35), a psychologist who studies emotion, explained:

> the more the perception or cognition relates to the center, or core of the self, the more likely it is to involve feeling or emotion. When the self-concept is attacked the individual becomes fearful and defensive; when the self-concept is accepted and approved the individual is likely to feel interested and joyful.

Goetz, Frenzel, Hall, and Pekrun (2008) have also linked self-concept to enjoyment in a secondary school setting. When students in their study decided they were good at a subject (based on their academic performance), they felt more enjoyment in those subjects’ classes the following year. The cycle of self-concept and emotion is reinforcing.
In this light, creativity experiences are pregnant with potential to influence students’ psychology. In this next section I discuss how the psychological reactions that emerged from my analysis of students’ thoughts, feelings, and decisions fit with extant literature about the psychology of creativity.

**Current Literature and New Insights**

**Emotion.** Emotion as a fuel for creativity does not feature large in the literature surrounding teaching for creativity. Where discussed, it tends to be in relation to good mood. This might be because of the emphasis on intrinsic motivation, and the association that has been made in the literature between intrinsic motivation and good mood (e.g., Izard, 1991; Hennessey, 2004; Hennessey, 2010; Stanko-Kaczmarek, 2012). Starko (2014), who devotes a whole chapter to motivation and classroom organization, spoke of passion as central to intrinsic motivation, and student interest, and a loving atmosphere to build psychological safety. Craft (2005) emphasizes an atmosphere of fun and enjoyment as well as student interest. This study adds to the body of work linking positive emotion and creativity in emic contexts generally and extends this understanding to school settings. It concurs with the importance of enjoyment, passion, and student interest in motivation to begin and/or continue with a creative activity, but also expands the range of emotions important to supporting creativity in schools to include pride, gratitude, hope, and joy and the avoidance of frustration, disappointment, anger, anxiety, and boredom.

In this study pride was not only the most common emotion reported in association with creativity-encouraging experiences, it was also associated with the more powerful, ongoing consequences of enhanced creativity and sociality. Tangney (1999) suggests that pride has a bit of a bad rap among Western cultures, because of connotations of sin—Dante (1937) called it the deadliest of the seven sins. However, a small number of recent research articles have outlined
positive consequences for feelings of pride (e.g., Tracy & Robbins, 2007; Villavicencio & Bernardo, 2013; Williams & DeSteno, 2009). Williams and DeSteno (2008) reported that pride was associated with motivation and persistence, traits important to creativity, while Damian and Robins (2013) directly linked pride to creative performance in a workplace context. Puente-Diaz and Cavazos-Arroyo (2017a) found that business undergraduates with less creative mindsets also had less pride (and gratitude). A distinction is made in this small body of literature between authentic pride, which is based on concrete personal achievements and attributed to specific causes, and hubrus pride, which is based on global ideas of the self and attributed to global causes such as “I am always good at everything” (Tracy & Robins, 2007). Authentic pride is the type that leads to positive consequences. The nature of authentic pride goes along with the importance of teachers’ belief found in this study, as teachers are the main source of objective judgment about student performance on specific tasks in classroom settings. However, Schutz and Pekrun (2007) point out that feelings of pride occur in school settings when, and only when, students feel that they themselves are responsible for success.

Gratitude has received scant attention in education research of classroom settings (Schutz & Pekrun, 2007) and does not feature yet in creativity research to speak of either. This is not surprising given that gratitude is “unpopular” or even considered unethical as it reflects a power imbalance and so “echoes feudalism, colonialism, and oppressive hierarchy” (McAdams & Bauer, 2004, pp. 81-82). However, the sparse extant work suggests that gratitude is strongly associated with well-being, identity formation, and generative, meaningful lives (McAdams & Bauer, 2004). McAdams and Bauer’s work is in keeping with the place gratitude took in this study as a prominent emotion evoked by creativity-encouraging experiences and associated with subsequent further creative activity, decisions of competence and identity, and prosociality.
The strength of pride, gratitude, hope, and joy as fuel for the positive consequences of creativity-encouraging experiences in this study might be considered as success indicators for teachers and schools seeking to teach for creativity. Also, the link between these emotions and creativity experiences in this study provides further rationale for teachers to include creative activity as part of their curriculum. Education researcher Reinhard Pekrun and his colleagues (Pekrun et al., 2002, p. 149) stated strongly that positive emotions “help to envision goals and challenges, open the mind to thoughts and problem-solving, protect health by fostering resiliency, create attachments to significant others, lay the groundwork for individual self-regulation, and guide the behaviour of groups, social systems, and nations.”

One more point: creative activity provokes strong positive emotions (while the constraint of creative activity provokes negative emotions), and these emotions have been found in several studies (reviewed in Pekrun, 2017) to affect standardized test scores and academic achievement (Pekrun, Lichtenfeld, Marsh, Murayama, & Goetz, 2017). Ironically, then, curtailing creativity in classrooms for the sake of teaching to the test or avoiding risk for the sake of better grades might actually undermine academic performance, not better it.

The influence of negative emotions associated with the discouragement of creativity has not been a substantial subject of empirical study in education literature. However, negative emotions have been studied more generally in association with school, with respect to test anxiety for example. In Pekrun’s (2017) review of academic emotions and adolescence, he states that anxiety, anger, shame, hopelessness, and boredom reduce task-related attention, and boredom reduces student intrinsic motivation to learn. However, according to Pekrun, the environmental conditions in the classroom that influence these negative environments are not well studied.
The findings of my study are in keeping with both the negative influence of negative emotions on students in secondary school, as well as the specific link between boredom and motivation to continue through a creative activity. These findings contribute to this body of work, and also suggest some far-reaching consequences for student well-being as well as creativity. A teacher aiming to support creativity might well avoid activities that provoke boredom, but even more importantly might avoid behaviours (such as preventing students from taking on independent projects) that provoke other stronger negative emotions: frustration, disappointment, anxiety, and anger. Again, these emotions might serve as indicators of discouragement of creativity, keeping in mind it is students’ interpretations and perceptions that influence future beliefs and behaviour, not teacher intentions.

**Decisions of Competence and Identity.** Numerous empirical studies have connected competence and perceived competence (confidence) to enhanced creativity. Andriopoulos (2000) found in his grounded theory study in creative businesses that confidence building occurred through four processes. Authenticating, when individuals were allowed to demonstrate genuine abilities, skills, and personality; credentialising, when individuals developed their reputation from scratch through tasks that tested their abilities; updating, when individuals kept up with emerging trends and knowledge of their industry; and, switching off, when individuals broke from a task without feeling guilty. These conditions were all present more or less in the creativity encouraging experiences described by participants in my study, largely through long-term independent projects where students demonstrated their abilities, were challenged by project tasks, needed to teach themselves skills and knowledge to complete the task, and had the time to drop and pick up the task on their own schedule. However, other types of creative activities in the school setting were encouraging, not just long-term independent projects that included these
processes. Perhaps the range of tasks possible for students is broader than that of a creative industry business, where a set service is offered to clients according to budget.

Believing in one’s ability to be creative has been identified as an important factor in creative performance (Tierney & Farmer, 2002) and creative personality (Li, Poon, Tong, & Lau, 2013). The belief that one can achieve something is known as self-efficacy (Bandura, 1997, p. 79, vii), which “constitutes a major aspect of [people’s] self-knowledge” and “operates in concert with other sociocognitive determinants in governing human adaptation and change.” A recent meta-analysis examined quantitatively a connection between self-efficacy and creative performance and found a moderate statistical link (r = 0.40; Bjornberg & Davis, 2015 cited in Steele, McIntosh, & Higgs, 2017).

Bandura (1997) outlined four sources of information from which people construct their self-efficacy, three of which are relevant to findings of this study: enactive mastery experiences that serve as indicators of capability; verbal persuasion and allied types of social influences that one possesses certain capabilities (also called social persuasion); and, physiological and affective states from which people partly judge their capableness, strength, and vulnerability to dysfunction. Completing meaningful challenges provided the students in my study with enactment of mastery experience, teacher belief influenced students through social persuasion, and positive/negative emotions associated with creativity experiences influenced students’ judgments of their competence.

*Mastery experiences.* Bandura (1997, p. 82) asserts that success at a difficult task “conveys new efficacy information for raising belief in one’s capabilities,” in keeping with this study’s findings of the power of challenging experiences relative to simply playful ones. Given secondary students’ age, many challenging creativity experiences will be new to them, for
example performing a solo in a jazz band. These experiences are thus potentially rich in new efficacy information for students. As Bandura (1997, p. 85) put it, “performances at early and intermediate phase of development, when skills have not yet been fully organized and refined, are especially vulnerable to such influences.” It is not just positive experiences that might influence young people particularly. Beghetto (2013, 2014) coined the term “creative mortification”—the loss of one’s willingness to pursue a particular creative aspiration following a negative performance outcome (Beghetto & Dilley, 2016, p. 87)—and also believes the throes of adolescence leave young people more vulnerable to it.

The level of effort put into a task also influences the interpretation of efficacy, again in line with the influence of meaningful challenge on student decisions in this study about their competence. In keeping with the findings of this study, Bandura (1997, p. 81) describes how “a small performance success that persuades individuals they have what it takes to succeed often enables them to go well beyond their immediate performance attainment to higher accomplishments and even to succeed at new activities or in new settings.” Students in this study generalized their decisions about their capabilities, and they did so in both directions—generalizing small failures in completing tasks as well as small achievements to themselves and the greater world.

*Social persuasion.* Bandura (1997, p. 101) stated that verbal, or social, persuasion may be “limited in its power to create enduring increases in perceived efficacy, but it can bolster self-change if the positive appraisal is within realistic bounds.” The findings of my study suggest that social persuasion was stronger than Bandura’s statement implies, in keeping with a study by Puente-Diaz and Cavazos-Arroyo (2017b) that links positive encouragement of creativity from others to one’s creative self-efficacy. Often in this study, teachers instilled confidence simply by
stating that they believed in students, giving them permission to attempt challenges, or requiring them to struggle through them while providing an emotional safety net. Teachers seemed to have particularly strong influence over students’ perceptions of their capability in my study, with students overgeneralizing teachers’ words and behaviours beyond the specific circumstances of the situation. Overgeneralization has been associated with self-esteem and influences of the environment on self-esteem in numerous empirical studies (Brown & Dutton, 1995; Epstein, 1992; Hayes, Harris, & Carver, 2004; Kernis, Brockner, & Frankel, 1989).

Several elements that enhance the influence of social persuasion on the personal appraisal of competence, according to Bandura (1997), were present in the creativity experiences described by participants in my study. Evaluative feedback is one means through which verbal persuasion occurs, and it has more impact on individuals in the early stages of skill development (Schunk, 1984), which is often the situation in secondary school. As a case to illustrate the point, Gardiner’s (2017, p. 123) case study of six secondary student-teacher pairs engaged in play-writing suggests that students without domain knowledge of playwriting amplified the importance of feedback from teachers “well beyond its relative merit.”

The perceived “diagnostic competence gained through years of experience” of those giving judgment (Bandura, 1997, p. 104) also enhances the persuasive power of feedback. This, too, describes the situation in secondary schools. In keeping with my findings regarding the power of teacher belief, Bandura (1997, p. 105) stated that “the impact of persuasive opinions on efficacy beliefs is apt to be only as strong as the recipient’s confidence in the person that issues them.” Many of the students in my study were affected by their teachers’ lack of belief because they trusted the source. A study (Lam & Chan, 2017) comparing the relative influence of parents and teachers on Chinese students found that negative feedback reduced self-efficacy; and that
teachers were as influential as parents in the effect of this feedback. Mothers, however, were more influential in their positive feedback. More directly, a study from Korea (Won, Lee, & Bong, 2017) asked how perceived teacher credibility affected the social persuasion of teachers; they concluded that, indeed, student perceptions of teacher credibility influenced their decisions of self-efficacy.

McLellan and Nicholl (2013), in their study of design and technology courses in the UK, concluded that teachers were underestimating students’ ability to be creative. The teachers expressed concern for students’ inability, and “seemed inclined to believe that students rather than teachers lay at the root of the problem of lack of creativity,” while “only a small number of practitioners recognized that their interactions with students could be problematic” (p. 178). Given these findings it is tempting to suggest that the lack of teacher belief some of the students in my study perceived was real.

Bandura (1997, p. 102) stated plainly that social evaluations are often conveyed subtly, especially “when social customs frown on voicing devaluation of others,” which is generally the case in schools. The message that not much is expected from a person because they are incompetent can be conveyed when they “are assigned unchallenging tasks, praised excessively for mediocre performances, treated indifferently for faulty performance, repeatedly offered unsolicited help, or given less recognition than others when they perform as well.” These behaviours are reflected in the discouraging anecdotes and narratives told to me by students, with the exception perhaps of being praised excessively for mediocre performances, though several participants did not trust strong praise given because it is what they expected teachers to do. The research cited by Bandura suggests that individuals are well practiced at seeing through these
veiled devaluations, which suggests that students may not be completely misinterpreting a lack of belief from their teachers.

Regardless of the motivations behind teacher behaviour, my work suggests that students often interpret teachers’ behaviour, feedback, and evaluations as signalling a lack of belief in their ability. Because of the power of teacher belief, teachers would do well to be careful with the messages perceived by students, especially given that it is easier to undermine self-efficacy than to instill it (Bandura, 1997). One way for teachers to ease the potential for secondary students to form negative opinions about themselves unwarranted might be to pay mind to presenting themselves as people with limitations and imperfections, whose opinions are not always accurate. Perhaps when teachers are asked for permission to do difficult projects and fear about grades is legitimate, teachers might simply suggest that students do the project outside of class time, and not for grades. Any small token of support provided for such an initiative could be interpreted as belief in student ability to achieve it. Whether the judgments of students that teachers express disbelief are accurate or not can be sidestepped through teachers’ expression of genuine expectation. Tierney and Farmer (2002) found that supervisor expectations were interpreted by employees as supportive of their creativity.

The influence of inaccurate judgments on behaviour has been deemed “self-fulfilling prophecy” in the psychology literature, demonstrated by experiments in which leaders were given false information about subordinates (Harris & Rosenthal, 1985; Kierein & Gold, 2000; McNatt, 2000; Rosenthal, 2002; Rosenthal & Rubin, 1978; Weaver, Moses, & Snyder, 2016). Rosenthal and Jacobson (1968) examined if/how teachers’ false belief about student competence influence student performance. Their experiments demonstrated that there is a small to moderate influence of a teacher holding a false belief about a student’s ability on the actual performance of
the student; when a teacher was told certain students had been identified as latently gifted, the students actually performed better academically as a result. In parallel, negative false beliefs detract from student performance (Madon, Willard, Guyll, & Scherr, 2011). While the effect of self-fulfilling prophecy is relatively small (Jussim, 1989), this concept and the evidence for it are consistent with the power of teacher belief that emerged from my analysis. Of relevance to this discussion is the intriguing finding from at least one study that teachers are not good judges of creativity (Gralewski & Karwowski, 2013), so they might judge creative students as uncreative and convince students of it.

**Emotions.** Emotions, too, play a role in self-efficacy. “Somatic information conveyed by physiological and emotional states” (Bandura, 1997, p. 106) is especially relevant in stressful situations. Perhaps high school, where social anxiety is high and grades affect future opportunities, qualifies as a stressful situation for some students. Since creativity is so linked to emotion, then, creative experiences may be particularly prominent sites for emotion to influence self-efficacy.

Throughout the data in this study, the mechanisms through which students made decisions about their competence and identity during creativity experiences hinged on their interactions with the material world through meaningful challenge, the teacher’s subtle or not so subtle persuasion that the student was or was not capable of completing the challenge, and the emotional reactions they had to the challenge.

**Motivation and Self-Determination Theory.** The centrality of intrinsic motivation to creativity has been championed by Teresa Amabile, a psychologist at Harvard Business School who developed the “intrinsic motivation principle of creativity” (Amabile, 1997). She has made
the claim that without intrinsic motivation, no “recognizable level of creativity is to be produced” (Amabile, 1983, p. 367). In Amabile’s (2012, n.p.) words intrinsic motivation is passion: the motivation to undertake a task or solve a problem because it is interesting, involving, personally challenging, or satisfying – rather than undertaking it out of the extrinsic motivation arising from contracted-for rewards, surveillance, competition, evaluation, or requirements to do something in a certain way.

The findings of this study are in keeping with this crucial role of intrinsic motivation in creativity. Many participants spoke of passion for their creative activity involved in encouraging experiences. Features of my study in line with intrinsic motivation theory included some of the characteristics of creative activities that made them meaningful for students, namely matching a student’s pre-existing interest, challenge, and the perception that the task had authentic relevance to students’ lives. However, the motivation to complete a task was sometimes supplied by external, curriculum requirements, which is in itself not in opposition to current understandings of extrinsic motivation (Ryan & Deci, 2000; Steele et al., 2017). However, the findings of this study differ from intrinsic motivation theories of supporting creativity in the following ways:

• the emphasis placed on autonomy/freedom in intrinsic motivation theory (Deci & Ryan, 1985; Ryan & Deci, 2000), versus the relative importance of challenge and teacher belief compared to freedom in my study;

• the clear parallels in the influence of creativity-discouraging experiences highlighted in my study, and the conditions of lack of challenge and lack of teacher belief that contribute to this discouragement, compared to the intrinsic motivation studies’ emphasis on external reward as the chief environmental influence that curtails creativity, which is not a straightforward relationship (Amabile & Pratt, 2016; Ryan & Deci, 2000); and,
• the emphasis on enjoyment in intrinsic motivation models versus the relative importance of pride, gratitude, joy, and hope (and conversely frustration, disappointment, anxiety, and anger in creativity-discouraging experiences) evident in my findings.

One key reason for these differences is that intrinsic motivation focuses on creative task initiation and completion. In this sense, the findings of my study concur: enjoyment and passion, as well as hope, propelled students through completion of the activity. However, in this retrospective study, I was able to consider and analyse more long-term consequences of creativity experiences, and it was this retrospective data that led to my interpretation that challenge and belief (regardless of their source being intrinsic or extrinsic) were more powerful.

Self determination theory (SDT) describes three innate psychological needs that drive motivation and personality integration: autonomy, competence, and relatedness (Ryan & Deci, 2000; Deci & Ryan, 1985). With respect to creativity, SDT is considered the conduit of intrinsic motivation (Deci & Ryan, 1985; Hennessey 2000; Ryan & Deci, 2000). Ryan and Deci (2000; Deci & Ryan, 1985) stress autonomy as the optimal environment for motivation. When full autonomy is not possible, and motivation for a task comes in part from external sources, such as school or work, the more autonomy the better. Relatedness and competence are discussed as means to enhance the feeling of autonomy through internalization of an external goal.

Relatedness helps because if the goal comes from someone to whom the person feels connected, the goal then becomes about an internal need to please or connect and is internalized. Perceived competence helps in that people are more likely to adopt activities they feel competent about doing. Tasks that are “autonomy supportive” (Ryan & Deci, 2000, p. 74) allow a person to feel competent, related, as well as autonomous. Ryan and Deci (2000, p. 70) acknowledge that “most of the research on the effects of environmental events in intrinsic motivation has focused
on the issue of autonomy versus control rather than that of competence,” in part because autonomy was found in experiments to be a necessary condition.

The three psychological human needs that form the SDT triad on the surface parallel the three conditions for creativity that emerged from my analysis in this study: autonomy/freedom, competence/challenge, teacher belief/relatedness. However, there are some key ways my findings differ from SDT and intrinsic motivation research in creativity. Ryan and Deci (2000) acknowledge that SDT research, like that of intrinsic motivation, emphasizes autonomy rather than competence and relatedness. The findings of this study concur that freedom/autonomy is important; however, meaningful challenge and teacher belief appeared to be even more important when consequences of task completion on students’ future beliefs and behaviour were considered.

When competence is considered in SDT research, it is as an internal motivation factor that aids in intrinsic motivation. Current levels of perceived competence influence intrinsic motivation. However, this view misses consideration of the power of challenge in a task to push perceived competence beyond current levels. In reviewing the SDT literature, Ryan and Deci (2000) present evidence for the importance of perceived competence in a given task influencing a person’s motivation in doing a task, or their sense of autonomy while doing a task. How challenge in an environment might consequently enhance a person’s future intrinsic motivation for creativity does not yet factor large in SDT theory.

Third, the notion of relatedness as an element of motivation is presented as about meeting a person’s need for belonging. The condition of teacher belief found as a condition for creativity in this study was largely about competence, as the teacher belief was the source of the decision of competence (and identity). Studies interpreted through the SDT lens consider relatedness to
influence intrinsic motivation through the psychological need for relatedness. However, interpretation of the same work differs when viewed through the lens of the conditions for supporting creativity, including challenge and belief, found in this study. For example, Ryan and Deci (2000, p. 71) cite work by Anderson, Manoogian, and Reznick (1976), in which children who “worked on an interesting task in the presence of an adult stranger who ignored them” resulted in “a very low level of intrinsic motivation.” Ryan and Deci interpreted this finding as evidence that intrinsic motivation is “more likely to flourish in contexts characterized by a sense of security that comes from relatedness.” However, through the lens of my study’s findings, the children in this study might have interpreted the adults’ behaviour as an indicator of a lack of meaningful challenge in the task, or a lack of belief on the part of the adult in their competence to complete the task. Ryan and Deci (2000, p. 71) point out that many intrinsically motivated behaviours are happily performed in isolation, suggesting that proximal relational supports may not be necessary for intrinsic motivation, but a secure relational base does seem to be important for the expression of intrinsic motivation to be in evidence.

Through the lens of my interpretation of this study’s findings, I am wondering how much of these “secure relational supports” are about evidence that others believe in a person’s competence.

**Recommendations for Future Research**

Current understanding in extant literature considering the connection between emotion and creativity revolves around the benefits of creativity for students, or the benefits of positive emotions (and the avoidance of negative emotions) in school settings. This grounded study suggests that cross fertilization of these two fields of research could reap meaningful insights.
Example research questions could address links between creative classroom environments, academic achievement, and student emotions, or explore how challenge and teacher belief relate to emotion and academic achievement as well as creativity.

The strength of pride and other positive emotions involved in the creativity-encouraging experiences in this study suggests that research aimed at further understanding the connections between emotion and creativity might look to pride, gratitude and hope as well as enjoyment. Research might aim similarly at understanding the connections between negative emotions and creativity, beyond boredom to consider frustration, disappointment, anxiety, and anger.

From the perspective of understanding creativity in real-world contexts, frustration might be particularly interesting, given that it was the most prevalent emotion in creativity-discouraging experiences but also is a common part of the creative process itself; it must often be overcome for a creative goal to be reached. Obstacles are inherent to creativity (Glaveanu et al., 2013). Grudin (1990, p. 88) speaks forcefully about how “the willing endurance of pain is a key factor . . . in human creativity.” His suggestion that the Western, modern “cultural context has done its best to annul or camouflage . . . the challenge of pain” has relevance for school cultures that avoid failure at all costs (Grudin, 1990, p. 90).

While the psychology literature makes distinctions between accurate and false assessment of student ability by teachers, when it comes to the practical situation of supporting creativity as indicated in this study, it does not matter how accurate the assessment—what matters is what students perceive teachers expect of them. This suggests an avenue of research asking whether teachers can instill belief even when they don’t feel confident in students themselves. The hints in the education literature (e.g. McLellan & Nicholl, 2013; Okoh, 1983)
that teachers underestimate secondary students’ actual abilities warrant further exploration, too, given the consequences of these inaccurate judgments.

The relationship between challenge and competence, and relatedness and interpretations of belief in one’s abilities are among the research questions that this study raises. In all, the findings of this study suggest there is rich fodder in secondary school creativity settings for psychologists to tease out some of the nuances of their questions surrounding the relative power of motivation, self-efficacy, self-fulfilling prophecies, and the development of competence and identity. This dissertation also suggests that retrospective studies may prove an insightful source of data for these fields of inquiry.

Situating the Consequences of Student Creativity

Memories of the past are connected to the present, through emotion, cognition, and sense-making. John Dewey (1926/1984, p. 106) posited that:

Past experiences are retained so that they may be evoked and arranged when there is need to use them in attaining the new end set by the needs of our affective nature. But the retention is not intellectual. It is a matter of organic modifications, of change of disposition, attitude and habit. The ‘stuff’ from which thinking draws its material in satisfying need by establishing a new relation to the surroundings is found in what, with some extension of the usual sense of the word, may be termed habits; namely the changes wrought in our ways of acting and undergoing by prior experiences. (p. 106)

The consequences to the students in my study of creativity-related experiences continued to influence their dispositions, attitudes, habits, and actions two to five years later. My study is novel within the education literature for the extent of consideration of potential consequences of secondary school creativity experiences on students’ continuing lives.
The consequences of the creativity events described in my study have not only continued with students into their present, but they will likely continue with participants into their futures. In this way, the extent to which students interact with their environment through creativity today, and tomorrow, is inextricably linked to the extent that they have been allowed to interact with their environment through creativity in the past. The consequences for encouraging/discouraging creativity in secondary school have implications for the future adults of society.

Creativity is to act in and on the world, to alter it (Glaveanu, 2012; Karwowski & Beghetto, 2018). When a person impacts the material world through their creativity, they alter that world—they expand it. Experiences that encourage creativity, then, not only have the potential to expand the interactive space of students in the experience, but also the interactive space of others who interact with the creative students’ newly expanded worlds. “Creative freedom grows, rather than contracts, when it is shared” (Grudin, 1990, p. 136). These consequences to others are undoubtedly as real as the waves of butterfly wings in the air, or the ripple of a kind gesture in the middle of a stressful event, and just as immeasurable.

Current Literature and New Insights

Mood and Further Creativity. Much has been written about the benefits of creativity for health and mental/emotional well-being, as reviewed in Chapter 2. However, most of the extant published research was not undertaken with adolescents or in school environments. This work echoes previous findings from emic studies of the positive emotional consequences of creative activity in the workplace (Amabile & Kramer, 2011; Conner & Silvia, 2005) in secondary school settings.

These diary studies demonstrate short term consequences of creativity on emotion, and how this positive emotion can lead to subsequent enhanced creativity, in a creativity-begets-
further-creativity cycle. This dissertation extends this understanding of the potential consequences of creativity in the longer-term, potentially for years. Rather than the micro creativity of everyday work life, the consequences of creativity experiences in this study relate to broader, wider behaviours and beliefs.

Much less has been researched concerning the negative consequences of discouraging creativity, although Amabile and Kramer (2011) describe how even perceived unimportant, negative events in the workplace had negative consequences for employee emotion and subsequent performance. Amabile’s study also found the effects of negative events were stronger than the effect of positive events. Amabile and Kramer (2011) further cite a study by Miner, Glomb, and Hulin (2005) that quantified the connection between mood and negative work events as five times stronger than the connection between mood and positive events. While the equivalent empirical work has not been undertaken in education settings, Kim and Hull’s (2012) study of secondary school dropouts suggested a relationship between highly creative personality and the risk of dropping out of school, which the authors postulate exists because the school environment did not meet their needs.

**Learning.** Craft (2005) argued in her book *Creativity in Schools* that to teach for creativity is also to teach for rich learning. A link between creativity and learning has been a part of discussions surrounding creativity since Guilford’s (1967, p. 307) words: “creativity and learning are much the same phenomenon.” A number of recent articles explore the deep connections between learning and creativity, notably Sawyer (2016) and Beghetto (2016). The latter (p. 4) distinguishes between “creativity-in-learning . . . the role that creativity plays in the development of personal understanding” . . . [and] “learning-in-creativity . . . the role that sharing one’s understanding plays in making creative contributions to others.” The findings of
my study uphold and extend the learning-creativity connection. Some of the students in my study articulated how creativity in learning activities enhanced their learning of the topic. Others articulated how learning in creative activity had long-lasting consequences for how they approached learning in the years after the experience. Both these findings relate to Beghetto’s (2016) “creativity in learning.” How the interactions with learning during the creativity related experiences influenced others’ creativity, Beghetto’s (2016) “learning in creativity,” was beyond the scope of this study. However, the link between creativity and sociality suggested by this study’s findings suggest that any learning that occurred in these creativity encouraging experiences was more likely to be shared.

Sociality. My findings suggest that encouraging creativity in secondary students might have positive effects on mental health and student relationships through its prosocial consequences, while discouraging creativity in secondary students might have negative effects on mental health and student relationships through its antisocial consequences. Research connecting creativity and social behaviour is sparse and its focus piecemeal. In the psychology literature, results of experiments have suggested that divergent thinking induces participants to donate more generously than convergent thinking (Xu & Mihta, 2015), reduces automatic stereotyping (Sassenberg & Moskowitz, 2005), and aids in conflict resolution (Gruber, 2000). Preschoolers who participated in theatre were consequently more cooperative according to Rowe, Salo, and Rubin (2018) and in keeping with findings on the consequences of play on children’s behaviour (de Lorimier, Doyle, & Tessier, 1995; Russ, 2004). Several studies looking at the consequences of art-based therapy include prosocial behaviours in a number of contexts world-wide (Isis et al., 2010; Nigmatullina & Gerasimenko, 2016; Massey & Burnard, 2006).
My study’s findings suggest there may be some fundamental, positive connections between everyday sociality and encouraging creativity experiences among adolescents in school settings that to date have been largely unexplored. This finding has implications for the well being of individuals as well as school populations. Furthermore, my study’s findings suggest that discouraging creativity experiences in secondary school may contribute to anti-social behaviour and its negative consequences on student relationships and well-being.

**Recommendations for Future Research**

Discouraging creativity experiences had negative consequences for the students in my study. It would be interesting, given Kim and Hull’s (2012) conclusion that creative students are more at risk, to delve further into the consequences of creativity for students who have higher or lower creative personalities. What to expect is not obvious. As Kim and Hull (2012) point out, perseverance is a trait of highly creative people and it is associated with lower risk of dropping out, while challenging authority, also a high creativity personality trait, is associated with a higher risk of dropping out.

Both the connections between creativity and learning and creativity and sociality are exciting areas for further research. Given the current prevalence of adolescent mental health issues (World Health Organization, 2017), the risks of social isolation in adolescence (Liu et al., 2015, Lin et al., 2018), and the prevalence (Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014) and impact of bullying (e.g., Nikolaou, 2017; Wolke, Copeland, Angold, & Costello, 2013), the potential benefits for attending to creativity may be much broader and wider than previously imagined. These are big, important claims that warrant further research attention.
Limitations

A quality grounded theory study includes enough variation to understand the full range of contexts of the study, gain detail of a range of participants’ views and actions, reveal what lies beneath the surface, reveal changes over time, gain multiple views of the participants’ range of actions, enable development of analytic concepts, and make comparisons between data (Charmaz, 2014, p. 33). While the variation among my participants provided rich data and theoretical saturation that met these goals, my participants themselves were limited to a particular subset of secondary students—those who attended a relatively good quality university (as judged by Canadian institutional rankings). The majority of my interview participants were also Caucasian and female. For this reason, I have titled this dissertation, *Towards a Theory for Supporting Creativity in Schools*, in recognition of the work to be done.

Postsecondary Students

The students who participated in my study had successfully navigated the academic waters to achieve their goal of postsecondary education at a good quality institute. The majority of the Canadian population does not attend university (Statistics Canada, 2017), even though Canada has one of the highest postsecondary rates in the world. In this regard, the participants of my study were a minority. They are students who have ‘bought into’ the system; largely, they value it. They might well have a particular suite of characteristics not shared by other secondary students. This begs the question: have the secondary students who have not gone on to postsecondary education interpreted their encouraging and discouraging experiences differently?

I might surmise that discouraging experiences had an even greater influence on the students who did not go on to attend university, and they experienced a subsequent greater contraction from interactive space, including perhaps the non-pursuit of academic-oriented goals.
Perhaps the damage from not fitting in with the system, being excluded from it, was more intense that that of the participants in my study. Perhaps these students possess fewer resilience strategies including protection of ego that I discerned in my data. Perhaps they possess fewer outside supports—peers and parents, as well. This line of reasoning suggests that the consequences of discouraging experiences reflected in my analysis of this study’s data are a minimum; for the majority of secondary students, the consequences could be much worse.

I might also surmise, on the other hand, that creativity-discouraging experiences had a lesser influence on students who did not pursue university, because they did not possess the same respect for teachers, the same buy-in for the education system including its postsecondary stream, and the same conforming behaviour necessary to get into a postsecondary institution of merit. Hence, they retained their ego and were less affected by perceptions of others’ lack of belief. Perhaps not fitting as well into the postsecondary stream education system simply meant that many of these students went into workplace contexts, maybe even workplace contexts where creativity is much more encouraged. My younger brother represents such a case; he did not do well in secondary school in Ontario and avoided all postsecondary education as well. Instead, he went right into the workplace as a sound design intern, worked his way up as a sound engineer in video game companies and now owns his own video game company employing nine other creative professionals.

The logical consequence of this scenario are no less undesirable for society; it means the strong egos and non-conformers could be deterred from entry into postsecondary education and all the careers and societal roles that require higher education credentials such as doctors, lawyers, and teachers. Under this scenario, our society could be effectively selecting for
conformers for all higher education credentialed positions who are more inclined to be swayed by others’ opinions and tend to avoid arenas of risk.

Answering these questions requires further study of the perceptions about creativity-related school experiences of nonpostsecondary individuals; I think this is the most pressing of future research prompted by this dissertation.

**Culture**

Sawyer (2006, p. 141) highlights a number of ways creativity differs with culture, including fulfilling different functions; in the United States “the functions of art are largely to support the individual, and to reward and acknowledge individuality,” while in other cultures, art “serves a more collectivist function: ritual effectiveness”, so that “it is important for the work not to be different” (p. 148). Craft (2005, p. 87) gives an excellent summary of the implications of cultural differences in the conception and valuing of creativity for schooling, as the high value placed on individuality is “closely tied to the marketplace,” meaning it is based on products and innovation rather than conforming, peaceful docility or looking inward for spiritual enlightenment. Craft (2005, p. 97) contends that not all cultures value creativity, fullstop, so teaching for creativity then is both culturally “blind” as well as problematic because creativity is embedded in a set of cultural values that “does not connect easily with some pupils’ experience and understanding of how the world works.”

The interview participants in this study were largely of Caucasian descent; two of fourteen grew up and went to school in China. In this regard, the study’s findings do not encompass enough cultural variation for me to make any claims that I explored the encouragement/discouragement of creativity, the psychological drivers, or long-term consequences of creativity-related experiences on secondary students across cultures. However,
there is corroborative work relating to the conditions for creativity from emic studies, as discussed in the next section on “Generalizability” to lend weight to the claim that the conditions that encouraged/discouraged creativity in these secondary students might well encourage/discourage creativity in people more widely than the context of Canada.

While thinking of Craft’s concern, I recognize the individualist approach rather than the collective one inherent in my working definition of creativity, though the inclusion of self expression devolves the emphasis on product, to be more inclusive of cultural creative activities that emphasize inward reflection and spiritual enlightenment. However, I find it heartening to consider that emphasizing the conditions for creativity that unfurled from this study—freedom, meaningful challenge, and teacher belief—might allow for more cultural sensitivity in teaching for creativity. Teaching for creativity based on a definition of novel products of value, is what Craft (2005, p. 87, citing Ng, 2003) calls “culture blind.” Freedom means allowing students to follow their own interests, be they adhering to tradition or innovating a product. Meaningful challenge means allowing students to strive for whatever is important to them, such as working really hard to make the most effective ritual artwork or delving into their “realization of the universe” (Craft, 2005, p. 93) through inner reflection. Teachers can instill belief in students that they are able to tackle any meaningful challenge, keeping in mind that it is the completion of a task, not its success in the eyes of an audience, that matters for student decisions of “I can” and “I am.”

**Education Jurisdiction**

The collection methods of my study ensured that the learning environment data came from a variety of schools. Although some questionnaire participants attended secondary schools in provinces across Canada, the United States, and other countries, most were from Ontario—an
education jurisdiction governed by formal curriculum documents that purport to value creativity, and moderate standardized testing at the secondary level—one high stakes, province-wide literacy test in Grade 10. The course curricula for different disciplines as well as funding structures relating to school extracurricular activities and facilities vary from school to school in Ontario, but not as drastically as they do worldwide. The limitations on the variety of school environments represented in this study do not detract in any way from conclusions regarding what conditions within the school environment actually did encourage/discourage creativity for these participants, and I believe that human beings whatever their culture are more similar than different, but school jurisdictions would most definitely influence some of the external resources and classroom-culture elements that emerged as important in my analysis of this study’s data. While the environmental elements are likely to differ in this study from the elements present in other jurisdictions, the variety of social relationships and student psychology that were represented in this dissertation are more likely to be broad and deep in their representation in my view. Again, more work in other jurisdictions to compare would be highly valuable.

Gender

The psychology research on creativity suggests that gender affects creativity, with some suggestion that males may be more creative than females (Baer & Kaufman, 2008; Furnham, Crump, Batey, & Chamorro-Premuzic, 2009; He & Wong, 2011). Less contentiously, gender influences how individuals react to their environment with respect to creativity. For example, male children respond to competition more positively than female children (Conti, Collins, & Picariello, 2001). Most of the participants in my study identified as female, as discerned from data collected by the university from whom I obtained the email list. I discerned no clear patterns in student reactions, the conditions for creativity, or experiences they described on the basis of
gender in this study. However, it is utterly possible that the nuances of this research’s findings are less applicable to male students than female students in ways the variation in my study did not allow for discernible patterns, or in my own researcher limitations and interpretive biases. Gender is acculturated, and roles for females and males in Western society relate to secondary school contexts; females and males relate differently to disciplines such as math and science for example (e.g., Frenzel, Pekrun, & Goetz, 2007; Waltraud & Horwath, 2014). Studies of teacher perceptions have also suggested differences in their interpretation of student behaviour related to creativity according to gender (Gralewski & Karwowski, 2013). Gender influences how emotions are experienced, too (Brebner, 2003; Else-Quest, Higgins, Allison, & Morton, 2012). These elements all relate to the findings of this study. Of particular interest, considering the perceived role of pride in driving the consequences of encouraging creativity related experiences, a recent article described empirical findings that Caucasian adolescent females experience pride more intensely and positively than males (Webb, Stegall, Mirabile, Zeman, Shields, & Perry-Parrish, 2016).

**Recommendations for Future Research**

Each of the limitations described above, and many more unspecified and unrecognized, are part of the experience of schooling and relationships, and thus may have untold and unexamined influences on this study’s findings. The limitations described in terms of postsecondary student participants, culture, gender, and education jurisdiction all represent areas of intense interest for further research.

**Generalizability**

Constructivist grounded theory studies like mine are able to “move from substantive theorizing to formal theory because of its generality and contribution to an abstract concept”
Charmaz (2014, p. 254). According to Charmaz (2014), findings are generalizable beyond the situation because the concept is situated and framed within a larger theoretical discourse. In my study, the concepts of encouragement/discouragement and creativity are certainly abstract, and the conditions that unfurled from my analysis—freedom, challenge, and teacher belief—are also abstract, general concepts. Situating this study within the larger discourse surrounding the encouragement/discouragement of creativity in organizations demonstrated fit with current understandings, while extending specific areas of insight.

For Charmaz (2014, p. 322), generality of a grounded study “emerges from the analytic process rather than as a prescribed goal for it.” She recommends (2014, p. 322) that researchers “situate your study and let generality emerge from the analysis, [to] construct a safeguard against forcing data into your favorite analytic categories.” I have adapted this approach in my analysis and discussion and was not aware of the emic studies that arrived at the same arrangement of conditions for creativity in their studies. Andriopoulos’s (2000) grounded theory findings of supporting creativity in creative workplaces and McLellan and Nicholls’s (2013) large scale study of the supports for creativity in secondary design and technology classes both described the same conditions for creativity as I did in addition to freedom: challenge and confidence (paralleling teacher belief in this study). The range in contexts in these studies, and their independent undertaking, lends weight to the generalizability of my findings.

The patterns of relationships I perceived in the data of this study involved general elements of human emotion, identity, agency, and relationships. My findings provide a snapshot of a time and space where these abstract concepts involved in human experience collided, an example of how these concepts converge in real human lives. In some ways, my findings also suggest new insights that could nudge the theory of supporting creativity in new directions, such
as the relative importance of challenge and confidence, the role of teachers as a source of confidence in school settings, the relative importance of discouraging experiences, and the links between creativity, learning, and sociality. These movements between the general and the specific are the theoretical links that characterize this study. While I, the researcher, constructed this data and its analysis, so too were the theories of human experience (including the very notions of creativity, emotion, identity, and grounded theory) in which it is embedded. In this light, the work is as valid, as generalizable, as any other carefully undertaken research story (Hendry, 2010). However, my hope is that the patterns embroiled in the experience of encouragement/discouragement in secondary school that have emerged from this work do resonate with people as authentic and can apply to the goal of supporting creativity in ways that are useful.

If creativity is action or behaviour, then individuals—be they students, employees, or independent creators—have control over it. Individuals ultimately decide to be creative or not. Understanding how schools support creativity might also provide insights into how anyone interested in supporting their own creativity might further their decisions about being creative, and better understand the thoughts and feelings that underpin those decisions. In this light, the theory for supporting creativity developed here may apply broadly to any individual or group of individuals interested in their own creativity.

**Concluding Remarks**

This work expands on the current literature that communicates understandings about how to support the creativity of others, particularly in secondary school settings. My findings suggest that supporting creativity entails emphasis on encouraging meaningful challenge and instilling confidence in students through teachers’ belief, in addition to offering opportunities for freedom.
This finding is in keeping with a grounded study focused on supporting creativity in the workplace that concluded that challenge and confidence were the key conditions in that context (Andriopoulis, 2000), and a large-scale study of secondary students that concluded that freedom, challenge, and idea support were the most important environmental supports for creativity (McLellan & Nicholls, 2013). My work suggests the kinds of challenges that secondary students might find meaningful include matching their interests, the potential for social impact on peers or the community, and connections to their lives outside of school. Teachers in this study demonstrated belief in their students by saying “yes” when students asked for permission to undertake meaningful and unrequired challenges. They also provided verbal affirmation, specific and general constructive feedback, gave time and energy to assist students in achieving their independent goals, and embedded evaluation practices that recognized effort and rewarded self-expression.

This work also suggests that supporting creativity in school settings requires particular consideration of discouraging events that constrain student autonomy and curtail meaningful challenge, as well as indicate to students a teacher’s lack of belief in their abilities. Overall, my findings suggest that greater attention by teachers of what not to do may be more important than positive strategies of what to do when planning for creativity in school settings, though the behaviours are largely parallel opposites.

Both encouraging and discouraging creative experiences occurred across the curriculum and in a wide range of extracurricular activities. Extracurricular activities were a particular site for encouraging creativity experiences especially in the fine arts, such as school bands and drama clubs. Creativity-discouraging experiences occurred relatively more often in the context of classroom curricular activities, with essays in the humanities a particular site of discouragement.
The psychological processes propelling the encouragement/discouragement of creativity in this study were positive/negative emotions, particularly pride and enjoyment/frustration and disappointment. Students’ emotional responses were embedded within larger cognitive reactions wherein students made decisions about their competence and identity. Teachers’ behaviours, much more than peers’ and even students’ own self-perceptions, played a key role in this study in student decisions of competence and identity. This study’s findings suggest the power of teacher belief to instill or crush student confidence may reside in students’ pre-existing core beliefs that teachers are benevolent and trustworthy, and their opinions to be respected. The influence of teacher belief was discussed in this dissertation in the context of Bandura’s (1997) notion of social persuasion as one mode of the development of self-efficacy. The finding was also considered in light of self-fulfilling prophecy (Rosenthal, 2002), which also deals with the influence of others’ (including teachers’) opinions on the actions of students.

Encouraging creativity experiences in secondary school as described in this study had short and longer-term (three to five years) consequences for students, including enhanced creative behaviour and beliefs, enriched learning, and prosociality. Discouraging creativity experiences in secondary school as described in this study had parallel, but opposing negative consequences on creativity, learning, and sociality. Experiences involving meaningful challenge/lack of meaningful challenge and/or teacher belief/lack of teacher belief were more powerful than experiences that revolved entirely around freedom/constraint in terms of the consequences to students in this study. Students responded to creativity discouraging experiences with a variety of protective psychological strategies to protect their sense of self and/or avoid the source of negative emotions. Some students were less affected by discouraging creativity experiences, and in these cases their confidence remained intact. The connection between student
creativity and pro/anti sociality is both relevant and timely considering the issues facing schools and society; pursuit of further understanding of this connection in future research seems particularly warranted.

Taken together, the findings of my study fit with the current understanding of supporting creativity, but also suggest some shifts and expansion of approach might be beneficial for reaching the goal of fostering creativity in school, and perhaps in other contexts as well. The experience of creativity challenged the students in my study to be better versions of themselves, more able, and more pro-social. For many of these students, the power to grant or deny a creativity experience resided largely with their teachers.

Ultimately, the findings of this dissertation bear a message of hope because they demonstrate it is utterly possible for teachers in secondary schools within the current Western education system to encourage their students’ creativity, in a myriad of ways, and across all subjects. Indeed, there are teachers around us doing it everyday.
REFERENCES


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http://dx.doi.org/10.1037/aca0000223


Işık, S. & Ergüner-Tekinalp, B. (2017). The effects of gratitude journaling on Turkish first year college students’ college adjustment, life satisfaction and positive affect. *International Journal for the Advancement of Counselling, 39*, 164-175.


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Runco Creativity Assessment Battery (rCAB, 2011). *Creativity testing services.* Retrieved from www.creativitytestingservices.com


Yuan, L. (2015). The happier one is, the more creative one becomes: An investigation on inspirational positive emotions from both subjective well-being and satisfaction at work. *Psychology, 6*(3), 201-209.

Appendix A: Ethics Letter of Approval

May 12, 2016
Dr. Judy Wearing
Ph.D. Candidate
Faculty of Education
Queen's University
Duncan McArthur Hall
511 Union Street
Kingston, ON, K7M 5R7

GREB Ref #: GEDUC-810-16; Romeo # 6018402
Title: "GEDUC-810-16 The Ecology of Creativity in School: A Pilot Study"

Dear Dr. Wearing:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled "GEDUC-810-16 The Ecology of Creativity in School: A Pilot Study" for ethical compliance with the Tri-Council Guidelines (TCPS 2 (2014)) and Queen's ethics policies. In accordance with the Tri-Council Guidelines (Article 6.14) and Standard Operating Procedures (405.001), your project has been cleared for one year. You are reminded of your obligation to submit an annual renewal form prior to the annual renewal due date (access this form at http://www.queens.ca/traq/interpreter.html; click on "Events"; under "Create New Event" click on "General Research Ethics Board Annual Renewal Form for Approved Studies"). Please note that when your research project is completed, you need to submit an Annual Renewal Form in Romeo/traq indicating that the project is 'completed' so that the file can be closed. This should be submitted at the time of completion; there is no need to wait until the annual renewal due date.

You are reminded of your obligation to advise the GREB of any adverse event(s) that occur during this one year period (access this form at http://www.queens.ca/traq/interpreter.html; click on "Events"; under "Create New Event" click on "General Research Ethics Board Adverse Event Form"). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be cleared by the GREB. For example, you must report changes to the level of risk, applicant characteristics, and implementation of new procedures. To submit an amendment form, access the application by at http://www.queens.ca/traq/interpreter.html; click on "Events"; under "Create New Event" click on "General Research Ethics Board Request for Amendment of Approved Studies". Once submitted, these changes will automatically be sent to the Ethics Coordinator, Ms. Gail Irving, at the Office of Research Services for further review and clearance by the GREB or GREB Chair.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Sincerely,

John R. Freeman
Ph.D.
Chair
General Research Ethics Board

cc: Dr. Benjamin Bolden, Faculty Supervisor
Dr. Lijing Cheng, Chair, Unit REB
Ms. Erin Wicks, Office Admin.
Appendix B: Letters of Information and Consent Forms

Questionnaire

Qualtrics Survey Software

Introduction

Creativity and Emotion in Schools
The focus of this research is creativity and emotion in school. This research is being conducted by Judy Wearing under the supervision of Dr. Benjamin Bolden in the Faculty of Education at Queen’s University in Kingston, Ontario. At the end of the survey, there is an opportunity for you to express interest in participating in a second phase of this research study, which will include two interviews and participation in two creativity learning sessions. You may also enter your name for a draw to win a $150 gift certificate for the Apple store or Amazon at the end of the survey.

What is this study about?
The purpose of this research is to explore how experiences in secondary school encourage or discourage student creativity.

What is involved to participate in this study?
The first phase of this study requires one 15-minute questionnaire to be completed online. There are no known physical, economic, or social risks associated with this study. This study will give voice to students, like you, in expressing the impact of school experiences. This research will contribute to the body of research surrounding creativity in education, and the study has practical implications for understanding how to support student creativity.

Is participation voluntary?
Yes. You should not feel obliged to answer any questions that you find objectionable or that make you feel uncomfortable.

What will happen to your responses?
Your responses will be kept confidential. Only the researcher, Judy Wearing and her supervisor, Dr. Ben Bolden, will have access to the completed surveys. All names and any places you mention in the survey will be replaced with pseudonyms. To assist in our analysis of the results, your survey responses will be linked to your program of study, age, and gender information obtained from the student records system. All of this information will remain strictly confidential. No one other than myself or Ben Bolden will have access to this information. The names of anyone or any institution you identify will also be kept confidential. Results from this study may be published by professional, reputable publishers or presented at scientific conferences, but any such presentations will maintain individual confidentiality through the use of pseudonyms. In accordance with the General Research Ethics Board Standard Operating Procedures, data will be securely/password protected for a minimum of five years and retained indefinitely. If data are used for secondary analysis they will contain no identifying information.
If you would like a copy of the findings, please contact: Judy Wearing.

What if you have concerns?
Any questions about study participation may be directed to Judy Wearing at 03jw@queensu.ca or Dr. Ben Bolden at 613 5336000 x77762. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 6135336081.

This study has been granted clearance by the General Research Ethics Board according to Canadian research ethics principles (http://www.ethics.gc.ca/default.aspx) and Queen’s University policies (http://www.queensu.ca/urs/researchetgics). Thank you for your interest in this research study.

Clicking on the link to begin the survey indicates that you have read this Letter of Information and have had any questions answered to your satisfaction; and consent to have your responses communicated in the results of this study in a dissertation, articles, books, or conferences, with the use of pseudonyms to protect the identities of any named persons or organizations.

Please keep a copy of this page for your records.
Interviews and Small Group Sessions

LETTER OF INFORMATION & CONSENT FORM

The Ecology of Creativity in School

This research is being conducted by Judy Wearing under the supervision of Benjamin Bolden in the Faculty of Education at Queen’s University in Kingston, Ontario.

What is this study about? The purpose of this research is to explore the interaction between pedagogy in schools, student creativity, and student emotion. This exploration is focused on both secondary and post-secondary education settings in Ontario, and involves interviewing post-secondary students about significant events in their previous school experiences that encouraged or discouraged creativity.

What is involved to participate in this study? The study will require one 60-90 minute interview, one 60-90 minute focus group, a short expressive writing assignment estimated to take an hour, and one email interview estimated to take 15 minutes. The interview and focus group will take place at a time and place on Queen’s University campus at your convenience. In total, participating in this study will require a maximum of 4 hours. Your interview contributions will be audio recorded. There are no known physical, economic, or social risks associated with this study. There is a slight risk that memories of school experiences may provoke negative emotions as well as positive ones. The benefits to this study include the opportunity to receive feedback on your expressive writing from a professional writer. You may also benefit in enriched self-awareness of how your school environment impacted your perceptions and behaviours relating to creativity in positive and negative ways. This study will give voice to students, like you, in expressing the impact of school experiences. This research will contribute to the body of research surrounding creativity in education, and the study has practical implications for understanding how to design curriculum to support student creativity.

Is participation voluntary? Yes. You should not feel obliged to answer any questions that you find objectionable or that make you feel uncomfortable. You may choose to withdraw from the study at any time with no effect on your schooling. If you wish to withdraw, contact Judy Wearing at 03jw@queensu.ca. If you withdraw, you may request removal of all or part of your data from the study.

What will happen to your responses? Your responses will be kept confidential. Only the researcher, Judy Wearing and her supervisor, Ben Bolden, will have access to this information. Your confidentiality will be maintained to the extent possible. Results from this study may be published in professional journals or presented at scientific conferences, but any such presentations will maintain individual confidentiality. In accordance with the General Research Ethics Board Standard Operating Procedures, data will be securely/password protected for a minimum of five years and retained indefinitely. If data are used for secondary analysis they will contain no identifying information. You are entitled to a copy of the findings, if you are interested. If you would like a copy of the findings, please contact: Judy Wearing.

What if you have concerns? Any questions about study participation may be directed to Judy Wearing at 03jw@queensu.ca or Ben Bolden at 613 533-6000 x 77762. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081. This study has been granted clearance by the General Research Ethics Board according to Canadian research ethics principles (http://www.ethics.gc.ca/default.aspx) and Queen’s University policies (http://www.queensu.ca/urs/research-ethics).

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Thank you for your interest in participating in this research study.

Your signature below indicates that you have read this Letter of Information and have had any questions answered to your satisfaction. Please keep a copy of this letter for your records.

Name: __________________________ Date: __________________________

Signature: __________________________

Consent:

I consent to having my expressive writing included as part of the communication of this study in a dissertation, articles, or conferences, with the use of a pseudonym to protect my identity.

I consent to the use of my data gathered from interviews in the communication of this study’s findings in a dissertation, articles, or conferences, with the use of a pseudonym to protect my identity.

Signature: __________________________

Date: __________________________

Are you interested in participating in future studies about creativity? Yes ☐ No ☐

If so, please supply contact Information:

Email: __________________________

Phone: __________________________

Address: __________________________
Appendix C: Questionnaire

Experiences relating to creativity in school (block of questions for ENCOURAGED and DISCOURAGED randomly ordered in survey)

The most encouraged you could be.

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- Think about all your experiences in, or associated with, secondary school.
- Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top.
- On which step of the ladder do you position your overall sense of being encouraged by secondary school experiences to take risks and:
  - generate or pursue your own ideas
  - make unique things that no one else made
  - and/or express your unique self?

the least encouraged you could be

Now, think about ONE meaningful experience in, or associated with, secondary school where you were encouraged to take a risk and:

- generate or pursue your own ideas
- make something unique that no one else made,
- and/or express your unique self.

The next eight questions are about this one meaningful experience.

Was this experience part of: [dropdown: your academic curriculum in class, an extracurricular activity organized by your school, Other, please specify__________]

Was the secondary school associated with this experience…(Select all that apply): [public, private, Catholic, French, Other (please specify, e.g., IB, homeschool, religious affiliation, specialized in arts/science, etc.)__________]

Please describe this encouraging experience. Include all the details I need to understand what it was about the event(s) that encouraged you to take a risk and: generate or pursue your own ideas, make something unique that no one else made, and/or express your unique self.

Be as specific as possible.
The most encouraging experience possible

Tell me how this encouraging experience made you feel?

Still thinking about the same experience, here is a list of emotions that can be related to school experiences. Select the ONE most prominent emotion you experienced.

- contentment
- enjoyment
- gratitude
- hope
- joy
- pride
- relaxation
- relief
- anger
- anxiety
- boredom
- disappointment
- frustration
- hopelessness
sadness
shame

The strongest emotions possible

• Thinking about the emotions related to this one encouraging experience, imagine a ladder with steps numbered from zero at the bottom to 10 at the top.
• Which step of the ladder would you say represents the strength of the emotions you felt associated with this experience?

The weakest emotions possible

If you wish, elaborate on your emotions, or the prominent emotion you chose...

The most discouraged you could be.

Think about all your experiences in, or associated with, secondary school.

Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top.

• On which step of the ladder do you position your overall sense of being discouraged by secondary school experiences to take risks and:
• generate or pursue your own ideas
• make unique things that no one else made
• and/or express your unique self?

the least discouraged you could be

Now, think about ONE meaningful experience in, or associated with, secondary school where you were discouraged from taking a risk and:
• generating or pursuing your own ideas
• making something unique that no one else made
• and/or expressing your unique self.

The next eight questions are about this one discouraging experience.

Was this experience part of: [dropdown: your academic curriculum in class, an extracurricular activity organized by your school, Other, please specify__________]

Was the secondary school associated with this experience…(Select all that apply): [public, private, Catholic, French, Other (please specify, e.g., IB, homeschool, religious affiliation, specialized in arts/science, etc.)__________]

Please describe this discouraging experience. Include all the details I need to understand what it was about the event(s) that discouraged you from taking a risk and:
generating or pursuing your own ideas
making something unique that no one else made
and/or expressing your unique self.

Be as specific as possible.

The most discouraging experience possible

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Thinking of this same experience, imagine a ladder with steps numbered from zero at the bottom to 10 at the top. Click on the step of the ladder would you position this experience in terms of how much it discouraged you from taking a risk and: generating or pursuing your own ideas, making something unique that no one else made, and/or expressing your unique self.

The least discouraging experience possible

Tell me how this discouraging experience made you feel?


Still thinking about the same experience, here is a list of emotions that can be related to school experiences. Select the ONE most prominent emotion you experienced.

- contentment
- enjoyment
- gratitude
- hope
- joy
- pride
- relaxation
- relief
- anger
- anxiety
- boredom
- disappointment
- frustration
- hopelessness
- sadness
- shame

The strongest emotions possible

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Thinking about the emotions related to this one discouraging experience, imagine a ladder with steps numbered from zero at the bottom to 10 at the top.

Which step of the ladder would you say represents the strength of the emotions you felt associated with this experience?

The weakest emotions possible

If you wish, elaborate on your emotions, or the prominent emotion you chose...

Demographics: [all drop down menus]

When did you graduate from secondary school? [2010-2016]
Can I send you an invitation to participate in the second phase of this study of creativity and emotion?

Yes ☐ No ☐

If so, please supply your contact information:
  Name: ___________
  Email: _______________________________

1. Would you like to enter the draw for a $150 gift certificate to the Apple store or Amazon? [click here]

   Yes ☐ No ☐
Appendix D: Interview Guide and Creative Writing Protocol

Interview Guide

Opening
You are in what program? Are you enjoying it?

Thank you for agreeing to meet with me, I really appreciate your time. Over the course of the next hour, I’ll be asking you about experiences you had in school relating to creativity. You’ve read the letter of information? Do you have any questions? Signed copies.

Survey looked at the breadth of experiences, interview is about going deeper into what these experiences mean to you and how they’ve impacted you.

What do you hope to get out of this experience?

ENCOURAGING
An event when you felt encouraged? Another time? Most significant?
Tell me this story in as much detail as you remember. Think back to this time, imagine yourself there. What do you see? Who is there? Describe the main people?

- What time was it? What were the surroundings? Materials? Time given?
- What about the physical environment, if anything, affected this experience?
- What instructions were given?
- What was said?

Tell me three things about the educator?
- What was said?
Peers?
- What did they say, how did they look?

Would you say this experience encouraged you to take risks and:
- generate or pursue your own ideas
- make unique things that no one else made
- and/or express your unique self.

Which one most?

Let’s deconstruct the experience, all the things you’ve talked about, what was it about this experience that made you feel encouraged to take risks and…?

how did it make you feel? What was it about this experience that made you feel that way? –

Describe who you were, as a student and human being, when you underwent this experience.
To what degree do you consider yourself a creative person? How so?

How well did this experience fit into your perception of creativity?
To what degree did this impact your attitude toward education?

Toward creativity?

What did you learn from this experience about yourself?

How, if at all, did this experience impact your future behavior?

What do you think the intent or motivation of the educator/admin/school was in acting or talking this way?

DISCOURAGING
In your written questionnaire you said …talk about this or another time?

Tell me this story in as much detail as you remember. Think back to this time, imagine yourself there. What do you see? Who is there? Describe the main people?

- What time was it? What were the surroundings? Materials? Time given?
- What about the physical environment, if anything, affected this experience?
- What instructions were given?
- What was said?

Tell me three things about the educator?

Peers?
- What did they say, how did they look?

How would you say this experience discouraged you to take risks and:

- generate or pursue your own ideas
- make unique things that no one else made
- and/or express your unique self.

Which one the most?

Let’s deconstruct the experience, considering all the things you’ve said, what was it about this experience that made you feel encouraged /discouraged?

how did it make you feel? What was it about this experience that made you feel that way?

How well did this experience fit into your perception of creativity?
Describe who you were, as a student and human being, when you underwent this experience.

To what degree did this impact your attitude toward education? Toward creativity? What did you learn from this experience about yourself?

What do you think the intent or motivation of the educator/admin/school was in acting or talking this way?

How, if at all, did this experience impact your future behavior?

Anything else you would like me to know?

**Closing**
Of the experiences you’ve discussed, choose one that stands out in your mind as having an impact on you to write about. I am giving you some suggestions on how to write creative nonfiction, but you may express your experience anyway you choose. I will send a Doodle to schedule our first writing group.

**Writing Task Guidelines**

Please describe one significant event you experienced associated with secondary school that encouraged or discouraged you to take risks and:

- generate or pursue your own ideas
- make unique things that no one else made
- and/or express your unique self.

You can combine words and pictures, poetry, or express your memory in any other way involving words in some way. If you choose to write, 500 to 750 words is a rough guideline but you can write as much as you want!
Appendix E: Small Group Session Emotion Activity

**Emotion chart (7-9 minutes):** In front of you is a chart with a list of emotions in one column. I’d like you to take a few minutes to jot down— you won’t be asked to share these sheets with your peers—in any shortform you like, how YOU yourself in general terms respond to each of these emotions. How do you act? What do you do? Say? How does the emotion influence your behaviour? Your attitudes to yourself, others or the world around you?

When everyone has had a chance to write down some thoughts, ask the following.

**Whole group questions (10 minutes):**
How do you respond to feeling joy? Etc… As you listen to your peers, consider whether you respond in similar or different ways and feel free to adjust or add to your charts.

**Sharing creative works (25 minutes):**
Now we’ve thought a little about how we respond to our emotions, let’s take a look at some of the emotions involved in the creativity experiences we had in secondary school. Ask each of you in turn to share the excerpt I’ve indicated. As you listen (or might be view) each piece, consider the following question (TO BE WRITTEN ON BOARD). How is emotion effectively conveyed through these words? Brief whole group discussion about each piece. All positive, relating to emotional expression, as well as ensuring the emotions involved get named. And any concrete manifestation of them in the words noted, too.

**Whole group discussion (15 minutes):**
I’m going to ask you about the role of your emotions in your responses to the experiences related to creativity in secondary school. As you listen to others, I’d like you to consider how the role of your emotions is similar or different in how these experiences have affected you.

You’ve thought about how you personally respond to emotions, and considered some emotions involved in your experiences related to creativity in secondary school. I’d like you to now think about how the emotions involved in these experiences in secondary school specifically related to creativity impacted how you have acted, behaved, think about your creativity every since? What role did the emotions have in the impact of the experience?

How did the emotions involved in these experiences impact how you have acted, behaved, thought about your creativity in relation to OTHERS ever since? Performing or being creative in front of others, sharing with others, expressing yourself to others, listening to what others say about your creativity?

How did the emotions involved in these experiences impact how you act, behave, think about creativity in the world? Others’ creativity? Others’ expression of themselves?
An exploration of emotions

Consider each of the emotions in your life. In the next five minutes jot down anything that comes to mind about how each of these emotions CAUSES YOU TO REACT. How do you behave when you feel this? What might you say? What do you do differently?

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