Exploring Black Adolescents' Experiences of Relevance and Motivation in a Project-Based School: A Phenomenological Approach

by

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Dedication

To the students and teachers at Community High

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Abstract

Adolescents in the United States report feeling increasingly disconnected from their learning experiences. Meanwhile, adolescent engagement in school has declined over the past several years. Fostering a sense of relevance in school, or the sense of connection adolescents experience between themselves and their learning activities, can strengthen academic motivation and engagement. The issue of relevance is especially important to address among Black adolescents, whose identities are often marginalized within school settings. Black youth must be able to connect with their learning experiences to flourish academically and personally. Scholarship in academic motivation and scholarship in critical education offer insights into what relevance is and how teachers can support relevance among Black adolescents. Motivation research demonstrates that connection via personal or collective identity promotes a sense of relevance, as does seeing learning as potentially useful. Critical education scholarship supports creating learning environments that enable Black adolescents to connect with their cultural identity and develop critical consciousness to promote their engagement and well-being in school. However, gaps remain in understanding the nuances of how Black adolescents define relevance for themselves and experience it, especially in creative learning spaces such as schools that utilize project-based learning.

This dissertation was designed in partnership with a project-based, equity-oriented high school in Tennessee to explore how Black adolescents experience a sense of relevance through their learning experiences at the school, including the emotional and motivational dimensions of

such experiences. Eight Black tenth and eleventh graders who reported valuing their coursework participated in two interviews occurring in the spring of 2025 and the winter of 2026. The students' teachers provided additional insights into their school projects. The current study used interpretive phenomenological analysis guided by achievement motivation theories, culturally relevant pedagogy, and the tenets of project-based learning to explore the research question: How do Black adolescents in a project-based learning setting experience relevance and its association with motivation? Embedded within this research question are explorations of how Black adolescents understand what relevance means for themselves and which conditions within a project-based learning setting foster and sustain relevance for Black adolescents.

The eight Black adolescents who participated in this study experienced relevance as being able to embody dimensions of who they were and wanted to become through learning experiences in which they could be creative and engage in communal values through collaboration. The findings indicate that process, as well as topic, can be a source of relevance. The participants' experiences of relevance also demonstrated how critical consciousness is not an innate characteristic of Black adolescents and therefore will not always be a source of relevance for them. However, addressing systems of power can be a powerful lever for relevance as Black adolescents develop their critical consciousness. When Black adolescents participated in learning experiences that felt relevant to them, they experienced heightened levels of stress and enjoyment, indicating how much they valued projects that felt relevant to them.

The research implications of these findings include the potential of integrating creative experiences into motivation research to capture how learning activities can support relevance via students' identities. The implications for practice include the importance of creating opportunities for Black adolescents to explore both the personally unique dimensions of who

they are and to develop their critical consciousness through projects that connect to their sense of collective identity.

Chapter 1 Introduction

Educators, policymakers, and researchers all speak about how important it is that adolescents engage in learning activities that are "relevant." However, oftentimes, what these adults mean by "relevant" translates to "skills and topics that students should know to make them a productive workforce" (e.g. Mergendoller, 2018). Learning the knowledge and skills needed to be successful in life is no doubt crucially important for young people. However, what is missing from this approach to relevance in education is attention to how the students see themselves and feel like themselves in what they are being asked to learn and do. As a result, adolescents feel increasingly disconnected from school (Gallup, 2023). This is especially true for adolescents from racially marginalized backgrounds whose communities and experiences have been largely ignored or undermined in the United States education systems (Ladson-Billings & Tate, 1995). Therefore, a need exists to examine how these adolescents experience what they are learning as relevant to *themselves*.

The current dissertation seeks to address this need by exploring how Black adolescents in a project-based environment designed to foster creativity and collaboration experience relevance as the meaningful connection between themselves and their learning experiences (Priniski et al., 2018). It centers the voices, unique orientations and lived experiences of Black students and contextualizes their experiences within their specific learning environments Doing so captures how relevance can be experienced along its personal, emotional, and motivational dimensions and accounts for how opportunities for such experiences are fostered or suppressed within

learning environments. The insights from the study are meant to both extend the conceptual understanding of relevance within educational psychology and to improve the learning experiences of racially marginalized youth.

1.1 Disconnect in School: The Need for Relevance

In the United States, adolescents are feeling increasingly disconnected from what they do in school (Gallup, 2023). This trend is worrying, especially since adolescents' motivation to learn tends to decline during their time in secondary education (Eccles et al, 1993). Learning experiences that adolescents perceive as meaningful and valuable can foster motivation and a positive learning experience, and a crucial component of meaningful learning experiences is relevance (Ward-Seidel et al., 2024). Regarding motivation, relevance refers to the sense of connection an individual experiences between themselves and what they are learning (Priniski et al., 2018). Education policy in the United States has created public education systems that deprive students--especially racially marginalized students--of learning experiences that feel relevant to who they are (Au, 2022). Black students often perceive school as a place that is removed from and antagonistic toward their identities and where they are not free to be themselves (Ladson-Billings, 1995; Mohammad, 2022).

There are numerous ways in which the public education system is designed to deprive Black students of meaningful and relevant learning experiences (Ladson-Billings & Tate, 1995). The education system in the US has marginalized Black students throughout its history (Apple et al., 2009). In recent decades, high stakes testing policies have exacerbated this marginalization (Au, 2022). Relevant learning experiences, and specifically experiences that are relevant via connecting to and affirming students' identities, exist along the dimensions of the curriculum (what is taught) and the pedagogical approaches (how something is taught) that are often used to

teach Black students. Regarding curriculum, the emphasis on standardization has led to curriculum development within public education often being done by private firms that publish curriculum "aligned" with state standards (Cohen et al., 2017). These standards and the corresponding curriculum neglect the experiences, values, and identities of racially marginalized youth (Parsons & Morton, 2022). Teachers are then required to use scripted curriculum with little autonomy to adjust it to make it more relevant to their students (Thompson & Allen, 2012). The other dimension along which school systems often deny Black youth learning experiences that are relevant, identity-affirming, and motivational is via pedagogical approaches that emphasize compliance, memorization, and test preparation (Thompson & Allen, 2012), or what Haberman (1991) refers to as the "pedagogy of poverty". Teachers are required to teach to the test rather than authentically engage students, and students are denied the opportunity for exploratory and inquiry-based learning experiences that challenge them and allow them to explore and affirm their identities (Ladson-Billings, 2009; Thompson & Allen, 2012; Verhoeven et al., 2019).

I witnessed first-hand and participated in this "pedagogy of poverty" in my first years as an English Language Arts teacher at a Title 1 public high school in Memphis, Tennessee. When I started teaching at the school, which served predominantly Black, low-income students, my mandate was to teach the standards, drill students on practice test questions, follow the district-mandated curriculum, and maintain order in my classroom. However, it was the moments when I deviated from this mandate and created learning experiences in which my students were able to explore their own identities, values, and creativity that the classroom came alive and I saw students become both engaged and joyful.

What Black students are taught in school and how that content is taught does not align with these students' identities or experiences and is often devoid of opportunities for rich,

applicable, and aesthetic learning experiences. Denying Black youth learning experiences that they perceive as relevant to themselves can increase their feelings of apathy and disengagement from school (Thompson & Allen, 2012). However, learning experiences that center their histories, values, and full selves in rich, inquiry-based learning environments can be both highly motivating and affirming (Muhammad & Moseley, 2021).

1.2 Understanding Relevance

Motivation theories within the field of educational psychology have produced a strong definitional understanding of relevance but have not been as effective in elucidating the nuances of how the most meaningful forms of relevance are experienced by adolescents, especially adolescents from racially marginalized backgrounds. Drawing from across the major motivation theories, including self-determination theory, situated expectancy value theory, and interest development theory, Priniski and colleagues (2018) developed the definition of relevance: "a personally meaningful connection to the individual" (p. 12) that can exist along the spectrum of association (connection to any object or memory) as least meaningful to identification (connection via one's identity) as most meaningful. This is a robust definition that emphasizes the subjective and identity-centered nature of relevance. However, as a definition, what it does not entirely capture is that relevance is a *lived experience* that occurs *in context*. Therefore, to understand how relevance is actually experienced and felt by young people in school, I propose the following premises that guide this dissertation:

Relevance is a Subjective Experience. In creating their definition of relevance, Priniski and colleagues (2018) emphasized that relevance, at least in the context of motivation, is entirely based on an individual's perception of meaningful connection. Relevance is therefore entirely subjective. The only person who can determine whether something is relevant to them is the

person in question. The subjective nature of relevance also indicates that relevance experienced at any level is, at least in some regard, identity-based in that the connection to "self" will be determined by what constitutes an individual's "self". Personal experiences, interests, goals, social identities, values, culture and communities of origin can all contribute to whether an individual perceives what they are learning as being relevant. These many sources of identity can be broadly categorized as areas of personal and collective identity (Eccles, 2009).

Relevance is a subjective *experience*. This is distinct from perception. Here, I refer to subjective experience as how a phenomenon is lived and felt, which can include how the individual interprets the event and places it within a larger personal or cultural narrative (Hammack, 2015). For example, a student can perceive that their teacher is explaining how a topic in math is useful for future STEM careers, but whether that student experiences a sense of relevance depends on how they make meaning of that statement in relation to their sense of self, their relation to math, their relationship with the teacher, and their future goals.

Relevance is an Aesthetic Experience. Relevance can include both rational and emotional dimensions to the experience. The rational dimension of relevance is often examined through connection via usefulness (Priniski et al., 2018). The emotional nature of experiencing relevance warrants stating explicitly, as emotion is an important feature of experience, but is often understudied in motivation (Wong, 2007). In other words, experiencing relevance comes with positive emotions. Learning activities that are experienced as meaningfully connected to an individual can be experienced as such through a rational or an emotional lens, although ideally, it is done through both (Dewey, 2015). A student experiencing relevance may rationally see how what they are learning aligns with their future goals, and they may also feel excited and affirmed through learning about something that reflects who they want to become.

Learning Contexts are Designed to Foster or Suppress Relevance. Students experience relevance within learning contexts that are designed to foster or suppress such experiences (Morton et al., 2022; Muhammad & Mosley, 2021). These learning contexts include both the classroom level at which students are exposed to specific curriculum and pedagogical approaches and at the school level at which school culture and educational priorities can align or not align with students' sense of self (Gray et al., 2018). As discussed above, it is often the case that neither the classroom nor the school level contexts are designed to support the identities and experiences of relevance among Black youth.

The importance of learning context to students' educational experience is reflected in specific frameworks designed to promote more meaningful and identity-affirming pedagogies. Culturally relevant pedagogy creates learning contexts that are aligned with the identities and needs of Black youth (Ladson-Billings, 2009). Project-based learning is designed to promote a sense of relevance through engaging students in real-world issues and providing students with significant amounts of autonomy (Mergendoller, 2018). I discuss both pedagogical approaches in more detail in Chapter 2.

1.3 The Gaps in Relevance Research

Despite the strong theoretical foundations within motivation scholarship for understanding what relevance is in relation to positive and motivating learning experiences (Priniski et al., 2018; Vansteenkiste et al., 2018), relevance research often fails to attend to at least one of the above premises. The ways in which relevance is studied often excludes the voices, identities, and subjective experiences of Black youth (Usher, 2018). There is also a dearth of research regarding how relevance is experienced, as relevance is often treated as a predictor (e.g. Hecht et al., 2019), but the process of experiencing relevance is rarely examined.

Furthermore, with a few notable exceptions (e.g. Gray et al., 2020) there is little extant research on relevance that includes attention to the learning environment and what elements of the learning experience designed by the instructors promotes a sense of relevance within Black adolescents.

Motivation research within educational psychology has the potential to offer much toward creating more meaningful and motivating learning spaces through its deep theoretical and empirical understanding of the psychological processes by which relevance can contribute to motivation (Kumar et al., 2018). However, much of this potential is limited by the ways in which research within the field is often conducted. Motivation scholarship has often been conducted within a (post)positivist paradigm and therefore has worked within an assumption that phenomena can objectively understood and outcomes predicted and controlled, with an emphasis on the objectivity and generalizability of research findings (Kivunja & Kyuini, 2017). Since relevance research works within a paradigm that emphasizes precise measurement (Wong, 2007), much of the research on relevance and motivation frames relevance in ways that can be reliably measured (e.g. specifically as usefulness). This approach can reduce relevance, which may exist at multiple levels of connection to self (Priniski et al., 2018) and across multiple dimensions of identity (Hartwell & Kaplan, 2018; Kumar et al., 2018) to a unidimensional construct when operationalized for empirical research. Such an approach can be valuable for capturing how dimensions of relevance relate to motivational and academic outcomes. However, a more phenomenological approach can offer additional insights into the experiential nature of relevance by exploring the process of such experiences.

There is also a need to center the experiences and identities of Black youth to understand the ways in which they are experiencing relevance in classrooms. Racially marginalized students

have historically been omitted from educational psychology (Strunk & Andrzejewski, 2023) and motivation research (Usher, 2018). And yet, white supremacy within the U.S. education system has created learning environments that often deprive Black youth of learning experiences that are relevant, affirming, or motivational (Ladson-Billings, 2009; Thompson & Allen 2012). Education research that has centered the identities of racially marginalized youth can help guide motivation research through their attention to the importance of collective identity (e.g. Gray et al., 2020) as well as opportunities to explore the many facets of one's identity (e.g. Muhammad & Mosley, 2021), developing critical consciousness (e.g. Ladson-Billings, 2009) and centering the voices of Black youth as experts in their own experiences (e.g. Gosine & Islam, 2014).

Finally, there is a need to situate experiences of relevance within context to promote the flourishing of Black students. Student learning experiences are situated within particular people within a particular place and context and ought to be analyzed as such (Ladson-Billings & Tate, 1995). A project-based learning setting may be a context that is well-suited to creating learning experiences that students feel meaningfully connected to due to the emphasis within that pedagogy on authenticity, student agency, and collaboration (Mergendoller, 2018). However, public school systems often deny racially marginalized students the opportunity to engage in this sort of learning (Alvarez, 2023). Exploring the ways in which Black youth experience a sense of relevance in a project-based learning context can expand the field's understanding of how relevance is experienced and how teachers can create more relevant and meaningful learning experiences for Black youth. Educational psychology research could incorporate more partnership-based work with educators to conduct research that is in service of stakeholders (Gray et al., 2023) in ways that are applicable to promoting experiences of relevance for students (Emery & Anderman, 2020).

1.4 Overview of the Current Study

The current dissertation study incorporates all three relevance premises to explore how Black adolescents experience relevance through project-based learning within a racially diverse, equity-oriented school. I used an inductive, ideographic phenomenological approach to explore in detail how eight Black adolescents made sense of a deep personal connection they felt to a learning experience they had within the school.

The study is part of an ongoing research-practice partnership (Penuel et al., 2015) between myself and Community High School, a project-based public charter school that serves a diverse student body, the majority of whom are Black. The overall aim of our partnership work is to 1) identify and build on the existing strengths within the school of creating learning experiences relevant to students' identities and 2) to help the school move toward incorporating more projects that develop students' critical consciousness. In pursuit of the first aim of the partnership and to explore the ways in which Black adolescents are experiencing relevance within a project-based learning environment, this study will explore the following question:

How do Black adolescents in a project-based learning setting experience relevance and its association with motivation?

In exploring this question, the study will also address the following:

1a. How do Black adolescents understand what relevance means for themselves?

1b. What conditions within a project-based learning setting foster and sustain a sense of relevance for Black adolescents?

To explore these questions, I am using Interpretive Phenomenological Analysis (IPA). IPA is a qualitative methodology that explores a phenomenon through the ways in which those experiencing the phenomenon make sense of it. IPA specifically focuses on understanding the

psychological processes behind an experience (Smith, 2017), such as experiencing relevance within a project-based learning setting. IPA also centers those who have lived experience as experts in the experience, while also accounting for the theoretical and empirical knowledge that the researcher brings to the analysis (Smith et al., 2022). IPA prioritizes remaining grounded in how the participants make sense of their experiences and does not rely on using an a priori theoretical framework. The goal of IPA research is to create a detailed account of a phenomenon based on how individuals experience that phenomenon within their specific context to produce nuanced findings whose application practitioners and researchers may consider within their own contexts (Emery & Anderman, 2020). Using IPA enables me to capture the nuances of the ways in which Black adolescents at Community High are experiencing relevance grounded in their own discussion of their experiences within the school.

1.5 Research Stance for the Current Study

For this study, I took the paradigmatic stance of critical pragmatism (Kadlec, 2006). Critical pragmatism originates in the work of education scholar John Dewey (Dewey, 1997) and centers individuals' lived experiences as a key source of knowledge of a phenomenon, and improving individuals' lived experiences as a focal outcome of research. Critical pragmatism calls for situating individuals' experiences within their specific context and understanding how existing power systems influence individuals' experiences and development (Zimmerman, 2018). The paradigm also calls for staying grounded in the lived experiences of individuals as they are lived, rather than as they may adhere to a theoretical or empirical standard (Kadlec, 2006; Zimmerman, 2018). Inherent in this is a rejection of dualism, or the idea that the theories and methodologies of one field are incompatible with another (Kadlec, 2006). Critical pragmatism therefore allows for both theoretical and methodological flexibility. This aspect is an

important part of the current study, which draws on multiple bodies of literature to reflect the lived experiences of students. As a pragmatic stance, it also emphasizes the importance of the practical outcomes of research (Kivunja & Kyuini, 2017). In other words, it prioritizes considering precisely how research findings can be used in context to improve educational experiences. This is a necessary consideration for this study done in partnership with a school.

1.6 Organization of The Dissertation

This dissertation will follow a single-study format. In this introductory chapter, I discussed why it is important that adolescents experience a sense of relevance through what they are learning and the ways in which such experiences have been denied to Black adolescents in schools within the United States. I went on to explain how relevance has been conceptualized within motivation research, and how I am extending that conceptualization to make explicit that relevance is a subjective, aesthetic experience that occurs within learning contexts designed to foster or suppress such experiences. I discussed how current research does not fully capture these dimensions of relevance. I described how the current study addresses all these dimensions by engaging in an IPA-based exploration of the relevance experiences of Black adolescents within a project-based environment and placed the study within the context of a research-practice partnership. I explained how my critical pragmatism informs the study.

In Chapter 2 I discuss the origins and current theoretical understanding of relevance within the academic motivation literature and why the common operationalization of relevance in empirical research struggles to capture the identity-based nature of relevance, especially for Black adolescents. The chapter also includes how frameworks that center Black students, such as culturally relevant pedagogy (Ladson-Billings, 2009) provide insight into the importance of collective identity as a source of relevance for Black youth and how a sense of collective Black

identity may overlap with other dimensions of identity as sources of meaningful connection. The chapter concludes with a discussion of why project-based learning may be a useful context for understanding the experiences of relevance for Black adolescents and the potential of IPA for exploring the nuances of how Black adolescents experience relevance in context.

In Chapter 3 I describe the methods for the dissertation study. I begin by describing my positionality and how it influences my approach to the current study. I then situate the study in my partnership with Community High School. I include a brief discussion of how frameworks for research-practice partnerships (Penuel et al., 2015) and communally engaged research (Gray et al., 2023) informed my approach. I describe the school context and the process by which I co-designed a research agenda with the school. I then discuss IPA and why it is well-suited for the current study. I describe my methods for identifying and recruiting participants, conducting interviews, and the steps for qualitative analysis of the interview data.

Chapter 4 is the first findings chapter. I provide a description of each of the study participants as well as how they experience the school environment. I also describe the project that each of the participants said felt most relevant to them, and that grounded their discussion of experiencing relevance. At the end of the chapter, I discuss common themes regarding how the participants experience Community High and the projects they discussed. This chapter grounds the analysis of participants' experiences of relevance within their learning contexts and individual orientations.

Chapter 5 discusses the findings related to how the participants experience relevance related to their learning experiences in school. This includes how they conceptualize relevance as usefulness but experience the deepest sense of relevance when they are able to embody important dimensions of their identities. It also includes the conditions through which they are able to do

this, including interdependent collaboration, engaging in the creative process, and engaging with systems of power. This chapter explores the sources of connection and how those connections are fostered.

Chapter 6 discusses the findings related to the emotional and motivational dimensions of how the participants experienced relevance. It focuses on how students valued projects that felt relevant and how those experiences were sources of fun and joy. This chapter focuses on the connection between experiencing relevance and forms of motivation.

In Chapter 7 I discuss the findings of this study and place them within existing theoretical frameworks. I describe the ways in which this study both supports and extends existing scholarship regarding how Black adolescents experience relevance. I discuss the implications for research and for practice. I also discuss how the findings of this study will support Community High in its mission to provide meaningful and equity-oriented educational experiences for their students.

Chapter 2 Literature Review

Educational psychologists and motivation researchers define personal relevance (hereafter "relevance") as the "personally meaningful connection to the individual" (Priniski et al., 2018, p. 12). Connection can occur at different levels of meaningfulness, with perceived relevance derived from experiencing connection with one's identity theorized to be the most potent (Priniski et al., 2018, Vansteenkiste et al., 2018). The role of identity in relevance necessitates that scholars consider what constitutes "identity". Within motivation research, identity can be considered in terms of collective identity (a person's sense of self derived from connection to meaningful others) and personal identity (a person's sense of self derived from what makes them feel unique; Eccles, 2009). These forms of identity may exist in concert with one another, rather than independently, within motivational experiences. However, there is a dearth of empirical work investigating relevance through an "identity lens". Instead, extant research tends to focus on experiences of relevance in the form of perceived utility of learning tasks (e.g. Harackiewicz et al., 2016) or one's identification with learning tasks (e.g. Acee & Weinstein, 2010). This task-centered approach to relevance may be especially pernicious for Black adolescents, who are often subjected to learning tasks that fail to center their values, experiences, or communities (Gray et al., 2020). To better understand relevance and to produce research that benefits students and teachers, we need an approach to exploring relevance that embraces its potential to foster both motivation and self-actualization for Black youth who have historically been denied such experiences in school.

In this chapter, I discuss the ways in which relevance has been conceptualized within motivation frameworks as being multifaceted and closely tied to emotion and identity. I argue that the way in which relevance is often empirically studied is through a narrow "task-focused" lens that excludes the voices and experiences of Black adolescents. Relevance can be explored through how learning connects with Black adolescents' collective identity, and this exists alongside personal identity. I argue that project-based learning environments may be fruitful spaces for exploring ways in which Black youth experience identity-focused relevance.

2.1 Dewey and Relevance in Educational Psychology

Motivation scholars often attribute centering the importance of relevance for academic motivation to John Dewey (Alexander, 2018; Priniski et al., 2018). Dewey and his thinking regarding education therefore serve as a useful anchor for examining the development of relevance research within motivation scholarship as well as revealing the gaps that must be addressed to better serve students.

In *Interest and Effort in Education*, Dewey (1913) discusses the idea of relevance in the form of the learner identifying with the learning activities they are engaged in. According to Dewey, interest is what leads to genuine intellectual engagement, and interest is achieved from the alignment of the learning activity with the self. With respect to interest, "the self is concerned throughout" (p. 15) and the activity must be unified with the self. Identification with the self occurs when the learner appreciates the learning task because they perceive a connection to an action of personal value. However, this action or source of connection should be inherent in the learning task, rather than a consequence that is removed from the sequence of the learning task itself. Dewey asserts that teachers should not rely on a result that is external to the task itself in order to generate interest in their students. Rather, the task and completion of that task should

align with the student's sense of self. The older a student becomes, the longer the sequence of tasks can be, but the alignment with self ought to be inherent in performing the task sequence. Dewey states that, "true interests are signs that some material, object, mode of skill (or whatever) is appreciated on the basis of what it actually does in carrying to fulfillment some mode of action with which a person has identified himself." (p. 43). If teachers engage students in learning tasks that achieve this type of identification from students, they will secure student interest and students will be naturally engaged in learning without needing to rely on students' willpower or appealing to some external source to "make" the task interesting for students.

Dewey's position that teachers should not solely rely on students' willpower or ability to make connections between learning tasks and an external source of interest reflects his aesthetic approach to learning experiences. According to Dewey, worthwhile experiences, including learning experiences, require more than rationality and the exertion of self-control. Instead, reason and control exist in concert with emotion and creativity within human experience. These dimensions, while distinct, are equally important in creating experiences that are meaningful to the individual (Wong, 2007). Therefore, there ought to be an emotional dimension to student engagement, within which students experience some level of anticipation or excitement within the process and substance of what they are learning (Wong, 2007).

While contemporary motivation theories and frameworks for relevance do reflect elements of Dewey's early conceptualizations of relevance (Alexander, 2018), there has also been a drift away from Dewey's stance on the importance of emotion and identity within learning experiences, perhaps to the detriment of motivation scholars' understanding of how relevance is experienced by students. Current approaches within educational psychology to understanding relevance and its influence on motivation are shaped by a (post)positivist

approach to research. This approach acknowledges that it may not be possible to fully understand objective reality.However, phenomena can be objectively understood and reliably predicted through specifically operationalizing constructs and forming and testing hypotheses by analyzing data within specific theoretical frameworks determined a priori (Kivunja & Kuyini, 2017). Such an approach represents a school of philosophical thought that values rationality and control over aesthetic experiences (Wong, 2007). The approach was championed in educational psychology by Edward Thorndike, who pushed for the field to move toward an exclusively scientific approach that relied on quantitative and experimental means of understanding learning (Alexander, 2003). The position that predictability, rationality, and control are the hallmarks of both good research and good student behavior has since permeated much of motivation research (Wong, 2007). The result is that while motivation theory tends to reflect the multidimensional, aesthetic, and situated nature of relevance, empirical research often does not (Alexander, 2018; Brophy, 2008). This may have narrowed our understanding of what relevance does (or can) look like in the classroom at its greatest alignment with self.

An omission of Dewey's early conceptualization of relevance in education that remains largely true in contemporary motivation research is the exclusion of Black experiences and the normalization of those of white, economically privileged students (Strunk & Andrzejewski, 2023; Usher, 2018; Vaughan, 2018). Such exclusion is a barrier to ensuring that Black adolescents, who have historically been denied high quality, meaningful educational experiences in schools, experience their learning as being aligned with their sense of self (Usher, 2018). Therefore, while it may be beneficial to draw from Dewey's thinking regarding the importance of emotion and self-alignment for relevant learning experiences, the exclusion of Black

experiences results in significant blind spots that must be accounted for within Dewey's framework and the motivation theories that proceed from it.

2.2 Relevance in Contemporary Educational Psychology

Priniski and colleagues (2018) created a framework for relevance that reflects how motivation scholars across the field currently view relevance. They define relevance as, "a personally meaningful connection to the individual" (p. 12). The definition also reflects Dewey's assertion that learning tasks ought to align with the self. The connection to self can exist across of three levels of "meaningfulness." The first level is personal association, whereby the individual connects the learning task to something else they are interested in. For example, a student interested in basketball sees basketball reflected in a math word problem. This form of connection is the least personally meaningful and motivationally potent. A form of connection thought to be more powerful is utility, or the perceived usefulness of a learning task in achieving a short- or long-term goal (Eccles & Wigfield, 2020). This level of relevance is commonly studied within motivation science. However, the most personally meaningful, and therefore powerful connection a learner can make between themself and a learning task may be via their identity. Such a connection is formed when what a student is learning or doing in school aligns with their sense of who they are and who they want to be (Eccles, 2009; Hartwell & Kaplan, 2018). This encompasses dimensions of who they are beyond school-related tasks. While identity-based relevance is considered within the model to be the most motivationally powerful connection between learning and self, the authors also consider it the most difficult to study and least empirically examined.

The theoretical importance of identity-based relevance and the simultaneous lack of empirical examination of it within motivation literature may reflect a shortcoming in how

relevance is currently handled within achievement motivation research. Much of achievement motivation research treats relevance in terms of how students may perceive a task's usefulness or alignment with a school-based identity, such as being a good student. This "task-focused" relevance lens does not reflect the motivational power that "identity-focused" relevance may possess and may be ill-suited for creating more relevant and motivating experiences for Black students, since common schooling practices are often misaligned with the needs and identities of these students (Hyland, 2005; Ladson-Billings, 2011).

2.2.1 Relevance and Situated Expectancy Value Theory

Relevance, as the meaningful connection between the self and the learning activity (Priniski et al., 2018), exists in some form across multiple achievement motivation theories. Situated expectancy value theory (Eccles & Wigfield, 2020) frames relevance in terms of the value students perceive in a given learning task. The way in which these task values are often framed and studied may limit motivation scholars' understanding of how Black students experience the most potent forms of relevance in school. The two forms of task value most often discussed in terms of relevance research are utility value and attainment value (Gaspard et al., 2021; Harackiewicz & Priniski, 2018; Priniski et al., 2018). Utility value is the degree to which an individual perceives a task as useful for achieving a present or long-term goal, while attainment value refers to how an individual perceives a task as aligned with their personal or social identity (Eccles & Wigfield, 2020).

The most commonly researched framing of relevance within situated expectancy value theory is utility value, often enacted through utility value interventions (Canning et al., 2018; Canning & Harackiewicz, 2015; Harackiewicz et al., 2016; Hulleman et al., 2010; Hulleman et al., 2017; Hulleman & Harackiewicz, 2009; Shin et al., 2019). Utility value can reflect the

usefulness an individual perceives in a task towards a goal regardless of whether that goal is more intrinsic or extrinsic in nature. Utility value interventions primarily rely on either directly communicating how a task may be useful to students (e.g. Canning & Harackiewicz, 2015; Durik et al., 2015) or by getting students to reflect on the usefulness of a task on their own (e.g. Canning et al., 2018, Harackiewicz et al., 2016). Students rate their perceived utility value, and researchers measure the associations between perceived utility value and academic outcomes. Utility value intervention studies often demonstrate the positive influence that encouraging students to think about the usefulness of learning tasks has on motivation and academic achievement (Canning et al., 2018; Harackiewicz et al., 2016).

However, utility value and its associated intervention research can encourage a narrow understanding of relevance that may not be suitable for creating motivating learning spaces for racially marginalized adolescents in a secondary education context. The studies are often developed and enacted within introductory STEM courses at large universities using mostly white samples (Canning et al., 2018; Canning & Harackiewicz, 2015; Harackiewicz et al., 2016; Hulleman et al., 2010)**.** The interventions therefore take place in a specific type of learning context and their findings may not reflect the learning experiences of adolescents in a secondary school context. The potential limitations of focusing on utility value for adolescents are illustrated by the mixed results of utility value interventions outside of university settings. For example, in a utility value intervention study at a two-year college, participating in the utility value intervention was detrimental to the interest levels of low-performing students (Canning et al., 2019). Another study examined the impact of an inquiry-based utility value intervention at a racially diverse, under-resourced high school. The intervention produced mixed results. While students' persistence and perceived utility value of the subject increased after the intervention,

their overall perception of utility value remained low, and students' interest levels in the course remained the same (Duffin et al., 2016). Additionally, utility value interventions often operate on the assumption that what students are learning and the context in which they are learning are inherently relevant to them, and that this connection need only be revealed to students (Alexander, 2018). Such an assumption is misguided, especially given the fact that schools often fail to represent the identities of Black students within their curriculum or pedagogical approaches (Ladson-Billings & Tate, 1995; Morton et al., 2022). Therefore, the strictly utility value operationalization of relevance may fail to leverage the motivational power that accessing the values and experiences connected to identity may offer.

Attainment value, or the perceived connection between task and one's identity (Eccles, & Wigfield, 2020), is considered the more motivationally potent form of relevance within situated expectancy value theory (Priniski et al., 2018; Rosenzweig et al., 2022). Situated expectancy value theorists frame attainment value as being based on whether a task enables the student to enact a dimension of their personal or social identity (Eccles, 2009; Eccles & Wigfield, 2020). Despite a theoretical framing that encompasses multiple dimensions of identity, attainment value is often treated in terms of school-bound identities, such as being a good student, or being someone for whom math and science are important (Acee & Weinstein, 2010; Cole et al., 2008; Gaspard et al., 2017; Johnson & Sinatra, 2013). These framings of identity focus on a student's relationship to an academic subject or academics generally, but do not reflect who that student is or wants to be beyond school. The measures used to capture attainment value lack specificity or insight into how students make meaning of even school-bound identities (Brophy, 2008). Items such as "It is important for me to be good at [subject]" (Gaspard et al., 2017) and "Doing well on this test is important to me (Cole et al., 2008) are representative of common attainment value

measures, and provide limited insight into how or why students make connections between their identity and what they are doing in school beyond the fact that some amount of perceived value exists.

Motivation scholars have attempted to reframe utility value as communal utility value (also referred to as prosocial utility value) to better reflect the values and experiences of racially marginalized students (Asher et al., 2023; Brown et al., 2015; Gray et al., 2020; Harackiewicz et al., 2023). Communal utility value reflects students' perceptions of a task as valuable via its usefulness in helping others. Communal utility value is also often examined in intervention studies. With few notable exceptions (e.g. Gray et al., 2020), these studies are also designed to target students' perceptions of what is being taught. These studies demonstrated that reflecting on communal utility value can benefit marginalized students' motivation (Brown et al., 2015; Harackiewicz et al., 2023) and persistence in a subject over time (Asher et al., 2023). However, like other utility value interventions, students who had higher levels of confidence in their ability to achieve in the course tended to benefit most from the intervention (Harackiewicz et al., 2023).

Other scholars have taken a more situated approach to communal utility value that also puts greater emphasis on the significance of communalism as a key value within racially marginalized communities (Boykin, 1997). Instead of student-focused interventions, studies examined teachers' communal values practices in secondary classrooms (McElveen, 2024) and worked with secondary teachers to design learning activities that emphasized communal utility (Gray et al., 2020). Racially marginalized adolescents demonstrated higher engagement and academic achievement when their learning environment was designed to emphasize communalism and the communal utility of what adolescents were learning (Gray et al., 2020; McElveen, 2024). However, beyond shared cultural values for communalism, the only other

element of students' identities that both studies included was math-related identities, which still reflects a tendency toward focusing on school-bound identities within motivation research.

The move toward communal utility value may reflect permeability between levels of relevance whereby the distinction between relevance through identity and relevance through utility is fuzzy. However, what communal utility interventions demonstrate is the importance of an identity focus in relevance research that considers the social identities, values, and experiences of students, as well as the characteristics of their learning environments.

2.2.2 Relevance and Self-Determination Theory

In Self-Determination Theory (Ryan & Deci, 2000), relevance is often treated as a feature of the learning environment that is crucial for meeting students' psychological need for autonomy, or their need for a sense of volition and ownership over their learning. Within self-determination theory, autonomy, along with relatedness and competence, is considered necessary for positive academic adjustment and intrinsic motivation (Ryan & Deci, 2020). Students' sense of autonomy in the classroom in part stems from the sense of value they have for what they are learning (Ryan & Deci, 2020). Assor and colleagues (2002) defined relevance in classroom contexts as a learning task's perceived contribution to a student's personal goals, values and/or interests. They found that fostering relevance, more than other dimensions of autonomy support such as providing students with choice, predicted students' sense of intrinsic motivation in the classroom.

In addition to relevance being a key component of autonomy support, self-determination theorists also view relevance as a driver of the internalization process by which students move from motivation via external regulation to motivation via autonomous regulation (Ryan & Deci, 2000; Vansteenkiste et al., 2018). The internalization process occurs as students develop a

greater sense of ownership and endorsement of a learning task. One of the most powerful forms of autonomous motivation is "integration," in which the individual experiences the learning task as congruent with their sense of self (Ryan & Deci, 2020). The movement toward autonomous regulation driven by perceived relevance is associated with greater engagement and more adaptive learning outcomes than forms of regulation that rely on extrinsic drivers (Vansteenkiste et al., 2018). Therefore, relevance within self-determination theory can be viewed as a feature of the learning environment that facilitates the process by which a student experiences an increased sense of volition over engaging with a specific learning task.

However, the way in which relevance is studied within the self-determination theory framework rarely reflects the level of self-congruence that the theory claims is important to autonomous motivation. Rather, researchers tend to also rely on task-focused conceptualizations of relevance. In some self-determination studies, students report whether a teacher explained why what they were learning was important, but not whether the students actually experienced a meaningful connection to what they were learning (Assor et al., 2002).

Empirical research on the influence of relevance on student motivation has demonstrated the ways in which drawing students' attention to the value of course content can benefit their motivation, persistence, and academic achievement outcomes. However, the task-focused nature of most relevance research within educational psychology assumes that what students are told to engage in is meaningfully connected to them, regardless of who they are and the communities they come from. In addition to not reflecting the motivational power of identity-focused relevance, which is supported across motivation theories (Priniski et al., 2018; Vansteenkiste et al., 2018), such a narrow focus may serve to further marginalize the experiences of Black adolescents, who do not often see themselves reflected in what they are taught in school (Gosine

& Islam, 2014). This issue is further exacerbated by the focus on majority-white undergraduate samples to understand how relevance is experienced and influences educational outcomes. While some studies have framed relevance through communal utility value to better center the identities of racially marginalized adolescents, research that centers the identity-focused relevance experiences of Black adolescents from their perspectives is still needed.

2.3 Relevance and Identity

There is a substantial body of literature on forms of identity and identity development. Many different philosophical, sociological, and psychological frameworks have been developed to better understand how individuals and groups form and sustain their sense of identity and how that influences their experiences (Hammack, 2015). Within motivation, a framework for understanding forms of identity is collective identity (the aspects of an individual that help them feel connected to meaningful people and social groups) and personal identity (the aspects of an individual that make them feel unique; Eccles, 2009). Both aspects of identity can be leveraged to create more relevant learning experiences for Black adolescents. However, Black adolescents may experience an especially strong sense of relevance through connection to their collective identity. For racially marginalized adolescents, collective identity can serve as a source of pride and agency (Polletta & Jasper, 2001) and is linked with the cultural value of communalism, which emphasizes group bonds and shared responsibility for group welfare (Boykin, 1997; Gray et al., 2020).

2.3.1 Collective Identity

Collective identity is the psychological process by which an individual identifies as a member of a social group and makes meaning of their membership within that group (Ashmore et al., 2004; Polletta and Jasper, 2001). There are several dimensions through which an

individual experiences a sense of collective identity, but foundational to the experience of collective identity is an emotional attachment to the group, a sense of interdependence with the group, the individual's understanding and narrative of the group, and how the individual creates a narrative of themself as a group member (Ashmore et al., 2004). Essentially, the individual expands their sense of "self" to include the experiences and shared welfare of the group. An individual can experience a sense of collective identification with numerous groups, including gender, religion, and occupation (Ashmore et al., 2004). For those with marginalized ethnic-racial identities, a sense of collective identity with that group can be especially meaningful.

The agentic and motivational power of collective identity among Black students is also manifest in the cultural value of communalism. Communalism is one of the key dimensions of Afrocultural expression and emphasizes the need for interdependence and the importance of social bonds and relationships (Boykin et al., 1997). Communalism can be emphasized in learning environments when students are provided opportunities to learn the ways in which their own success is also dependent on the support and success of their communities (Gray et al., 2022). Fostering a sense of communalism can foster and sustain motivation among Black adolescents. For example, Black and Latinx middle school students reported being more engaged during science lessons that emphasized the lesson's relevance for serving each other or for serving humanity (Gray et al., 2020). A study of Black high school students demonstrated that students with math teachers who most centered the values of communalism reported the highest levels of engagement in math class (McElveen, 2024).

The importance of collective identity in motivating and affirming learning environments for Black students is also at the center of culturally relevant pedagogy (Ladson-Billings, 2009). Culturally relevant pedagogy is a teaching framework developed based on the practices of

teachers who centered the identities of their Black students. It was also born out of a critical race theory lens on education that demonstrated the ways in which high quality education is considered to be the "property" of white students and families at the expense of Black and other racially marginalized students (Ladson-Billings & Tate, 1995; Ladson-Billings, 2009). In other words, resources, curriculum, and pedagogical practices are tailored to the needs and preferences of white students, who are treated as the norm and the standard. By contrast, culturally relevant pedagogy centers and affirms Black students through focusing on their collective identity.

Collective identity features within culturally relevant pedagogy firstly through the central goal of the pedagogy, which is to educate students for collective empowerment and liberation (Ladson-Billings, 2009). Education is not viewed as a vehicle for personal gain and achievement, but to critically examine, and eventually dismantle, unjust systems. Group liberation and welfare are at the core of the pedagogy, emphasizing the importance of collective identity. Culturally relevant pedagogy includes three pillars that are central to achieving its educational goal: students achieve academically, students develop cultural competence, and students use learning to critically examine oppressive systems (Ladson-Billings, 1995; Ladson-Billings, 2000).

The pillars of culturally relevant pedagogy leverage collective identity to create a meaningful connection between Black students and their learning experiences. In developing students' cultural competence, teachers must draw from students' cultures when designing their learning (Ladson-Billings, 1995). Doing so enables students to enact their cultures in ways that reinforce their collective identity as an asset (Ashmore et al., 2004). Motivation scholars see the focus on cultural competence as a possible avenue for connection between culturally relevant pedagogy and relevance within achievement motivation theories (Kumar et al., 2018). Such a connection further underscores the potential of an identity-focused approach to relevance for

marginalized youth. However, motivation scholars focus less on the importance to collective identity of developing critical consciousness to understand and work toward dismantling oppressive power structures (Watts & Halkovic, 2022). Examining and working toward dismantling such systems enables adolescents to develop a positive narrative about their group and themselves as group members and to engage in their shared fate with other members of their collective group (Ashmore et al., 2004). Therefore, engaging the collective identity of Black adolescents means centering their cultural experiences and values and developing their critical consciousness. Cultivating identity and equity are intertwined (Muhammad & Moseley, 2021).

2.3.2 Personal Identity

Educational experiences that uplift and center Black adolescents' collective identity can be powerful vehicles for affirming them, motivating them, and building their sense of agency (Gray et al., 2022). However, another dimension of identity-focused relevance that is often denied to Black students in schools and in the motivation research literature is learning experiences that connect to their unique, multifaceted selfhood.

Psychological research, and by extension motivation research, has often treated marginalized populations as monoliths (Crossing et al., 2024). Doing so for Black students serves to "erase the complexity and full humanity of Black people" (Volpe et al., 2019, p. 1299) by applying a one-size-fits-all approach to their learning experiences. For example, shared cultural values and a strong sense of collective identity does not mean that every student will hold the same values as equally important (Cook et al., 2012), or have the same experience of collective identity (DeCuir-Gunby, 2009; Ortiz & Morton, 2022). Additionally, adolescents hold multiple identities simultaneously that reflect different levels of marginalization and privilege (Cole, 2009; Crenshaw, 1994). An intersectional lens pushes back against the tendency in

psychology to see certain identities as overshadowing other identities an individual might hold (Cole, 2009). Adolescents may have experiences and perspectives that are shaped by their ethnic-racial identity in concert with their gender (Wilson & Matthews, 2024), queerness (Brockenbrough, 2016), immigration status (DeAngelo et al., 2016), or any number of other dimensions of their identity and life experiences. All of these elements can come together to form the unique tapestry of an individual's identity and the ways in which they experience a sense of relevance.

Black adolescents may therefore experience identity-focused relevance along a number of facets of their identity. Because of the racialized nature of schools and society broadly, most of these facets may be influenced by their identity as Black youth (Cooper et al., 2022), which is why the pride and agency that come with their sense of collective identity as Black youth can have such positive influences on their learning experiences (Polletta & Jaspar, 2001). At the same time, Black adolescents may also experience relevance via their personal identity, or the dimensions of themselves that make them feel like unique individuals (Eccles, 2009). The importance of asserting one's personal identity for Black adolescents is captured within the Afrocultural dimension of expressive individualism, which emphasizes the importance of self-expression, authenticity, and cultivating uniqueness within the cultural ethos shared by many Black people (Boykin, 1992). For example, an intervention with Black middle school students demonstrated that when students reflected on values that were most meaningful to them, they sustained a sense of academic belonging. The values students named ranged from being family and community oriented to being funny and creative (Cook et al., 2012). Understanding how Black adolescents experience relevance also means understanding the role of personal and unique facets of identity in how students feel meaningfully connected to their learning.

Experiencing a sense of relevance in what they do in school can be highly motivating and affirming for Black adolescents. However, to cultivate these experiences, researchers and educators may need to look beyond the ways in which relevance is commonly operationalized within motivation research. Instead, examining the ways in which Black students may experience their learning as connecting with a facet of who they are or hope to become could provide greater insight into how to support their motivation and wellbeing. Collective identity may be a promising vehicle through which Black adolescents experience their learning as connected with who they are. At the same time, conceptualizations of how to create relevant learning experiences for Black students should create space for the multiple facets of identity that Black students hold. Therefore, an exploration of how Black adolescents experience relevance can engage facets of their collective identities as Black youth, while making space for the potentially motivating role of the other aspects of their identities and unique life experiences.

2.3.3 Creativity and Identity

The process of identity development, which is foundational to experiencing relevance, coincides with developing creative capacities during adolescence (Barbot & Heuser, 2017; Dollinger & Dollinger, 2017). Creative self-expression can provide an adaptive means of exploring and committing to the different dimensions of identity. Identity formation itself can be considered a creative process whereby young people think divergently and integratively about how the diverse facets of their personal and social identities form who they are or want to become (Barbot & Heuser, 2017). For Black adolescents, engaging in creative pursuits is an important means of exploring their collective identity in relation to the more personal dimensions who they are (Muhammad & Gonzalez, 2016). Creativity can also be a valuable means of

engaging in expressive individualism through enabling Black adolescents to explore and express themselves in ways that align with each individual's unique sense of self.

Despite the close link between creativity and identity, relevance research within educational psychology has not closely examined the role creativity can play in fostering identity-based relevance. In fact, the field of educational psychology has largely neglected to examine creativity and its role in learning (Plucker, 2004). When creativity and motivation have been examined together, motivation has often been positioned as an antecedent to creativity (Hennesey et al., 2016). Creativity research has examined the influence of different forms of motivation on facilitating how individuals participate in sustained creative activities. For example, a study of middle school students examined the influence of more and less controlling forms of extrinsic motivation on students' capacity to think creatively in science (Xue et al., 2020) Other creativity research has established how experiencing a sense of intrinsic motivation can facilitate sustained engagement in creative activities among adolescents.(van der Zanden et al., 2020). However, very little research within the field of motivation has examined how engaging in creative experiences in school may facilitate a sense of connection and meaningfulness.

Glăveanu and Beghetto (2021) offer a framework for examining creativity not as an outcome, but as an experience. They define creative experiences as being ongoing interactions that are characterized as being *open-ended* such that there is no prescriptive way of approaching the task; *non-linear* allowing the process to be iterative; *pluri-perspective* so that multiple perspectives on reality can be placed in dialogue with one another; and *future-oriented* such that experiences lend themselves to conceptualizing and bringing into being that which does not yet exist. Creative experiences are often absent in educational environments, as educational policy in

the United States does not generally treat creative experiences as important elements of learning (Beghetto & Zhao, 2022). When creative experiences are offered to students, such experiences are often only available in privileged spaces, such as extra-curricular programs and "gifted" programs, that many adolescents cannot access (Beghetto & Zhao, 2022).

Creative experiences can be highly meaningful ways for Black adolescents to connect with both their personal and their collective identities. Engaging in the act of creating has long been a means of resistance and liberation among Black people whereby they can defy white cultural norms to connect to ancestral practices experience pleasure, and feel a sense of agency (hooks, 1990). For example, when Black adolescents wrote poetry about their lives and experiences, they were able to explore their identities and foster their sense of agency by using poetry as a vehicle for examining their sense of self related to race, community, and individuality (Muhammad & Gonzalez, 2016). Black and Latinx youth participating in a makerspace were able to use the creative acts of designing and engineering to examine and address inequities within their communities (Calabrese Barton et al., 2017). Adolescents that can connect with their sense of personal and collective identity through creative learning experiences also demonstrate sustained engagement in their learning (Calabrese Barton et al., 2017; Mims et al., 2022).

2.4 Relevance in Project-Based Learning Environments

Learning environments that are specifically designed to facilitate creative educational experiences that develop Black youths' understanding of themselves and their communities have the potential to foster a strong sense of motivation (Mims et al., 2022). However, much of relevance research occurs in "traditional" learning environments such as undergraduate courses (e.g. Canning et al., 2018; Harackiewicz et al., 2023) or math and science classes that adhere to traditional pedagogical models (e.g. Hartwell & Kaplan, 2018). Such environments often do not

facilitate the identity-focused and student-centered pedagogical practices best suited to fostering and sustaining a sense of relevance (Verhoeven et al., 2019). More exploratory and inquiry-based environments have the potential to facilitate creative learning experiences that adolescents perceive as meaningful, relevant (Ward-Seidel et al., 2024), and fostering identity exploration (Verhoeven et al., 2019). One form of inquiry-based learning that may be an especially rich environment for exploring how adolescents experience relevance is project-based learning.

Project-based learning (PBL) environments are well-suited to creating learning experiences that are relevant to multiple dimensions of Black adolescents' identities due to several of the core characteristics of this pedagogical approach. PBL is a model of instruction that organizes learning around projects. Projects are "complex tasks, based on challenging questions or problems, that involve students in design, problem-solving, decision making, or investigative activities; give students the opportunity to work relatively autonomously over extended periods of time, and culminate in realistic products or presentations" (Thomas, 2000, p. 1). A fundamental feature of project-based learning is that students learn skills and subject matter knowledge through using them to complete the project, rather than through memorization and testing (Mergendoller, 2018).

There is no universally agreed upon model of project-based learning (Thomas, 2000). However, project-based learning includes a number of widely agreed upon characteristics. The first is that the learning experience must serve an educational purpose (Larmer & Mergendoller, 2010). High quality project-based learning should be intellectually challenging and present students with a complex issue or problem that requires them to engage in problem solving and critical thinking to deeply understand the subject matter (Mergendoller, 2018). Project-based learning must also include the creation of a product or artifact that is shared with an audience

(Martelli & Watson, 2016). The audience may extend beyond the classroom to include community members who are able to ask questions about and critique the product (Mergendoller, 2018). Project-based learning that is intellectually challenging and requires students to create products for public engagement and critique reflect the pillar within culturally relevant pedagogy of experiencing academic success (Ladson-Billings, 1996).

Another widely agreed upon feature of project-based learning is that students perceive the project as meaningfully connected to themselves and their world (Larmer & Mergendoller, 2010; Mergendoller, 2018; Thomas, 2000; Virtue & Hinnant-Crawford, 2019). Within the project-based learning literature, this is sometimes referred to as "authenticity". According to Mergendoller (2018) project-based learning can achieve authenticity through a variety of means, including engaging students in tasks beyond school and can be assessed through real-world standards, such as planning an exhibition or conducting interviews. Students can also meaningfully impact their communities through a project by creating a product that benefits their community. Finally, authenticity is achieved through aligning a project with students' personal interests, lived experiences, or the values, issues, and practices of students' communities and cultures. This means of creating authenticity most directly relates to relevance via personal and collective identity. However, each way of creating an authentic project-based learning experience can contribute to students' sense of relevance at a personal or collective level. Furthermore, these means of creating authenticity can and should be used in conjunction with one another (Mergendoller, 2018), which may create experiences that students perceive as relevant via multiple dimensions of their identity.

Beyond the three characteristics of project-based learning discussed above, high quality project-based learning should also include opportunities for students to take ownership over the

project. Students should play an active role in making decisions regarding how the project is carried out (Mergendoller, 2018). While students should have agency over the project, they should also work collaboratively with other students and mentors who can guide them and facilitate their learning (Mergendoller, 2018). The emphasis within PBL on learning through collaboration to address an issue may make it a fruitful space for Black adolescents to enact communally oriented values aligned with their sense of collective identity (Gray et al., 2020; Ortiz & Morton, 2022). Finally, students should be guided through the process of reflecting on their project both during the process and after its completion to help them manage their behavior and evaluate what they have learned (Mergendoller, 2018).

Project-based learning practices alone do not guarantee the creation of learning experiences that Black adolescents feel meaningfully connected to. However, if done with the intention to center the identities and experiences of students, PBL can be used to engage students while affirming their identities (Alvarez, 2023; Virtue & Hinnant-Crawford, 2019). At the same time, PBL and other exploratory inquiry-based approaches are often denied to racially marginalized students (Alvarez, 2023; Mehta, 2014). Exploring how Black adolescents experience relevance in a PBL setting can provide insight into how relevant learning experiences can be intentionally created for Black students in schools that use PBL as well as other pedagogical approaches.

2.5 Chapter Summary

While motivation theory has contributed much to the conceptualization and operationalization of relevance in learning settings, there is a lack of research on how relevance is actually experienced by students., especially how relevance is experienced in project-based classrooms and outside of short-term research interventions. Such experiences may include

aesthetic dimensions (Wong, 2007) as well as being embedded in creative learning opportunities (Beghetto & Zhao, 2022) that are often overlooked in educational psychology research. Experiences of relevance may also connect to dimensions of identity, both personal and collective, that are not well captured by the extant literature (Priniski et al., 2018). Furthermore, both theoretical and empirical literature in the field has neglected the experiences of Black adolescents, whom school systems often deprive of relevant, meaningful learning experiences (Ladson-Billings, 2014). The present study seeks to address these gaps through exploring the question: How do Black adolescents in a project-based learning setting experience relevance and its association with motivation? Interpretive Phenomenological Analysis is a promising methodology for exploring this question while remaining grounded in the lived experiences of Black adolescents and the multidimensional nature of relevance.

Chapter 3 Methods

The current study is part of a larger research-practice partnership that I established with Community High School, a project-based public charter school in Tennessee. As part of a research-practice partnership, the aims of the study were two-fold. The first was to provide Community High School with insight into the experiences of their students and actionable takeaways to increase the relevance of projects for their students. The second aim was to contribute to the research literature on relevance and motivation by centering the lived experiences of Black adolescents. To this end, I explored the following question:

How do Black adolescents in a project-based learning setting experience relevance and its association with motivation?

In exploring this question, the study specifically addressed the following:

1a. How do Black adolescents understand what relevance means for themselves?

1b. What conditions within a project-based learning setting foster and sustain a sense of relevance for Black adolescents?

I used Interpretive Phenomenological Analysis (IPA) to address the questions of the current study. IPA uses inductive qualitative analysis of how participants make meaning of their lived experiences to gain insight into a phenomenon (Smith, 2011). The method enabled me to center the voices, perspectives, and experiences of Black adolescents to understand their lived experiences of relevance in school.

I begin this chapter by stating my own positionality and my partnership-based approach to the current study. I then describe how the school leadership team and I co-designed a research agenda for this project. I then describe how I used IPA methods to select participants and collect and analyze data. I discuss how I expanded on traditional IPA methods by conducting second interviews with student participants and incorporated contextual data from teacher interviews. I also discuss how I ensured the quality and trustworthiness of my analysis.

3.1 Positionality

I came to this study as a veteran secondary teacher of seven years. My previous teaching experience fundamentally shaped how I approached the current study. I spent that time teaching across contexts in the same city where Community High is located: both middle school and high school, both under-resourced public school and affluent private school. During my teaching career I witnessed, and was complicit in, harmful pedagogical practices. However, I also witnessed the benefits of creating relevant learning experiences for adolescents.

I spent my early teaching career as a high school language arts teacher at a Title 1 school that served primarily Black youth. The school was also deemed a "failing" school by the state, which put the school at risk of being taken over by the state and incorporated into the state's achievement school district or handed over to a charter network. The curriculum used by the district and by the school reflected the, I believe misguided, emphasis on preparing students to take state tests by aligning the curriculum with what would be tested. Nearly all of the texts that I was given to teach were misaligned with the identities and experiences of my students. The pedagogy emphasized compliance and getting the "right" answer, therefore leaving little room for creativity and exploration. I was assessed on my ability to keep all students quietly working for the duration of a class period. When I took three days to engage students in a Socratic

seminar style discussion of what we were reading, I was reprimanded by a more senior teacher for "wasting time". The learning experiences I created within my classroom often felt dull and joyless and my students seemed restless and disengaged. And yet, in my first few years of teaching I lacked the skill, self-assuredness, and wherewithal to break from what I had been told were the best teaching practices for the Black youth in my language arts classroom.

However, when I was able to incorporate learning activities that allowed my students to express and explore their interests and identities, I saw the importance of relevance in creating meaningful and joyful learning experiences. In my creative writing class, I spoke with students about their hobbies, their families, their goals for themselves and their communities and encouraged them to write about those things which were most important to them. They worked in groups, gave each other feedback, and performed their pieces.

It was not until I transitioned to teaching at a private school that I was encouraged to engage in project-based teaching practices with the goal of connecting to and affirming my students' identities through exploring their interests, goals, values and creative capacities. The differences between my teaching experiences at the two schools reflected the systemic inequities that shaped each learning environment. My teaching experiences directly informed my commitment as a researcher to work with schools, and specifically with schools in the community where I used to teach, to help educators create learning environments that are both motivating and affirming for students.

I also bring my emerging understanding of educational psychology and motivation research to this study. My background in educational psychology and in motivation provides me with a knowledge of multiple frameworks for understanding how students may experience relevance and how that may influence their motivation. However, these frameworks were largely

developed by centering the experiences of white students and marginalizing the experiences of Black students (Strunk & Andrzejewski, 2023). Relying on my knowledge of these frameworks may bias me toward applying them to the experiences of the participants in ways that do not fully or accurately reflect those experiences. IPA requires that I remain grounded in the responses of the participants for my analysis and to use cyclical bracketing to check when I am bringing my own assumptions and prior knowledge to making meaning of their experiences.

I also bring to this study my identity as a white woman from a middle-class upbringing in the Pacific Northwest. My background, racial identity, and experiences are different in many ways from those of the students who participated in this study, although I was able to connect with the students through several instances of shared interests, experiences, and knowledge of the city where both the students and I lived. As a white person in the United States, I carry biases and blind spots that can create a barrier to accurately understanding and making meaning of the experiences of Black adolescents. My identity as a white person, an adult, and someone who did not have an existing relationship with the participants, may have also compromised how forthcoming they were in sharing their experiences as Black youth. I attempted to reduce this barrier by building trust and rapport with students through conversations prior to beginning the interviews, transparency about the purpose and process of the study, and assuring them that they could ask me questions and tell me when I got something wrong. I also conducted second interviews with the student participants to share my initial findings with them and provide them the opportunity to clarify their initial thoughts and correct me if needed.

3.2 Situating the Current Study Within a Research-Practice Partnership

The current study was designed and executed in partnership with Community High School. This study is one component of the partnership between myself and the school. The

partnership is guided by the tenets of research-practice-partnership (Coburn & Penuel, 2016) in that it is a sustained partnership over multiple years that has included multiple research projects on which the school and I have collaborated. Furthermore, the school and I have engaged in "joint work" (Penuel et al., 2015) whereby both parties have shared authority in determining the research agenda of the partnership. Furthermore, our agenda was iterative, evolving over time as the school stakeholders and I engaged in shared meaning-making over preliminary findings (Coburn & Penuel, 2016). Reflecting my critical pragmatist stance, I approached the partnership from a place of bringing together theory and practice to improve the lived experiences of students (Kadlec, 2006). Therefore, the agenda set for the partnership was always informed by the needs of the school.

I also drew from Gray and colleagues' (2023) model of communally engaged educational psychology. The model calls for educational psychologists to deeply embed themselves in education communities so they may collaborate with stakeholders to produce research that captures the complexity and context-specific nature of students' experiences, especially students who have been historically marginalized in education and in research. The goal of partnership work is to create structural change for stakeholders that improve the conditions of marginalized students. This is achieved through researchers co-developing initiatives and projects with education decision-makers. Therefore, the measure of partnership success is not only the production of research, but stakeholders' trust in the educational psychologist and how well the research has served in meeting stakeholders' goals.

Communally engaged educational psychology includes four phases that may interact with one another. The first is "building a tribe" through partnering with educators that share the values of uplifting students from marginalized communities and engaging in conversations about ways

to support them. The second is “identifying pockets of affirmation” to document, amplify, and build on the strengths of the school community. The third is “establishing communal incubators” to further grow and develop the strengths identified in phase two to positively impact more students. Finally, phase four is to “leverage existing networks” to disseminate the stories and findings that emerge from the partnership among community members, practitioners, and researchers (Gray et al., 2023). For the current study, my partnership with the school focused heavily on phases one and two, which I discuss at length below.

3.2.1 Situating the Current Study in Community High School

Community High School is a public charter school in an urban area of Tennessee that serves approximately 500 students in grades 9-12. The school serves a majority Black student body (53%) with 31% white students, 12% Latinx students, 4% Multiracial students and 2% Asian students. The majority of students (51%) qualify for free or reduced lunch. Admission into the school is based largely on a lottery system. While the majority of the student body is composed of students from racially marginalized backgrounds, the majority of the teaching staff is white.

The school is designed around a project-based learning model, and each course is required to include at least one project per term. Teachers have considerable latitude regarding the length, format and content of the projects. Students have multiple opportunities to showcase their projects throughout the school year. The school offers students a wide variety of courses that include several arts-based courses, design courses, and Advanced Placement courses in addition to languages, humanities, math, social studies, and science courses. Student artwork, design work, and products from completed projects are displayed in the hallways throughout the school.

Community High School's mission includes doing meaningful work, building community, and advancing equity. The school's focus on promoting equity and honoring the diverse identities of the student body exists within a public-school environment that is adversarial to such efforts. Over the past several years, the state of Tennessee has passed numerous laws that restrict what can be taught related to race, gender, and systems of oppression (Tennessee House Bill 0580, 2021), ban diverse books from school libraries (Tennessee House Bill 843, 2024), and require schools to out transgender students (Tennessee Senate Bill 1810, 2024). Community High School has needed to navigate this adverse environment in its mission to serve its students, and specifically its students with marginalized identities. Teachers and administrators at the school are also navigating the tension of engaging students in meaningful project-based learning in the context of high-stakes state standardized testing, which can be antithetical to such pedagogical approaches (Morgan, 2016).

3.2.2 Co-Developing a Research Agenda with Community High School

This study is part of a larger research agenda that I co-developed with Community High School. In the summer of 2023, I first approached a member of the Community High School leadership team to establish a partnership. In accordance with Gray and colleagues' (2023) recommendation to partner with educators committed to uplifting marginalized students, I approached the school because of their commitment to building equity and community through project-based learning. In the first year of the partnership, I worked with a school leadership team of teachers and administrators to identify their goals for students at the school. They named critical consciousness development, identity development, agency, relevance, and autonomous motivation as high-priority outcomes. The school leadership wanted to identify whether these

goals were being met across the school, to uplift the ways in which the school was meeting these goals, and to find next steps for the school to move into better alignment with the goals.

After one semester of classroom observations of 14 different classes (17 observations total), informal student interviews, and examining the results of a survey that I co-designed with school leadership (Appendix A), the school leadership and I determined that facilitating critical consciousness development was an area of growth for the school, and that for the current study, I would focus on the ways in which students were experiencing relevant, identity-affirming, and motivating learning opportunities across the school. The school leadership team and I agreed on exploring the question: How do Black adolescents in a project-based learning setting experience relevance and its association with motivation?

I focused on Black students at the school for two reasons: First, because the perspectives of Black students have been largely neglected by the field of educational psychology (Strunk & Andrzejewski, 2023) and motivation research specifically (Kumar et al., 2018). Secondly, Black students in diverse school settings do not always receive the same academic and social support as their peers (Lofton, 2019; Bottiani et al., 2017) and schools often do not provide learning experiences that enable Black students to express and explore their identity (Ladson-Billings, 2009). Since Community High School is a diverse high school serving a majority Black student body, the focus on understanding the experiences of Black adolescents would help school faculty meet their goal of equitably serving all students. Exploring where and how Black adolescents at the school experienced their learning as relevant will also help the school document and amplify strengths within the school community that they can continue to develop (Gray et al., 2023).

3.3 Interpretive Phenomenological Analysis as a Methodological Approach

The current study utilizes Interpretive Phenomenological Analysis (IPA). IPA is a qualitative methodology developed for applied psychology (Smith et al., 2022) that is well-suited for facilitating a nuanced and situated exploration of how Black adolescents experience relevance in school. The methodology seeks to explore how individuals make meaning of their lived experiences. Specifically, IPA is used for understanding the psychological processes behind experiences that carry significance for individuals (Smith, 2017), such as learning experiences students felt meaningfully connected to. This purpose is achieved through examining how participants understand their experiences and what those experiences mean to participants on their terms, using the participants' descriptions rather than an a priori theoretical lens to interpret how participants make sense of the events they describe (Nizza et al., 2021). Researchers using IPA generally achieve this understanding through inductive, iterative analysis of in-depth semi-structured interviews with participants who are able to offer a rich description of the phenomenon of interest (Smith et al., 2022).

The three theoretical underpinnings of IPA make the methodology especially well-suited for understanding how Black adolescents experience relevance in school. These underpinnings are: phenomenology, hermeneutics, and ideography.

Phenomenology. The primary driver of IPA is phenomenology, or the study of experience. An experience is distinct from just any event in an individual's life. An event becomes an experience when the individual ascribes meaning to the event through reflecting on it (Nizza et al., 2021). While IPA can be used to explore any type of experience--or any event that an individual has ascribed some meaning to--it is best used to examine experiences that are of existential importance to the individual (Smith, 2011). In IPA, experience is treated as, "a

lived process, an unfurling of perspectives and meanings which are unique to the person's embodied and situated relationship to the world" (Smith et al., 2022, p. 17). The focus on experience also means that IPA stays grounded in understanding a phenomenon as it is described by the participant as they recall their experiences (Smith et al., 2022).

The grounding in experiences as they are described, and the focus on the existential, embodied, and situated nature of experience make IPA a good fit for studying relevance. A Black youth's experience of identity-based relevance in school certainly qualifies as an experience of existential importance. Such an experience means that the educational task that the adolescent encountered prompted them to draw a connection between that event and some element of their own sense of self. A learning experience does not get much more existential than that. The embodied nature of experience also includes emotions (Smith et al., 2022) which enables an exploration of relevance and motivation that moves beyond the rational, controlled approaches common in motivation research and toward the more aesthetic framing of relevance first proposed by Dewey (Wong, 2007).

Hermeneutics. Hermeneutics is also foundational to IPA and makes the methodology well-suited to exploring experiences of relevance. Hermeneutics, or the theory of interpretation and meaning-making, emerges in IPA through the methodological emphasis on exploring meaning-making (Smith et al., 2022). Analysis within IPA seeks to uncover how an individual cognitively and affectively responds to an experience, rather than uncovering the objective nature of the experience itself (Smith, 2011). IPA focuses on the double hermeneutic nature of its analysis. It is not just a participant making meaning of their experiences. Rather, the researcher attempts to make sense of how the participant makes meaning of what they have experienced (Smith, 2017). IPA seeks to produce an analysis that is tied as closely as possible to the

participant's account of their experience, while at the same time acknowledging the crucial role of the researcher in this meaning making process.

The explicit focus on how an individual makes meaning of a specific experience enables researchers to center the voices of those who may be underrepresented by the extant literature, using their experiences to strengthen existing theory, rather than relying on an a priori theory or outcome that may mask the nuances of lived experiences. An approach that centers experiences as described by those who lived them is especially useful for exploring how Black youth experience relevance, given that this population was largely excluded from the research that formed most motivation theories (Strunk & Andrzejewski, 2023) and that the methodologies most commonly used in motivation research, which generally rely on a priori variables and frameworks, do not lend themselves well to capturing identity-based relevance (Priniski et al., 2018).

At the same time, the double-hermeneutic nature of IPA acknowledges the role of the researcher in ascribing meaning to the accounts provided by participants. The researcher engages in detailed interpretation of what the participants say in order to capture how participants are making meaning of the events and experiences they describe (Smith et al., 2022). Analysis is the product of both what emerges from the participants' accounts and the theoretical and empirical understanding of the phenomenon that the researcher brings to the analysis (Smith et al., 2022). Therefore, IPA does not neglect existing theoretical frameworks but rather enables the researcher to hold those frameworks lightly to guide inquiry and situate participants' sensemaking within the field's understanding of the phenomenon (Emery & Anderman, 2020) in ways that best reflect the participants' sensemaking and experiences. This aspect of IPA enables the researcher to draw from elements across theories and to blend them in ways that reflect the lived

experiences of students (Emery & Anderman, 2020). This enables the researcher to draw from motivation frameworks as well as culturally relevant pedagogy, communalism, and project-based learning to capture situated experiences of relevance among Black youth. Additionally, acknowledging the role of the researcher as meaning maker requires researchers to closely attend to their own biases and positionality at every step of the analytic process and use member checking to ensure that they are accurately interpreting the words of their participants (Emery & Anderman, 2020).

Ideography. The ideographic nature of IPA manifests in its commitment to presenting a detailed analysis of each individual case within the study (Smith, 2011). Each case is fully analyzed on its own terms before any shared themes are examined among the cases. Addressing each case individually enables IPA to capture both the shared themes among the different cases and what may make a case unique within the group, or what makes groups of cases distinct from each other (Nizza et al., 2021). The explicit, systematized, and comparable attention given to both convergence and divergence within the sample is a hallmark of IPA, distinguishing it from most other methodologies (Nizza et al., 2021; Smith, 2017). The focus on both convergence and divergence facilitates an examination of how Black adolescents experience relevance that captures shared elements of relevance while making room for each adolescent's individual experiences and how that impacts their meaningful connection between what they learn and themselves. Analyzing both the areas of convergence and divergence in Black adolescents' experiences of relevance honors the deeply personal nature of relevance, as well as the situated nature of motivation.

3.3.1 Participant Selection in IPA

IPA methodologists recommend that researchers use small, meaningfully homogenous samples for IPA (Smith, 2011; Smith & Nizza, 2022). The recommended number of participants ranges from 1-12. Smith and Nizza (2022) recommend that doctoral research for publication includes 10-12 participants in the study sample. However, this recommendation is not prescriptive. These participants should be "more ostensibly similar than they are ostensibly diverse" (Smith & Nizza, 2022, p. 14). What constitutes an appropriate level of homogeneity varies based on the nature of the study. However, the participants should be similar such that the variance in their experiences is based on individual, rather than systematic differences. IPA requires a small, homogeneous sample because it is an in-depth analysis of how individuals make meaning of their experiences. The ideographic nature of IPA demands a close analysis of the words of each participant. Including too many participants in the study may result in the researcher compromising the close analysis of individual cases and producing a broad analysis of the data corpus, rather than an interpretive and idiographic one (Smith, 2010).

Because of the need for a small, homogenous sample, researchers are recommended to use purposeful sampling to determine the study participants (Smith & Nizza, 2022). Participants should be able to provide rich insight into the phenomenon being studied (Emery & Anderman, 2020; Smith & Nizza, 2022). The need to identify potential participants who are both similar and able to provide rich information about the phenomenon justifies using quantitative data to select the most appropriate sample (Mayoh & Onwuegbuzie, 2015). In the case of interpretive phenomenology, quantitative data can be used in the preliminary phase of the research to identify the participants who are most likely to provide information-rich accounts of the phenomenon in question (Mayoh & Onwuegbuzie, 2015).

3.4 Participant Selection and Recruitment

As pilot work leading up to this proposal, initial student surveys were conducted in the Fall of 2024. Community High School distributes a survey consent form over the summer to student guardians, who sign and return the form. After obtaining IRB exemption (Appendix B) and prior to distributing the survey, an additional consent form was sent to only the student guardians who had already consented to their students' participation in school surveys. This consent form was opt-out, asking guardians to sign if they did not want their student to participate. Once those consent forms were returned, a Qualtrics link with the survey was sent to students whose guardians did not return a form. Students were informed that the survey was voluntary. Students were given time during the school day to complete the survey.

Survey Respondents. There were 357 9th-12th grade students who completed the survey. These students made up 68.5% of the total student body of 520 students. Survey participants consisted of 27% 9th grade students, 23% 10th grade students, 31% 11th grade students, and 19% 12th grade students. Of the survey participants, 48.7% identified as boys, 45.7% identified as girls, and 3.6% identified as non-binary/third gender. Respondents were given the option to select any ethnic-racial identity that applied to them, which included selecting multiple options. Therefore, some students may be represented across multiple ethnic-racial identities. Of the survey participants, 50.4% were Black/African American, 38.7% were white, 10.6% were Hispanic/Latine, 4.4% were multiracial, 3.6% were Asian or Pacific Islander, 2.2% were American or Alaskan Native, and 0.6% were North African or Middle Eastern. The demographics of the survey responses reflect the demographics of the school.

Measures. All the survey items are included in Appendix A. To select participants for this study, I relied on a measure for autonomous motivation adapted from the Multidimensional

Work Motivation Scale (Gagné et al., 2015). I chose to use the autonomous motivation measure for participant selection because autonomous motivation is closely associated with experiences of relevance (Vansteenkiste et al., 2018). Reporting high levels of autonomous motivation can reflect alignment with identity as it relates to the interest and value of the learning experience (Ryan & Deci, 2020; Vansteenkiste et al., 2018). The prompt for the measure was *"Why do you put effort into your schoolwork? When answering this question, think about what would be true for the majority (at least 4 out of 7) of your classes."* The prompt asked students to respond based on the majority of their classes instead of focusing on one class to meet the school's need for quantitative data that reflected school-wide experiences as much as possible. Items included *"I personally consider it important to put effort into my classes"* and *"The work I do in class is interesting."* Response options ranged from 1 (not true at all) to 5 (very true). Cronbach's alpha for the adapted measure was $\alpha = 0.87$, indicating good internal consistency for the measure.

Participant Recruitment: For the current study, I specifically focused on Black students in the 10th and 11th grades. These students had adjusted to the school climate and had numerous learning experiences within the school that would enable them to give a rich account of the projects that felt relevant to them. Community High l and I agreed that seniors would not be part of this study, as they have other demands on their time (preparing to graduate and preparing for their post-secondary placements) that must be prioritized above research participation. Furthermore, it would be difficult to conduct follow-up interviews with students in the following school year, as they would have graduated.

The participants I selected for the study reported that they experienced high levels of autonomous motivation in a majority of their classes in the first quarter of the school year. Selecting students that reported high levels of autonomous motivation helped guarantee that

participants had learning experiences they perceived as meaningful and relevant to themselves. I defined "high levels of autonomous motivation" as reporting a mean of 4 or above for items in the autonomous motivation measure. Reporting a mean of 4 or above indicated that students engaged in schoolwork because they thought that it was "true" or "very true" that the work in the majority of their classes held value for them.

A total of 74 students across the sample reported autonomous motivation in a majority of their classes on the fall survey. Of those students, 37 students reported Black/African American as one of their ethnic-racial identities, and 18 of those students were in 10th or 11th grade. Of the 18 students, 12 reported accurate student ID numbers that I could use to identify them for recruitment.

I worked with the school administration to reach out to the students that I identified as potential participants based on their survey responses. Eleven of the students indicated that they were willing to meet with me. I conducted an initial meeting with the students in March of 2025 to explain the purpose of the study and the time commitment for participating, to build rapport with the students, and give the students the opportunity to ask questions about the study and what it would mean to participate in it. The initial meeting lasted for approximately 30 minutes. After the meeting, I sent a consent form to the students' guardians (Appendix C) Ten of the students indicated that they wanted to participate in the study and returned signed guardian consent forms. Eight students were included in the final analytic sample (Table 1).

Table 1. Student Participants

Student Pseudonym	Ethnic-Racial Identity and Gender as Described by Student	Grade Level at First Interview	Interview 1 Length	Interview 2 Length
Mei	African American Female	11	87 minutes	45 minutes
Pearl	African American Female	10	47 minutes	24 minutes
Elizabeth	African American Girl	11	110 minutes	39 minutes
Soul	African American Male	11	78 minutes	26 minutes
Jewel	Black, Arab and White Female	11	64 minutes	29 minutes
Ace	African American Male	10	66 minutes	40 minutes
Jabari	White and Black Male	10	45 minutes	28 minutes
Olivia	African American Girl	10	73 minutes	37 minutes

3.5 First Student Interviews

I met with each participant individually to conduct a semi-structured interview. Semi-structured interview is the recommended method of data gathering for IPA, and is what is most commonly used (Smith & Nizza, 2022). Using a semi-structured interview protocol helped ensure that I asked a standard set of questions for each interview, while providing the flexibility to ask students any necessary follow-up questions and to allow the students to drive the conversation. For IPA interviews, Smith and colleagues (2022) recommend being flexible with the interview protocol to allow the participant to guide the conversation and to reflect their process of making meaning of their experiences. Interviews were audio recorded. Prior to beginning each interview, I spent several minutes speaking with each student participant to build rapport. I then reviewed the interview procedure again with the student and obtained the

student's assent to be interviewed and audio recorded (Appendix D) before I began the interview.

The interview protocol (Appendix E) consisted of four sections of questions and a closing. Section I included questions that asked students to reflect on aspects of their personal identity and their collective identity, including how they think about "community". Section I also included questions about the students' experiences at Community High School and how their identities influenced their experiences at the school. Section II included questions about how students defined relevance. Section III was the most extensive section and asked the students to reflect on a specific project that they felt was meaningfully connected to them. This included questions about why they felt the project was relevant, whether they thought the project connected to any of their identities, and what made the project they described more relevant than other projects that they still felt were interesting or useful. I focused the largest portion of the interview on a specific project because experiences of relevance and motivation are situated and the strengths of an IPA would be best leveraged if the students could focus on a detailed account of an especially salient experience of relevance rather than of relevance in general. Section IV asked students about what advice they would give to teachers to make projects more relevant for Black youth. At the end of the interview, students choose a pseudonym. I gave each student a $20 retailer gift card to thank them for their time. After each interview, I memoed my thoughts and takeaways from the interview to monitor my own biases and maintain researcher reflexivity (Smith & Nizza, 2022).

After conducting the first interview, I reviewed the transcript and consulted with the committee co-chairs to determine whether the interview protocol should be adjusted and whether the interview should be included in the analytic sample (Smith & Nizza, 2022). After reviewing

the interview transcript, I determined that the participant offered a sufficiently rich account of experiencing relevance within project-based learning to include it in the analytic sample.

After initially reading through each interview and consulting with the committee co-chairs, I determined that eight of the original ten participants met the requirements of providing a rich description of themselves and their most relevant learning experience. Therefore, eight student participants comprised the final analytic sample of the IPA.

3.6 Ideographic Analysis of First Student Interviews

IPA is inherently ideographic and iterative, so data analysis occurred over multiple stages. I employed iterative qualitative analysis methods (Smith et al., 2022) to analyze student participant responses from the first student interviews. I analyzed each participant's interview responses as an individual case. Therefore, I completed the following steps in their entirety for one case before moving onto the next. I first used transcription software to transcribe each interview audio recording. I then listened back to the audio recording as I read through the software-generated transcript to both ensure the accuracy of the transcript and to familiarize myself with its content. After completing the initial transcript reading, I created an outline of the interview content and wrote a memo of my initial thoughts, including any themes or specific topics that stood out to me as potentially important for the case analysis.

Exploratory Noting. The next stage of the analysis was creating exploratory notes. I read through each participant's transcript multiple times while recording my initial reactions to what struck me as important in the text. During this stage, I examined each transcript at the level of single words and phrases while making descriptive, linguistic, and conceptual notes (Smith & Nizza, 2022). Descriptive notes recorded summaries of the explicit meaning of what the participant described (e.g. objects, people, events, processes, etc.). Linguistic notes recorded

observations of the participant's exact words or how they were spoken. These notes recorded instances of repetition, false starts, use of metaphor and figures of speech, pronouns, and verbs, all of which could inform how I as the researcher interpreted the participant's tone and how they thought about what they were describing. Conceptual notes recorded any questions or emerging understanding that arose for me as the researcher while I read the interview. These notes also included connections I made to existing conceptual understandings and theory. I recorded my exploratory notes by hand on hard copies of each transcript.

Creating Experiential Statements. The next step in the analysis process was to create experiential statements. According to Smith & Nizza (2022), experiential statements are meant to succinctly capture how the participant has made meaning of their experience within a small portion of the text, as understood by the researcher. Experiential statements should capture what I initially noted and should capture the psychological process behind what the participant says. The IPA process is iterative, and once experiential statements were created, they were reviewed and refined as the analysis progressed.

Creating Personal Experiential Themes. After creating experiential statements for a transcript, I refined and synthesized them by clustering them. To create clusters, I took individual experiential statements and grouped them according to emerging patterns that I observed. This was an iterative process. I organized and arranged experiential statements into numerous clusters to explore emergent patterns. As I clustered the experiential statements, I wrote analytic memos to record my observations and progress. During this process, I also made note of redundant experiential statements and removed statements that did not serve an analytic purpose from the data set.

Once I finished creating clusters of experiential statements, I continued the process of refining the emergent personal experiential themes by combining any themes that overlapped, and rearranging themes into new combinations. During this process I continued keeping analytic notes and referring back to the transcript to ensure that emerging personal themes remained consistent with the students' meaning making during the interview. Once I had sufficiently refined the students' personal experiential themes, I created a final table (see Appendix F for an example) and wrote a final analytic memo. I repeated this process for each of the eight cases.

3.7 Second Student Interviews

After I completed the case-level analysis for each student, I scheduled a second interview. The second interview also included a semi-structured interview protocol. The interview protocol consisted of three sections. Section I included reading through the personal experiential themes, which I summarized into accessible language, and discussing the themes with the student participant, including if any ideas were missing or incorrect and what themes were especially salient to the student. Section I therefore served as a member-check and opportunity for the student participant to make any correction to my analysis. Section I also provided students with an opportunity to reflect on what they said in their first interview and expand on their ideas. Section II consisted of one to two brief passages from the student's transcript relating to the student's sense of identity and/or experience of relevance. I selected the passages based on what I thought required expansion or clarification from the initial interview. Section III included a question about whether the student had experienced an opportunity to participate in a project that directly addressed issues of systemic injustice or power. I included this section in response to an emerging finding that students did not name such projects as ones that they felt were most relevant. Section III provided an opportunity for students to explain why

most students did not discuss such projects in their first interview. While each student protocol followed the same structure, the specific questions and topics varied in response to what was discussed in the first interview. An example second interview protocol is in Appendix G.

I began each interview with a brief conversation with the student participant to continue building rapport. I then obtained their written assent to be interviewed and audio recorded. After I had obtained written assent, I provided each student with a hard copy of the summary of their emergent themes. I explained the structure of the interview and proceeded through the protocol with them, starting with reading through each of the emergent themes with the student. After the interview, each student received a $15 retailer gift card.

3.8 Group Level Analysis

After I completed the second interview for each student participant and confirmed that each student's personal experiential themes were accurate to their perceptions of their experience, I conducted a cross-case analysis using the entire data corpus of PETs and experiential statements from interview one. Due to IPA's use of inductive analysis, it is not always feasible to conduct a second round of inductive analyses on subsequent interview transcripts. Therefore, IPA studies that use more than one set of interviews can use emergent themes from the inductive analysis as a frame for the deductive analysis of subsequent interview transcripts (e.g. Dennis et al., 2013). I used both inductive analysis on the cases from the first interview and deductive analysis on the second interviews to finalize the group themes.

Creating Group Experiential Themes. To develop group-level experiential themes, I examined all the tables of personal experiential themes to identify similarities, differences, or other areas of connection between the personal experiential themes. Once I synthesized the

themes, I repeated the process at the level of the experiential statements. I reorganized the personal themes and experiential statements into emergent group-level themes and subthemes.

Analysis of Second Interview Transcripts. After I created the group experiential themes, I used those themes as a coding scheme for the second set of student interview transcripts (Dennis et al., 2013). I read through each student participant's second interview transcript multiple times, using the group experiential themes to surface additional insights related to those themes. I added the coded experiences from the second interview to the data corpus.

3.9 Teacher Interviews

After I completed my initial analysis of each student case, I contacted the teacher of the project the student named as feeling most relevant to them to request an interview. When I requested the interview, I informed the teacher of the purpose of the interview. Every teacher I contacted agreed to an interview. I obtained signed consent from each teacher participant before I interviewed them. I interviewed seven teachers, as two of the students named the same teacher's project as feeling most relevant to them (Table 2). Two of the teachers no longer taught at the school. I interviewed them via Zoom. I interviewed all other teachers in-person. All of the interviews were audio recorded and transcribed. Teacher participants received a $15 gift card after their interviews.

See Appendix H for the teacher interview protocol. The questions in the teacher interview protocol served to explore the teacher's intentions in designing the project and how they described the process of the project and the product students were meant to produce. For the current study, I used data from the teacher interviews to provide additional contextual knowledge

of the projects students discussed to both aid my analysis of students' accounts of the projects, and to describe the projects in more detail in Chapter 4.

Table 2. Teacher Participants

Teacher Pseudonym	Teacher Race and Gender	Subject Taught	Student Participant	Interview Length
Lucas	White Man	Theater	Mei	25 minutes
Joan	White Woman	Fashion Design	Pearl	28 minutes
Bryant	African American Woman	Health	Elizabeth	28 minutes
Jordan	Asian American Woman	English Language Arts	Soul	29 minutes
Camilia	African American Woman	Physics	Jewel	43 minutes
Aaron	White Man	Math	Ace	24 minutes
Robin	White Non-Binary	Economics	Jabari; Olivia	28 minutes

3.10 Cyclical Bracketing

Throughout the analysis process, I engaged in cyclical bracketing. Bracketing within phenomenological research often refers to the researcher attempting to identify and remove ("bracket") their own preconceptions and biases from the analysis of the data. However, in IPA, the role of the researcher as a sense-maker is a key part of the analytic process. The researcher cannot remove themselves from the analysis. Instead, researchers conducting IPA engage in reflection at each stage of the analysis to identify the preconceptions they bring to that round of analysis (Smith et al., 2022). Engaging in cyclical bracketing enabled me to acknowledge when I was making connections to my existing knowledge of the research literature or drawing a conclusion about the participant's intended meaning.

3.11 Chapter Summary

In this chapter, I described my own positionality and how I completed this study in the context of an on-going research practice partnership with Community High. I explained the rationale for using IPA as the primary analysis for understanding Black adolescents' experiences of relevance, and I described the methods I used to recruit participants, gather data, and engage in a phenomenological analysis of students' experiences. I also discussed the ways in which I ensured the quality of the study. In the next three chapters, I will describe the findings of the IPA and follow-up interviews. Chapter 4 will describe the eight student participants and their learning contexts, including areas of convergence and divergence among the participants. Chapter 5 will describe the findings regarding how students experienced and made sense of relevance within project-based learning. Chapter 6 discusses the motivational and emotional experiences of students when they felt that their projects were relevant to themselves.

Chapter 4 Participant Identities and Learning Contexts

Traditional practitioners of IPA advocate maintaining focus on how participants make meaning of a focal experience (Smith et al., 2022). However, as I discussed in previous chapters, how and whether one experiences a sense of relevance is the product of the relationship between the dimensions of one's identity and goals on the one hand, and one's learning task on the other. Furthermore, learning tasks are contained within and influenced by classroom and school-level learning environments created by teachers. Therefore, in order to most effectively utilize the double hermeneutic to make meaning of how Black adolescents in this study think about experiencing relevance in school, it is first necessary explore how the participants think about who they are, their goals, their values, and how their learning experiences are informed by their learning environment. In keeping with the phenomenological approach to this study, the focus of these findings remains centered on how the students define their own experiences. However, I also include further insights obtained from my interviews with the students' teachers to add greater nuance and depth of understanding to my analysis.

The findings in this chapter are derived from my initial and second interviews with the student participants as well as my interviews with the teachers of the projects students said felt most relevant. The information included in this chapter reflects my analysis of how students spoke about themselves and their experiences at Community High outside of the specific project that was the focus of most of each interview. I included information from the teachers that contributed additional detail to what the students described from each project. As the rest of this

chapter will illustrate, while all eight student participants share the identity of Black adolescents, they varied in how they saw themselves and their world. Additionally, while all the students attended the same school, they spoke about a variety of projects across several different subjects (Table 3). The group-level themes for student participants' experiences of relevance will be discussed in detail in Chapters 5 and 6.

Table 3. Learning Experiences/Projects

Student	Course Type	Product	Description	Teacher
Mei 11th Grade	Theater	Performance in stage musical	Occurred in 9th grade. Approximately 40 theater students working as cast or crew designed, rehearsed, and performed the musical, Cinderella under the direction of the theater teachers.	Lucas
Pearl 10th Grade	Fashion Design	Dress	Occurred in 10th grade. Each student conceptualized, designed, and constructed a garment that represented a facet of their identity.	Joan
Elizabeth 11th Grade	Health	Lesson on body system	Occurred in 11th grade. Students worked in small groups to design a lesson and accompanying activity to teach elementary school children about a body system.	Bryant
Soul 11th Grade	English Language Arts	Poem	Occurred in 10th grade. Each student wrote a poem reflecting on who they are using vivid language.	Jordan
Jewel 11th Grade	Physics	Underwater Remote Operated Vehicle (ROV)	Occurred in 11th grade. Students worked in small groups to construct an underwater ROV that was able to clean up water pollution.	Camila
Ace 10th Grade	Math	Spreadsheet of projected income and expenses	Occurred in 10th grade. Each student determined the income, expenses, and time investment of their future goals using logarithmic and exponential equations.	Aaron
Jabari 10th Grade	Economics	Original business pitch and prototype	Occurred in 9th grade. Students worked in small groups to conceptualize, design, and present a business idea to a panel of "investors".	Robin
Olivia 10th Grade	Economics	Original business pitch and prototype	Occurred in 9th grade. Students worked in small groups to conceptualize, design, and present a business idea to a panel of "investors".	Robin

4.1 Mei

4.1.1 Mei's Background and Identity

Mei was in eleventh grade when we had our first interview. She had attended Community High since starting ninth grade. Mei defined herself as an artist and wanted to become a fine artist professionally. By the time we had our second interview, she had shifted her professional goals to becoming an art teacher. Mei viewed art as a vehicle for identity exploration and self-expression, stating, "I can convey my feelings, like my identity, through my art" (Interview 1). Art also connected her to her older brother, who was an artist. Mei described several other interests, including travel, math and science, writing, knitting, and music. However, she was especially passionate about theater. Mei began participating in theater to emulate her older sister, with whom she was very close. She stated that she joined theater because her sister "was always big into theater, and I wanted to be just like her (Interview 1). She had consistently participated in theater at Community High since first joining the class in ninth grade.

The ways in which Mei's personal passions also connected her to members of her family reflected the importance Mei placed on community. She believed that community, who she defined as those with whom a person was close, "make you who you are in a way" (Interview 1). She valued making her family proud through her performances and believed "I have to perform good for them" (Interview 1). For Mei, personal identity and interests and social bonds and obligations often overlapped.

Mei felt different from who she viewed as "typical" Black girls because of how she dressed and spoke. She wrestled with this tension, saying about herself, "who you are is okay, still, like, you don't have to be like how you see other Black girls" (Interview 1). She had been told she was different from other Black girls at her previous school, which she said sometimes

made her feel disconnected from that identity. However, when we spoke, she was passionate about the importance of diverse Black representation in media and learning environments. She also valued respecting diverse identities. She recounted times when she had corrected her classmates for insensitive comments, saying, “especially if there's another student in that class that is of that ethnicity, that culture, and they're too scared to speak up, I'm like hey, you can't say that. That's not okay.” (Interview 1). In her interviews, Mei presented as someone who had thought deeply about her own identity and the social systems in which she existed.

4.1.2 Mei’s Schooling Experiences

Mei described her experience at Community High as being different from her previous schools. Unlike her previous school, at which she endured comments that made her feel “disconnected” from her Black identity, Mei said that at Community High she felt “more accepted for who I am”. She also felt supported by her teachers, who encouraged her to pursue her art and made accommodations for her so that she could participate fully in art and theater without falling behind academically. She described how her teachers exhibited care toward her, stating, “they know me, I know them, so they have been like, "Hey, you don't need to push yourself to the point of exhaustion just to become an artist.” (Interview 2). Mei expressed mixed feelings about the cultural responsiveness demonstrated by her teachers. She stated, “I feel like at Community High, they may not always get it right for certain things, but I can see that they are trying. I just want teachers to pay more attention to like, the people who they are putting in their lesson (Interview 1). Mei appreciated the ways in which she saw teachers trying to be culturally responsive, although she also noted the ways in which she experienced their cultural biases. She wanted them to improve on including diverse representation in the materials they used in class.

4.1.3 Mei's Project: Theater

Mei described participating in a theater production of the musical, Cinderella, in ninth grade, in which she was the understudy for Cinderella. The project occurred in her theater class. According to Lucas, the theater teacher, the class was composed of approximately forty students who worked as the cast and crew of the production. The production was co-led by the students, some of whom served as stage managers and directors. Throughout the process of preparing the production, students collaborated heavily and made creative decisions, which Lucas stated was an important aspect of the theater course:

> "[students] are always practicing their lines with each other. They're always encouraging each other…students direct the shows, students stage-manage the shows, students give notes, students are like, developing costumes and building sets with each other. They're learning from each other." –Lucas

To prepare students for the play, Lucas showed students multiple versions of Cinderella, including the film starring the singer/actress Brandy as Cinderella. During class, students worked on preparing their parts and rehearsing together. The students gave multiple performances of the musical for an audience, including a performance in which Mei played the starring role of Cinderella.

4.2 Pearl

4.2.1 Pearl's Background and Identity

Pearl was in tenth grade when we had our first interview. She had attended Community High since starting ninth grade. Pearl defined herself as a self-taught fashion designer, although her career goal was to become a neuropsychologist so that she could solve problems and help

people. Pearl viewed herself as mature and determined. She said that her determination to be successful was because her family did not have much money and she wanted to break that cycle. Pearl had several creative interests, including drawing, crocheting, and playing the violin. She thought that all her interests stemmed from a desire to make art, saying "I really love art. Yeah, I think that's really why I like doing most things...they have to do with art." (Interview 1).

Being artistic also connected Pearl to her family. Pearl was close with members of her family. She also stated that her love of art, "kind of runs in my family because a lot of them do art" (Interview 1). Fashion design specifically was a way for her to connect with her older brother, who performed as a drag queen. He supported her in her desire to design. According to Pearl, as her brother became interested in fashion:

> "[W]e have more of a connection. He can help me with certain fashion things or like, tell me to watch certain documentaries on different fashion designers; something that will help me, like, broaden my skills" (Interview 2).

Pearl considered fashion design and African American culture as being closely linked. She stated that she viewed being African American and being a fashion designer are both central to her identity because, "African American culture kind of, uh, sort of, like, influences fashion design and fashion in general" (Interview 1). Pearl's sense of identity as African American also influenced her daily life at school because most of the peers she spent time with at school were also Black.

4.2.2 Pearl's Schooling Experiences

Pearl stated that what she valued most about Community High was the creative environment of the school. She said that she felt like the school was "very art centered" which is what drew her to it. She appreciated that Community High provided her with opportunities to

display her art and design work for public audiences, which was an opportunity that she did not have at her previous school.

4.2.3 Pearl's Project: Fashion Design

Pearl described a project in Fashion Design in which she was required to create a garment that served as a "self-portrait" reflecting an element of herself. She completed the project in tenth grade. Pearl worked mostly independently with the support of the Fashion Design teacher to create a dress. As the teacher, Joan, described, the process began with showing students a video about Nick Cave—a Black artist who uses textiles and garments as part of his artwork—and discussing how students could use elements from their lives to inspire their garments. Students then drew their original designs and wrote an artist statement. The artist's statement was meant for students to explain the "meaning of the symbols that they're using and the materials and why they're using them…what is the intention for each of the things that they choose" (Joan). According to Joan, students were asked to reflect on what life experiences inspired the garment so that they could "learn what that insight about where they come from and how it can be used in a creative way and how it can be, um, brought outward instead of, whether it be bad or good, be stuck inside" (Joan). The project was meant to encourage identity exploration and self-expression through creativity. While not all students constructed a full garment, Pearl did so by modifying existing garment patterns, assembling her dress, and adding details. She displayed the dress at a school event showcasing student work.

4.3 Elizabeth

4.3.1 Elizabeth's Background and Identity

Elizabeth was in eleventh grade when we had our first interview. She had started attending Community High at the beginning of the school year. Elizabeth wanted to become a

pediatrician. She had wanted to go into medicine for some time. While she favored being a pediatrician, she had been unsure of whether she wanted to enter that specialty. In her second interview, she shared that her health project in eleventh grade had made her certain that she wanted to be a pediatrician, stating, "I kind of finally decided pediatrician probably when I started thinking more about the project, when I started to realize that, wow, that was joy in that project, I do enjoy that." Elizabeth named several other interests, including painting and playing instruments. She enjoyed learning about math and science. She also regularly attended church, where she helped with watching the young children.

Elizabeth said that something that distinguished her was that as a Black girl, she had spent her childhood before middle school living in a predominately white area and attending predominately white schools. She valued racial and economic equality and attributed the experiences of trauma within the Black community to some of what she considered the negative or violent behaviors in that community. When she discussed student fights she had seen at her previous school, Elizabeth thought the fights happened, "because Black Americans… have generations of trauma" (Interview 1). In her interview, Elizabeth indicated that she thought about what Blackness meant in different spaces, and the ways Black students' experiences within a specific context could influence their behavior. Elizabeth also spoke about the ways that her mother ensured that Elizabeth saw positive Black representation and pointed out moments of systemic injustice. Elizabeth came across as someone who had reflected on her Black identity extensively and had evolved in how she viewed Blackness over the course of her adolescence. She confirmed this in her second interview, stating, "at one point in my life, I wasn't proud of being African American. I did try to change that in my life."

4.3.2 Elizabeth's Schooling Experiences

Elizabeth spoke about the ways in which Community High felt both physically and psychologically safer than her previous school. At her previous school, Elizabeth said, "I would fear for my life…I would go in there scared" (Interview 1). By contrast, Community High, "has been the greatest school I've ever been to" (Interview 1). She liked that her teachers at Community High were passionate about what they taught and that she felt they would guide her. She said that while most teachers at the school treated students equitably, she had experienced bias from some of them. In her first interview, she recounted an instance in which a teacher told her that she and another student of color "didn't need to push as hard" to achieve academically in a way that indicated to her that he may have assumed that they could not. However, for the most part, Elizabeth felt happy and well-supported at the school.

4.3.3 Elizabeth's Project: Health

Elizabeth described working with a small group in eleventh grade to create a lesson and activity that taught a class of elementary school children about the circulatory system. Elizabeth worked with two other students in her health class to complete the project. After learning about the different body systems, students in each small group chose a body system and the grade level they wanted to teach. They then worked as a group to create an age-appropriate presentation on the body system that included an activity that the elementary school children could do. The health teacher stated that collaboration and creativity were key components of the project:

> "So I give them, like, complete autonomy on what [they] create. It could be a video, it could be a song, it could be a dance routine, it could be a game, you create it. It's just, it just needs to be interactive where the, the target audience is captivated by it and they learn from it." –Bryant

The teacher selected a few of the groups, including Elizabeth's, to then go to a local elementary school and share their lesson with a class of children. As part of presenting their lesson, Elizabeth and her group interacted with the children and asked the children questions about what they had learned about the circulatory system.

4.4 Soul

4.4.1 Soul's Background and Identity

Soul was in eleventh grade when we had our first interview. He had attended Community High since starting ninth grade. Soul was passionate about music and considered it to be an important part of his daily life. In our first interview, he stated, "Music is something that moves me. Drives me. It's something that's been rooted in me from a very early age." Soul attributed his love of music to his father, who was a musician, song writer, and poet. Soul looked up to his father as a role model:

> I believe he's the reason why I love music. I really look up to him for advice, even when I want to write, like, I write songs sometimes when I'm feeling down and… *he's* the reason why I love music and I push for music. (Interview 1)

In addition to emphasizing how his father inspired his love of music, Soul described how when he and his father spent time together, they usually spent it listening to music. Soul's relationship with his father and the love of music and poetry it inspired were important to how he defined himself.

Helping others was also very important to Soul. So much so that it inspired his career goal of becoming a travel nurse. Soul wanted to go into medicine so that he could help others because "doctors, they help people, nurses they help people" (Interview 1). Soul valued helping

other people and being a source of advice and support for his friends. At the same time, he spoke about the importance of reciprocity in his relationships. He stated:

> I believe in reciprocity. I believe in, you know, how you treat people. You know, it's the way you treat people can be reverted back to you. And so I've always had the idea in my mind that, hey, if I, you know, treat people with respect and kindness, I'll, you know, receive it back. (Interview 1)

Soul's belief in the importance of helping and being kind and expecting such treatment in return was a trait that he valued in himself and in the friends who he surrounded himself with.

Soul was proud of his Black identity, stating, "I'm happy and I'm grateful to be who I am." He described hearing stories about the Civil Rights Movement from older family members and was moved by the shared achievements of Black people specifically in response to experiencing oppression. He expressed how much he valued seeing Black people succeed in the face of racism: "I think it's really beautiful just to see how we as individuals have progressed over time and to fight for what we, you know, deserve and want and respect" (Interview 1). On a personal level, Soul valued authenticity and being true to oneself, saying, "that's something that you really have to do" (Interview 1). He had been working toward being a more authentic and social person since starting high school.

4.4.2 Soul's Schooling Experiences

Soul was passionate about Community High. "First of all, I really do love my school" was one of the first statements he made in his first interview. He felt that he belonged at the school and that its non-traditional, project-based environment was a good fit for him. He thought that one of the aspects of the school that made it special was that the school taught students how to be creative, saying "it's taught me…there's different ways you can come about a solution"

(Interview 1). He also felt that the school was an environment that enabled him to develop as a person: “this school definitely was, it was a place for me to bloom” (Interview 2). Soul also appreciated the diversity of the student body. He had a diverse group of friends who shared common values with him. He had never experienced any negative interactions at the school regarding his racial identity.

4.4.3 Soul’s Project: English Language Arts

Soul spoke about writing a poem in his tenth grade English language arts class. To write the poem, students were asked to reflect on their identities. The teacher, Jordan, introduced the poem by reading her version of the poem to the class and speaking about how hearing identity poems written by her colleagues impacted her. According to the teacher, the goal of the poem project was for students to explore their identities and learn more about the identities of their classmates:

> I hope they learned that, you know, being introspective is really important or, and to think about the factors that have shaped their identities. I hope they learned that identity changes over time. I hope I learned about their peers and I learned to listen to details. – Jordan

She also wanted the students to “play with words.” The only requirements for the poem were that the poem captured how students reflected on their identities and incorporated vivid language. Soul finished his poem within the class period. Soul shared his poem with the class. He also displayed his poem at a school event showcasing student work.

4.5 Jewel

4.5.1 Jewel's Background and Identity

Jewel was in eleventh grade when we had our first interview. She had started attending Community High at the beginning of the school year. She participated in multiple clubs and sports, including cheerleading, volleyball, and Community High's Black Student Union. Being a leader was an important part of Jewel's sense of self. She viewed herself as the person in her friend group who other came to for advice, saying, "Whenever my friends are just having issues with life in general, they just always come to me" (Interview 1). In our second interview, Jewel spoke about her active role as president of the Black Student Union at Community High.

Jewel demonstrated her communal orientation through how she valued both working together with others and advocating for groups she cared about. One of the aspects of Community High that Jewel appreciated most was how it felt like a community, in part because, "everyone we're just like, kind of gathered doing projects, you know, giving each other advice" (Interview 1). In both interviews, Jewel also spoke about multiple ways in which she wanted to help others. She wanted to do work to advocate for the victims of gun violence, which had affected her own family. Additionally, she was passionate about helping other girls be proud of who they were as well, regardless of their backgrounds and identities because, she said, "I just want young girls in general to be comfortable with who they are" (Interview 1). In our second interview, she also described her desire to become a midwife who specialized in helping Black mothers deliver babies because she wanted to "advocate for a lot of black women delivering babies because I know in the hospitals they're not really advocated for or treated fair, fairly." Jewel also cared about keeping waterways clean and protecting marine life, which she had advocated for over several years.

Jewel's racial identity was Black, Arab, and white. Jewel indicated that she greatly valued her Black identity. In our second interview she said, "I've always embraced being black even if it was not fully visible to a lot of people since I am mixed." She attributed some of this to being very close with her mother, who was Black. Jewel described having struggled with not feeling Black enough in some spaces, specifically her previous school, and not feeling white enough or Arab enough in other spaces. Through navigating this struggle, Jewel had come to a place of self-acceptance and said, "I'm proud of who I am...I can't change it at the end of the day" (Interview 1). Jewel indicated through her interviews that she was actively engaged in exploring and enacting her sense of collective Black identity through both having pride in who she was and advocating for others.

4.5.2 Jewel's Schooling Experiences

Jewel said that Community High was a place where no one ever questioned her racial identity. This distinguished it from her previous, predominately Black school, at which she would "get bullied and called white girl" (Interview 1). In contrast to her previous schooling experiences, In addition to how much she appreciated being able to collaborate with other students at Community High, Jewel felt that Community High was a supportive community because, "out of all the schools I went to, I've never felt loved and, like, appreciated...than I have at Community High (Interview 1)." She had close relationships with several of her teachers, including one that, "I feel as though I can go to her about anything personal or, you know, school related" (Interview 1). She was confident that the teachers at Community High would check up on her and other students if they noticed something seemed wrong to make sure that students were alright.

4.5.3 Jewel's Project: Physics

Jewel described a project in her physics class that year in which she worked as part of a small group to design and build a working underwater remote operated vehicle (ROV) and remote control. According to the teacher, Camila, the goal of the project was for students to compete in a multischool robotics competition. Camila said that she "stepped back a lot of days" so that students would have autonomy around how they created the ROV. Camila framed cleaning waterways as the purpose of the robots. She framed the project in this way because she wanted students to think about "how could we use this system to solve a problem that exists in our community" (Camila). Jewel and her group designed their robot to pick up trash from the ocean. The students used AI to help them generate designs for their robots, and then built the body of the robot, its circuit board, and its remote control, recording their progress at each stage of the build. They tested the robot to ensure that it worked underwater. Throughout the process, students worked collaboratively. According to the teacher, "collaborating on teams is huge." After the team had successfully designed and built the ROV, Jewel demonstrated how the robot picked up trash underwater at a school event showcasing student work.

4.6 Ace

4.6.1 Ace's Background and Identity

Ace was in tenth grade when we had our first interview. He had attended Community High since starting ninth grade. Ace wanted to go into a profession in the field of technology or science. He said of himself, "growing up I've been like, a technology like, fiend. I love technology" (Interview 1). He described how he enjoyed taking electronics apart in his free time to see how they worked. Despite wanting to go into science and technology, Ace's favorite subject was history because he enjoyed learning about different cultures and time periods. In

contrast, Ace spoke about how math was the most difficult subject for him and was the only class in which he had not earned an A.

Ace's relationships with other people were important to him. Ace viewed himself as a helpful person and a loyal friend. He described his identity as "a very reliable and best friend." While Ace felt that one of his personal defining traits was his sense of humor, he also thought about his humor based on how it helped him relate to others. He attributed his humor to his mother, and saw humor as something that connected them, saying "my mom showed me how to be funny" (Interview 1). He liked to use his humor to connect with other people trying every day to " make like at least one person I know like chuckle or laugh" (Interview 1). Ace would also often help his friends with their classwork. He stated that, "I can help other people know what they're doing, especially in, like history or biology, because that's where people ask me for like help" (Interview 1). Ace valued being a diligent student and earning high grades. He explained that his primary motivator for earning high grades was to make his parents proud of him. Making his family proud was important to Ace because:

> [W]ithout them I wouldn't be as smart as I would be today. Because they're the people who pushed me to actually, like, strive for the things I want to do. So, like, they're the people that taught me how to be respectful. That's who I am. (Interview 1)

Ace also attributed his sense of identity as a Black boy to the values his parents instilled in him; namely, being respectful, having integrity, and avoiding trouble and negative influences. In our second interview, he explained that he tried not to pay attention to politics, instead focusing on himself and his own life. He thought he would pay more attention to social issues when he was older but that "now I'm a kid, I don't really care about the government that much." Ace indicated through his interview responses that he thought about his life at a personal and

interpersonal level more than viewing the world through the lens of understanding systems of power.

4.6.2 Ace's Schooling Experiences

Ace also describes Community High as being very different from his previous school, which he thought felt unsafe and controlling. By contrast, at Community High he could, "actually come here and have a good time." He felt that he was a part of a community in the school and was able to form connections with peers and teachers. He felt that his teachers knew him and that he could go to teachers if he ever needed support because his teachers had, "shown me that I have, like, people to run to if I ever need help. Or like someone that I can trust" (Interview 1). Overall, Ace enjoyed Community High, saying, "it's very fun coming here talking to my friends, doing work, socializing with teachers" (Interview 1).

4.6.3 Ace's Project: Math

Ace described a project he completed in math that required students to use logarithmic and exponential equations to plan their future education, careers, and living arrangements. Students researched housing prices, the credentials/post-secondary education required for their desired careers, projected income, etc. They learned math equations that they then used to calculate their cost of living, potential income, taxes, and retirement savings among other aspects of adult life. According to the teacher, Aarron, one of the objectives of the project was for students to think about their future selves. He stated:

> [O]utside of math, I wanted them to think about like what their future goals were. And so do a little reflection on that, think about what steps they'd need in order to like achieve that thing and then kind of see, like, what would life look like if they were able to achieve that. –Aaron

Through this process, students completed their project as individuals but, according to Aaron, often worked together and supported each other when students were struggling with an idea or concept. Ace submitted his completed spreadsheet and write-up directly to the teacher once he finished the project.

4.7 Jabari

4.7.1 Jabari's Background and Identity

Jabari was in tenth grade when we had our first interview. He had attended Community High since starting ninth grade. Jabari wanted to become an engineer and business owner. He described himself as being an "engineering type of person" (Interview 1) who enjoyed math and was interested in robotics and aerospace engineering. He also completed engineering tasks in his free time by fixing things around his house. Jabari played soccer and enjoyed climbing, which he first experienced in a class at Community High. While he hesitated to call himself artistic, Jabari appreciated opportunities to be creative. When I asked him to elaborate on this point, he stated:

> I've always loved like making something up, like, you know, I don't always have the resources for it, but I really like just being able to sit down and like, think of, create a solution or make something that fixes the problem. It's just, I don't know, I like doing it. (Interview 2)

How Jabari interacted with other people was also an important dimension of his identity. Being kind and empathetic was an important part of how Jabari defined himself. He viewed his kindness toward others as central to who he was and stated that, "I feel I kind of try to build off that" (Interview 1). He also described how he tried to diffuse situations when there was tension in a group. Jabari valued interdependence, which was how he defined community. According to Jabari, being in community meant, "you can rely on this person. I rely on that person. It's just

like everybody's kind of intertwined with each other" (Interview 1). Even when he thought about potential engineering projects, Jabari considered how to be helpful to others. In our second interview, he said, "I always have the idea in mind of helping other people or making somebody's job easier." For Jabari, defining his own identity was closely tied to who he was in community with other people.

Jabari was biracial, being both Black and white. Because of his racial identity, Jabari thought it was important that he stayed connected to Black culture through his friends and family so that he could, "make sure I don't, you know, forget who I am" (Interview 1). He also felt the need to be strong and to stand up for himself when people questioned his Black identity. Jabari felt that, "I have to stand up for myself and also be in tune with my own culture and everything like that" (Interview 1). Jabari was intentional about remaining connected to his Black identity and being proud of his Blackness.

4.7.2 Jabari's Schooling Experiences

Jabari also felt that Community High was different from other schools he had attended due in part to the school's strong sense of community, which Jabari said, "was a lot stronger here than anywhere else I've been to" (Interview 1). Jabari thought Community High was a place with a welcoming culture where "it feels like a lot of people tend to go out of their way to like, incorporate somebody into something" (Interview 1). He also thought that the teachers at Community High cared about students and would "help me out a lot." He appreciated that teachers made learning student-oriented by incorporating students' interests.

4.7.3 Jabari's Project: Economics

Both Jabari and Oliva spoke about the same project from economics class. I describe the project in section 4.8.3.

4.8 Olivia

4.8.1 Olivia's Background and Identity

Olivia was in tenth grade when we had our first interview. She had attended Community High since starting ninth grade. She planned to attend college after finishing high school. Olivia enjoyed sports, especially football, which she watched with her family. Olivia was strongly community-oriented. She viewed her helpfulness as a central dimension of her identity, stating, "I am very helpful. I'm very caring, loving… So it's like if someone's asking for something I'm like, oh you need my help" (Interview 1). Olivia was also very close with her family and she attributed her values of being kind and helpful to being raised in a home that reflected those values. This environment included the expectation that Olivia would help with household chores. Olivia stated that, "if the whole family's in the house, it's Hey, can you do this? Hey, can you do that? Can you cook?" (Interview 1). She also felt a sense of responsibility toward her younger siblings. She viewed herself as an important role model for her younger sister, "so, like when she gets older to my age she can know that's like being a positive person, it can get you so far in life" (Interview 1). Additionally, she said, "I also try to be a role model to my brother because, like, he going to be in high school in, like, two years. So it's like I got to prepare him" (Interview 1). Olivia's faith was very important to her and was part of how she defined herself. She held a leadership role in a local faith organization that did volunteer work in the community.

Olivia did not consider her African American identity to be central to who she was. She indicated that she viewed race as an external attribute rather than a source of identity, stating, "I just feel like color, it really doesn't matter to me" (Interview 1). She viewed race and gender as being less important than a person's individual characteristics. She thought of race as nothing

more than a color that “doesn't really matter because at the end of the day, you're still human” (Interview 1).

4.8.2 Olivia’s Schooling Experiences

Olivia did not feel that the classes at Community High were very different from those in her previous schools. Nevertheless, she felt that the deep connections she formed with teachers made it a place that “you didn’t want to leave” (Interview 1). Olivia felt that she could go to several different teachers for both academic and personal support if she ever needed it, saying “if I need to talk to them about personal things, they’re there” (Interview 1). Aside from the supportive environment, Olivia appreciated that she felt like she had more freedom at Community High than at her previous schools.

4.8.3 Olivia’s Project: Economics

Both Jabari and Olivia spoke about the same project from their ninth grade economics class. The project positioned students as entrepreneurs who conceptualized and designed a business, along with a (cardboard and/or virtual) prototype of their product, an advertising campaign, and accurate information about the start-up costs, projected profits, target demographics, etc. Students worked in small groups to accomplish each of these tasks. Collaboration was a significant aspect of the project, according to the economics teacher, because students “have to be able to work together and collaborate and communicate your ideas with each other towards a common goal” (Robin). The sequence of the project began with students watching examples of entrepreneurs pitching ideas to investors and then identifying a real-world issue they wanted to address with their business. The project ended with each group presenting their business idea to a “Shark Tank” style panel of “investors”. This panel included older students who had previously taken the course. The design of the project was meant to

simulate the process of conceptualizing and starting a business. The economics teacher, Robin, stated that this was "so that students could see themselves as maybe a potential entrepreneur in the future." According to Robin, incorporating creativity was also an important part of the project. They hoped students "learn that they can be creative… learn that they have cool ideas that are worth sharing" through completing the project.

4.9 Findings Regarding Participants' Identities and Learning Contexts

Aside from sharing their Black identity, the student participants in this study were unique in their life experiences, interests, and goals for themselves. They also had different relationships to their Black identities. Students like Jewel felt and Mei felt that their Black identity was an important part of who they were. On the other hand, Olivia did not consider her racial identity to be of particular importance to her. The student participants also displayed a range of critical consciousness. While students spoke similarly about how Community High was a learning environment that was distinct from other schools they had experienced, they varied considerably regarding the experiences they had within the school that they felt created the greatest sense of personal relevance.

One commonality among the majority of the students was the importance of communal values to their sense of self. Students such as Olivia, Jabari, and Soul expressed this value through their desire to help others. Jewel also expressed this value through her desire to advocate for those she felt close with and who she thought she could help. Other students also spoke about how important their communities were to them and to their sense of identity. Soul, Mei, Pearl, and Ace all spoke about how the aspects of their personal identities that they felt were important to them, such as Mei's love of theater, Pearl's fashion design, and Ace's sense of humor, were also vehicles through which they could strengthen their social bonds with loved ones.

4.9.1 Community High is Different from Other Schools

All the participants described Community High as being different from their previous schooling experiences or what they considered to be typical schooling experiences. What distinguished Community High for these students was that it was a learning environment in which students felt they were part of a community, they felt safe to embody their unique identity and personhood, and they were encouraged to be creative. The students also spoke about how they felt supported and cared for by their teachers at the school. As students like Ace, Elizabeth, and Jewel described, the sense of safety and trust in the teachers was not an experience they had at their previous schools. The teachers also indicated that providing students with support to be their authentic selves, explore their identities, and develop their creativity were important considerations that they had when designing projects for students.

4.9.2 A Variety of Learning Experiences Fostered a Sense of Relevance

The eight students each described their experience of a course project that they felt was most relevant to them. They described seven distinct projects, with two students naming the same project as being most relevant to them (Table 3). The projects occurred across subjects that included the arts, social sciences, physical sciences, mathematics, and English language arts. The projects also varied in what product students created for each. Some projects required producing a performance (e.g. Mei) or presentation (e.g. Elizabeth), while for other projects students created a physical object (e.g. Pearl) and still others required students to create a document of their ideas and work (e.g. Ace). Multiple projects required students to produce a combination of deliverables (e.g. Jabari/Oliva, Jewel). The projects students described also took vastly different amounts of time, ranging from Soul's description of an English language arts project that took approximately one day to Mei's experience acting in a musical production that took around

fourteen weeks to prepare. Most projects were between two and six weeks long. Students described projects that they had to complete while working as a group (e.g. Jewel) and projects in which students produced their work individually (e.g. Pearl).

Perhaps the most striking pattern across the seven projects described by the participants as learning experiences to which they felt a meaningful connection, is the apparent lack of a pattern. The projects took place across a wide range of courses, involved different processes and addressed different topics. The variety of course material and project style indicates that the core of what facilitates a sense of relevance may perhaps lie deeper than the subject matter involved in the project.

4.10 Chapter Summary

In this chapter, I introduced the student participants in this study, their school-level experiences at Community High, and details about the projects that anchored our conversations regarding how they experienced relevance in school. I drew from both of my interviews with the students as well as my interviews with their teachers to create these descriptions. The student participants had a variety of unique interests, personal goals, and life experiences. The students also had different relationships to their Blackness. For some students, their identity as Black youth was central to how they defined themselves while for others, it was less important. The students also demonstrated various levels of critical consciousness development. Furthermore, all but two of the students spoke about different projects as being where they experienced the deepest sense of relevance. Common experiences that did emerge were the ways in which students felt safe to be their authentic selves at Community High and that teachers encouraged students to be creative in school. In the next Chapter, I will discuss the findings of the phenomenological analysis of students' experiences of relevance within the projects they

discussed. I will explore the areas of convergence and divergence regarding each student participant's sense of self and learning experiences in relation to how they thought about relevance and where it emerged in their schoolwork .

Chapter 5 How Participants Experience a Sense of Relevance

Within motivation research, how students experience relevance is most thoroughly understood through their sense of utility value (Priniski et al., 2018). Critical education research positions relevant education as the opportunity for Black students to engage with their sense of collective identity and confront systems of power (Apple et al., 2009). The eight student participants in this study present a more nuanced illustration of experiencing relevance (Table 4).

The findings in this chapter are derived from my initial and second interviews with the student participants. In this chapter, I will describe how the students conceptualize relevance as usefulness, but describe experiences that go beyond usefulness. Students described feeling most connected to their learning when they could embody their personal and collective sense of self across who they were and wanted to become in the future. These experiences included enacting their value of interdependence, and their desire to engage in the creative process. While some students described an explicit connection between their sense of collective identity as Black youth and what they found relevant, most did not. However, several students spoke about connecting with opportunities to engage with sociopolitical topics.

Table 4. Table of Relevance Group Themes

Group Theme	Summary	Students Represented	Example
Thinking of Relevance as Usefulness	Participants conceptualized relevance as meaning that which is useful for achieving their goals. For most of the participants, this meant what connected with their career goals.	6 of 8	I feel like a lot of the stuff that I learn, I won't tend to, continue using…, I don't exactly find it relevant to what I want to pursue—Jabari
Experiencing Relevance Through Embodying Identity(s)	Participants experienced the deepest sense of relevance when they were able to embody and act on identities that were important to them.	8 of 8	I felt like I was doing both of what I wanted to do, which of course was working with children and working with medicine—Elizabeth
Subtheme: Embodying Personal Dimensions of Current and Future Self	Participants experienced the deepest sense of relevance when they could embody the personal dimensions of who they wanted to become and where currently.	5 of 8	I would say just give them a space or a task that would allow them to feel like themselves. That would allow them to think about themselves and think about who they are and what they do as an individual.—Soul
Subtheme: Embodying Collective Identity	Participants experienced the deepest sense of relevance when they embodied communal values, connected with family, or exercised their critical consciousness.	6 of 8	Just even, even the smallest things that I can do can, you know, affect and make a change because treating kids equally as, you know, it'll impact them more than—Elizabeth
Interdependent Collaboration Fosters Relevance	Collaborating in a way that encouraged relying on others and supporting each other fostered relevance through communal values	6 of 8	I learned how it's okay for other people to help you with something that you said you were going to do ... .I just feel like it was the ability that we can *all* help—Olivia
The Creative Process Fosters Relevance	Engaging in the act of creation by going through the process making something original, including making creative decisions, fostered a sense of relevance	8 of 8	It drove underwater. It picked stuff up. So that was cool. Especially like since we designed it on our own—Jewel
Experiencing Cultural Relevance	Participants felt connected to learning experiences addressing systems of power, but the depth of connection varied depending on the student and their learning opportunities.	6 of 8	I connected with it and I learned something…it was how Black Americans were like, pushed into the neighborhoods and they lost their homes and stuff—Pearl

5.1 Group Theme: Thinking of Relevance as Usefulness

When the students were asked to describe what they thought it meant for schoolwork to be relevant, six of the eight students spoke about work that would help them reach some sort of future personal goal. According to Pearl, to make learning experiences more relevant, there should be "more, like, projects that could help me throughout life" (Interview 1). Jewel described the way in which she thought about the connection between relevance and achieving her goals by describing relevance as, "Like putting it out there, like kind of advocating for it. You can't just expect something to come to you if you're not doing anything with it. Put it out there and put in the work." (Interview 1). Her emphasis on "advocating" and "putting in the work" highlight the ways in which she equates relevance with working toward her goals.

The remaining four students all thought of relevance in school as usefulness specifically toward their future career goals. Jabari, who wanted to go into engineering, contrasted what subjects he considered relevant with those he did not:

> I feel like a lot of the stuff that I learn, I won't tend to, continue using…, I don't exactly find it relevant to what I want to pursue other than, like, I'm doing physics next year and stuff like that for engineering, and that's why I feel like it'll be more relevant to me.—Jabari (Interview 1)

Mei echoed Jabari's view of relevance by also contrasting the subjects that she found useful, and therefore relevant, and those she did not:

> I would say like, art is really relevant to me, of course, 'cause I want to be a fine artist. But anything like math and science related, it's not, like, I'm very interested in it. Like I am so interested in math and science. They used to be my favorite subjects, but I know they're not gonna help me like when I'm older as much.—Mei (Interview 1)

In her statement, Mei made a distinction between what she found relevant and what she found interesting, but not useful for her future. The significance of her distinction is underscored by the fact that subjects she found interesting were no longer her favorite subjects, because she did not see their utility for her future.

For both Elizabeth and Ace, relevance as the connection between what they were learning and their future careers supported their sense of motivation. Elizabeth thought of relevance as something that:

> would make you more passionate about it or more determined to do it...Like if, well, me for example. Me wanting to be a doctor. I know that when talking in wellness about different body systems, it's relevant to me, or doing chemistry is relevant to me because I need chemistry and biology to be qualified as a doctor. Or math, or stuff like that's relevant. –Elizabeth (Interview 1)

Ace made a similar point about what he thought of as relevant:

> I feel like biology would be because the career field that I'm choosing is focusing more on, like technology and also science. So in biology, that's like one of the classes that I mainly focus in because I want to learn some stuff in there so I can try and use it in the future when I go to college –Ace (Interview 1)

In both of their statements, Elizabeth and Ace drew a connection between what they thought would help them in their future careers, what was relevant to them, and how that sense of future utility motivated them to engaged in that work.

Based on the students' responses, one could expect that they experienced the greatest sense of relevance in the courses they named as being most useful for their future goals. This was the case for some students. Both Elizabeth and Jabari felt that the projects they connected with

the most were also projects they felt directly related to their future career goals. Ace felt connected to a project that helped him reflect on how to meet his future goals for several elements of his adult life, even beyond career outcomes:

> Like my, like future goals. I connected with that a lot because I mean the apartment and like the car and stuff, that's something that connects to me even most because I can probably get that. –Ace (Interview 1)

Interestingly, most of the students who thought about specific subjects as being relevant because the subjects were useful for their futures did not speak about an experience in those subjects as feeling most relevant to them.

For example, while Jewel spoke about the sense of connection she felt with a project in her physics class, she did not necessarily see physics as something that would help her reach future goals: "It's just too much work and I know nothing about that type of stuff. Like I know nothing about physics but I like physics. I just wouldn't want to pursue that career, pursue anything like that." (Interview 1). Although Jewel thought about relevance in terms of what enabled her to reach external goals, as illustrated above, the experience of relevance that she felt the deepest connection with was not an experience that she believed would help her do that.

In another illustration of this inconsistency among the students, Mei spoke quite definitively about the ways in which visual art was most relevant to her future goals. And yet, she described an experience in theater as what felt most relevant to her.

The inconsistencies in how students abstractly conceptualized relevance as being utilitarian and the experiences they described as *feeling* the most relevant, which often did not cleanly reflect such utility, indicate that when it comes to experiencing relevance, perceived usefulness is an important, but perhaps not always sufficient or optimal source of connection.

5.2 Group Theme: Experiencing Relevance Through Embodying Identity(s)

All of the students in this study described experiencing the strongest sense of connection to projects through which they were able to embody an identity that they considered an important part of who they were currently or wanted to become in the future. The nature of these identities varied among the students. Some students discussed connections to personal dimensions of their identity, others experienced a sense of relevance through dimensions of their collective identity. Several students spoke about experiences that engaged multiple dimensions of their identity. However, what remained consistent across the participants was that they experienced the deepest sense of relevance when they felt able to embody these identities through engaging in their projects.

5.2.1 Subtheme: Embodying Personal Dimensions of Current and Future Self

Five students spoke about experiencing relevance through being able to embody personal dimensions of who they currently were or wanted to become. All five students felt they were able to occupy or envision the future selves they looked forward to becoming. Students also spoke about the importance of being able to express personal dimensions of their current selves. Jabari described embodying his desired future self through his economics project by getting to be an engineer and entrepreneur in the present:

> I learned what it would be like to start my own business. It was like having to think of something original and, like, present it to investors. It was very lifelike, I feel like. And also the engineering aspect of it, you know, being able to work on my own projects, or on my own product and like looking at the ins and outs of it. It was also something that was like, from an engineering standpoint, how it would be like to make my own robot –Jabari (Interview 1)

Here, Jabari referred to his experience as feeling “lifelike” and "realistic" because of the actions that he was able to engage in through participating in the project. He named creating an idea, presenting to investors, and designing a machine all as actions he undertook during the project that enabled him to feel what it would be like to be an engineer and entrepreneur, something that he emphasized at another point in the interview when he said, “I was able to look and know what it feels like to make my own product or make my own service” (Interview 1). Jabari highlighted the embodied nature of his project experience by referring to knowing what it *feels* like to be an engineer.

Elizabeth also described an experience of getting to live out who her desired future self might be through her project in health class teaching young children about the circulatory system:

> I felt like I was doing both of what I wanted to do, which of course was working with children and working with medicine, which was something I want to do to be a pediatrician is working with both, and I really loved that. –Elizabeth (Interview 1)

Elizabeth “always wanted to be in the healthcare field” and enjoyed working with children (Interview 1). Therefore, she wanted to become a pediatrician. As she expresses in the passage above, she felt she was able to engage in some of that work during her health project.

Ace also described the experience of thinking about who he would become in the future through his math project. For him, thinking about his future self was the central reason he felt connected to the project:

> Because it's like, it just, it's like a, it's like a mirror. I'm looking in it and like, I can see, like, myself when I'm older. That's how it connected with me. –Ace (Interview 1)

In his explanation, Ace compared the experience of his math project to a mirror. His false starts at the beginning of the statement indicate that he gave some thought to this comparison before he drew it. Describing the experience of thinking about his future self as a "mirror" lends an embodied nature to Ace's experience. In this description, there is a sense that through learning about the daily aspects of what his adult life might be through his math project, Ace was able to look through time, in a sense, to experience his future self in the present.

Soul also described envisioning his future self as a way of embodying that future self in the present. Soul identified himself as an introverted and solitary person at the time he wrote his poem, saying, "this was the start of me, my shell breaking" (Interview 1), underscoring how when he wrote the poem, he felt a barrier between himself and others. Soul describes how writing his poem enabled him to question the type of person he wanted to be by considering, "should I continue…being alone." Soul understood the process of writing his poem to be a key part of a larger process through which he was able to grow into a more authentic and confident version of himself:

> I think it's really beautiful because it-it was it was evidence. It was evidence to a process that I wanted to, you know, finish, which was the main goal was to, you know, be more social and to have more friends and, I feel like. I would say that would be considered a middle stage during that whole process, with ninth grade being the starting of what happened at the start of this year was the end result. –Soul (Interview 1)

By describing his poem as "evidence of a process" and "a middle stage" of the longer process of becoming a more authentic version of himself, Soul indicates that he views his experience of writing his poem as an important vehicle for becoming the person he wanted to be by honestly reflecting on who he was and how much he valued developing friendships.

While Soul's poem enabled him to reflect on the person that he wanted to become, he also emphasized the importance of learning experiences feeling like authentic expressions of identity to foster Black adolescents' experiences of relevance:

> I would say just give them a space or a task that would allow them to feel like themselves. That would allow them to think about themselves and think about who they are and what they do as an individual. –Soul (Interview 1)

Soul's statement again indicated an embodied element to experiencing relevance through his use of the phrase, "allow them to *feel* like themselves". While his recounting of his own experience emphasized how he was able to reflect on his desired future self, thinking about who he was at present was part of that process. Furthermore, his statement here underscores the importance he assigns to providing opportunities for Black adolescents to think about and embody their individual identities.

Pearl experienced relevance through feeling that she was able to fully express who she was through the dress she designed, saying "I feel like it represents me being kind as a person and being really soft and having empathy and things like that." (Interview 1). Pearl described how she connected with the design itself, which enabled her to express who she was:

> I just really like expressing my emotions through fashion because sometimes I can't get it out through words. So I'll be able to get it out through clothing. –Pearl (Interview 1)

Feeling like they were able to embody a desired version of themselves was a key dimension for the students' experiences of relevance. The form of embodiment, either through reflection or occupying a version of themselves and the temporal nature of the identities they lived out varied among the students. However, there was overlap even within these distinctions, as was reflected in Soul's statements about valuing spaces to both feel and think about his

present self and to bring himself closer to a desired future identity through that reflective process. This subtheme highlights the importance of identity exploration through learning experiences for fostering a sense of personal connection.

5.2.2 Subtheme: Embodying Collective Identity

Being able to embody dimensions of their collective identities was also a source of relevance for the students in this study. Six students spoke about sources of connection that derived from the identities and values they shared with others. The level of criticality that students brought to their understanding of their collective identity varied.

Only Mei explicitly stated that this dimension was the primary reason she felt connected to her project, stating that seeing a production of Cinderella with a Black lead, "helped me to be like to kind of realize that just because like an original princess is white, if we're doing like a production, it's okay if that like if Cinderella would be Black" (Interview 1). For Mei, experiencing what it was like to feel represented helped her "realize, like, things in media should have more Black representation, specifically African American" (Interview 1). As Mei described, participating in a specific production in which she felt her identity as a Black girl was a part of the character helped her to realize the need for system-level change to center characters with Black identities and to decenter whiteness as a norm.

Mei emphasized this point by juxtaposing her connection with Cinderella with her frustration with other productions in which she felt that her Blackness was marginalized in relation to the character she was playing. She recounted her frustration with playing a character who was written to be white: "[The line] was like, she's not pale or something, or she's been out in the sun too long. And I'm like, hey, can we change that line? Because I'm not pale" (Interview 1). Mei's account reflects the ways in which feeling that her identity was represented and

recognizing the importance of such representation was central to her experiencing a sense of relevance.

Mei also emphasized the importance of being able to connect to a desired future self by emphasizing why Black representation in learning experiences was important to her:

> [I]t's really important for us. Just like people, as we grow, like we have to see ourselves… in a school setting. And we're like, if we see ourselves in the school setting, we know we can do this, like, outside of the school setting and like, be known for certain things. And then maybe one day, we can be like the person that they show in the presentation or something in the school setting. –Mei (Interview 1)

Here, Mei did not necessarily recount what her experience of relevance was, but she explained what she views as important for creating learning experiences she would find relevant. Similar to Ace's statement about looking in a mirror, Mei repeatedly stated that Black students need to "see themselves" in the people who are discussed as leaders in their fields ("innovators or something or like artists") so that they can "know we can do this" and envision themselves as people who one day are looked to as leaders in their own right.

Elizabeth did not name the connection to her collective identity as explicitly as Mei. However, she connected to the health project through being able to treat children equitably, and that her desire to do so was a response to the injustice she saw regarding how Black children were often treated in schools. She stated that, "if you're in a classroom with a Black African American who is making a ruckus and doing things, and you're automatically thinking that they're going to steal something. Or that they're going to act out…You're already a victim of thinking that nobody's equal" (Interview 1). Elizabeth saw how the biases adults could hold against Black children resulted in adults treating Black children poorly and the detrimental

impact on those children. Elizabeth said that she viewed her equal treatment of the children during her presentation as a response to this:

> I definitely see it as a way of intervening. Just even, even the smallest things that I can do can, you know, affect and make a change because treating kids equally as, you know, it'll impact them more than you think on a surface level. –Elizabeth (Interview 2)

While Elizabeth wasn't as explicit as Mei in how engaging her own critical consciousness formed her connection with her learning experience, both girls derived a sense of connection from positively engaging with their collective Black identity in systems that marginalized them.

The remaining four students also spoke about embodying dimensions of themselves that reflected their shared identity. They experienced relevance from a less critical sense of collective identity, either through their communal values or important people in their lives that nonetheless enabled them to embody a dimension of who they were as Black youth. Olivia was able to embody her central value of helping others through her project by being able to help her peers. She stated, "you're helping like, your peers that's in the group. So that's why I kind of say helpful. And then also when you're presenting, you're backing that person up" (Interview 1). Jewel also named living out her value of helping others as her reason for feeling deeply connected to her project. She felt that she connected with her physics project primarily because she was able to create a robot that could help clean up underwater animal habitats:

> I did like the idea that I picked stuff up in our ocean, and that's a big problem in society and in the world. I remember in 2019, they were always talking about use, not plastic straws, the metal straws and stuff. I like turtles a lot. So whenever I just thought about,

like I thought about turtles and I was a big advocate for that in 2019 too. So I like the idea that it picks stuff up. –Jewel (Interview 1)

As Jewel explained, she cared about protecting the habitats of sea life before starting her physics project. Through her physics project she was able to live out that value, which was a source of connection for her.

Participants also derived a sense of relevance from projects through which they could participate in actions that connected them to their families. Soul felt connected to writing his poem in English because the process connected him to his father, who wrote poetry in his youth. Soul reflected on this connection by stating, "He loved how I took something that is pretty much just a building block of who he is today and used it in my life." (Interview 1). For Soul, writing his poem enabled him to embody his connection to his father. Similarly, through designing her dress, Pearl was able to engage in something that connected her to her brother, who was a drag performer and who was responsible for getting Pearl interested in fashion. Performing as Cinderella also connected Mei with her family, especially her sister who "was big in theater. And I always wanted to be just like her" (Interview 1). Through their projects, students were able to not just learn about, but to enact dimensions of themselves that directly connected them to their communities.

The participants experienced a sense of relevance through engaging in projects that enabled them to connect directly to their sense of shared identity. How they thought about their collective identity varied from critically engaging with systemic issues that affected them as Black youth to embodying values and familial ties that, while not as directly related to their critical consciousness, nonetheless connected with their shared Black identity.

The accounts that the students provided reflected the variety of identities through which they felt the deepest sense of connection to their learning experiences. There was no one topic or type of identity from which students derived a sense of connection. Many students spoke about experiencing a sense of relevance via multiple dimensions of their identities. For example, Soul spoke about how important his poem was to him because he was able to express dimensions of his present self, envision who he wanted to be in the future, and connected him to his father. Soul experienced connection through elements of both personal and collective dimensions of his identity. However, what was apparent throughout the students' reflections was the importance of embodying these dimensions of their identity through what they did during the project. They did not simply learn about that which connected with their sense of self, they enacted it.

5.3 Group Theme: Interdependent Collaboration Fosters Relevance

Six of the students spoke about how the experience of both relying on and being relied on by their peers to successfully complete their projects was a distinguishing feature of learning experiences that felt especially relevant, if not a primary source of connection itself. For example, Mei viewed preparing productions in theater as being an inherently interdependent process, saying, "theater isn't just about how you do like just you, it's about how you work with everyone else" (Interview 1). Mei spoke about working with her cast members to prepare for her role. However, she also recounted the experience of relying on another cast mate when they both advocated for a more culturally responsive version of the play's script, in which a line described Cinderella as 'pale as a swan.' Mei was nervous about approaching the teachers over the issue, but did so anyway with her cast mate:

> We were both like, hey we're not comfortable with that line being in there because we're not pale. We're not white. So can we like, change it? And they were like, oh yes! I'm so sorry. Like, we'll change it. –Mei (Interview 1)

Here, Mei describes how she and her cast mate, another Black girl, worked together to advocate for themselves and supported one another to do so when confronting authority figures. Mei emphasized the way in which she felt that she worked together with her cast mate through the repeated use of "we". They experienced success in advocating for themselves when the teacher was responsive and changed the line.

The level of moral and emotional support experienced through working together was also reflected in how Elizabeth described her experience in her group. Elizabeth described working together with her group as one of the main sources of connection she felt for the project. In addition to working together as a group to conceptualize and execute their project, Elizabeth also spoke of how she felt encouraged by her group mates when she was uncertain of her contribution to the project:

> I didn't really have a lot of faith in *myself* because the poster was big and I didn't know if I had the right information, or I had the right pictures. I was kind of scared. But sometimes when I shared that I was a little nervous about how it looked, they were like, it's fine, you know? You got everything on this. They were very nice and reassuring for stuff like that. –Elizabeth (Interview 1)

Like Mei, Elizabeth's experience of interdependent collaboration moved beyond working with others to complete the project. Instead, it encompassed relying on others for moral support and encouragement.

Olivia also experienced collaboration as being the primary reason she felt a sense of connection to her economics project, “I was working with the team…you have other people to help” (Interview 1). Like the other students, Olivia thought about her experience collaborating with her peers beyond how they worked together to complete the project. Instead, she emphasized the importance to her experience of helping and being helped:

> I learned how to, I learned how it's okay for other people to help you with something that you said you were going to do…I just feel like it was the ability that we can *all* help. So, like, if we feel like someone's, someone is kind of struggling a little bit, we can *guide* them or we can help them or something. For us to, what's the word, for us to, I guess, move faster. –Olivia (Interview 1)

Here, Olivia reflected on the ways in which through her experience of the project, she was able to both be helped by others, and to help as part of the group: “we can all help”. She therefore seems to consider helpfulness not only to be important, but to emerge out of the interdependence of the group.

Jewel did not name collaboration as being among the main reasons the physics project felt most relevant to her. However, she did speak about working as a group as one of the features that distinguished the project from other school work she’d done, observing, “that was actually, like one of the first times where we all contributed to something.” (Interview 1). She went on to say:

> I felt definitely proud. Not only of myself, but my group for, you know, helping me and me helping them. Like, it was just like a group participation. But I feel as though some of us, we did a little bit more work than others. But at the end of the day, like, we all

participated, we all created this and we should all be proud of ourselves for doing it. – Jewel (Interview 1)

Like Olivia, Jewel spoke about an experience in which she felt that she was both helping and being helped. While she acknowledges that she took on more of the work than others in the group, she still thinks of the pride and sense of accomplishment as belonging to the group, since she thinks that every group member is responsible for successfully creating their robot.

Jabari also named collaboration as one of the distinguishing features of the project he felt was most relevant to himself. He contrasted his experience in economics with another group project in his math class, saying about group work in math:

> you're like sitting there with your group. You're like would this work, would that work or like what's your input on this, what you're input on that? But with the design thing [in math], it's just like, do this measurement, put that there. –Jabari (Interview 1)

Here, Jabari seemed to distinguish between group work as the division of labor in math and group work as collaboration in economics. The closeness of the economics group is reflected in Jabari's point that he felt "with" his group. He also summarized the interaction between his group in economics as a series of questions, indicating that he felt they relied on the input of the others in the group and that the project was completed through consensus. By contrast, he framed interactions in the other project as a series of statements: "do this" and "put that there," signifying a more closed off and divided experience of assigning tasks.

While Mei, Elizabeth, Olivia, Jewel, and Jabari all named projects that were completed as a group as being most relevant, Ace spoke about a project that he worked on as an individual. However, he still spoke about the importance of relying on others' help during his experience, "I had to ask my friends at my tables, like, do you guys know what this means or what do I do

here?" (Interview 1). Ace enjoyed the experience of being able to rely on others for help during his math project:

> [U]sually when you're the one giving people like answers and like examples, basically like helping them, it's kind of refreshing and different to have someone help you. Because like, that's my mentality. I like helping people. But when I get help it's kind of different because I'm not used to like, people helping me. –Ace (Interview 1)

Ace thought of being able to get help from others as refreshing and different, underscoring how being able to rely on his friends for help is part of what made his experience of the math project distinct from other learning experiences. Like the other, Ace points out that he valued helping, but also valued being helped by his peers while working on his math project.

The students who spoke about working with other people on their projects all reflected on the ways in which their peers supported them and how members of the group relied on one another. By emphasizing that working together on projects did not only mean sharing labor, but also relying on others and helping others in turn, students highlighted the role of experiencing interdependence through collaboration in feeling connected to their learning experiences.

5.4 Group Theme: The Creative Process Facilitates Relevance

For all of the students in this study, participating in an experience that felt creative, and through which they felt able to make important decisions around what they created, was a feature of what felt most meaningfully connected to them. Some of the students explicitly named creating something as a key dimension of relevant learning experiences. For example, Pearl felt that the main reason she felt connected to her fashion design project related not only to expressing her personality, but how she was able to do so. For her, connection came from, "like the design itself. Like the vibe of it. It was kind of like this, this soft girl vibe…like make it and

also like, drawing it out" (Interview 1). She went on to underscore that the creative process itself was a key part of her experience by describing what she enjoyed about the project:

> I would say designing it like drawing it out and then like actually sewing it. And like learning how to do, like, new techniques and things like that. Because I think that was my first time actually making a corset in a skirt like that. –Pearl (Interview 1)

For Pearl, creating her dress was meaningful not only because she was able to express who she was, as discussed above, but because she was able to express herself through the creative act of making a garment, which is important to her. Pearl underscores that it is not only the product that was an important part of how she formed a meaningful connection, but the process.

Jabari also spoke explicitly about how being able to create something distinguished his project from other, less personally relevant experiences:

> It was a lot of building on things you know, starting something, making your original idea, and like again with the design thing [in math] it's just like, you're just doing what you would do with normal classwork. –Jabari (Interview 1)

For Jabari, the act of making something that felt original to him was an important part of his experience. Creating something from scratch gave him a greater sense of ownership over what he did for the project. He further emphasized this point later on, saying that other projects felt different because, "Obviously we're putting down stuff we learn on paper, but it's nothing that we're like, we're truly like making of our own" (Interview 1). Here, Jabari draws a connection between creating and feeling ownership, in that what he creates originates *from him*.

The sense of ownership that Jabari articulated was also reflected in the way four of the students spoke about their freedom to make creative choices about how they approached their

projects. For example, Olivia echoed Jabari's point, distinguishing her economics project from other projects through, "Getting to do our own project. Cause a lot of, like, projects you have a thing and then you have to do it" (Interview 1). Here again, getting to make choices about the project created a sense of ownership. Ace also commented on the importance of feeling able to control the direction he took with his project:

> I got to yeah, basically control like I can put this in there because that's something that I want to do…So it was like a kind of refresher in a way. Because like all the other projects we just do what they tell us to do. Like you put this there, talk about it, make it flashy, present it to the class and you get a good grade. Here, we actually got to like, you get to put the job that you want to work at. Get the car that you want, get the house that you want and get everything else that you want on the side. –Ace (Interview 1)

Ace felt that he had control over how he approached his project, emphasizing that he was able to do what *he* wanted to do, which he contrasted with other projects where he felt he was only expected to follow directions.

Jewel also emphasized the importance of being able to decide the direction a project will take to creating learning experiences that are personally relevant:

> I feel like some of the teachers, they assign us projects and what we have to do. But I feel like some teachers, they need to be like, okay, this is your project and you choose what you want it to be based on. –Jewel (Interview 1)

Being able to make creative decisions contributed more to a sense of ownership when students then used them to bring their ideas into being. This was true for Jewel, who was impressed by what her group was able to accomplish with their robot:

> It drove underwater. It picked stuff up. So that was cool. Especially like since we designed it on our own, like, you expect to get that stuff off of Amazon or somewhere else. Like we created that. –Jewel (Interview 1)

Again, Jewel articulated a sense of ownership over what she made. Her pride in making her robot was apparent in her reflection that she equated what she created to what she would expect to need to buy from a store.

For Soul, the creative freedom he had in writing his poem is what enabled him to use the poem as a vehicle to explore his identity. He was able to create his poem according to how he wanted to approach it:

> I think it was just like whatever we created about ourselves. And it just, it had to be a poem. It had to make sense. I had to, you know, seem like a poem. And, you know, being creative. Not, you know, making a poem with a rhyme scheme, you know, just, like, making a regular free verse poem about yourself. –Soul (Interview 1)

With the freedom to make creative decisions, Soul was able to use the process of writing the poem to be honest with himself. He observed that, "It's like I took out all my cards and just laid them flat and just saw what I had. And just talked about each of, you know, those cards." (Interview 1). Through being able to decide how he wanted to write his poem and then through the process of writing it, Soul could examine the areas of himself in the way he wanted to do so.

While their experiences took different shapes, every student spoke about creating something that they felt was their own. Furthermore, it was the process of making something that provided context for students to experience embodying their desired selves and interdependent collaboration.

5.5 Group Theme: Experiencing Cultural Relevance

Of the eight student participants, only Mei made an explicit connection between the project that she found most relevant and its role in engaging her critical awareness and sense of collective Black identity. However, other students also described feeling what they were learning was relevant when it helped them make sense of and confront systems of power. They did so in ways that were more subtle, or through learning experiences that were more fleeting than the projects they described in their interviews. My follow-up interviews with student participants and their teachers indicate that this may be due to limited access to extended learning experiences focused on raising students' critical consciousness. Despite their limited access to such experiences, student participants described how they valued such opportunities in ways that reinforced the potential value of such experiences in creating meaningful connections.

In our second conversation, I asked each of the student participants whether they had an opportunity to participate in a project that focused on exploring issues of identity and power, none of the students indicated that they had. However, six students spoke about how they had connected with opportunities to learn about their identities within systems of power. Jewel spoke about opportunities in English class to "read books that talk about being Black, being a person of color, LGBTQ, like those types of like representations." (Interview 2) and how she "would honestly love to" have more opportunities to engage in conversations around identity and power, although she would prefer to do so with teachers she was confident could have those types of conversations. Pearl described a lesson on redlining, saying:

> I connected with it and I learned something…it was how Black Americans were like, pushed into the neighborhoods and they lost their homes and stuff. And it kind of like, it

> makes sense because a lot of African Americans live in like poorer areas I've noticed – Pearl (Interview 1)

Here, Pearl made the connection between the opportunity to learn about how the historical marginalization of Black communities continued to impact her own life. However, she pointed out that this was a brief lesson.

Other students also spoke about how opportunities to learn about systems of power were often brief. Ace echoed the limited nature of such learning experiences, saying about an experience he remembers learning about African American history, "I don't think it was a project, but it was an assignment" (Interview 2). Mei recounted how her teacher "would talk about the things that like Trump was doing and like the election and stuff when he was in office" (Interview 2). Elizabeth also spoke about the formal and informal conversations she had with teachers about current issues, saying:

> Sometimes we talk about New York Times and talk about the politics and things that are going on in the world, but even without the classes and just talking to the teachers one-on-one or talking to teachers out of the class, they'll highlight things that have happened-right now. Like for example, immigration, ICE –Elizabeth (Interview 2)

The students described the ways in which their teachers brought topics of identity and justice into class discussions, and how they appreciated when teachers did so. However, each of these opportunities were quite limited in scope and did not provide the same level of depth and richness that students described engaging with in the projects they felt most connected to.

Jabari and Jewel both spoke about opting into opportunities to engage with issues of identity and justice, even though they did not have a rich project experience that centered such issues. Jewel found a way to do so through participating in the Black Student Union, held once a

week during the school day, in which she could have candid conversations with peers and teachers about what it means to be Black. She recounted valuing a particular conversation in which she was able to candidly share experiences with racial slurs:

> I just want to share with them just to see how they feel and if they've ever been called the N word or like seen that happen to someone else because we need to have those types of conversations and like Black Student Union is a safe space for Black students –Jewel (Interview 2)

Jewel emphasized that addressing her experiences as a Black person was important to her, and that she wanted to do so in a space in which she felt safe and supported. She sought out a space in which she could do this when her opportunities for engaging in such topics in-depth in her other classes were limited. Jabari also demonstrated how he valued learning experiences that helped him understand identity and power. He opted into a research project addressing how federal policy impacted families' wellbeing in a course that did not require him to do so. He observed that if he wanted to find opportunities to directly engage with issues of power in a learning experience, "It's more of something you have to go out of your way to do" (Interview 2). In this statement, Jabari indicated that he had to put in effort to create an opportunity for engaging in such a project, and that he valued such an experience enough to do so. At the same time, he emphasized that he still felt the most connection to his economics project.

The findings in this theme indicate that while most of the student participants did not discuss raising their critical consciousness as being part of their most relevant learning experience, this is not necessarily a reflection of the potential role of critical consciousness in creating relevance for Black adolescents. Indeed, both Mei and Elizabeth spoke at length about the ways in which representation and equity played a part in their sense of connection to their

learning experiences. Furthermore, other students, such as Pearl, spoke about smaller moments in class that they felt connected to through engaging their critical consciousness. Still other students like Jabari and Jewel opted into learning experiences that connected to their sense of collective identity and critical consciousness. Students found smaller moments and opted into such learning experiences when they could because they had limited opportunities to engage with critical topics through the projects they had thus far experienced in school.

At the same time, some students, like Olivia, did not consider these topics as vehicles for more meaningfully connecting with their learning. The participants in this study demonstrated a broad range of critical consciousness development, and opportunities to engage with such topics were not necessarily what connected most with their sense of self.

5.6 Chapter Summary

While the participants did think of relevance in terms of usefulness towards a goal, that most of them did not describe experiences of usefulness as being most relevant indicates that the actual experience of relevance extended beyond utility. In fact, students felt most connected to projects in which they were able to embody a dimension of their identity that they valued. The specific dimension of self varied. Many students felt a sense of connection through their ability to embody a desired future self through what they did for their projects. The embodied element of this experience was important for students. They spoke of projects that gave them the opportunities to engage in actions that they felt brought them close to who they were and wanted to be. For some students, such as Mei, this sense of self was deeply connected to their sense of collective identity as Black people. For others, the sense of connection derived from elements of their personal identity. What students shared in their experience of relevance was that their sense

of connection stemmed not from learning about a given topic, but rather from who they got to *be* while completing the project.

Connecting with their desired selves occurred in contexts in which the students were able to live out values of interdependence through working with others and being able to rely on others for support. It also occurred through projects in which students felt that they were able to engage in the creative process and successfully produce an original creation.

Not many students described projects through which they directly engaged with understanding systems of power and how those systems impacted them. However, for the students who did describe such experiences, these dimensions were central to the connection they felt with their projects. Other students indicated that they also valued critical consciousness raising learning experiences, but that these opportunities were often limited in scope or had to be specifically sought out. However, the range of critical consciousness described by the students along with their descriptions of their learning experiences indicated that learning experiences related to collective identity and systems of power were not always what students in this study felt the strongest sense of connection to.

This chapter focused on findings related to how students made sense of and experienced relevance, which included how they conceptualized relevance in school, the sources of connection to self that created a sense of relevance, and the conditions within the projects that facilitated the connection to self. In the next chapter, I will discuss the findings related to the motivational and aesthetic dimensions of relevance through how students described feeling when they were engaged in projects that felt relevant to them.

Chapter 6 Motivation and the Aesthetic Experience of Relevance

It is well-established in the motivation literature that experiencing relevance can increase and sustain students' motivation levels (Assor et al., 2002; Hartwell & Kaplan, 2018). In the previous chapters, students described how they experienced relevance through collaborative, creative, and culturally relevant projects that enabled them to embody the multiple dimensions of their identities. This chapter focuses on the influence of those experiences on how students felt while participating in those projects. I focus on the aesthetic dimension of motivation by describing the findings related to both how students thought about their motivation during experiences that were especially relevant to them, and the emotions that coincided with these experiences.

Each of the students reported experiencing a greater feeling of motivation to work on the projects that they described as feeling most relevant to themselves. The scale of the difference students reported varied. Some students felt only slightly more motivated. For example, Elizabeth stated, "I was a little bit motivated on this because, a little bit *more*. I mean. I'm already motivated because I have a bigger goal. So when it comes to doing work, I'm already like, getting it done." (Interview 1). Like Elizabeth, students who did not feel a significant difference between their motivation on the project they discussed and other projects also talked about how they were highly motivated in all of their courses. Other students experienced a much greater sense of motivation during the project they discussed. For example, Olivia spoke about how much more effort she put into her economics project:

> Usually I would be like, an hour or two late on assignments. But this time I turned it in like a good 30 minutes before and I usually be like, an hour and a half late on my assignments. But that assignment I did before the time that we had to turn it in, and I was just like, I really was interested into this one project –Olivia (Interview 1)

While the amount of difference students experienced in their levels of motivation varied, two themes emerged among the participants in addition to overall greater feelings of motivation on projects they felt were most relevant (Table 5). According to the students in this study participating in these projects could be stressful, but students valued the project enough to remain engaged and felt proud of themselves for doing so. Participating in learning experiences that felt relevant also felt fun and was a source of happiness for the students.

Table 5. Table of Group Themes for Motivation

Group Theme	Summary	Students Represented	Example
Valuing Projects	Participants worked through feelings of stress and uncertainty because they found enough value in their projects. They were proud of what they were able to accomplish.	7 of 8	I know we had a lot of trouble and problems during practice…but it was like we made it work. It was good…It was good for me--Mei
Fun and Joyful Learning Experiences	Participants enjoyed working on projects that felt relevant.	5 of 8	So I was just, when doing the research, I was like, falling back in love with biology and body systems and stuff like that. Because I love researching them. -- Elizabeth

6.1 Group Theme: Valuing Projects

Seven of the eight participants spoke about working through challenges during the course of learning experiences that felt relevant. They worked through these challenges because it mattered to them that they successfully completed the project. While the students discussed

feelings that ranged from mild nervousness to overwhelm, what they shared was a feeling of pride in working through the challenges to feel they successfully completed their projects.

Pearl spoke about working through the difficulties she faced in assembling her dress, which included redoing sections to make the fabric behave the way she needed it to. She stated that the process of making the dress, "felt great because it felt like I was finally able to, like, express myself through fashion. And I was able to get through those obstacles and make it look good." (Interview 1). She went on to state that working through the obstacles she felt she faced in making the dress "felt great because at first I didn't think I was going to do good." (Interview 1). Thinking back on the experience, Pearl stated that she had:

> Feelings of, like, happiness. Feeling proud. Like, I feel like I really want to start making clothing and, like, sell it. And I was really, like, impressed with my work. (Interview 1)

While Pearl did not speak about experiencing any sort of severe stress while making the dress, she did feel uncertain in her ability to successfully assemble her garment--a process which posed challenges for her as she completed it. Nevertheless, she worked through the challenges so that she could "express [her]self through fashion" and in the end felt pride about both what she was able to achieve and what she overcame to achieve it.

Soul described a similar emotional experience through writing his poem. Like Pearl, he experienced uncertainty about his ability to be successful on the project:

> When [Jordan] first presented the poem…I was like, ehhh I don't know. Because at the time, I didn't really write as much. And I was like, I don't know how well I'll do on that. But then all of a sudden when we started writing it, I was like, you know what? Hey, you know, YOLO. And so, I did what I did. And it turned out to be good. So, I mean, I was nervous in the first half, but I became really content with how, as I progressed with

writing, I became really content with it. And I was then, I was surprised. I was in awe. I was like, you know, this is really beautiful. I love this. –Soul (Interview 1)

Like Pearl, Soul's initial nervousness stemmed from his uncertainty in his own abilities. Like Pearl, he also chose to push through that nervousness and as he worked, he gained more confidence. In the end, Soul was incredibly proud of what he was able to write, experiencing a sense of awe at his poem and how much he appreciated it. Here again, when a student experienced a sense of relevance, he worked through challenges and was proud of what he was able to accomplish.

Ace described feeling a greater level of challenge in his project. Math was the one subject that Ace felt he struggled in. The difficulty Ace had in math was also reflected in his experience with his math project.

Doing this project like, it was difficult. It took a long time for me to do it because at first I didn't know what I was doing…I didn't know the formula for the taxes because like I didn't understand how to like plug things in. So I was like very confused on what I was doing…So I had to like ask my friends at my tables like do you guys know what this means or what do I do here. So it took me like all the time. –Ace (Interview 1)

Ace felt most meaningfully connected to his math project despite finding math to be more difficult than other subjects. Ace also struggled specifically on this particular math project, including facing the confusion of feeling like he did not know what he was doing. He also pointed out that since the project was difficult for him, he took all the time that he was allotted and had to rely on his friends for help (interdependent collaboration). Once Ace went through it, however, he felt proud of what he had been able to do. Ace said, "And once I was done, I was

like very, I was confident that I was probably gonna do good because like I spent a lot of time on it." (Interview 1).

Jabari was nervous toward the end of his economics project when he and his group were required to present their work to a panel of judges. When he reflected on presenting his group's project, Jabari said:

> our nerves were through the roof. We were so nervous to present everything because not only do we have the judges out here, we have, like, a live studio audience, pretty much, where some classes will come down the watch and the teachers, they're watching. And some investors are very like, hard on you or like, very nitpicky. –Jabari (Interview 1)

Jabari described experiencing greater stress than Pearl and Soul. He emphasizes just how nervous he was by saying that his group's nerves were "through the roof," indicating how emotionally heightened he was when he presented his project to an audience that he knew would be judging the quality of what he and his group created. Jabari cared about doing well in his presentation, which was also reflected in his statement about how hard he worked:

> I felt very motivated to complete it, even though it was like just at the end of the day for just a grade. I still felt proud of my final product. And it was just something I really enjoyed working on. So like, and also something I put in a lot of work to. So being able to see the end product of my presentation and everything was very satisfying. –Jabari (Interview 1)

Jabari expressed a sense of pride in what he accomplished through the work that he dedicated to his project. While he framed the outcome as "just a grade," the amount of work he did, the stress he felt about doing well on the presentation, and his pride in the result indicate that

Jabari actually valued his economics project beyond what grade he received on it. For Jabari, doing well on the project had value in itself.

Elizabeth also spoke about feeling nervous before presenting her group's lesson on the circulatory system to a class of elementary school students: "When we got in the classroom, I was a little nervous because, there were not a lot of kids, but this was the first time that I would have taught kids something, so I was nervous. We were all nervous." (Interview 1). Elizabeth explained further:

> I was nervous, but I was also really happy because then the kids would get the information they'd be able to--especially learning it early is great because then they can incorporate it into their lives and hopefully, continue to, you know, adulthood with those same thoughts and information. So it was nice to like, let them know that information. – Elizabeth (Interview 1)

The intensity of Elizabeth's nervousness is reflected in the multiple times she repeated that she felt nervous. This nervousness stemmed from doing something that was important to her: interacting with and teaching children. Like Jabari, Elizabeth perceived what she was doing as being important, not only to her future goals (working with children) but she viewed what she was teaching as being beneficial to the children themselves. Elizabeth also seems to have experienced and persevered through stress resulting from how much she valued what she was doing.

Mei and Jewel experienced much more intense forms of stress than the other participants. Mei talked about experiencing stress around the production of Cinderella to the point of emotional distress and overwhelm:

> It was like, during it, it was so stress inducing. I would go home like, crying some nights. And then also I had schoolwork to do, so I was like, oh my gosh, this is so much. So I would say most of the time I was really stressed…So it was like, that was really hard for me, especially for my first time in a musical like ever. –Mei (Interview 1)

Mei described feeling stressed throughout much of the process of preparing Cinderella. Here, she emphasized the toll it took on her emotionally, such that she went home crying and felt overwhelmed by needing to do her other schoolwork in addition to the work she was putting into the play. For Mei, the experience was difficult. However, despite this, she felt good about participating in the play:

> I know we had a lot of trouble and problems during practice, but the actual show was kinda, eh, it was rocky, but it was like we made it work. It was good…'cause usually I'm going to be like, oh my God, it's horrible. But I'm like, no, that was my first production…It was good for me, I think. Like, I was good enough for this role. I don't know about everyone else how they feel about it, but for me, I was good enough for this role. So it makes me happy thinking back on it. –Mei (Interview 1)

Like the other students, Mei felt pride in what she was able to accomplish. For Mei, this was despite the fact that she was not sure whether the show itself was good. Mei emphasized that she was proud specifically of her ability to perform as Cinderella, indicating that it was the value that she ascribed to playing the role that kept her going and made her happy to think back on the play, even though she experienced emotional distress during the process.

Jewel also spoke about how stressed she felt while working on her project. Similarly to Mei, Jewel spoke about feeling stressed during the project at several points in her first interview,

mostly due to the amount of work that she felt she needed to complete in a short timeframe. She summarized her experience by stating:

> That project, it was really stressful. I'm getting stressed even thinking about it right now. But I guess I'm really strong mentally. Well, not mentally, but like, um, like intellectually, like handling that type of work. Especially with physics…I learned a lot, and I'm proud of myself for handling it well. And doing good in physics, I guess, because I would have never thought that I would have been good in physics this year. –Jewel (Interview 1)

Like the other students, Jewel persevered through considerable negative emotions and was proud of herself for what she was eventually able to accomplish.

Feeling that they were successful on their projects could have contributed to students' positive emotions regarding their projects as they reflected back on them. However, the fact that students worked through the difficulties they encountered indicates that they valued what they were doing for their projects enough to persevere through feelings of stress and challenge.

6.2 Group Theme: Fun and Joyful Learning Experiences

Five of the eight participants spoke about how they experienced projects that felt relevant to them as being a deeply enjoyable experience. They spoke about how engaging in the project felt fun or joyful and how that feeling both differentiated these experiences from other school work and was a source of student motivation to work on the projects. For example, while Mei spoke at length about how stressful it was for her to prepare her role in Cinderella, she said that once she got up on stage to perform, "it felt, like, *really* good" to be able to perform as Cinderella (Interview 1).

When Jabari remembered back to how he felt while participating in his economics project, he stated that “it felt great” (Interview 1). He went on to say that while working on the project he felt:

> You know, like, joy, I think it was a really enjoyable project to work on. It didn't necessarily feel like I have to get this done by the end of class kind of thing. It was like it was fun to work on…I definitely feel happy, like, I wish I could do it again… it was a very enjoyable thing to do” –Jabari (Interview 1).

Jabari emphasized how much he enjoyed the process of working on the economics project. The motivational power of this feeling is highlighted by the way in which he said “it didn’t necessarily feel like I have to get this done by the end of class kind of thing”. Here, Jabari is commenting on the way in which working on the economics project did not feel like an obligation that he had to do, but rather an enjoyable experience. He underscores this point by also saying that “I wish I could do it again”. For Jabari, working on the economics project was enjoyable enough that he would choose to do it again if he could.

Olivia also felt that the economics project was an enjoyable process. She compared the economics project to other work that she had done in school by saying:

> But like, I feel like certain projects I have fun with, but like that one I had like the most on because like first, I was with my friends and stuff, but it was like we’re being active. Like we're adding things that we love and like coloring and like, I don't know, it's like, it's like you're hanging out pretty much. And I just feel like that's what we were doing even though we were working. –Olivia (Interview 1)

Olivia acknowledged that she and her group were working, but she also pointed out that by being able to work with her friends on something that felt creative, working on the project felt

more like she was spending time with her group just hanging out. For Olvia, working on the economics project felt more like fun than like a required course assignment.

Elizabeth also thought that her project was an enjoyable experience, saying “when I think about it, I get really happy” (Interview 1). Elizabeth garnered enjoyment from both the process of preparing her group’s cardiovascular system lesson and presenting it to the elementary school children. Regarding the process of doing research, Elizabeth said, “So I was just, when doing the research, I was like, falling back in love with biology and body systems and stuff like that. Because I love researching them. And, you know, really knowing how the body works and everything like that.” (Interview 1). It is notable that Elizabeth used the term “falling back in love.” The strong word choice indicates that while she enjoyed biology before, it was the process of engaging in her health project that reignited her enjoyment of the process, strengthening her motivation. Elizabeth also spoke about her experience visiting the elementary school in a way that indicated how much she enjoyed it, saying, “And I saw all these kids, all these little kids with little backpacks on. And their little shoes. And their little headbands. And I saw them walking into school laughing, running. And I was like, oh, they’re so cute, because there were adorable little kids.” (Interview 1). Elizabeth’s word choice indicated the pleasure she derived from being around the children as part of her project.

Pearl also found the process of her project to be enjoyable. When she thought about her fashion project compared to her other schoolwork, she said, “Compared to my other schoolwork, it felt really amazing because not only did it like, connect to my passion, it was like it was really fun to do.” (Interview 1). The experience felt “amazing” in part because the process of engaging in the project was fun. Pearl went on to explain exactly what about the project was fun:

> "I would say designing it. Like, drawing it out and then like, actually sewing it. And like, learning how to do new techniques and things like that… like putting it to the sewing machine was really fun…and then like afterwards, I think like putting it on my mannequin and like seeing what I need to fix or seeing what I need to edit. I think that was fun too. –Pearl (Interview 1)

Pearl described how she felt that it was fun to engage in the detailed work of actually making her dress. Her enjoyment did not derive from just the outcome of having made a dress, but from the making process itself. For Pearl, engaging in the work itself was an enjoyable experience.

For several students in this study, projects that they felt connected to were also fun experiences for them. They enjoyed engaging in learning that felt relevant to them. Just as it was the process of the project itself that was the source of connection for students, enabling them to embody their identities, the process of the project was also a source of fun and happiness for them.

6.3 Chapter Summary

For many of the students in this study, stress and enjoyment often coexisted within the learning experiences that felt most relevant to them. Pearl spoke about how sewing her dress was challenging, but she also found it to be fun. Jabari spoke about how his nerves were through the roof, but that if given the opportunity, he would participate in the project again. And all of the students indicated that they felt motivated to work harder on the project they felt was most relevant to them over their other schoolwork. The coexistence of stress and enjoyment indicates the presence of where these two feelings may intersect: students had a deep sense of valuing what they were doing for their projects. The coexistence of the highly emotional aspects of the

students' experiences, such as feeling stressed or having fun, along with students' decision to work through difficulties to successfully complete their projects demonstrates that for the students in this study, experiencing a sense of relevance was both motivational and aesthetic in nature.

The findings of the IPA indicate that while the Black adolescents in this study experienced relevance in ways that were as unique as themselves, connecting with projects across a variety of subjects and for a variety of reasons, there were shared dimensions of their experiences. In the next chapter, I discuss the theoretical and practical implications of these findings, as well as what these findings mean specifically for Community High.

Chapter 7 Discussion

The current study explored the ways in which Black adolescents experienced relevance and a sense of motivation within a project-based learning environment. The findings from this study illustrate how Black youth experienced a sense of relevance when the process of the learning experience itself enabled them to embody both the personal and collective dimensions of their identity. This process consisted of collaborating with others to create something original. Whether and how the students in the study experienced relevance through instances of cultural relevance varied based on the centrality of their Black identity and their critical consciousness development, as well as the amount of opportunity they had to participate in culturally relevant experiences. The findings of this study offer evidence that identity-based relevance experiences are the most motivationally powerful (Eccles & Wigfield, 2020; Priniski et al., 2018). Additionally, enacting communal values created a sense of relevance for Black adolescents in this study. The findings also extend the current motivation literature by demonstrating the potential of creative experiences for fostering relevance, especially in combination with culturally relevant pedagogy (Mims et al., 2022). These findings have both theoretical and practical implications, including implications specifically for Community High.

For the Black adolescents in this study, participating in learning experiences that enabled them to embody and act on both the personal and collective dimensions of their identities created a sense of relevance. Students conceptualized relevance in school in terms of usefulness toward a goal, which was often related to desired careers. However, when asked to reflect on learning

experiences they felt the most connected to, students described those that provided opportunities for them to embody dimensions of their identities that were important to them. These identities included both personal and collective, present and future. While some students (e.g. Mei) derived a source of connection from engaging with their sense of collective identity as Black youth, others felt more connected with learning opportunities that allowed them to explore the more personal dimensions of their identities. For some students (e.g. Soul), learning experiences enabled them to live out multiple dimensions of their identities. Across students' descriptions of relevant experiences, a common theme was the key role of being able to enact their communal orientation through opportunities to both support others and to be supported in turn within their learning experiences. The other common characteristic of experiences that created a sense of relevance was that they engaged students in the act of creation, enabling students to create something that felt original to themselves.

When students described learning experiences that felt especially relevant, they also described learning experiences that they felt were motivating and emotionally potent. Some of these experiences created feelings of stress and overwhelm which students needed to work through, often because of how much students valued what they were doing and how much they wanted to succeed. These experiences were also joyful and fun. Students looked back on these experiences with happiness and pride, underscoring the experiences' emotional dimensions.

The students felt a sense of relevance within a learning context where they were able to be their authentic selves and where they felt cared for by their teachers. However, they also experienced limited opportunities to engage in culturally relevant projects that centered their collective identities and developed their critical consciousness. These dimensions of their

identity were important to many of them, even if they did not or were unable to focus on them within their learning experiences in class.

7.1 Theoretical Implications

The findings from this study support the existing understanding of relevance and motivation both within the fields of motivation research and critical education research. However, the findings also indicate that established theories of relevance can be extended to better capture the experiential elements of relevance and motivation among Black adolescents.

7.1.1 Situated Expectancy Value Theory

A primary tenet of Situated Expectancy Value Theory (SEVT; Eccles & Wigfield, 2020) is that the alignment an individual perceives between a learning task and their sense of self determines the value the individual places on that task. Two sources of alignment are utility value, or how the task is useful toward a goal, and attainment value, or how the characteristics of a task fit with a dimension of identity. Both forms of alignment were present in how the student participants described what characterized their relevant learning experiences. Utility value is the most studied form of relevance, although it is not the most profound source of connection (Priniski et al., 2018). The ubiquity of utility value as a form of relevance was reflected in this study by how the students in this study conceptualized relevance as usefulness toward their goals. However, the idea that utility value does not create the strongest sense of connection was also reflected in how pure utility was not the driving source of connection students described in the learning experiences that felt most relevant to them. Instead, students spoke about how they were able to embody future versions of themselves. While this reflects the future goal orientation of utility value, it also goes beyond the mere perceived sense of usefulness.

Instead, the way in which students spoke about getting to enact valued aspects of their current selves or feel they were being versions of their desired future selves more closely reflects experiencing a sense of attainment value. Again and again, students in the study described being able to engage in behaviors that made them feel close to their own sense of self. While the students' accounts align with the conceptual understanding of attainment value, they also illustrate the gap between how attainment value is conceptualized within SEVT and how it is operationalized for empirical research (Eccles & Wigfield, 2020). Attainment value is often measured as how one views oneself in relation to a particular academic subject, as in being a "math person" in a math class (e.g. Hsieh et al., 2021). That was not what students in this study described. Ace was decidedly not a math person, and yet through his project in math class, he got to feel close to a successful version of his future self. In his economics class, Jabari got to be an engineer. In theater class, Mei was a princess in a starring role. The findings support the power of attainment value as it is theoretically conceptualized. However, the findings also suggest that a gap exists between how attainment value is conceptualized and experienced—as living out a dimension of one's identity through engaging in the learning task—and how it is commonly measured in studies of relevance and task value—as being related to academic roles (Eccles & Wigfield, 2020).

7.1.2 Communalism as an Expression of Collective Identity

The students described experiencing relevance through connecting with both their collective and their personal sense of self (Eccles, 2009). Mei felt a connection through her shared Black identity with other actresses she saw in her role. Pearl experienced a sense of connection to her fashion design project through how she was able to express her individual personality in a way unique to her. And yet, a theme of the importance of interdependent

collaboration ran throughout students' accounts of experiencing relevance, indicating that for the students in this study, engaging in communalism was a key source of connection.

For Black adolescents, participating in learning experiences that emphasize communalism can align with deeply held cultural values (Gray et al., 2020). Communalism is an expression of African American cultural identity (Boykin et al., 1997) and therefore can be an expression of collective identity for Black youth. Students in this study spoke about how the learning experiences that they felt most connected to often involved working with and depending on their peers (e.g. Jabari) and how the successes were a group experience (e.g. Jewel). The students' emphasis on these characteristics of their projects reflects how communalism can be expressed through belief in interdependence, the importance of social bonds, and centering the well-being and success of the group (Boykin et al., 1997). The sense of communalism could also be an expression of collective identity for students like Olivia, who, while stating that she did not consider her Blackness as central to her own sense of self, expressed a deep sense of communalism. This supports the idea that communalism can be a form of "deep structure culture" that is embedded in perceptual, affective and behavioral dispositions even beyond an individual's explicit awareness (Hurley et al., 2023).

Communalism has most commonly been integrated into relevance research in the form of communal utility value (Gray et al., 2020) or prosocial utility value (Harackiewicz et al., 2023) whereby instructors and students reflect on the usefulness of the learning target toward helping others. However, the findings from this study indicate that engaging in communalism can be a form of attainment value, with what students are *doing* within the learning experience connecting with a dimension of their collective identity. For example, Jewel's connection to the physics project manifested not only through learning about how ROVs can help clean water sources for

the creatures who rely on them, she also actually built the device that could clean those environments. Additionally, she was able to do so by working collectively with her group so that they, as a team, were able to build the device together. Both building the ROV and working as a team to do so were sources of connection for Jewel. The enactment of communal values through the learning experiences indicate that students found a source of connection through being able to embody a dimension of their identity that they felt was important to them.

7.1.3 Integrating Creative Learning Experiences with Motivation Theory

All the students who participated in this study spoke about feeling connected to experiences through which they were able to create something that felt original to them. The role of creativity in learning has been largely neglected in educational psychology and motivation research (Plucker et al., 2004). However, engaging in learning activities that foster creativity may be an especially impactful means of experiencing a sense of relevance, especially for Black adolescents.

In the instances when creativity has been studied in relation to motivation, usually outside the field of educational psychology, motivation is treated as the antecedent to creativity, which is framed as a product or outcome (e.g. Hennessey, 2016). This is not what the students in this study described when they spoke about their experiences. Students spoke about creativity in terms of a process: going through the act of making, choosing the approaches they took, thinking of an idea. While what they actually created differed significantly, the importance of making something that felt original to them was present across the participants.

These findings indicate that to understand what conditions promote a sense of relevance for Black adolescents, we can turn to creative experiences (Glăveanu & Beghetto, 2021). Creative experiences are characterized as being *open-ended* such that there is no prescriptive

way of approaching the task; *non-linear* allowing the process to be iterative; *pluri-perspective* so that multiple perspectives on reality can be placed in dialogue with one another; and *future-oriented* such that experiences lend themselves to conceptualizing and bringing into being that which does not yet exist. The characteristics of creative experiences are reflected in the findings of this study. For example, Ace, Pearl, and Jabari spoke about the *open-ended* nature of their projects in how they were able to make decisions about what they would create and how they would do it. Pearl also spoke about the *pluri-perspective* nature of creative experiences as she considered how she would represent her internal experience of her identity to an external audience through her dress. Soul's poem was also *pluri-perspective* in that he considered how he would express in words his honest assessment of who he was and who he wanted to become. The students who worked collaboratively with others brought together multiple perspectives to create their final product. All of the students' descriptions also reflected the *future-oriented* nature of their experiences. All of them described learning experiences through which they created something original, something that did not exist at the beginning of their projects. Additionally, the *future-oriented* nature of creative experiences was reflected in how students were able to embody their future selves. They were not only considering what creations they could bring into being, but what identities they could bring into being as well.

However, generalized approaches to understanding creative experiences may mask the nuances and lived realities of Black students, including the structural realities that they must navigate (Mims et al., 2022). For example, a significant part of Mei's experience was navigating how to authentically occupy a character role that was developed exclusively for a white person and how to approach her teachers to advocate for herself within that role. A promising way forward is to integrate creative educational experiences (Beghetto & Zhao, 2022) with culturally

relevant pedagogy (Ladson-Billings, 2009) to examine how Black adolescents engage in creative experiences that enable them to authentically express themselves while understanding and confronting systems of power. A systematic review of Black creativity in schools (Mims et al., 2022) has already begun this work by identifying the ways in which Black creative spaces explicitly discuss issues of oppression and community assets, and teach students creative processes (such as dance or storytelling) as methods of thriving. Motivation research can continue this work by examining how creative experiences within such spaces can foster a sense of relevance and increase students' critical consciousness in alignment with the pillars of culturally relevant pedagogy (Ladson-Billings, 2009).

Additionally, several of the students in this study spoke about the importance of the creative process as a vehicle for self-expression. Pearl spoke about how the creative process itself was what she connected with when designing her garment because it enabled her to express herself through her design. Soul spoke about his experience reflecting on who he was and who he wanted to be through the process of writing his poem. For Jabari, the creative freedom he had to conceptualize and design a business model made it feel like the project came *from him*. These accounts of self-expression align with the importance of expressive individualism as a dimension of Black cultural identity (Boykin, 1992). For the students in this study, engaging in the creative process was a means of asserting their unique personalities, styles, and points of view. The motivational role of expressive individualism as an expression of the Afrocultural ethos is not as commonly researched as communalism (Boykin, et al., 1997; Gray et al., 2020; McElveen, 2024). However, the findings in the present study indicate that in addition to connecting to Black students' collective identities through centering their communities and raising their critical

consciousness (Mims et al., 2022), creative educational experiences can also foster relevance and motivation through celebrating Black adolescents' individuality and unique creative expression.

The current study indicates that integrating creative educational experiences with existing models of motivation, critical education frameworks, and Black cultural values could help bridge the motivational and critical approaches to understanding how Black youth experience a sense of relevance in their education.

7.2 Implications for Practice

7.2.1 Creating Interpersonal Connections

The findings of this study also offer several insights into how teachers and school leaders can create relevant and motivating learning experiences for Black adolescents. Primary among these insights is the importance of creating learning environments in which Black students feel safe and supported by their teachers and peers. The students in this study spoke about how at Community High they felt that they were accepted for exactly who they were (e.g. Jewel) and that their teachers cared about them and about their well-being (e.g. Olivia). Black students are more likely to have schooling experiences that reproduce carceral environments (Marsh & Walker, 2022) and create threats to their sense of belonging at school (Gray et al., 2018). The accounts from the student participants reflect this trend. Students in this study spoke about feeling unwelcome or unsafe at their previous schools.

However, the students drew a sharp contrast between their prior schooling experiences and the sense of connection and the freedom to be themselves they felt at Community High. Other research has established the importance of a sense of interpersonal connection for sustaining racially marginalized adolescents' motivation in the classroom (López et al., 2022). Relevance is still commonly considered an experience that is supported at the instructional level

through whether students feel connected to the content they are learning (e.g. Asher et al., 2023). The findings from this study indicate that feeling free to be themselves and connected with their teachers and peers within the school setting are important facets of how Black adolescents experience relevance in school. Educators should prioritize creating learning environments that promote a sense of belonging for Black youth (Gray et al., 2018) as a key part of creating relevant and motivating learning experiences for them.

7.2.2 Incorporating Culturally Relevant Pedagogy into Project-Based Learning

As part of this process, the findings from this study also highlight the importance of integrating culturally relevant pedagogy into project-based learning approaches. While not all of the students in this study indicated that they had a strong sense of Black collective identity, most did. However, the students in this study also indicated that they had limited opportunities to engage with the critical consciousness dimension of their sense of collective identity. Developing students' critical consciousness is a crucial tenet of culturally relevant pedagogy (Ladson-Billing, 2009). Understanding and confronting oppressive systems of power has also been a source of deep connection to learning experiences for racially marginalized students (e.g. Luginbuhl et al., 2016; Seider et al., 2020). Both Mei and Elizabeth were able to engage their critical consciousness through their project experience--Mei through understanding the importance of representation and working with her castmate to advocate for changes to the play's script, and Elizabeth through ensuring that the elementary school students experienced equal treatment in her lesson. For both students, these dimensions of their experience were important sources for feeling connected to the projects. Other students resonated with more limited opportunities to understand systems of power (e.g. Olivia) or sought out opportunities to do so (e.g. Jabari; Jewel). These findings support the decades of race-critical education research on the importance

of supporting Black students in developing their critical consciousness as a source of connection to their sense of collective identity (Ladson-Billings, 2009). Project-based learning, with its emphasis on student agency, addressing real-world issues, and collaboration (Mergendoller, 2018) lends itself well to being a vehicle for incorporating culturally relevant pedagogy into classrooms. However, practitioners must be intentional about doing so, as project-based learning does not connect with cultural identity or develop critical consciousness without explicit attention to cultural relevance.

7.2.3 Engaging the Full Spectrum of Students' Humanity

While this study demonstrates the importance of creating culturally relevant learning environments for Black adolescents, it also highlights the importance of providing learning experiences that enable them to engage with all the dimensions of their identity. Racially marginalized students are often denied humanizing learning experiences in favor of schooling that treats them as vessels for standardized content that ignores or dismisses their communities and lived experiences (Ladson-Billings, 1995). They are often not provided with schooling experiences that enable them to explore who they are and want to become, which is the heart of relevant learning (Hartwell & Kaplan, 2018). Black youth must be able to participate in learning that connects to both their personal and collective identities (Eccles, 2009).

At the same time, Black adolescents are not a monolith; each one has a variety of interests, dreams, personal experiences, relationships and self-definitions that all contribute to their sense of self. Relevant learning experiences should reflect the variety and depth of their identities (Gray et al., 2020; Muhammad & Gonzalez, 2016). This was reflected in how students in this study thought about learning experiences they felt were most relevant to themselves. Some connected with personal dimensions, some with collective, many with some combination

of both (e.g. Soul; Jewel). The commonality among all the participants in this study was that they were able to somehow enact these identities through their projects.

The findings of this study indicate that project-based learning can be a powerful pedagogical method for enabling students to enact different facets of their identities. However, the mechanism within PBL that lends itself to these conditions is PBL's capacity for developing creative experiences for students. Educators seeking to develop relevant and motivating learning experiences for Black adolescents should therefore prioritize creative educational experiences (Beghetto & Zhao, 2022) that enable students to embody both the personal and collective dimensions of who they are and develop their critical consciousness (Mims et al., 2022).

7.3 Implications for School Partner

This study was conducted in partnership with Community High School, and the findings have several implications for the school and ways it can capitalize its strengths as well as continue to improve how it serves its Black students. The school has created a learning environment in which students feel they are part of a community. They have meaningful connections with their teachers and their peers, and they feel accepted for their authentic selves. This environment contributes to being able to explore who they are through the projects that they do in school. However, students are experiencing a lack of culturally relevant teaching practices within the school, especially regarding experiences that enable them to directly confront issues of power and injustice. Mei and Elizabeth also spoke about examples of ways in which the racial biases of their white teachers created blind spots that made their learning experiences feel less relevant and them feel less supported. Teachers will need to continue developing their capacity for culturally relevant teaching and their own critical consciousness to reduce these biases. The school should continue to build on the ways in which courses engage students in creative

learning experiences that enable students to inhabit different dimensions of their identities. Part of doing so can be through collaborative projects in which students are able to support one another and work together.

Throughout this study, I have updated members of Community High with emergent findings. I plan to present the final findings to the student participants, teacher participants, and leadership team. I plan to engage in a meaning-making process with them to clarify the findings and to determine the next best steps for the school and how I might support them in that process.

7.4 Limitations and Future Directions

This study includes limitations that should be considered when interpreting its findings. First, I selected the participants for this study based on their expressed levels of autonomous motivation across their classes at Community High. I used this sampling method because, currently, there are no psychometrically validated scales of relevance, specifically identity-based relevance in the motivation literature (measures of utility value and attainment value related to academics are often used). Autonomous motivation could reflect perceptions of relevance (Vansteenkiste et al., 2018) and provided school-wide insights that the Community High leadership requested. I therefore used it as a proxy. However, this means that while the study participants were more likely to be able to describe experiencing a sense of relevance in their courses, they are not necessarily the students who had the deepest sense of connection to a learning experience they had in school. Future research on experiences of relevance could recruit participants in a more targeted manner by asking them more directly about whether and how they experienced a sense of relevance in their coursework.

Additionally, this study is limited to only the experiences of high school students. While the findings offer insights into the experiences of relevance and subsequent meaning-making of

adolescents, we may not be able to apply these findings to early adolescents. Students in early adolescents transitioning into middle school tend to decline in their sense of motivation and connection to their learning environments (Eccles et al., 1993). Additional work can focus on how Black youth in early adolescence think about what makes learning relevant and what characteristics of their learning environment help to facilitate such experiences.

The current study offers detailed and nuanced insights regarding how a group of Black adolescents within a specific school setting experienced and thought about learning activities that felt relevant to them. The findings from this study can inform future research that examines experiences of relevance among students of different backgrounds or in different learning contexts. For example, future work could examine patterns of experiencing relevance that emerge in environments that specifically seek to raise students' critical consciousness. Additionally, examining experiences of relevance among students of different backgrounds, or a heterogeneous group of students can also further inform our understanding of how adolescents experience relevance and its influence on their motivation.

Conclusion

It is crucial that educators and researchers create learning opportunities for adolescents that they feel are relevant to themselves. Opportunities to engage in learning that feels deeply connected to oneself is often scarce for adolescents, especially those from racially marginalized backgrounds. Extant motivation literature demonstrates a clear understanding of what relevance is, but not necessarily how it is experienced, especially among Black adolescents. This study used IPA informed by both motivation and race critical education theories to explore how Black adolescents made sense of learning experiences that felt relevant to who they were within a

project-based learning environment. The study was conducted in close partnership with a high school focused on creating meaningful, equity-oriented learning experiences for its students.

The findings from this study indicate that Black adolescents can experience their learning as deeply relevant to themselves when they are in a school environment in which they feel connected to others and are engaged in a learning experience through which they can act in a way aligned with at least one dimension of their identity. While the dimension of their identity can be personal or collective, present or future, or some combination of dimensions, it is important that they feel they can inhabit these identities through what they are doing in school. A sense of personal connection is supported by learning experiences in which Black adolescents can enact communalism by working with others to engage in the creative process. It is important to them that their learning experiences help them understand and confront systems of power while also enabling them to explore who they are and want to be. When they were engaged in such experiences, the students in this study valued and found joy in what they were learning, motivating them to work hard and take pride in what they accomplished.

This study demonstrates the potential of using IPA in motivation research. Using IPA to explore how Black adolescents experienced their learning as relevant enabled me to reflect the nuance and variety of their experiences. It also centered the voices of the students as sense-makers for what constitutes relevant learning experiences and what characteristics of their learning environments create such experiences. Through using IPA, I was able to capture the affective dimensions of the students' experiences to get a rich illustration of what it was like for them to participate in a learning experience that they felt deeply connected to. This enabled me to take a more nuanced approach to understanding how motivation theories were reflected in the real experiences of students, as well as the potential for creative experiences to advance

motivation frameworks. Furthermore, taking an inductive phenomenological approach enabled me to capture how the students contextualized their learning experiences within their broader experiences of schooling and their own developing sense of personal and collective identity.

Finally, this study is an example of the importance of research-practice partnerships and the value of conducting motivation research for the purpose of guiding instructional design while also seeking to understand and describe phenomena pertaining to academic motivation. Engaging in joint-work (Penuel et al., 2015) with Community High enabled me to design a study that addressed gaps in the motivation research literature while also being responsive to the needs and context of the school. By incorporating elements that were important to the school into my research, namely understanding the complexities of students' unique experiences and capturing experiences across the school context, the current study was able to produce unique insights into how Black adolescents experience relevance within project-based learning. Centering the specific needs of the school also enabled me to design a study that not only provided insights into Black adolescents' learning experiences but also revealed details about the instructional mechanisms that fostered a deep sense of personal relevance for a group of Black students. Doing so provides a foundation for teachers to incorporate instructional practices to foster experiences of relevance for more students within the school.

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Appendix A: Student Survey Items

Construct	Prompt	Items	Source	Reliability
Amotivation [a]	Why do you put effort into your schoolwork? Think about what would be true for the majority (at least 4 out of 7) of your classes.	1. I don't, because I really feel that I'm wasting my time in my classes. 2. I do little in my classes because I don't think they are worth the effort. 3. I don't know why I'm going to my classes, it's pointless work.	Gagné et al. (2015)	α = 0.80
Autonomous Motivation [a]	Why do you put effort into your schoolwork? Think about what would be true for the majority (at least 4 out of 7) of your classes.	1. I personally consider it important to put effort into my classes. 2. Putting effort into my classes has personal significance to me. 3. Putting effort into my classes aligns with my personal values. 4. What I do in my classes is exciting. 5. I have fun participating in class. 6. The work I do in class is interesting.	Gagné et al. (2015)	α = 0.87
Sociopolitical Awareness [b]	How much do you agree with the following statements?	1. I believe that some groups are discriminated against. 2. I think that the educational system is unequal. 3. I believe that some people are treated badly because of oppression. 4. I think people do not respect members of some social groups based on stereotypes. 5. It upsets me when people make prejudiced comments.	Thomas et al. (2014)	α = 0.86
Sociopolitical Action [c]	How often do you participate in each activity?	1. I work to make sure that people from all backgrounds are given equal chances. 2. I work to change the educational system so that every student can have an equal chance. 3. I try to prevent people from being treated badly because of who they are. 4. I speak up when others are not respectful of people in all social groups. 5. When someone makes a prejudiced comment, I tell them that what they said is hurtful. 6. I actively work to support organizations that help people who are oppressed.	Thomas et al. (2014)	α = 0.88
Personal Agency [d]	How true are the following statements for you?	1. I am a leader in groups. 2. I would rather have a leadership role when I'm involved in a group project. 3. I can organize people to get things done. 4. I find it very easy to talk in front of a group.	Peterson et al. (2011)	α = 0.83
Political Agency [b]	How much do you agree with the following statements?	1. I feel like I have a pretty good understanding of the important issues confronting my community. 2. My opinion is important because it could someday make a difference in my community. 3. There are plenty of ways for me to have a say in what my community does.	Peterson et al. (2011)	α = 0.79

[a] Items rated on a scale of 1-5 ranging from 1=not true at all to 5=very true

[b] Items rated on a scale of 1-5 ranging from 1=strongly disagree to 5=strongly agree

[c] Items rated on a scale of 1-5 ranging from 1=never or rarely to 5=very often

[d] Items rated on a scale of 1-5 ranging from 1=always untrue to 5=always true

Appendix B: IRB Exemption Decision Letter

UNIVERSITY OF MICHIGAN

Hilary Simpson <simpsonh@umich.edu>

eResearch Notification: Notice of Exemption for (HUM00259942)

eresearch@umich.edu <eresearch@umich.edu> Tue, Aug 27, 2024 at 1:48 PM
Reply-To: eresearch@umich.edu
To: simpsonh@umich.edu, fishman@umich.edu

UNIVERSITY OF MICHIGAN
eResearch.umich.edu

Health Sciences and Behavioral Sciences Institutional Review Board (IRB-HSBS) • 2800 Plymouth Rd., Building 520, Room 1170, Ann Arbor, MI 48109-2800 • phone (734) 936-0933 • fax (734) 998-9171 • irbhsbs@umich.edu

To: Hilary Simpson

From:

Riann	Palmieri-Smith
Thad	Polk

Cc:

Hilary	Simpson
Barry	Fishman

Subject: Notice of Exemption for [HUM00259942]

SUBMISSION INFORMATION:
Title: Adolescent sociopolitical development and motivation in a project-based learning environment
Full Study Title (if applicable):
Study eResearch ID: HUM00259942
Date of this Notification from IRB: 8/27/2024
Date of IRB Exempt Determination: 8/27/2024
UM Federalwide Assurance: FWA00004969 (For the current FWA expiration date, please visit the UM HRPP Webpage)
OHRP IRB Registration Number(s): IRB00000246

IRB EXEMPTION STATUS:
The IRB HSBS has reviewed the study referenced above and determined that, as currently described, it is exempt from ongoing IRB review, per the following federal exemption category:

> **EXEMPTION 1 at 45 CFR 46.104(d):**
>
> **Research, conducted** in established or commonly accepted **educational settings, that specifically involves normal educational practices** that are **not likely to adversely impact students'** opportunity to learn required educational content or the assessment of educators who provide instruction. This includes most research on regular and special education instructional strategies, and research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

Note that the study is considered exempt as long as any changes to the use of human subjects (including their data) remain within the scope of the exemption category above. Any proposed changes that may exceed the scope of this category, or the approval conditions of any other non-IRB reviewing committees, must be submitted as an amendment through eResearch.

Although an exemption determination eliminates the need for ongoing IRB review and approval, you still have an obligation to understand and abide by generally accepted principles of responsible and ethical conduct of research. Examples of these principles can be found in the Belmont Report as well as in guidance from professional societies and scientific organizations.

SUBMITTING AMENDMENTS VIA eRESEARCH:
You can access the online forms for amendments in the eResearch workspace for this exempt study, referenced above.

Appendix C: Parent/Guardian Consent Form

Dear Community High Parent/Guardian,

Your student is invited to participate in a research study about their project-based learning experiences and how those experiences impact their motivation in school and understanding of their community and society. This study is being conducted by a University of Michigan researcher in partnership with Community High. The results of the study will help Community High improve learning experiences for all students. Results will also be shared as research to better understand how teenagers can have meaningful learning experiences at school. Your students' insights will help us understand project-based, community-engaged learning and its outcomes from the student perspective.

Your student would participate in up to two one-on-one interviews with the researcher, each lasting approximately 60 minutes. These interviews will take place at Community High during school hours at a time determined by school leadership to be least disruptive to your student's learning. The first interview will consist of questions about the projects students have participated in this year, how the projects were meaningful to them, and what lessons they took from the project. Questions will address the ways in which your student's learning experiences relate to their own identity and/or their community. During the second interview, the researcher will share with your student the main points she took from the initial interview and give your student the opportunity to correct her interpretation or clarify their points. Your student will receive a $20 retailer gift card for the first interview and a $15 gift card for the second interview to thank them for their participation.

Any information from the interviews shared with the school or any other party will be done without using your student's real name. The interviews will be recorded for accuracy. The recordings and all other information will be stored in a secure file that is only accessible to the research team. Recordings will be deleted once the study is complete.

A requirement for conducting formal research is that parents/guardians and students are informed of any potential risks of harm to the student if they participate. These interviews will focus primarily on what contributes to a positive learning experience for your student, and the information students share will not be linked with their names. Therefore, there will be no risk to your student for participating in this study.

Participation is voluntary. You or your student may choose to withdraw from the interviews at any time. Your student will also be informed that they can choose not to answer any questions they do not wish to.

If you have any questions, please contact Hilary Simpson at simpsonh@umich.edu.

If you **agree** to allowing your student to participate in this study, please fill out the form below. Please submit forms by Friday March 21, 2025.

I consent to my student participating in interviews conducted by a University of Michigan researcher regarding my student's project-based learning experiences at Community High.

Parent/Guardian Name (First/Last): _____

Student Name (First/Last): _____

Parent/Guardian Signature: _____

Date: _____

Appendix D: Student Participant Assent Form

What is the purpose of this study?

This study is to understand how adolescents think about and experience relevance in a project-based school. You are being asked to participate because as a student at this school, you have unique and valuable insights about what makes learning experiences relevant to you.

What will participation in this study look like?

This interview is for a study about how adolescents are experiencing relevance at your school. During the interview I will ask you questions about yourself and your identity. I will also ask you questions about a project that you did in school. The questions will ask you to describe the project, what you did to complete it, and to reflect on the project and how it felt to participate in it. The interview will be audio recorded and transcribed. This is to ensure that we capture your exact words exactly how you say them.

The interview should take around 60 minutes but may go shorter or longer depending on our conversation.

What do I need to know about participating in this study?

Your participation is voluntary. If there is a question that you do not want to answer you can skip the question. You can also decide to stop the interview at any time. You can also decide not to be part of the study after the interview is over.

Your responses will be kept confidential and anonymous. This means that no one outside of the research team will know what your responses were. Your name will not be attached to any of your responses. We might share some of what you say in reports, but no one will know that you said it. Instead, you will choose a pseudonym that we will use.

If you have any questions before, during, or after the interview, you can ask. You can reach out to Hilary Simpson at simpsonh@umich.edu if you have any questions.

Participant Assent

Do you agree to participating in this interview, and to this interview being recorded?

YES, I agree NO, I do not agree

Name (Printed) _____

Signature _____

Date _____

Appendix E: Student Semi-Structured Interview 1 Protocol

Section 1: Background Information

1. What grade are you in?
2. How old are you?
3. How long have you been going to Community High?

Personal Identity:

4. Can you tell me a little about yourself?
    a. Prompt: What are you interested in?
    b. Prompt: What do you like to do in your free time?
    c. Prompt: What are your goals for yourself?
5. What do you think makes you uniquely YOU?

Collective Identity:

6. What gender are you?
7. What is your ethnic or racial background?
    a. Prompt: What does that (gender/racial identity) mean to you?
8. Are there any other identities you would use to describe yourself?
9. Of the identities that you listed, are there any that you consider especially central to who you are?
    a. Probe: Why is that?
10. When I say "community," what does that mean to you?
    a. Prompt: Who do you consider as part of your community?

Experience at School:

11. How would you describe going to school at Community High?
    a. Prompt: In what ways is it different from your other schools?
    b. Prompt: In what ways is it the same?
12. Have any of the identities you discussed influenced your experiences at Community High?

Section II: Understanding of Relevance

13. I'm interested in how Black teenagers are experiencing relevance in what they are doing at Community High. When I say relevance, what does that mean to you?
    a. Prompt: What does it mean to you for something you are doing in school to be relevant to you?
14. *In research, we think about relevance being a meaningful connection between who you are and what you're learning. For the rest of this conversation, I'm going to ask you about when you felt meaningfully connected to what you were doing in school.*

Section III: Project Student Connected With

15. Tell me about a project you did at Community High that you really connected with? *A project is a learning experience in which you learned material through working toward completing a product that you shared with an audience*. *Let participant know they can think about it for a few moments if needed.*

a. Probe: Connected means that what you did or what you learned really resonated with you [If student is unsure of what is meant by "connected"]
b. Prompt: What class was the project in?
c. Prompt: Who was the teacher?
d. Prompt: What was the topic and purpose of the project?

16. How did the teacher introduce the project to you?
    a. Prompt: Did they do anything at the start of the project to capture your attention?
    b. Prompt: How did your teacher explain the purpose of the project?
17. What did you do to complete the project?
    a. Prompt: Did you work on the project with any students, teachers, or community members? What was that process like?
    b. Prompt: What was the final product you created for the project?
18. What would you say it was about that project that you connected with?
    a. Prompt: Did it connect with a passion/interest of yours?
    b. Prompt: Did it connect with experiences you've had?
    c. Prompt: Did it connect with an issue you care about?
    d. Prompt: Did it connect with a person or group of people you care about?
    e. Prompt: Were there any other reasons you really connected with the project?

Allow the student to guide the conversation. Use prompts if student is having trouble answering.

19. Did the project connect with any of the identities that you named earlier as being important to you?
    a. Probe: How did it connect?

Ask this question if the student has not already discussed these identities in their response to #18.

20. How did it feel to participate in this project/a project that you connected with?
    a. Prompt: What emotions did you experience during the project?
    b. Prompt: What emotions are coming up for you as you remember it?
21. How was this experience different from another project that you didn't connect with in the same way, but that still felt useful or interesting?
22. How motivated were you to work on this project compared to your other school work?
    a. Prompt: How much work or effort did you put into this project compared with your other school work?
23. What did you learn from doing this project?
    a. Prompt: What did you learn about yourself?
    b. Prompt: What did you learn about the world outside of school?
    c. Prompt: What did you learn about (subject)?
    d. Prompt: What was the overall lesson(s) that you took away from the project?

Section IV: Reflections on Projects and Relevance

24. What advice would you give to teachers about creating learning experiences that Black students would feel meaningfully connected to?
25. Is there anything else you think is important about your project experiences at Community High that I didn't ask about?
26. What's the best thing about being a Black girl/boy/person (at Community High)?

Section V: Closing

27. Do you have any questions for me?
28. What would you like your pseudonym to be?

Appendix F: Sample Student Personal Experiential Theme Table - Jabari

A. ENACTING COMMUNALISM THROUGH PROJECT
Values Communalism
Empathetic approach makes Jabari unique (p. 2; 11-12)
I try to treat everything with kindness or, you know, defuse the situation
Kindness is foundational to identity (p. 3; 19-20)
Specifically my kindness. I feel I kind of try to build off that.
Views community as interdependence (p. 3; 21-22)
you can rely on this person. I rely on that person. It's just like everybody's kind of intertwined with each other.
Collaboration During Shark Tank
Collaborating made project manageable (p. 10; 76-77) *it would've been really overwhelming in a really stressful project if I had to do it by myself*
Was kind, empathetic when navigating disagreement with group (p. 12; 99-101) *I had like not seem mean when I was like being like, that's not going to be good*
Shark Tank shifted his work orientation toward collaboration because he learned that his community will help him (p. 16; 127-129) *I figured out that I was able that I enjoyed, like the company of other people when it came to working*
Enjoyed working on the project with his friends (p. 13; 105-106)
It was a really enjoyable experience with my friends.
Perspective Taking to Help Others
Chose to design a product that helped people care for pets (p. 8; 64-65) *a lot of people aren't able to, like, take care of their pets when they're away from home*.
Researched consumer experiences and needs (p. 9; 71-73) *we looked at like reviews from people or like, like complaints people had about not being able to take care of their pets*
Learned about how to consider consumer perspective (p. 8; 59-60)
it might be a cool idea but would people actually want it
Juxtaposition with an Experience Lacking Collaboration
Math project work is delegation not collaboration (p. 14; 111-112)

It's just like writing something out or like we're sitting in silence and filling out a Google doc

Unlike math project, Shark Tank felt genuinely collaborative (p. 14; 113)
you're like sitting there with your group. You're like would this work, would that work or like what's your input on this

B. CREATIVITY KEY PART OF EXPERIENCE

The Act of Creation Felt Authentic

The creative elements of Shark Tank felt authentic and applicable beyond school (p. 15; 212-214)
It was like having to think of something original and, like, present it to investors. It was very lifelike, I feel like. And also the engineering aspect of it, you know, being able to work on my own, on my own [products]

Project required creating something original from scratch (p. 13; 110)
it was like a lot of your own original thinking and something that you kind of had to build from the ground up.

Creating something original was important and stressful (p. 10; 81-83)

I feel like that's kind of like the hardest part of the project is trying to find, think of an original idea because...they won't invest if it's not original

Important feature of project experience was designing a prototype. (p. 6; 50-51)

And you even had to design, like, a little prototype.

Creativity Essential for Connection to Project

When projects, classwork lack creative element they feel rote, mundane (p. 17-18; 141-144)

it's nothing that we're like. We're truly like making of our own. It's just with classwork and those kind of projects.

Freedom to create is essential for project to be interesting enough to put in effort (p. 17; 139-140)

Like with the Shark Tank. It was a lot of building on things, you know, starting something, making your original idea. And like again with the design thing, it's just like. You're just doing what you would do with normal classwork

For math project, interest in math isn't enough for experiencing relevance since there is no creative freedom (p. 13; 107-109)

And I mean even though like I have an interest in math...it was like after doing it, it's like it's one of those projects where I feel like I just have to get this done.

C. UTILITY VALUE (USEFULNESS TOWARD GOALS)

Relevance in school means being useful for life, career goals (p. 5; 40-44)

if I can use it in my own life, it's like, I feel like a lot of the stuff that I learn, I won't tend to, to continue

using

Connected to project because it felt like realistic use of math, economics, and engineering (p. 7; 52-53)

It was just like a, I feel like an all-around helpful thing, because it was also to do with math and economics, engineering and everything

Project connected to goal of starting business (p. 6; 51)

Because that's also something I'd want to get into along with my career is like something like something to do in my own business

D. SUPPORTED THROUGH STRUCTURE CREATED BY TEACHER

Balance of choice and structure in group formation (p. 10; 78-80)

We had like a form to fill out a like what you would want like your top three choices kind of thing

Scaffolded structure created by teacher reduced feelings of overwhelm (p. 8; 61-63)

It was like first we're going to start simple like there are categories. And then you'll have time to brainstorm about what kind of product you want.

Consulted with teacher for approval of product (p. 9; 72)

So from there we talked to [Teacher] about it

Teacher explicitly connected course material to its use for the project (p. 7; 57-58)

and it's very, like out in the open, like [Teacher]'s like, hey, we're going to start learning this and everything in preparation for this project

E. EXPERIENCED DIFFERENT FORMS OF MOTIVATION

Intrinsic Motivation

Enjoyed project enough to want to continue it (p. 13; 103-105)

I wish I could, like, I could do it again.

Continues to participate in project as a judge because it enables him to act on his interest in engineering (p. 11; 88-89)

So when I'm judging and somebody is with their product, I'm like, how exactly would that work?

Felt good to participate in project during which he could act on his interests, values (p. 12; 102)

I was able to exercise a lot of my own personal, my own personal values and standpoints on stuff

Valued The Project

Feeling that there were real consequences for quality meant ascribing greater value to the work. (p. 14; 116-118)

you have to make sure you get all your numbers right, or you're going to look stupid in front of the

presenters

Presentation of product was nerve-wracking because of judges and audience (p. 10; 84-85)

We were so nervous to present everything because not only do we have the judges out here, we have, like, a live studio audience

Was proud of the result of the hard work he put into project (p. 14; 114-115)

So like and I also something I put a lot, I put in a lot of work into. So being able to see the end product of my presentation and everything was very satisfying

Appendix G: Sample Semi-Structured Interview 2 Protocol- Jabari

Big Ideas from Jabari's Interview

Question: How do Black adolescents in a project-based school experience relevance and motivation?

Relevance = feeling a connection between who you are and what you are learning/doing in school

Being Useful for Future Goals Creates Sense of Relevance

Jabari thinks that for something in school to be relevant, it should be useful in his future life.

Jabari felt connected to Shark Tank because what he learned and did during the project felt useful for his goals of becoming an engineer and an entrepreneur

Helped People by Seeing Problem Through Their Perspective

Jabari and his group designed their product to help others. They tried to see the problem they were solving and their product through the eyes of consumers.

Collaborating with Other Students Creates Sense of Relevance

Jabari values a sense of community. He views his kindness as key to his identity and uses it to interact with others. He also believes in the importance of relying on each other within a group.

This is reflected in how Jabari connected with the collaboration of the Shark Tank Project. Students needed to work together to finish the project, and Jabari was able to use his kindness and empathy to work with others. He also thought it was fun.

Jabari pointed out that part of why he connected with Shark Tank more than his math project was that Shark Tank felt genuinely collaborative

Teacher Supported Students by Creating Structure

The teacher organized the project in a way that helped Jabari and his group manage it. The teacher told students how what they were learning would connect to Shark Tank and helped them choose their groups. The teacher also divided the project into specific tasks that students needed to complete and talked with students about their products.

Working on the Project Felt Valuable

Jabari valued doing well on the project because it felt like there were real consequences (like how the group would look in front of the judges). As a result, he felt proud of the work he did on the project.

Working on the Project Felt Fun

Jabari enjoyed working on Shark Tank so much that he would do it again and continues to participate as a judge. Participating in the project felt enjoyable because it matched his own interests and values.

Creating Something that Felt Authentic Creates Sense of Relevance

An important part of what made Jabari feel connected to Shark Tank was that he and his group were able to create a business from scratch. This included both thinking up an original idea, creating a business model, and building a prototype. The process of creating everything felt authentic to what it would be like to create a business outside of school, including presenting the idea to investors. Creating something original is part of what makes Shark Tank different from other projects. Without the opportunity to create something original, other projects aren't very motivating.

School Feels Like a Community

CH feels different from Jabari's previous schools because at CH, people try to make sure students feel included. There is a stronger sense of community at the school.

Some teachers should listen more to what students require to learn better. However, other teachers *do* listen to students and adjust their teaching to fit the students. Teachers also help students.

Jabari feels like he can connect with different groups of people at CH.

Interview Passage

Jabari: When I think of community, I think of people coming together to help each other, people coming together to solve issues. And like you can rely on this person. I rely on that person's just like everybody's kind of intertwined with each other.

Hilary: So you're doing Paw Pals as your product. Can you walk me through what you did in order to complete that product, sort of thinking about what you wanted to do up through presenting it?

Jabari: So we had our category and then we were brainstorming or we had like the pets category, and it felt like a lot of the stuff that we are, we're like thinking of was like already made because there's a lot of pet products in that, in that field. And then we saw everything and we were like, well, if we just make like something that's an all-around helpful item.

So from there, we thought about. How we were going to be able to take care of a pet's needs and just that. And we thought like an automated system. So from there we talked to Gretchen about it and they thought it was a good idea and it was like an original one. So so we went with it. And then we looked at like reviews from people or like, like complaints people had about not being able to take care of their pets while they're away from home and that kind of thing.

Interview Protocol

Walk student through steps taken to analyze their interview:

- Read through interview transcript very closely several times
- Made notes about specific things student said, patterns in topics or feelings that came up multiple times
- Pulled out the main ideas of what they described
- Grouped those ideas to find patterns

Give student handout summary of personal themes and subthemes

- I'm handing you a sheet that has the question I'm trying to answer and some of the major themes that I saw in your interview
- The boxes with the bold lines are the themes that I think are the main reasons you gave for connecting with a project. The themes in the other boxes are additional ways that you may have connected with the project and experienced a sense of motivation.

Go through themes, subthemes, and discussion questions with student

1. Do you have any questions about the themes?
2. Do any of the themes stand out to you?
    a. Why do they stand out to you?
3. Do any of the themes seem incorrect?
4. Is there anything that is not included, but that is important about how or why you feel very connected to your learning experiences at school?

Follow-up on passage from first interview

1. Based on passage *(discussion of community as relying on each other; chose pets category and system for taking care of pets)*
    a. Can you explain more about what you mean by community meaning that people rely on one another?
    b. Why did you choose the pets category? Why did you and your group decide on a system to care for pets?

As I spoke with the student I interviewed, I noticed that projects focusing on social justice *(how different people's lives are impacted by current events, their communities, decisions made by governments, businesses, etc.)* didn't come up as projects they felt especially connected to.

1. When we did our interview last spring, had you participated in any projects focused on social justice?
    a. **Prompt:** Why didn't you name that project as the project you felt most connected to?
    b. **Prompt:** Have you participated in a project like that this semester?
2. Why do you think it is that these types of projects didn't come up when students spoke about projects they felt very connected to?

Appendix H: Teacher Semi-Structured Interview Protocol

1. What subject do you teach/what class did (project) take place in?
2. What was the name of (project)?
3. What were the learning objectives of (project)?
    1. Prompt: Were there any particular skills or knowledge that you wanted students to develop during this project?
4. What were your considerations in designing this project to make it a meaningful learning experience for students?
    1. Prompt: Did you consider any aspects of the students' identities when you designed this project?
5. Did you collaborate with any external partners/other teachers in the design or execution of this project?
6. Please describe what you and the students did during the course of (project).
    1. Prompt: What did you do to facilitate students' completion of this project?
    2. Prompt: What did you do to facilitate students' development of the desired knowledge, skills during this project?
    3. Prompt: What did you do to get students invested and engaged in the project?
7. What did you hope students learned about themselves from completing this project?
8. What did you hope students learned about the world from completing this project?