THESIS

ADOLESCENT LEADERSHIP SELF-EFFICACY AND FUTURE ORIENTATION CORRELATES:

CONTINGENCIES OF RACE AND PARENTAL EDUCATIONAL ATTAINMENT

Submitted by

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ABSTRACT

ADOLESCENT LEADERSHIP SELF-EFFICACY AND FUTURE ORIENTATION CORRELATES: CONTINGENCIES OF RACE AND PARENTAL EDUCATIONAL ATTAINMENT

Using a Positive Youth Development (PYD) framework to guide this research, it is critical that adolescents develop skills for attaining leadership self-efficacy and a positive future orientation. Historically, adolescents marginalized by race or socioeconomic status may not be presented with the same developmental opportunities as their counterparts. The purpose of this research is to examine the relationship between adolescent leadership self-efficacy and future orientation while identifying contingencies by race and/or parental educational attainment. The sample of predominantly Black, Indigenous and people of color (BIPOC) adolescents was obtained from a secondary dataset from a family leadership program. Results highlight a strong positive relationship between leadership self-efficacy and future orientation among adolescents contemporaneously and over time. Moderation by parental educational attainment, but not by race, was supported. Strengths, limitations, and future directions are discussed.

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Introduction

Self-efficacy and future orientation are skills and perspectives that become particularly important during early adolescent development. Strong self-efficacy and future orientation have both been identified as promotive factors for adolescents, so their development may be an important link to reaching positive outcomes later in life (e.g., Cohrdes & Mauz, 2020; Stoddard & Pierce, 2018). Future orientation is what adolescents reach for, and self-efficacy is the belief that those goals are attainable through effort and skill. In this study, I will use secondary data to examine the relation over time between one domain-specific type of self-efficacy, related to leadership, and future orientation among adolescents. Furthermore, I will examine how the relation between leadership self-efficacy and future orientation may be contingent upon adolescent race and parental educational attainment, a proxy for socioeconomic status (SES).

Positive Youth Development (PYD)

Historically, prevention science has focused on youth who are at-risk or who have limited abilities and opportunities to live a healthy life (Catalano et al., 2002). Rather than using this common deficit-based view of youth as inherently incapable, the positive youth development (PYD) framework suggests that all youths can make meaningful community contributions through their skills and assets (Damon, 2004). These developmental assets can be both internal assets, such as integrity and caring, and external assets, such as community influence and expectations (Damon, 2004). However, skills and assets more often are learned and attained rather than being innate. PYD emphasizes the bidirectional relation between persons and environments that contributes to skill and asset attainment (Lerner et al., 2013). This is critical in understanding that individuals are not fundamentally problematic, but a product of the interactions with their surroundings. Positive development requires support and opportunities from proximal environments (Connell et al., 2001). The PYD framework helps to better understand the idea that youths are a valuable part of our society and may need positive interactions to build the developmental assets needed to thrive. Thriving, the ultimate goal in the PYD framework, is reached by flourishing or expressing ideal positive development.

Within PYD are the Five Cs (Competence, Confidence, Character, Connection, and Caring) that have been associated with positive outcomes (Lerner et al., 2013) and have also shown to be generalizable across several cultures (Wiium & Dimitrova, 2019). The Five Cs are central to the PYD framework, and they represent the contextual interactions necessary to attaining developmental assets, which often precede the Sixth C: Contribution (i.e., civic engagement, purpose, and hope) (Lerner et al., 2013). Competence and Confidence combined are core attributes of self-efficacy. Competence concerns the acquisition of skills, and Confidence is

more about the perceived mastery of skills and attributes (Lerner et al., 2013). Additionally, Contribution is pertinent to future orientation especially in terms of purpose and hope.

The PYD framework underscores the importance of developing a sense of purpose (one facet of future orientation), which is part of typical identity exploration and formation during adolescence. During this period of identity formation, the development of a sense of purpose is how many young people find meaning in life, which is also a measure of future orientation (Murphy et al., 2020). Sense of purpose is associated with prosocial behaviors, and it is critical in positive youth development (Lerner et al., 2013). The PYD framework includes self-efficacy and future orientation as key processes for the positive development of youths and will be the focus of this study.

Self-Efficacy

Self-efficacy encompasses not only the acquisition of performance skills and coping skills, but also the thought that those skills exist and the belief in the ability to exhibit those skills throughout an array of scenarios (Bandura, 1983). Competence, confidence, and perceived ability are markers of self-efficacy. The strengthening of self-efficacy skills is particularly pertinent during the adolescent period, and many PYD programs successfully target general skill acquisition, interpersonal skills, and sense of belonging as developmentally appropriate tasks (Tsang et al., 2012). Though many constructs may overlap somewhat with self-efficacy, such as self-concept, self-perceptions, and self-esteem, self-efficacy is distinctive (Harter, 1999), and it is driven by Bandura's (1986) social cognitive theory.

Social Cognitive Theory

Bandura's (1986) social cognitive theory (SCT) is typically used to describe features and development of self-efficacy. SCT explains that similar to a self-appraisal process, self-efficacy beliefs signal to the brain if a situation is safe, or to engage or disengage (Bandura, 1989). This process influences goal setting by determining perceptions of safe, manageable, and achievable actions. Essentially, self-efficacy beliefs drive the *cognitive, motivational, affective*, and *selection* processes (Bandura, 1989). Cognitive processes include problem-solving and self-appraisal; motivational processes include beliefs and confidence; affective processes include coping vs. internalizing; and selection processes include exploring and decision making. Among the documented outcomes of high self-efficacy is maintaining effort through adverse moments (Bandura, 1989).

Tsang and colleagues (2012) further described the use of SCT to delineate self-efficacy. Triadic reciprocity, a theme within SCT, suggests that adolescents' environments affect their

belief systems that then affect their behaviors. An example of this reactive process is how positive support from teachers can have a direct, optimizing influence on adolescent self-perceptions, which then positively affects their academic performance. Self-efficacy beliefs are influenced by an array of experiences that can range from positive to negative interactions. These include (a) *mastery experiences* (perseverance), (b) *vicarious experiences* (social exemplars), (c) *social persuasion* (affirmation from mentors), (d) *physiological or affective states* (physical, emotional, and mental preparedness), and (e) *imaginal experiences* (role playing). This highlights the important role that environment has on the development of self-efficacy (Tsang et al., 2012).

Though it may be referred to in a general sense at times, self-efficacy is not typically measured as an overarching concept. Bandura (2012) argued that self-efficacy is domain specific and should be measured relative to a given area in which someone may be efficacious. This is considered ideal due to the nature of individuals being more capable and competent in some domains or endeavors compared to others. Thus, a general sense of self-efficacy can be difficult to assess and apply in a valid way. Conventional areas that are studied among adolescents include academic self-efficacy and athletic self-efficacy because they are relative to the extensive time in school and sports. In this study, I will be examining a less common domain, leadership self-efficacy, among adolescents.

Leadership Self-Efficacy

Leadership self-efficacy (LSE) is attained through the perceived abilities to efficaciously complete tasks and fulfil a leadership role (Bobbio & Manganelli, 2009). This includes the attainment of abilities such as communication skills and problem-solving skills as well as the perceived mastery of those abilities (Bobbio & Manganelli, 2009). Among adults, LSE is known

to be affected by individual traits (e.g., self-esteem and internal locus of control) and is correlated with leadership performance (Dwyer, 2019). As it may be more natural to consider adults in leadership positions, prior LSE research has been focused on this life stage. Leadership development is a conventional element of PYD programs (Roth & Brooks-Gunn, 2003), but LSE is not commonly studied among youths.

Though it is not directly related to LSE, research on adolescent leadership training programs has underscored the positive outcomes associated with leadership skill development. These leadership programs promote many aspects of self-efficacy and future orientation including coping efficacy (Annesi, 2020), self-concept (Hindes et al., 2008), individual identity, sense of belonging (Parkhill et al., 2018), meaning in life, goal setting (Roberts et al., 2019), social skills (Karagianni & Jude Montgomery, 2018), and self-esteem (Karagianni & Jude Montgomery, 2018; Roberts et al., 2019). In other words, leadership training programs have been shown to increase self-efficacy and future orientation among adolescents. Although these findings highlight the increases of the two constructs, they do not explain the association of self-efficacy and future orientation. The present study aims to assess the relation between LSE and future orientation among adolescents over time.

Adolescent Self-Efficacy Correlates with Academics and Health

Positive academic outcomes are especially prevalent among adolescents with established self-efficacy. Attaining high levels of self-efficacy during adolescence has shown to act as a strong buffer against school dropout (Samuel & Burger, 2020) while also predicting higher grade point average (Caprara et al., 2011; Weiser & Riggio, 2010). This is important because academic achievement is positively associated with career-related future orientation (Negru-Subtirica & Pop, 2016) as well as educational future orientation (Ikoma & Broer, 2015). School

connectedness, which is a predictor of academic achievement (Daily et al., 2019), is also correlated with future orientation among adolescents (Crespo et al., 2013; Johnson et al., 2016). Researchers have found the association between self-efficacy and high school completion to be mediated by educational future orientation (Fan & Wolters, 2014). This mediating effect highlights that self-efficacy may precede future orientation.

Self-efficacy also has positive implications for health among youth. Consistent with Bandura's social cognitive theory, higher self-efficacy among youth is correlated with fewer internalizing behaviors (Dupéré et al., 2012; Steca et al., 2014) and overall higher levels of physical and mental health-related quality of life (Cohrdes & Mauz, 2020). Among middle school youths, those with high self-efficacy are less likely to express hopelessness (a measure of low future orientation) and more likely to express self-control, which is known to be a contributor to the avoidance of risk-taking behaviors during adolescence (Vera et al., 2004). This avoidance of risk-taking behaviors is especially prominent among adolescents with positive future orientation (Jackman & MacPhee, 2017). These positive health outcomes associated with self-efficacy and fewer risk-taking behaviors among adolescents provide some support for expecting a positive correlation between LSE and future orientation.

Future Orientation

Johnson and colleagues (2014) developed a conceptual framework for future orientation across the lifespan. This framework identifies the core components of future orientation as expectations, aspirations, and planning (Figure 1). These core components are influenced by early experiences in life, and they involve a bidirectional relation with individual attributes or competencies (e.g., self-efficacy). One strength of this model is the emphasis on environmental influences (opportunities and constraints from contextual resources) on the development of future orientation. This model implies that self-efficacy and future orientation should manifest a reciprocal positive correlation.

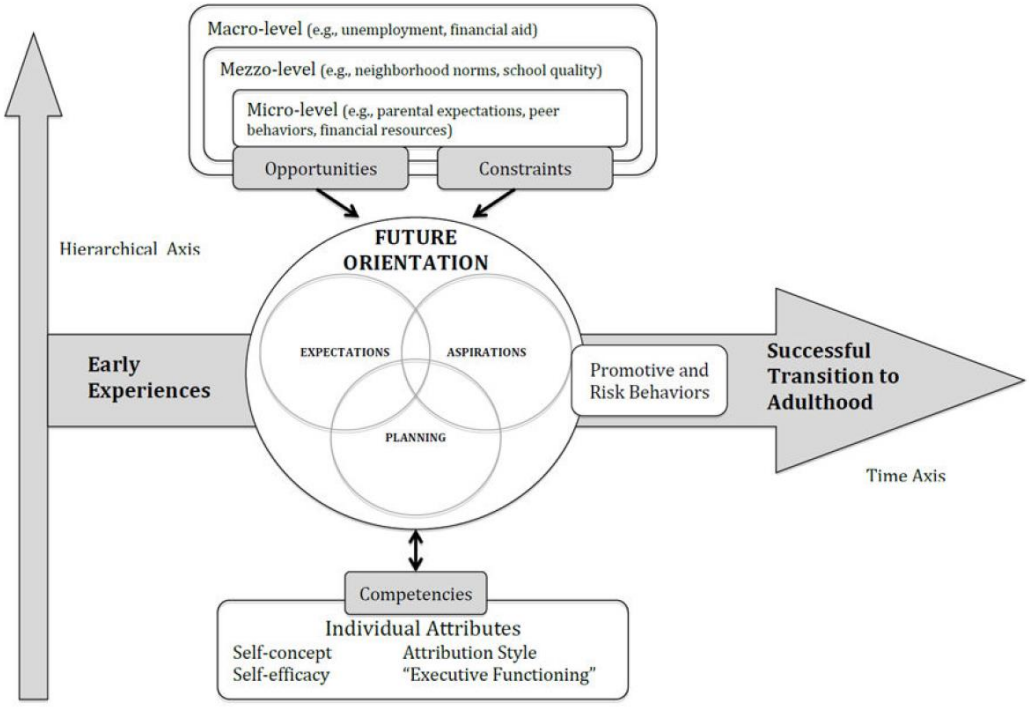

Figure 1.
Conceptual Framework

Figure 1 Conceptual Framework of Future Orientation

Future orientation, a multifaceted construct, is a fundamental aspect of adolescent development describing the capacity to which individuals can envision their future to develop plans, set goals, and form meaning in life (Seginer, 2003). This process of future orientation development ensues with identity exploration as young adolescents explore their possible selves and take on new roles (Nurmi, 1991). Adolescence is enmeshed with puberty, enhanced brain development, and important transitions that all prompt identity exploration and identity formation (Steinberg, 2011). This exploration of identity, or possible selves, is a long process that incorporates hopes, goals, and fears related to the self on various levels including ethnicity, career, and abilities, and it is influenced by the perceived perceptions of others and the portrayal of similar others on media and in proximal environments (Markus & Nurius, 1986; Steinberg, 2011). This process also involves "motivation, planning, and evaluation" (Nurmi, 1991, p. 2), which is generally expressed through goal setting, problem solving, and analyzing possible realities. The development of future orientation requires not only motivation and capabilities, but also the realization of what is attainable. Future orientation can be delineated on different but compatible spectrums such as optimistic vs. pessimistic, positive vs. negative, high vs. low, or developed vs. underdeveloped. Levels of hopelessness or fatalistic beliefs (i.e., anticipation of death before age 30) are examples of low or pessimistic future orientation (Jamieson & Romer, 2008).

Optimistic Future Orientation Mitigates Risk-Taking

Having ill-defined or pessimistic future orientation has been associated with negative behavioral outcomes among adolescents. For example, low levels of future orientation are correlated with adolescent delinquency (Chen et al., 2016; Nurmi, 1991). On the opposite side of the spectrum, high levels of future orientation among high school students are associated with

less substance use (Stoddard & Pierce, 2018) and fewer problem behaviors (Chen & Vazsonyi, 2011) in comparison to those with lower future orientation. Jackman and MacPhee (2017) underscored the role of risk avoidance among adolescents with an optimistic future orientation. Thus, planning for a positive future can aid in making healthier decisions in the moment for many teenagers. These findings indicate that future orientation is an important protective factor for adolescents, especially concerning a healthy transition into adulthood.

Education-specific future orientation, i.e., educational expectations, can also be promising for the future of many youths. Adolescents with high levels of education-specific future orientation are more likely to enroll in college, and the level of such educational expectations during high school is predictive of postsecondary achievement (Andres et al., 2007). In addition, education-specific future orientation is sustained by higher levels of self-efficacy (Trusty, 2000). This has shown to be true for both general and academic self-efficacy in relation to educational future orientation among older adolescents (Weiser & Riggio, 2010). The present study will examine if leadership self-efficacy predicts general future orientation among adolescents.

Opportunity and Context

As will be discussed further, the development of LSE and future orientation is heavily influenced by environmental factors. For adolescents in high-risk environments or from marginalized backgrounds, LSE and future orientation are especially protective (Hilley et al., 2019; Leff et al., 2014). However, the attainment of both may be skewed towards more advantaged youths. This is arguably a product of opportunity and context that are interwoven with societal (macrosystemic) variables such as oppression. In the present study, I will examine race and parental educational attainment (a proxy for SES) as potential moderating variables that alter the relation between leadership self-efficacy and future orientation among adolescents. If individuals from these marginalized backgrounds are limited in proximal processes and opportunity structures, then the development of leadership self-efficacy and/or future orientation may be hindered.

Opportunity Structures and Proximal Processes

Bronfenbrenner and Morris' (2006) bioecological framework that highlights the importance of proximal processes and opportunity structures offers guidance to understand why developmental outcomes vary from person to person and why opportunities in the environment are critical. Proximal processes ignite development in children and adolescents, but only when this process includes engagement, consistency, increased complexity, and reciprocity. Fundamental to Bronfenbrenner's bioecological model of human development, proximal processes are regularly occurring reciprocal actions between individuals and their direct environments (e.g., the affirmation of effort from significant adults). The bioecological model includes four core components: (1) Process, (2) Person, (3) Context, and (4) Time, also called Person-Process-Context-Time theory (PPCT). Initially, Person, Context, and Time all influence

the direction and power of Processes. Secondly, Processes influence development. Impacts of Person on proximal processes can include *disruptive* attributes such as feelings of insecurity, or *generative* attributes such as curiosity. For example, living with high stress and constricted security can potentially influence proximal processes in a way that they could become negative or less influential. Impacts of Context on proximal processes include various environmental factors such as socioeconomic status. Affluent neighborhoods, for example, could influence adolescents' proximal processes to be supportive of development due to maintaining adequate resources. This underscores the pertinence of opportunity structures (i.e., resources) for positive developmental outcomes and will be discussed next. Finally, impacts of Time on proximal processes involve the frequency of proximal interactions on a broad scale. For example, inconsistent interactions with environment can lead to confusion, and consistent negative experiences with the environment can magnify poor outcomes. Consistency among proximal processes is necessary for development not only over short periods of time, but even across generations. When proximal processes are generationally negative, then future environmental interactions may also be expected to be negative.

To conclude, opportunity structures represent the various people, establishments, or policies that allow one to engage in proximal processes. Thus, proximal processes are not beneficial without the opportunity structures available. When they are not only present but also positively accepted, then acquiring skills, knowledge, and positive experience all become possible. Specifically, the achievement of either *dysfunction* (consistent struggles influencing one's development) or *competence* (the attainment of ability and knowledge resulting from accessible opportunity structures) derives from proximal processes (Bronfenbrenner & Morris, 2006).

Inequities in Opportunities Among American Families

Limited opportunity structures can make it difficult for adolescents to attain skills and characteristics needed to thrive, which often leads to an ongoing cycle of injustice for disadvantaged families. This cycle can have harmful effects on proximal processes for youths and families across generations. Limited class mobility, a prominent phenomenon in America, refers to the perpetuating opportunity deficits that exist for marginalized populations in conjunction with the deepening wealth gap between the rich and poor (Cooper & Pugh, 2020; Lareau, 2015). This highlights macrosystemic reasoning as to why intersectionality persists. For example, it can be challenging to disentangle groups by SES and racial or ethnic backgrounds because these demographic variables often coincide especially in the United States (Mesman et al., 2012). This intersectionality of multiple marginalizing identities is often coupled with systemic racism or limited access to adequate resources, all of which contribute to the root of disparities and inequities (Walsdorf et al., 2020). The framework of proximal processes and limited opportunity structures offers guidance on dissecting why these gaps exist and persist, as well as why this may yield disparities in the attainment of LSE and future orientation.

Marginalization by Race

Racial segregation still exists in American neighborhoods and is further divided through gentrification (Burton et al., 2010). These authors used critical race theory to explain why neighborhoods are part of the broader system of oppression affecting income, education, and social networks (opportunity structures). Youths from racially marginalized backgrounds are likely to experience higher adversity than White youths, thus negatively affecting proximal processes. Macrosystemic inequities, including social suffering, discrimination, and oppression, often leave racially marginalized populations with widening disparities in their access to

resources (Fisher et al., 2012). Such disparities limit the exposure to the opportunity structures needed for building efficacy and future orientation.

These chronic stressors are part of daily life for many Black, Indigenous, and people of color (BIPOC) families through the form of racism that is often overlooked (Rafla-Yuan et al., 2022), racial microaggressions (Allen et al., 2013), and lack of support and respect especially in schools (Robinson-Zanartu & Majel-Dixon, 1996) to name a few. Additionally, BIPOC youth often experience a form of discrimination even before entering adolescence (Yusuf et al., 2022). In particular, toxic stress (an extreme and chronic state of stress) can be triggered by adverse experiences or social oppression (e.g., by race, ethnicity, or SES) and can eventually have negative implications for brain development (McEwen & McEwen 2017) and health and well-being (Yusuf et al., 2022). This is an example of how an environmental factor (stress) can influence further interactions (proximal processes) to alter genetic contributions to development (phenotypic expression) through a process called epigenetics (Gottlieb, 2007). In other words, proximal and distal environmental interactions affect the overall development and health of individuals and families (Walsdorf et al., 2020). This process may hinder the development of LSE and future orientation for BIPOC adolescents.

Marginalization by Socioeconomic Status (SES)

Low-income neighborhoods typically lack the funding and resources to provide high-quality education, vocational opportunities, or safe housing for families which often perpetuates a cycle of low-SES within families across generations (McEwen & McEwen, 2017). When this happens, it directly and negatively affects the proximal processes that adolescents experience and limits the opportunity structures available to them. Additionally, this could ignite a pessimistic orientation of the future (e.g., the high likelihood of being forever stuck in lower-SES

environments). Intergenerational poverty is more likely due to systemic disadvantages, as is the environmental influence of stress. For children and adolescents, living in poverty is a form of developmental cascade (i.e., cumulative risk) due to cumulative, interwoven adversities, and it is often perpetuated by various forms of stress (McEwen & McEwen, 2017). Furthermore, with decreased economic stability and fewer financial assets, this cycle creates greater barriers for the adolescents of low-income families. For example, low parental educational attainment is likely to yield lower income, fewer job opportunities, and lowered job stability for the caregiver as well as the children in the family (Cooper & Pugh, 2020; Lareau, 2015). This trend is likely to return fewer chances of success and greater probability for adjustment problems (Masarik & Conger, 2017), suggesting that both leadership self-efficacy and future orientation may be limited or pessimistic.

Children and adolescents from low-SES families tend to develop in environments with fewer opportunities that would equip them to flourish and reach their full potential. These inequities may become problematic because the concept of limited opportunity structures suggests that less opportunity impedes actualization of one's full potential (Bronfenbrenner & Morris, 2006). The argument that lower levels of both LSE and future orientation may exist for adolescents from low-SES backgrounds will be examined in this study as a potential moderating effect. Justification for this effect (for both race and parental educational attainment) is based on the presumption that the lowered opportunity to reach full phenotypic expression (potential) of LSE and future orientation will prompt a restricted range of responses and will produce a weaker correlation than that of their peers with a full range of responses. This will be discussed below.

Opportunity Structures for Building Self-Efficacy

Self-efficacy can serve as a protective factor to buffer negative developmental outcomes, and it can be built through supportive relationships and task accomplishment (Rutter, 1990); however, the disparities in self-efficacy development are apparent. Opportunities to develop skills and positive experiences from early childhood are important for the development of self-efficacy later in life. Family resources such as capital, education, and social networks begin to affect the development of self-efficacy during infancy and tend to favor those families with greater resources (Schunk & Meece, 2006). This includes the experience of positive proximal processes and opportunity structures ranging from immediate to distal environments. For example, school engagement during childhood is positively associated with academic self-efficacy during late adolescence (Forrest-Bank & Jenson, 2015). Opportunities for self-efficacy development also come from the family environment. Family SES, parental involvement, and a positive relationship with the mother and with the father are all predictors of self-efficacy (Weiser & Riggio, 2010). Communities also contribute to the development of adolescent self-efficacy. Research has highlighted that adolescents from violent or impoverished neighborhoods express lower levels of self-efficacy (Dupéré et al., 2012), suggesting that youths from low-SES backgrounds in general may struggle with reaching high levels of self-efficacy and perhaps leadership self-efficacy.

Although self-efficacy is protective for racially marginalized youth, such children and adolescents may also be more vulnerable to manifesting low self-efficacy. Forrest-Bank and Jenson (2015) reported that racial microaggressions (i.e., discrimination and oppression) are associated with lower levels of academic self-efficacy, which is thought to stem from negative self-perceptions about academic abilities. This touches on the impacts of racial or ethnic identity

on overall well-being. Having strong ties to one's racial or ethnic identity is associated with higher levels of self-efficacy (Forrest-Bank & Jenson, 2015). Similarly, positive racial or ethnic identity predicts leadership self-efficacy for older Asian American adolescents, and this is mediated by resilience (Kodama & Dugan, 2019). Overall, LSE is a protective factor for urban racially marginalized youth (Leff et al., 2014). This combined research highlights the benefits and drawbacks that may come with the daily struggles of marginalization by race and how self-perceptions or identity (often molded by environmental influences) can pave the path towards positive or negative outcomes. It can be expected that contextual factors may limit the full expression of self-efficacy and leadership self-efficacy for racially marginalized adolescents.

Opportunity Structures for Building Future Orientation

Higher parental educational attainment has been associated with higher levels of future orientation among adolescents (Kerpelman & Mosher, 2004; Nurmi, 1991). Though, differences in future orientation by race have been more ambiguous (Johnson et al., 2014). Adolescents from low-SES backgrounds often exhibit lower levels of education-specific future orientation (Cooper, 2009) and are most likely to experience a gap between what they aspire to achieve and what they expect to achieve (Elliott, 2009). This may be a product of limited exposure to positive vicarious experiences of others through personal connections or media portrayal.

Kerpelman and Mosher (2004) found self-efficacy to be predictive of future orientation for rural African American adolescents. These researchers suggested that the perceived feasibility of reaching one's desired goals explained this relationship. Future orientation is a robust protective factor in mitigating risks particularly for African American adolescents from low-SES backgrounds (Chen et al., 2016; Kim et al., 2019; Voisin et al., 2020). Among African American adolescents living in low-income urban regions, high levels of future orientation are

correlated with higher grades in school, fewer acts of skipping school and suspension, lower aggression (Hilley et al., 2019), and less delinquency (Marotta & Voisin, 2017; So et al., 2018). Research on other BIPOC populations is less clear.

Prior research and theory suggest that developing high levels of self-efficacy and future orientation require opportunities to build skills, motivation, and an optimistic perspective about the future. Thus, I argue that systemically oppressed groups, specifically BIPOC and economically disadvantaged adolescents, may have a harder time acquiring high levels of leadership self-efficacy and future orientation due to historically limited opportunity and negatively impacted processes.

The Present Study

When considering proximal processes and opportunity structures, the development of leadership self-efficacy may be more difficult without the opportunities to develop leadership skills or accomplish salient tasks. This points to the issue of underrepresented adolescents potentially lacking the opportunity to develop strong leadership self-efficacy and, in turn, aspirations for the future. For this study I examined the relation between perceived leadership self-efficacy and future orientation among adolescents as well as whether this association varies depending upon whether adolescents are marginalized by race or parental educational attainment.

American Indian and Black or African American youths are three times more likely than Asian or Pacific Islander and nonHispanic White youths to live in poverty, whereas Hispanic or Latinx youths are over two times more likely to experience poverty than their White counterparts (Kids Count, 2020). Intersectionality was not evident in the corresponding subgroups in the current study, having 2.6% shared variance between race and parents' education level, so these two moderating variables were analyzed separately. In this study I posed the following research questions:

RQ 1. How does adolescents' perceived leadership self-efficacy relate to future orientation?

RQ 2. Is the relation between adolescents' leadership self-efficacy and future orientation contingent upon race?

RQ 3. Is the relation between adolescent leadership self-efficacy and future orientation contingent upon parental educational attainment?

As previously discussed, I hypothesized that LSE is significantly positively correlated with future orientation. The longitudinal data collected for this study will also allow for examination

of the predictive nature of these two variables. It is hypothesized that LSE predicts late future orientation and that they are also related contemporaneously (Johnson et al., 2014). Additionally I hypothesize that this relation is positive, but weaker, for participants marginalized by race and parental educational attainment.

The hypothesis of moderation (i.e., a weaker relationship) is justified through range of reaction and restricted range concepts and supported through proximal processes and opportunity structures frameworks. Range of reaction is the concept that phenotypic development occurs as a product of both genetics and environment. This is also known as epigenetics (Gottlieb, 2007). Regarding developing adolescents, it would be expected that a characteristic such as leadership self-efficacy would not be fully cultivated among those who have limited contextual opportunities to reach their maximum potential. Bronfenbrenner and Morris (2006) provided the framework that outlines how limited opportunity structures and proximal processes will likely limit the ability for adolescents to reach their full potential in traits that require positive exposure and opportunity, including leadership self-efficacy and future orientation. In other words, these traits are cultivated through practice and experience, and they are only fully realized with the opportunity for positive engagement with the environment.

Self-efficacy and future orientation are both dependent upon the opportunity to practice skills and experience positive outcomes both vicariously and through lived experience. So, lacking opportunities to fulfill leadership roles or witness peers with similar identities take on such roles can yield lower manifestations of both efficacy and future orientation. The PYD framework supports this presumption through the concept that skills are not innate but learned and environmentally influenced. With multiple opportunities, youths can thrive, but with limited opportunities and resources, youths will likely struggle to reach their full potential (Connell et

al., 2001). Based on these frameworks, it is anticipated that BIPOC adolescents and adolescents who come from families with lower parental educational attainment will also encounter limited opportunity structures and proximal processes that narrow the range of reaction, i.e., lower maximum levels of both leadership self-efficacy and future orientation. This process would then be expected to reflect a restricted range. When variables have a restricted range, it means that there is only a limited section of data range to examine (Bland & Altman, 2011). This is likely to produce a weaker correlation than data from a normal or full range of variable expression. So for these contingent variables (BIPOC adolescents and those with lower parental education), the range of responses (for both LSE and future orientation) was expected to be more limited compared to the range for that of the counterparts. This, theoretically, would stem from the limited opportunity structures or harmful proximal processes hindering adolescents within these groups to reach their full phenotypic potential. Thus I hypothesized that these moderating variables would suppress the positive correlation between leadership self-efficacy and future orientation.

Method

Participants

This study uses secondary data of adults and adolescents from a family leadership development program. Adults were only examined to collect parent data regarding educational attainment. All adolescents, including the intervention and comparison groups, were included because no significant intervention effects were found (N = 723 adolescents).

All participants were screened, and they were included in the study if they were identified as having diverse backgrounds in race, ethnicity, SES, family structure, and community or work experiences. An additional adolescent inclusion criterion was to fall within the age range of 12-15 at the beginning of this study. Adolescent racial backgrounds varied (Table 1). The data file did not have enough caregivers who reported income, and there was no measure of occupational prestige meaning that parent's education level was the only indicator of SES. Parental educational attainment was available only for those who participated in the program as a parent-child dyad, which will be explained in the following section. Parental educational attainment included a broad range with the average being "some college" (Table 1). For the analyses of moderation involving parent education level, the sample size provides a power of .80 for regression analyses with three predictor variables and a difference in slope between two groups of .03, which means I have adequate power to test the hypothesis of moderation by parent education level.

Table 1 Demographics of Adolescent Participants

Age	**(M)**	
Min	12	
Max	15	
Mean	14.09	
Gender		
Female	56.90%	
Male	43.10%	
Race	**(n)**	
American Indian	529	6.80%
Asian	12	73.20%
Black	65	1.70%
Hispanic	49	9.00%
White	31	4.30%
Other	37	5.10%
Total	723	
Parent Education	**(n)**	
Less than high school	21	5.5%
Hish school diploma/GED	72	18.9%
Technical training	42	11.1%
Some college	49	12.9%
Associate's degree	22	5.8%
Bachelor's degree	95	25.0%
Graduate degree	79	20.8%
Total	380	

Measures

All participants were given one combined self-report questionnaire. Adolescents and adults were given separate questionnaires. Only the following survey sections were included in the present study.

Adolescent Self-Report Survey

Adolescent demographic data were collected at the beginning of the beginning of the adolescent self-report surveys. For this study, data were included for adolescent age and race.

Adult Self-Report Survey

Adult self-report surveys were administered to adult participants. Not all adolescents were enrolled in the program with an adult caregiver, so an item from this survey was used to determine if the adult was enrolled in the program as a parent-youth dyad. For those were identified as dyads, an additional item was used to determine parents' highest levels of completed education. These dyads were then included in the subgroup for parental educational attainment.

Adolescent Leadership Self-Efficacy

Leadership self-efficacy was measured on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*) through a combination of three scales. The leadership efficacy scale measured the perceptions of leadership capabilities with five items such as "I am pretty good at organizing a team of kids to do a project." This scale has acceptable reliability, Cronbach's alpha = .64, and moderate content validity, $r = .61$, in prior research (Chi et al., 2006). The remaining two scales addressed important aspects of leadership abilities and leadership exposure: communication skills and decision-making skills. The communication scale included six items such as "I find it easy to get my point across." This scale has strong reliability, Cronbach's alpha = .86, and moderate concurrent validity, $r = .60$, in prior research (Duerden et al., 2012). The decision-making scale included three items such as "When I have a decision to make, I think about all the information" (Cater et al., 2010). In exploratory factor analyses, these three scales loaded onto the same factor, and they were also all significantly interrelated, $r = .53\text{-}.63$, $p < .0001$. This supported creation of one 14-item scale for leadership self-efficacy which had high internal consistency in this study, $\alpha = .82$.

Adolescent Future Orientation

Future orientation was measured on the same 6-point scale ranging from *strongly disagree* to *strongly agree*. The 10-item Meaning in Life Questionnaire, which has strong reliability ($\alpha > .85$) (Steger et al., 2006) was administered but supplemented by two additional items on future orientation. One item was drawn from the Future Time Perspective Inventory, which has strong content validity, mean kappa = .93, and good reliability (mean Cronbach's alpha = .73) in prior research (Brothers et al., 2014). Another item was drawn from the Hope Scale that has strong reliability (Cronbach's alpha = .79) and moderate convergent validity with the Generalized Expectancy for Success Scale, $r = .55$, in prior research (Snyder et al., 1991). The final 10-item future orientation measure included questions such as "My life has a clear sense of purpose," which had moderate internal consistency in this study, $\alpha = .72$.

Validity of Responses

To determine the validity of responses, three items were included at the end of the questionnaires that asked if the respondents understood the questions and if they answered honestly and carefully. Response options ranged from 1 (*All*) to 4 (*Hardly Any*). Respondents who averaged 3 (*Some*) or more for these questions were categorized as invalid. Of the total sample of adolescents, 19 respondents were omitted from the study due to having invalid responses. In total, 707 adolescents were included in the final sample.

Procedures

The university's Institutional Review Board approved procedures for this study. Recruitment of intervention group participants included school flyers, information booths, announcements, social media referrals, and word of mouth. Recruitment of comparison group participants included school flyers and snowball sampling. Participants from the comparison

group were recruited from three different sites including one out-of-state site and two in-state intervention sites. The intervention group participants were recruited from three communities in the Rocky Mountain Region, mainly near Navajo and Ute reservations. The comparison and intervention groups completed their assigned questionnaires within the same time span for pretest and 20-week posttests. Incentives for participation included a meal during sessions for those in the intervention group and a drawing for one of three iPads for those in the comparison group. Adults in the intervention group completed consent forms, and adolescents completed assent forms after a description of the program was provided. Using a combination of paper and online versions, surveys were collected from all participants in two rounds: one before the start of the program and one at the 20-week posttest mark. So, Time 1 reflects data collected as a pretest, and Time 2 reflects data collected as a 5-month posttest.

Plan of Analyses

To address the remaining hypotheses, I conducted hierarchical multiple regression using two models. Model 1 included the predictor variable of LSE and the moderating variable of race (as a categorical variable). Model 2 included the predictor variable of LSE and the moderating variable of parental educational attainment (as a continuous variable). Race was categorized into a dummy variable of nonWhite and White to compare racially marginalized identities with their White counterparts. Parental educational attainment remained a continuous variable to allow for greater ability to detect linear versus nonlinear associations, and to consider the variability of education levels when analyzing the potential moderating effects. For this study, the highest level of parental education was used as an indicator of SES, but this does not provide a full depiction of SES (APA, 2018). The levels of parental educational attainment included all seven response options according to the highest level of education completed.

To conduct these analyses, first, the predictor variable (leadership self-efficacy) and moderator variables (race and parental educational attainment) were mean centered. Two interaction terms were then created by (1) multiplying LSE at Time 1 by the dummy variable for race and then (2) multiplying LSE at Time 1 by parental educational attainment. I controlled for adolescent age by including it as a covariate in the first step of both regression models. This control variable was included because older adolescents may experience higher levels of leadership training and experience that can improve their LSE perceptions (Ricketts & Rudd, 2005) and older adolescents also tend to have a more established future orientation than their younger counterparts (Chen et al., 2011; Kerpelman & Mosher, 2004; Steinberg et al., 2009). Step 1 of these regression models also included future orientation at Time 1 as a covariate and LSE at Time 1 as a predictor variable. Step 2 of the regression models included the interaction terms: Model 1 for race and Model 2 for parental educational attainment.

Results

Before testing the hypotheses, bivariate correlations were conducted to gain insight on the relations between leadership self-efficacy and future orientation at both time points (Figure 2). All correlations were significant, $p < .01$, including (a) within time, (b) Time 1 LSE predicting Time 2 FO, (c) Time 1 FO predicting Time 2 LSE, and (d) stability over time. Parental educational attainment was not significantly correlated with the other variables in the model, $r = .03$ to $.14$, with the exception of its correlation with future orientation at Time 2, $r = .15$, $p < .05$. For descriptive purposes, group differences of LSE and future orientation by race were tested using an independent samples *t*-test. Significant differences were found for three of the four measures, $t(477) > 2.14$, $p < .05$, Cohen's $d > .40$, and a trend was found for LSE at Time 1, favoring White adolescents across all measures. Furthermore, the shared variance for race and educational attainment was only 2.6% so they remained separate variables and an intersectionality variable was not created.

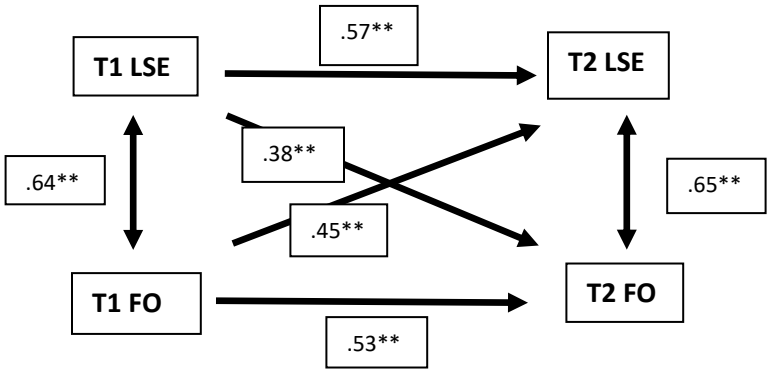

Figure 2 Bivariate Correlations for LSE and Future Orientation at Time 1 and Time 2
Note. LSE = Leadership Self-Efficacy; FO = Future Orientation

Regression Analyses

All research questions were tested using hierarchical regression analyses. First, data screening methods were conducted. Outliers that reflected a standard error of more than three

standard deviations were 90% winsorized and were set to 5% or 95% of the normal distribution (n = 4). The control variable of adolescent age was entered in step 1. However, it was then trimmed from the model due to nonsignificant explanation of variance. Furthermore, the correlation between adolescent age and all other variables was either nonsignificant or slightly correlated, r = .13, p < .05.

Model 1: LSE Predicting Future Orientation with Moderation by Adolescent Race

Hierarchical regression was performed to test LSE at Time 1 as predictive of future orientation at Time 2 while simultaneously examining moderation effects by adolescent race (Table 2). In Step 1, the predicted variance of LSE on future orientation was 28%, F(2,475) = 94.24, p < .05, and the addition of Step 2 that included the interaction of LSE with race was minimal and nonsignificant, R^2 change = .001. When examining the individual coefficients, neither hypothesis was supported. LSE did not significantly predict later future orientation with Time 1 future orientation (stability) controlled, t = 1.50, p = .14, and adolescent race did not moderate the relation between LSE and future orientation over time, t = -.77.

Table 2 ***Hierarchical Regression Analyses Predicting Time 2 Future Orientation***

Variable	Model 1 Adolescent Race			Model 2 Parental Education		
	B	*SE B*	β	*B*	*SE B*	β
Step 1						
Constant	4.38**	.03		4.36**	.05	
FO T1	.51**	.05	.48**	.52**	.08	.50**
LSE T1	.07	.05	.08	.13	.09	.12
R_{adj}^2			.28**			.34**
Step 2						
Constant	4.38**	.03		4.36**	.05	
FO T1	.52**	.05	.48**	.47**	.09	.46**
LSE T1	.07	.05	.08	.16	.09	.15
LSExRace	-.15	.19	-.03			
LSExParEd				-.08*	.03	-.15*
R_{adj}^2			.28			.36*

Note. LSE = Leadership Self-Efficacy. FO = Future Orientation. * p < .05, ** p < .01

Model 2: LSE and Parental Educational Attainment Predicting Future Orientation

In model 2 of the regression analyses, LSE at Time 1 was tested as predictive of future orientation at Time 2 while simultaneously examining moderation effects by adolescent parental educational attainment (Table 2). In Step 1, the predicted variance of LSE on future orientation was 34%, $F(2,167) = 43.89$, $p < .05$. When the interaction term between LSE and parental education was entered in Step 2, the interaction term explained significant additional variance, R^2 change = .02, $F(3,166) = 31.94$, $p < .05$. When examining the individual coefficients, the hypothesis of direct effects was not supported, and the hypothesis of moderation was supported. LSE did not predict later future orientation in Step 1, but with the addition of the moderating variable (LSE x Parent Education) in Step 2, LSE predicting future orientation became a trend, $t = 1.84$, $p = .07$. Parental educational attainment moderated the relation between LSE and future orientation over time, $t = -2.37$, $p < .05$. The predictor variable of LSE at Time 1 plus the interaction between leadership self-efficacy at Time 1 and parental educational attainment explained 36% of the variance in future orientation at Time 2. For adolescents with lower levels of parental educational attainment, there was a stronger linear relation between LSE and future orientation, and for adolescents with higher levels of parental educational attainment there was a weaker association (Figure 3). This supported the hypothesis of moderation by parental education; however, the moderation was not in the expected direction.

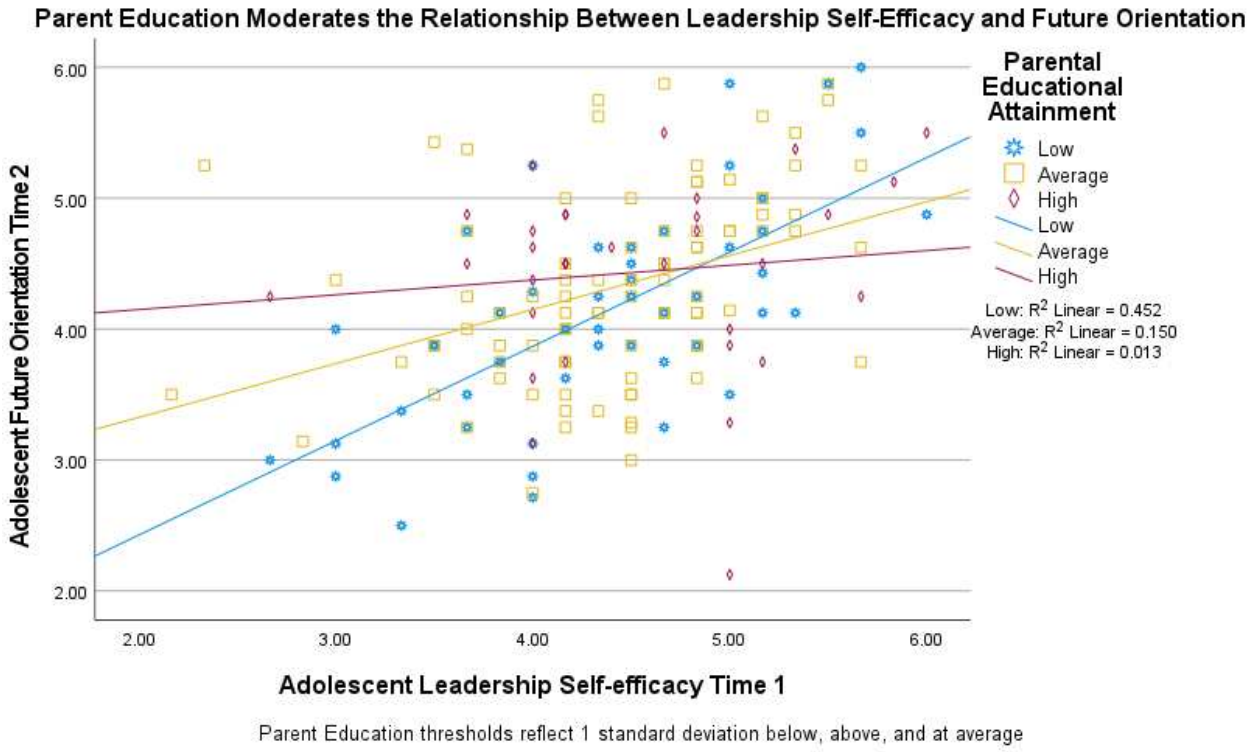

Figure 3 Graph of Moderation by Parental Educational Attainment

Discussion

Using an asset-based lens, adolescents can thrive when they are in an environment that provides opportunities to succeed. The PYD framework highlights how adolescents have much to offer through contributions to their communities and society (Lerner et al., 2013; Roth & Brooks-Gunn, 2003). However, the development of assets (including LSE and future orientation) is essential and requires the opportunity to develop those skills (Connell et al., 2001). Some adolescents may live with disadvantages when not provided opportunity structures and proximal processes that are needed to thrive. When underrepresented adolescents have opportunities available to them, though, it is likely that their development will flourish (Walsdorf et al., 2020). Developmental cascades are cumulative effects that are influential during adolescence as protection begets protection (Masten & Cicchetti, 2010). In other words, when protective and promotive factors are prevalent, then the opportunity for development to flourish is likely.

Based on this literature and Bronfenbrenner and Morris's (2006) Person-Process-Context-Time theory, I hypothesized that adolescent LSE and future orientation are positively correlated contemporaneously and over time. Analyses showed that LSE and future orientation among adolescents are strongly and significantly correlated across all timepoints, which supported my hypothesis. When all Time 1 variables were entered into the regression analyses, LSE was not predictive of future orientation over time net Time 1 future orientation. Thus, my second hypothesis of LSE independently predicting later future orientation was not supported. These results show that there is a significant covariation between LSE and future orientation at baseline. The shift from significant to nonsignificant outcomes when controlling for baseline future orientation suggests that future orientation at Time 1 explains most of the variance in later

future orientation. This is also an expression of stability of processes over short periods of time, rather than developmental cascades that require longer timespans (Lewin-Bizan et al., 2010).

I also hypothesized that the relation between LSE and later future orientation is moderated by adolescent race, but the data did not support this supposition. Research on racial, ethnic, and cultural differences or contingencies tends to be mixed due to common within-group differences (Elisha & Collins, 2022). BIPOC adolescents differ from one another in many aspects including experiences, health, resources, family dynamics, and identity among many other contextual influences. So, despite similarities among BIPOC individuals, race alone may not be the strongest address variable to examine. Recently, it has been argued that examining race alone can perpetuate oppression of BIPOC individuals by mistaking environmental determinants, such as family SES and systemic racism, for racial differences (Yudell et al., 2020). The present study addressed race as a representation of underlying systemic injustices of limited opportunity and as a common point of intersectionality with SES. However, the subgroup of participants in this study did not reflect strong intersectionality between SES (as indicated by parental educational attainment) and race, and therefore the presumption of intersectionality may not have pertained to this subgroup.

My hypothesis that parental educational attainment moderates the positive relation between LSE and later future orientation was supported: Adolescents from less-advantaged families (i.e., parents with less education) were the most likely to benefit from having greater leadership self-efficacy at baseline. Those with higher LSE were likely to also evaluate themselves as having a more optimistic future orientation. This moderation effect, however, was not in the expected direction. I hypothesized that lower parental educational attainment would weaken the relation between LSE and future orientation, which was justified through concepts of

restricted range and range of reaction. However, variability in participants' responses was not restricted and low parent education strengthened that relationship. Furthermore, adolescents who lived in families with more advantages, as measured by higher parental educational attainment, showed close to no correlation between LSE and future orientation. When reflecting on PYD and Bronfenbrenner and Morris's (2006) proximal processes and opportunity structures, it may be that this lack of correlation reflects how the substantial opportunities that may exist within more advantaged families can compensate for an absence in other areas. For example, parents with higher educational attainment and the advantages pertaining to that would be expected to have resources such as a supportive, resource-rich social network, institutional knowledge, and financial stability to help achieve life goals that could ultimately provide opportunities to the children (Cooper & Pugh, 2020; Lareau, 2015). This abundance of resources and opportunities could essentially make up for more limited attributes such as LSE or future orientation development. On the other hand, a family with a less-advantaged background (i.e., lower parental educational attainment) would be expected to have fewer such resources including basic ones such as a well-funded school with trained academic/vocational counselors or programming to support leadership opportunities. So, the guiding frameworks of PYD as well as opportunity structures and proximal processes still support this moderation effect of parent education strengthening the relation between LSE and future orientation.

Strengths and Limitations

One strength of this study is the longitudinal design. The second timepoint allowed for the use of multiple regression analyses to test prediction of later outcomes. This is a helpful step towards causal inferences in future studies. This longitudinal design also permitted the opportunity for moderation analyses and stability of constructs over time. An additional strength

of this study is the high representation of BIPOC adolescents. In research, it is especially difficult to collect data on Indigenous cultures, due to the historical oppression and mistrust between Indigenous populations and researchers (Trimble et al., 2012). So this sample is rather unique.

Among the limitations of this study are the short span of time across timepoints and the limit to having two timepoints with no long-term follow-up. Stronger inferences about developmental pathways would have been possible with additional timepoints, such as follow-up surveys one or two years after the pretest. Another limitation is that the measure of adolescent SES was limited. Very few caregivers completed the survey item for income, so I was not able to get a full depiction of SES and had to restrict the test of moderation to parental educational attainment. The number of adolescents in the subgroup whose parents reported their educational level was substantially smaller than that of the full sample. The subgroup still was large enough to provide more than adequate power, so this likely did not affect the inferences made.

Future Directions

Future research should focus on SES as a moderator of the relation between LSE and future orientation with diverse populations. These analyses with predominantly BIPOC populations contribute to an important first step, but further research is needed to better understand this relation. Given the nonsignificant results of LSE predicting future orientation when controlling for the stability coefficient of prior future orientation, researchers should also explore the inverse relationship of future orientation predicting self-efficacy. The career adaptation model has guided research that supports career self-efficacy as an outcome variable, so there may be strong theory to support this directionality (Zhou et al., 2016).

Larger samples over longer longitudinal periods with various cultures are especially important in future research. Long-term longitudinal studies could allow for examining developmental cascades and contingencies by SES or intersectionality. As new studies are developed, culturally appropriate measures should be used, and methods should include diversity, equity, inclusion, and justice (DEIJ) standards for collecting data and reporting results (see Charles and Lynn Schusterman Family Foundation, 2020; Yudell et al., 2020).

Conclusion

My hypothesis of a positive correlation between LSE and future orientation was supported. Although my hypotheses about moderation were only partially supported, the guiding frameworks used in this study still support the results of moderation by parental educational attainment. Guided by the concept of opportunity structures, the findings of the present study suggest that whether adolescents' future orientation is dependent upon their leadership self-efficacy is less obvious when they have well-educated parents. This moderation is salient in understanding how our communities, governments, and policies can support adolescent development.

Policy changes are often difficult as they require influence and justification at the top of the governmental hierarchy. However, government support for funding of prevention programs and initiatives is critical in bolstering the positive development of adolescents from less advantaged backgrounds. Particularly, efforts should be focused on programming and opportunities for young adolescents with lower parent education (e.g., with no college education) to develop LSE skills and an optimistic future orientation. Prevention scientists suggest that moderating variables are ideal points for adapting prevention and intervention programs (Collins et al., 2004). So tailoring current PYD and leadership training programs to accommodate

adolescents with low parent education is the most cost-effective approach to future prevention efforts. PYD programs are designed to improve skills, assets, confidence, and sense of belonging (Tsang et al., 2012; Roth & Brooks-Dunn, 2003), and leadership development programs have shown to successfully improve coping self-efficacy, meaning in life, and goal setting (Annesi, 2020; Parkhill et al., 2018; Roberts et al., 2019). Adapting and implementing these existing programs to fit the needs of adolescents with parents of lower educational attainment is ideal in boosting LSE and future orientation among this population.

When looking through a PYD lens, the development of LSE and future orientation are critical for adolescents to thrive. Bronfenbrenner and Morris's (2006) theory of opportunity structures and proximal processes further justifies the need to provide opportunities to develop LSE and future orientation for adolescents who may not naturally have such opportunities in their daily environments. This was reflected in the findings of the present study: Adolescents from less-advantaged families exhibited the strongest relation between LSE and future orientation, which suggests they were the most influenced by opportunity to develop assets. Without providing such opportunities for asset development, adolescents marginalized by fewer family resources may not have the same opportunities as their more advantaged peers to thrive. Positive development of all youth, not only advantaged youth, is an essential way to yield increased societal contribution from adolescents as they develop across the lifespan.

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