

ARTICLE

The Powerful Role of Mothers in Adolescent Purpose Development

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ABSTRACT

Adolescence is a critical time for the cultivation of life purpose, also known as a meaningful long-term aim focused on contribution to others. Youth with purpose, especially marginalized youth, report a number of positive outcomes. Relationships with caring adults appear to be particularly helpful in guiding young people on their path to purpose, but little work has focused specifically on the role of mothers. This qualitative study, approved by a Institutional Review Board, examines how twenty adolescents from marginalized communities describe their sense of purpose and its relationship to their caregivers. The sample size was determined based on saturation, a process in qualitative research when the researchers begin to observe redundancy in the data. Through content analysis, a major theme emerged: the role of mothers and their impact on purpose development on their children. Results showed that mothers helped their adolescents develop their sense of purpose through serving as a sense of inspiration, providing the adolescents with support, sparking a desire for the adolescents to make their mothers proud, and through the mothers and adolescents in engaging in conversations about one's future.

Keywords: Adolescents; Positive youth development; Purpose; Marginalized youth; Mothers

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1. Introduction

Adolescence is a period of rapid and simultaneous change, including social, physical, biological, and psychological shifts^[1,2]. In addition to these transitions, adolescents demonstrated a heightened curiosity about their sense of meaning and belonging in the world^[3]. While some eagerly dive into their exploration of meaning and purpose, others are more reticent. Adolescents who explore their sense of purpose have a greater sense of overall well-being^[1,4,11].

Although much of the existing research on purpose formation has tended to focus on youth from relatively privileged backgrounds, recent research suggests that adversity, such as stress, often plays an important role in purpose cultivation among marginalized adolescents^[11-14]. While stress may overwhelm youth, those with adequate social support can allow stress to serve as a motivator, catalyzing exploration and pursuit of purpose^[1]. Put simply, social support plays a critical role in determining whether stressors and adversity act as a barrier or motivator in purpose development. Youth with formative relationships tend to grow from adversity and develop a desire to contribute to the world beyond themselves^[14]. More research is needed to identify what kinds of relationships are important, and the qualities and dynamics of these relationships.

The current literature suggests that supportive adults can help cultivate an adolescent's sense of purpose^[10,13]. However, it is largely unknown how this process occurs, though emerging evidence suggests that parents may foster purpose through modeling or through reflective dialogue about values and goals^[15]. Parenting practices, such as support, may also help youth explore purposeful goals and aspirations^[4,16]. Moreover, this may be especially true for relationships with mothers or maternal figures^[16]. Despite the importance of parents and, maternal figures in particular, limited research examined the specific roles caregivers and mothers, in particular, play in cultivating youth purpose.

The current study redresses this omission and examines the role of parental figures in youths' development of purpose. We used a qualitative approach to

interview adolescent participants in *Changemakers*, a Science, Technology, Engineering and Math (STEM) program, located on the East Coast in the United States, serving populations underrepresented in STEM fields. Specifically, we examined the role of supportive maternal relationships in the development of youth purpose. Findings could have direct implications for how parents can better interact with their children to help foster their overall sense of well-being. Based on the research question, in the following sections, we review the relevant literature regarding benefits of purpose, cultivation of purpose, purpose in marginalized and privileged adolescents, and the role mothers can play in shaping one's sense of purpose.

1.1 Youth purpose

Damon and colleagues have defined *purpose* as "a stable and generalized intention to accomplish something that is at once meaningful to the self and of consequence to the world beyond the self"^[7]. This definition maintains three different essential components. First, purpose is an aspiration the individual is intentionally trying to progress towards. This calls for purpose to be personally meaningful to the individual and the individual is the main force, as opposed to other influences such as parents or teachers, pushing exploration of the goal. Second, having a sense of purpose requires active engagement by the individual. The individual must be actively pursuing their purpose, rather than contemplating or daydreaming about it. Third, and finally, purpose must encompass a goal of contributing to the world beyond oneself^[17].

The development of a sense of purpose has been linked to well-being, including high self-esteem, prosocial behavior, moral commitment, and achievement^[7,10]. Adolescents who are identified as more purposeful than their peers are more academically invested in their work^[6]. Sense of purpose may also increase one's sense of resilience in the face of stressors^[12]. Conversely, a lack of a sense of purpose has been correlated with clinical depression and clinical anxiety^[6,7].

Researchers have identified various pathways

of and influences on the development of purpose among adolescents. Malin et al. ^[18] demonstrates how life transitions, identity formation processes, and external supports and influences are three factors shaping adolescents' trajectories of purpose development ^[18]. Furthermore, Kashdan and McKnight ^[19] suggest three developmental trajectories for purpose. Proactive development refers to a person's deliberate search for purpose. This person is likely curious by nature and seeks out meaningful and rewarding behaviors. This person will likely engage in new and challenging events, which will allow them to form a more coherent understanding of their environment. Reactive development refers to when a person's sense of purpose emerges prior to his active engagement. This unsolicited development can be referred to as a chance development, triggered by a response after experiences such as personal adversity, traumatic events, or transformative, unexpected life experiences that change the way one views the world ^[20]. The third and last pathway utilizes Bandura's Social Learning Theory framework ^[21]. In this pathway, the youth learn about purpose through observing others, including their behaviors and outcomes. Furthermore, the development of purpose can come from the act of observing behaviors and the emotional reaction that was paired with it. While people can experience one of the three pathways, they are often likely to experience a "hybrid" of two or all three of the pathways ^[19]. Similarly, research has found that an individual's sense of purpose can often be inspired by the help of significant others, such as mentors and important family members. This can occur through the mentors role modeling what it is like to have a sense of purpose, and/or exploratory conversations with the mentees about their own purpose ^[12].

1.2 Purpose for privileged and marginalized youth

Much of the research on purpose formation in adolescence has tended to focus on primarily white youth with middle to high socioeconomic status ^[13,5,22,11]. Less research has focused on underprivileged or marginalized youth. For the focus of this paper, the

definition of margins refers to "these boundaries between groups and/or individuals [which] are perpetuated through separation that is physical (e.g., segregation), social (e.g., alienation, stigmatization), or emotional (e.g., loneliness)" ^[23]. The definition also encompasses "reduced access to resources and opportunities", or "negative definitions and stereotypes applied to one's group" ^[14]. Moreover, the term marginalized youth will refer to youth from low SES, and or racially minoritized backgrounds. This definition pays tribute to the fact that individuals can experience marginalization in a host of manners including; racism, prejudice, discrimination, oppression and segregation ^[24].

While there is less research that focuses on marginalized youth and purpose, there are, examples of exceptions to this phenomenon, including work by scholars Sumner and colleagues (2018) ^[14], Liang and colleagues (2017) ^[12], Gutowski and colleagues (2018) ^[1], Bronk & Finch (2010) ^[5], and Hill and colleagues (2013) ^[22]. Findings from these studies suggest that adolescents from marginalized backgrounds do in fact have a strong sense of purpose. Indeed, their sense of purpose often includes trying to change their immediate environment and includes a sense of responsibility for taking care of family members.

While some may narrowly define purpose as contributing to lofty, philanthropic goals, marginalized youth often also focus their purpose and aspirations on contributing to needs in "the here and now." For example, adolescents who are immigrants navigating challenging political pressures might focus on their immediate safety of their family, and keeping their family together, rather than giving back to the community ^[14]. Also, adolescents who are marginalized may choose aspirations or purposes that are highly influenced by necessity (such as financial gains), rather than purely interest. There may also be literal barriers that preclude adolescents who are marginalized from exposure to certain types of purpose development. These can include opportunities to engage in higher education or extracurricular activities, which are known to increase youths' discovery of interests and opportunities for engagement ^[14].

In the limited literature on marginalized communities, marginalized youth often had a sense of purpose that satisfied Damon's definition^[13,12,25]. Moreover, their sense of purpose often was based on the proactive and reactive pathways defined by Kashdan and McKnight^[19]. For example, adolescents worked with mentors to explore novel opportunities such as internships and jobs (i.e., proactive pathway). Adolescents were also motivated to enact change as a reaction to their family situations or stressors, such as socioeconomic status and immigration status (i.e., reactive pathway). Research has demonstrated that marginalized youth, who have reflected on their own lives and experiences, may be more inclined to pursue purposes that are driven to enact changes in circumstances that are experience-near, rather than focused on a vision of the future they have not yet experienced^[14].

1.3 Purpose and people

A study of youth from diverse, marginalized backgrounds, found that purposeful youths shared four characteristics: people, passion, propensity, and pro-social intentions^[12]. The youths identified adults as important catalysts in their purpose development^[13]. These adolescents noted the impact by parents, extended family members (e.g., uncle/aunt or cousin), teachers, and mentors. In addition, adolescents were able to identify how these significant adults supported them on their path to purpose.

Some evidence also suggests certain parenting practices might create supportive or less supportive contexts for the exploration of purpose^[4]. For example, nurturing parental-child relationships are more likely to foster a sense of purpose^[11], whereas relationships characterized by alienation can harm youth as they explore their purpose in life^[4]. Research on goal formation in adolescence also highlights the importance of parents and specific parenting practices (e.g., support and involvement) for future aspirations^[16]. Mothers, in particular, may be especially important in the development of future educational goals^[26,16]. Similarly, supportive parenting by mothers has been linked with greater meaning in life among adoles-

cence^[27]. Research explains that significant adults can help adolescents stick to their sense of purpose; However, research that examines the specific processes (e.g., conversations, experiences, etc.) within adolescent-parent relationships that help youth cultivate purpose is sorely needed.

1.4 The current research study

Based on the literature on purpose development, it is clear that having a sense of purpose is beneficial for adolescents from disparate backgrounds and contexts. While a larger body of research focuses on purpose development for adolescents that are from affluent and middle-class backgrounds, and often white, a small subset of research has shown that marginalized adolescents can and do experience purpose development^[5,22,13,11,14]. In fact, due to the reactive pathway, marginalized adolescents might even be more motivated to develop a sense of purpose^[19]. Significant adults can help foster this sense of purpose through support and role modeling behaviors^[13]. This current research study seeks to contribute to the gap in literature regarding the development of youth purpose in marginalized adolescents. More specifically, this study aims to gain a greater understanding of the role of supportive parental figures in marginalized youths' purpose development given the research on the importance of parents in purpose development. A qualitative method that utilized an adapted version of grounded theory was used to conduct and analyze in-depth qualitative interviews among students participating in the Changemakers Program (see methods section for description). Qualitative methodology is necessary to answer this research question as we are looking to understand in a more nuanced way how and why parental figures shape purpose development. As we are studying participants from marginalized backgrounds, it is imperative that we listen to their voices, and their perspectives, rather than have them answer questions on a predetermined scale which may not be applicable to them.

As qualitative methodology is inductive (the research question is derived from the data), the researchers paid specific attention to the themes and

problems that emerged from the participants, rather than questions the researchers assumed to be important^[28,29]. While fathers might be important in cultivating an adolescent's sense of purpose, the participants did not discuss fathers. In fact, the participants only discussed mothers and grandmothers. Thus, in order to respect the inductive approach, only mothers will be discussed.

2. Method

2.1 Context

The Changemakers Program, situated in the Northeast of America, works with low- income and racially diverse adolescents from populations often underrepresented in the Science, Technology, Engineering and Math (STEM) fields. The adolescents' range in age from 12-18 years old. The program runs each Saturday during the school year with the exception of holidays. The adolescents apply to participate in this program and or are nominated by their teachers. The program seeks out adolescents who are motivated to learn about science, hope to continue to explore science outside of this program, and who likely are not exposed to this type of learning in their home/school. The applicants are not evaluated based on their grades and extracurriculars, but more rather interest in the program. Since the program relies on a significant time commitment by the adolescents, thus prohibiting them from pursuing other part time work, they receive a stipend for their work.

While the program's goal is to teach students the interdisciplinary science of hydroponics and to manage an urban hydroponic farm, it utilizes a social justice framework. Research has found that many urban youths lack opportunities and knowledge about where their food comes from and how to grow it themselves. It is argued that if youths are provided the opportunity to grow food, they would also simultaneously develop STEM-related skills^[30]. In addition, approximately 6.8 million adolescents, age 10-17 are considered "food insecure", as they do not have reliable access to healthy food^[31]. Thus, to address this crisis, there has been an increased call

for urban gardening programs. These programs have also been shown to increase adolescents' STEM skillset^[31]. The Changemakers Program builds off this research, but acknowledges North East climate, and the need for farming that is year-round. Thus, the adolescents learn to build hydroponics (a method of growing plants that allows for indoor, year-round growth) and sell the food at a much lower cost than grocery stores. This unique program focuses on increasing adolescents' skills in science, while also constructing technology that helps address the issues surrounding food insecurity and food justice. It utilizes a social justice framework through attempting to give adolescents, who may be experiencing food insecurity, the opportunity to cultivate their own food. The program aims to make adolescents knowledgeable on how to combat food justice issues that may affect their own communities. In addition, this program, along with many STEM programs, hopes to reduce the gap between the types of people who participate in the STEM fields.

As the students are exposed to the science curriculum, they also attend workshops which focus on purpose development. These workshops have been created by some of the leaders in purpose research for adolescents and the workshops focus on how to help adolescents identify their sense of purpose. Through various activities, the adolescents engage with identification of their long-term aspirations, and people that have been supportive in their goals. They also identify people and/or events that may have previously served, or will potentially serve in the future, as a barrier to achieving their goals. The adolescents also explore their strengths, in regard to their support systems, propensity (natural talents), passions, and prosocial benefits (desire to help other people), and consider how these strengths can help them along towards their long-term goals. Through this workshop, the adolescents began to think critically about their role in the world, characteristics that make them successful, and people they can turn to for help.

The majority of the adolescents who participate in the program also participate in the larger quantitative research study that aims to explore the intersection-

ality of STEM and purpose development. interviews regarding the same topic, yet in a more detailed exploration on their purpose development, specifically what is their sense of purpose, where did it come from and did they receive help or inspiration from others in regards to the development of this sense of purpose. The participants were randomly selected to participate in this smaller study. It should be noted that the adolescents receive a stipend for the program, not for participating in the research study. Furthermore, participation in the study is completely voluntary.

2.2 Participants

The sample included 20 adolescents. The larger sample is approximately 200 adolescents. We recruited our sample through the snowball technique, where participants are asked to suggest other participants who may have interest in participation^[32]. Of the interview sample, fifty-five percent of the participants were male. The racial and age profiles of the sample represent the larger Changemakers community. The majority of the participants identified as Latinx (45%) or Black/African American (40%) and a small percentage identified as Haitian (5%), Bi-Racial (5%) and Multi racial (5%). The participants were all in high school at the time, and the age range varied from 16 years old to 19 years old. Of the participants, the majority were 16 years old (60%), while the others were 17 years old (10%), 18 years old (15%) and 19 years old (15%). Of the participants, all attend public schools in urban low-income communities in the Northeastern region of the country. The participants identified their parental education status as 25% of the participants' parents did not graduate high school, 40% graduated high school, 10% attended college, 20% graduated from college, and 5% obtained an advanced degree. All of the participants have been identified through their applications to the Changemakers Program as lower-income.

2.3 Procedures

The interviews were conducted by trained research assistants. We utilized semi-structured^[33]

interviews, conducted with participants in the Changemakers Program. The interviews lasted for approximately an hour, and were one-on-one and conducted on-site during their normal programming hours in a private location, at the schools which housed their respective programs. All interviews were transcribed by an online transcription service. Prior to the start of the study, parents completed hard copy, IRB-approved consent forms for their children. The participants filled out assent forms. At the time of the interviews, the participants provided verbal consent to an audio-recorded interview. They were told they could stop the interview at any time or skip any question. Code names were created to protect the informants' identity.

We began asking directly about the informant's initial interest in the Changemakers Program. Questions included "*What interested you about wanting to join the Changemakers Program?*" and "*What are your expectations for participating in the Changemakers Program?*" As the interview progressed, we asked the informants to identify their long term academic and career goals and why. We specifically asked "*Think about one of your most important career goals. Why is this career aspiration important to you?*" We asked the informants to explain how, if at all, another person has helped their development and experience of these goals. Examples of questions included "*Who is one person who has helped you in pursuing this goal?*" and "*Can you think of a story of what this person specifically has done to help you as you try to reach this goal?*" We also discussed if, and how, participants experienced past or anticipated barriers towards achieving their goals. This question was asked through "*Have you experienced any challenges in pursuing your goals? Or anything that has made it difficult for you?*"

2.4 Data sources

As the program runs at four schools in Northeast, we collected interviews from all four schools. The program follows the academic calendar, and runs from September to June and then has an expedited summer program from June to August. We are conducted pre- and post- interviews as part of a larger

study to explore how the adolescents’ sense of purpose changed over time. The post-interviews asked participants to reflect more on their experience in the Changemakers Program. As the post-interview data were not necessary to be analyzed for this paper as it surrounded lessons learned about science, and how they hope to use this new knowledge in the future. Furthermore, the research question for this study did not need longitudinal data and thus we felt comfortable to focus only on the pre-interviews.

2.5 Data analysis

For data analysis, we utilized a modified version of grounded theory. Through this approach we engaged in constant comparison of data and categorization in order to further understand the concept and build theory [34,35].

We began our analysis by reading through each transcript and creating “memos” on the participants, also known as contact summary sheets [36]. These sheets contained basic information about the participant, and a brief summary of their interview. The goal was to highlight what was most important to the participant. One research assistant wrote the memo and then the other two were required to approve the memos. Approval was received when the other research assistants determined that the sheets reflected the raw data, not interpretations or assumptions by the researchers.

We then followed grounded theory’s traditional open coding to become more familiar with our data [34]. We began with a bridged version of open coding and only coded for when a parental figure was mentioned [34]. To illustrate this stage of our analysis, we noted various ways in which participants discussed their parental influence. For example, participants stated: “my mother motivates me to try my hardest”; “my mother would help me persevere through”; “my mother

wants me to do well in school.” Through this process we remained close to the words provided by the participants used to describe their mothers. Because we were using open coding, we did not begin to clump or group the data but rather highlight it. As we engaged in open coding, we searched for mentions of all guardians, yet participants did not mention fathers, grandfathers and uncles, etc. Example of this process is highlighted in **Table 1**.

Table 1. Open coding.

The Quotation	Open Coding
“Like, try to like help the kids understand that science is important and try to get to them to get them to understand what science is and try to help them use science in their everyday life.”	“Help kids with science” “Understand importance in science” “Help kids use science in everyday life”

We then engaged in axial coding [34,37], where we utilized the open codes to create theoretical ideas. In this process, each research assistant organized the open codes, and created themes, or “titles” for each theme. The open codes were clustered based on how the participants described their relationships with their mothers. After each research assistant relayed their findings, the team worked together to create the final themes. Consensus of three out of four research assistants was required to determine what open code fell under each theme. Consensus of all four research assistants was required for the theme names. If proper consensus was not reached the team consulted the Primary Investigator.

Three major themes emerged regarding participants and their mothers: (1) participants felt empowered by their mothers, (2) participants were driven to make their mothers proud, and (3) participants engaged in conversations with their mothers about their future. The first themes is presented with exemplar quotes in **Table 2** [36]. This organization allowed for

Table 2. Axial coding.

Axial Coding	Quotation 1	Quotation 2	Quotation 3
“Participants felt supported by their mothers”	“I don’t know. Because she motivates me to try my hardest, and she always ... She just gives me confidence.”	“It’s just always growing up loving marine animals, and Mom’s always said that this is something I would do when I get up there.”	“She sees in me what I may not be able to see in myself. So just that alone, it makes me a better person, it gives me a better mindset, gets me focused to do better things.”

greater cross-case analysis. We continued to analyze interviews until we reached theoretical saturation. The result section will explain in greater detail the three themes that emerged. Table two contains examples of the coding process.

2.6 Reflexivity

As consistent with qualitative research, researchers reflect on their own biases ^[38,12]. The research team consists of all female identified members. The PI is an Asian American tenured professor at a University in the Northeast. The other four researchers identify as white. One researcher is a tenured professor at a university in the South East region. The other three researchers are graduate students at a university in the Northeast, enrolled in counseling psychology programs with a focus on social justice issues. The researchers who analyzed the data, previously participated in implementing the Changemakers Programs and remained vigilant to any biases they may impose on the data based on this experience. Prior to data analysis, this practice calls upon the research assistants to reflect on any expectations they may have for the outcome of the study, and how their own biases could potentially impact the findings ^[39]. Through vocalizing any potential biases, the research assistants were better able to monitor each other for any prejudice. Below is an example of a journal entry from a research assistant.

Since working on this program for a few years, I feel a pull to what to see that the program “works” and increases students’ passion for STEM. I notice that I have this desire and must be aware when I analyze the data, I am not looking for what I want to see but rather staying true to the data.

Once they began analyzing the data, they monitored their biases through continually referencing the raw data for information, required consensus for any codes added to the code book, engaged in member-checking with each other and the Primary Investigator.

3. Results

The following sections describe the three themes that emerged from the data. The themes illuminate the participants’ continuous reflection about how their mothers served as a source of support and helped them foster their own motivation as they navigated the uncertainty and adversity of adolescence. The participants also described their own desire to make their mothers proud. Lastly, participants describe the scaffolding that they received from their mothers through continual support and thought-provoking conversations.

3.1 Support: Participants felt empowered by their mothers

Participants described that their mothers provided them with a sense of motivation as they thought about their future. This support empowered participants to take action in pursuit of their purpose aspirations. One participant, Demetrius, explained that he felt his mother’s support was unconditional as he stated, “[my mom] keeps motivating me to do it [STEM], but if I do tend to change my mind, she will still support me.” When talking about their participation in the Changemakers Program, another participant, Maria, described how her mother encouraged her to initially sign up for the program. Maria stated:

I know some kids may do it for the money, but I actually I want a community ... just like ... talking to my mom ... I talked to my mom about growing stuff in my room. I’ve been growing ... I grew orange trees, apple trees. They didn’t work out, they died. But it was fun to see how they grew. So, I can incorporate it into my apples and orange trees.

Participants also described their mother’s sense of support through helping to foster and maintain their motivation while pursuing their purpose. They noted how their mothers’ emotional support translated into a sense of certainty. For example, Terrance explained, “Because [my mom] motivates me to try my hardest, and she always ... She just gives me confidence.” Similarly, another

participant, Derek, remarked on feeling heard and being inspired, “She was somewhat of an inspiration because she always understood me. Understood what I wanted to, why I did it. I really had a voice when I was with her.”

Participants explained that their mothers provided them with needed emotional support to maintain motivation in the face of barriers to their purpose aspirations. Nicole noted, “Basically, [my mom] just built me up. She knew that I was worth more than that and I can do better than that because I’m smarter than that.” Adrian further illustrated how their mom’s support is instrumental for motivation and inspiration, “[My mom] pushes me to do better. She sees in me what I may not be able to see in myself.” Similarly, Demetrius stated that his mother’s support helped him when he experienced self-doubt. He recalls, “She always tells me that even if people say your dreams can’t come true, you’ll make them possible. She helped basically make me dream of being an entrepreneur. She did that.” Maria explained how their mother reacted when they expressed wanting to quit, “She would help me persevere through and tell me that it’s for a good cause.”

3.2 Pride: Participants desired to make their mothers proud

A second notable theme revealed in our analysis was participants’ drive to pursue their purpose in order to make their mothers proud of them and their accomplishments. Some participants stated this directly, such as Xavier, who said, “I want to make my mom proud.” Another participant, Isabel, expresses a slightly different sentiment, “When I think about my grades, I think about my family. Most specifically my mom because I know she wants me to succeed in life and I think that school is very important in succeeding in life.”

One participant shared how being proud of their own mother translated into a desire for their mothers to be proud of them. Maria stated, “Watching her not graduate from high school, and dropping out, and then getting three degrees. It’s really, really powerful to see someone go through that. She’s always telling

me that she’s proud of me. So, I want to make her proud. She really helps with that.”

Natasha’s desire to make her mother proud is accompanied by her being able to provide her with monetary support. Natasha commented, “She works hard at her job, she does night shifts. I’m trying to help her out in the future.” Another participant described his career passion derived out of his desire to help his grandmother, who has always supported him. Darius stated:

I would probably say, my grandma, well, my dad’s side grandma. She’s the best, she’s always been there for me and then, she’s always sending me money if I need it. That’s also why I think about my family a lot ‘cause she’s always helping my family, and that’s also I would like to be other things besides a lawyer, but ‘cause she got cancer, so I’m hoping that if maybe I’m a doctor too maybe I could help her too.

3.3 Goal setting: Participants engaged in conversations with their mothers about their goals for the future

Participants described that they participated in conversations with their mothers or maternal figures about their future. These conversations translated into the participants being well suited to carve out their goals and purpose. The participants reflected on how engagement in these conversations served as an impetus toward pursuing their goals and their purpose. Some conversations were broader, as they focused on more abstract components of purpose. These abstract components include success, openness, and growth. For example, Valeria remarked on how her mother encouraged her to think outside the box when it comes to her career. She states she joined changemakers because of her mother;

They’re kind of the reason why I did it in a way, ‘cause my mom always tells me to do stuff that are different but that will help me grow and understand things ‘cause if I’m not sure about what I want to do, then why not do other things to kind of narrow it down.

Participants reflected on how their mother influenced their decisions for the future, including their career goals and lifestyle choices. One participant, Darius, expressed how through conversations with his grandmother he learned to become more independent. He states; “My grandma said to like become successful because if you don’t then you’re gonna have to depend on everybody else and that’s not fun because you’re not gonna like get what you want.”

Another participant, Raven, stated, “My mom just tells me, as long as I’m happy, you know, it doesn’t matter what I choose to do.” Raven also continued on to explain that while her mother wanted her to be happy, she also wanted her to attend college:

[she] makes a very, strong point, of that, you know, going into a career out of high school, there’s nothing wrong with it, but they strongly, encourage me to go to college first, and they want me to like, go out into the world, and like, go to a college, like, out there, and not around here, ‘cause they feel like, you know, my surroundings, whether it’s my family, or just my environment might hold me back.

Through conversations with their maternal figures, it appears that the participants were able to discuss and carve out a clearer path for their potential future. For example, David’s mother clearly supported a future where he becomes a marine biologist. As David said:

It’s just always growing up loving marine animals, and Mom’s always said that this is something I would do when I get up there. She said that she wants me to continue to keep working on it so that it’s not something that I see myself doing now, and then in two years from now it’s just like, “Oh. I’m not sure I want to do that.”

A different participant Anna spoke on the origin of their goal to become an entrepreneur, they stated:

Came up with it when I had a conversation with my mom. My mom was talking about stocks and stuff like that. I was like, “Oh.” She had told me how much money you get from just doing that. I was like, “Wow, I need

to start doing that.” She was like, “Yeah, you just gotta give some money to the sponsors and stuff like that.” She said, “I partially own Nike.” I was like, “How much?” She said, “At least a good 7% to 8%.” I was like, “Whoa.” I didn’t even know that. She told me how much she gets paid. “So, I was like.” Wow, I want to do something like that so I could say that I own something even though I don’t own the whole thing. At least I own something.

Lastly, Liana said:

Yeah, music is more so like, I guess like, a dream of mine, but, in a more, realistic, ideal society, I would probably have to do something like, become a lawyer, ‘cause, you know, my grandmother tells me, you know, if music is something you wanna do, because you love it, and you have a passion for it, you know, do that, as long as you’re happy with it, because you don’t wanna have a job, for the rest of your life, that you hate.

Of note is that one participant did reflect on their mother as a potential detractor in their pursuit of purpose, but is also highly influential in their future pursuits. This participant, Daniel remarked, “And my mom may not agree with some of my career choices. She’ll be an influencing factor or some sort of factor to draw me away from my goals so it makes it hard to stick with some of my plans.”

4. Discussion

Results from the study confirm and build on the previous literature examining the role of purpose in marginalized adolescents^[12,1,14]. Perhaps more importantly the findings from this study build on previous literature identifying people as important figures in purpose development. The participants in the sample, all from marginalized backgrounds, were able to identify a significant adult who assisted in purpose development. Of novelty to the field, is the discovery that most individuals suggested their maternal figures to be helpful for purpose development. Participants expressed that their maternal figures assisted in their purpose development through at least

one of the following mechanisms; a) budding sense of empowerment b) motivation to make their mothers' proud, and c) cultivation of goal settings.

These findings underscore the importance of social support for youth purpose development, especially for marginalized adolescents ^[12,1]. Our study builds on existing literature, emphasizing the unique importance of maternal influence on purpose development ^[27]. This finding is of particular interest as previous research has focused broadly on the role of parents ^[4], and more specifically on the role that mentor figures, and teachers can have on an adolescent's purpose development ^[12]. Findings from previous research demonstrate that adults can help foster purpose development through a) believing in the individual, b) affirming the individual's choices and actions, c) cultivating the individual's interest and d) guidance towards a sense of purpose ^[12]. Our findings narrow in on the "people" category and demonstrate that maternal figures specifically influence purpose development. Similarly, findings suggest that maternal figures help cultivate purpose development in a slightly different manner than previously discussed. It was identified that mothers provide a sense of support, believe in the individual and continually engage in conversations about the purpose as well as guidance towards a sense of purpose. These parenting practices may help youth engage in a proactive quest for purpose ^[19]. However, mothers specifically also served as an inspiration for an individual's choice of purpose and served as a motivator for why an individual wanted to seek out their purpose.

These findings emphasize that mothers play a significant role in bolstering their children's sense of purpose, and with the correct guidance the mothers can be more aware of their influence and perhaps tailor it to their children's needs and desires. Furthermore, it is helpful to acknowledge that many mothers do not need to drastically alter their parenting style to enhance purpose development, but rather it is often interwoven in their practice that they employ every day ^[27]. These findings may be inspirational to many mothers who are worn down and feel defeated based on our current climate surrounding parenting.

Currently our culture is inundated with various forms of "mother shaming" ^[40]. Research has found that mothers are constantly receiving criticism surrounding their parenting choices from their partners/child's parent, their own parents, and their in-laws. To a lesser extent, but still prevalent, mothers report experiencing criticism from other mothers, friends, people on social media and child-care provider/child health care provider. Of the mothers studied, 56% report they believe they are blamed too much for their child's negative behavior. While at times this criticism can be constructive, many times it made the mothers feel inadequate and insecure about their parenting styles ^[40]. These statistics speak to both theory and research on the "good mother" stereotype, which suggests that mothers be selfless, warm, all-knowing, and ultimately to blame for their children's shortcomings ^[41].

Our research findings hope to change the culture around motherhood and inspire more mothers to know that they are a positive influence in shaping their children's sense of purpose. Furthermore, we hope that mothers can read this article and reflect on their positive parenting techniques and influence it will have on their children, rather than focusing on the negative "mom shaming culture." While the data only speaks to experiences within the mother-child dyad, there is reason to suspect that these patterns may support purpose development in other caregiver-child relationships ^[12]. Furthermore, fathers and other caregivers may already be fostering purpose development in their adolescents, however, if not, the results of this study can be applied to their parenting techniques as well.

5. Future directions and limitations

A limitation for this study is the smaller sample size. While this is qualitative research, and this methodology allows for a smaller sample size, we could benefit from additional interviews which support the data. To best honor the needs of our study, the data was selected from one time point. However, future research may explore this phenomenon over time, as the relationship between mother and adolescent may

change. This qualitative research study focused on a small sample from marginalized backgrounds. While we obtained important demographics such as race, gender and an estimation of SES, we failed to inquire about family composition. Future research may explore if these findings can expand to adolescents from other SES and racial backgrounds, as well as adolescents from families with different structures to examine the role that different family members play in fostering purpose.

While our findings highlight that mothers are influential in purpose development, the data does not explain why mothers and not other parental figures. Future research is beneficial to further dissect this crucial relationship. While our study obtained demographic information, including parental education status, it did not inquire into who resides in the household. Thus, while our data explicitly highlight that mothers influence purpose development, we are unsure of how many of the participants are also raised by their fathers and or have contact with their fathers. Additional research could investigate if a child lives with both parents, and if there is a difference in regards to purpose development.

As families can come in various dynamics, research should continue to reflect that. Future studies should investigate how purpose development can be influenced in multigenerational households. Indeed, a researcher may investigate if a child lives with their grandmother or grandfather and if perhaps that could have a greater influence on their purpose than their parents. Moreover, researchers may investigate the development of purpose through other caregivers, such as aunts, uncles, and perhaps family friends. Future research should examine the role of significant adults, like mothers, in longitudinal research. As young people traverse the stages of adolescence and emerging adulthood, peers and relationships outside of the family grow in importance. Research could illuminate whether sources of support in the pursuit of purpose change developmentally or as youth are exposed to new contexts of development (e.g., college).

Despite these limitations, the present study illu-

minates the critical role mothers play in helping their children cultivate purpose in life and that a mother's love may be especially important for youth as they strive for future goals.

Author Contributions

Lily Konowitz: concept and design, data acquisition, data analysis/interpretation, drafting manuscript;

Terese Lund: drafting manuscript, critical revision of manuscript;

Shao Wei Chew Chia: data analysis/interpretation, drafting manuscript;

Madeline Reed: data analysis/interpretation, drafting manuscript;

Willow Wood: data analysis/interpretation, drafting manuscript;

Belle Liang: concept and design, data acquisition, data interpretation, and drafting manuscripts.

Mike Barnett and David Blustein contributed to the publication through formulation, and execution of the larger research study (concept and design). They also provided great insight into organization of potential research questions, access to data collection, organization of major themes within the paper (data acquisition, and drafting manuscripts).

Conflict of Interest

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Declaration

This manuscript is not under consideration for any other publication, nor has it appeared elsewhere thus that it could be constructed as a duplication of past work.

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Informed Consent

Written informed consent was obtained from all minors' legal guardians. Participants also provided written assent.

Ethical Approval

This paper received the ethical approval from the Boston College Institutional Review Board.

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Appendix A: Interview Protocol

Change Makers Pre-Interview Protocol- Summer

2019

Interviewer: Today is [DATE]. I am here with [STUDENT'S CODE NAME]. Thank you so much for participating in today's interview! My name is [NAME], and I'm a [POSITION] at Boston College. I want to ask you some questions to understand how you are currently thinking about yourself and your future, as well as what you hope to get out of the Change Makers program. I am going to be using a lot of different words during the interview. And you might not know some of them. Please ask questions about their definitions if you do not know the words. Do you have any questions before we get started? [STUDENT ANSWERS] Great. Do I have permission to audio record this interview? [STUDENT ANSWERS] Okay. Remember that you can stop the interview at any point. We have a worksheet that we can use to help you answer the questions.

1. First, I want to ask: what interested you about wanting to join the Change Makers program?

a. And, what are your expectations for participating in the Change Makers program?

2. Next, I want to learn about what is important to you. What are your core values? Core values are the things in life that matter most to you. Your core values are usually constant, and they shape your decisions, behaviors, and actions. On the worksheet, please circle your most important core values. Let me know if you are unsure about what any of the words mean, and I can give you an example.

a) Tell me about your core values. Why are these values important to you?

b) How do your core values connect to what you're learning or doing in school?

c) How do your core values connect to the work you expect to do in Change Makers?

3. Now I want to learn about what you are good at. Here is a list of character strengths: please circle all the ones you are good at on the worksheet. Let me know if you are unsure about what any of the words mean, and I can give you an example. [If student asks for definition: "Character strengths are your values and beliefs--some of the most important aspects of who you are."]

a. Do you use these strengths in your science classes? How so?

4. Now I want to learn about the skills that you believe you have, or that you would like to learn or master in the future. On the worksheet, please choose skills you feel most confident using or are motivated to learn.

a. Why do you want to learn these skills?

5. Now I want to ask you about your academic and career goals. Think of any career and academic goals that you have for the next year, five years, or beyond, and write them down on this worksheet.

a. Think about one of your most important career goals. Why is this career aspiration important to you?

b. How do your core values connect to your career aspirations?

c. Who is one person who has helped you in pursuing this goal? Can you think of a story of what this person specifically has done to help you as you try to reach this goal?

d. Do you think your participation in the Change Makers program will be valuable to your future? If yes, how, or in what ways, do you see it being valuable? If not, why do you think that is?

6. *HIGH SCHOOL ONLY*: Sometimes it can be hard to reach our goals for a lot of different reasons. Have you experienced any challenges on your way to pursuing your career goal? If you haven't, are you worried about any challenges that you may experience in the future?

7. In the Change Makers project, you will be doing some activities related to science. When you hear the word 'science,' what comes to mind? (e.g. Is it 'good?' Is it 'bad?')

a. How do you think Change Makers will affect how you feel about science?

i. *Probe*: For example, do you hope to think about or USE science in any new ways? If so, how?

b. *If student says a non-STEM field in previous answer about career aspirations, then ask*:

In the earlier question about career goals, you said that you wanted to be a _____ [student's previous response]. Can you imagine hav-

ing a science-related career? Why or why not?

8. *HIGH SCHOOL ONLY*: Imagine that, one day, you successfully achieve the goal you just told me about. What is the desired impact you hope to make in the world one day with that goal? Who would you help?

a. What is the impact, if any, that you hope to have by participating in the Change Makers program?

9. *HIGH SCHOOL ONLY*: How do you feel about having the opportunity to work with middle school students in this program?

a. Is there anything that you are particularly nervous or excited about?

10. *MIDDLE SCHOOL ONLY*: How do you feel about the opportunity to work with high school students this year?

a. Is there anything that you are particularly nervous or excited about?

11. Finally, if someone asked you to describe the Change Makers program in a few words, what would you say? What would you tell people that you are going to be doing in this program?