



Perceived Teacher Support and Communication in Strategizing Possible Selves

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During high school, adolescents develop future plans for their lives and profession and teachers are generally believed to play an important role. At present, however, there is limited evidence about exactly how this support affects students. This study uses possible-selves theory to explore the link between perceived teacher support and communication about the future to adolescents' own hoped-for and feared possible selves. Surveys and structured interviews were used to gather views of 85 Latina/o and White students (Mage = 15.5 years). Results indicate that greater perceived support and better communication from teachers were both associated with adolescents expressing more concrete strategies for achieving all types of possible selves. This study offers initial evidence about the important role teachers may play in supporting and shaping how adolescents construct an action plan that will lead to their desired future selves.

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INTRODUCTION

Throughout adolescence, there is a dramatic increase in cognitive skills, allowing students to think more concretely about their future (Piaget, 1964), and focus on who they are and who they want to become (Erikson, 1968). The construct of “possible selves” has been used to help understand how adolescents think about their future (Markus and Nurius, 1986; Roshandel and Hudley, 2018). Specifically, possible selves are components of the self-concept and are defined as both positive and negative mental representations of the self in the future which are constructed from their past and current perceptions of themselves (Markus and Nurius, 1986). They may include hoped-for selves (what one hopes to be), expected selves (what one expects to be), and feared selves (what one wants to avoid being) (Markus and Nurius, 1986). Each of these has been shown useful to help motivate adolescents to achieve a goal or avoid a fear they may have for their future (Markus and Nurius, 1986; Zhu and Tse, 2015). Possible selves are more proximal in nature and may serve as stronger behavioral motivators for attaining future selves than more ambiguous, distal goals for oneself (Oyserman et al., 2011).

Research shows that some patterns of possible selves are universal, while others are sensitive to context and culture, resulting in individual differences in the processes related to possible selves (Cross and Markus, 1991; Knox et al., 1998). Oyserman et al. (2011) found that children in more disadvantaged neighborhoods were more likely to have school-focused possible identities than

children in less disadvantaged neighborhoods. More recently, Roshandel and Hudley (2018), identified gender differences in high school adolescents' college-going possible selves, with females who perceived their teachers as more supportive being more likely to aspire and expect to attend a 4-year college compared to males. Turcios-Cotto and Milan (2013) found that Latin/o youth were less likely to picture themselves attending college, when compared to Black and White youth. Taken together, these studies highlight the importance of accounting for individual differences, such as gender and ethnicity, which may contribute to one's possible selves.

Current research on possible selves, has linked the content of one's identities to the behaviors or strategies individuals develop in order to achieve a desired expected self or avoid a feared possible self (Zhu and Tse, 2015). Possible selves have been associated with improved educational attainment (Destin and Oyserman, 2009), more gainful employment (Lee and Oyserman, 2009), and reduced riskiness in sexual behavior (Clark et al., 2007). However, there is limited research on how adolescents develop these strategies in order to influence their current behaviors to reach a desired outcome.

During high school, adolescents have the potential to develop effective strategies that will help them achieve a goal, change their behavior, or take action to avoid a fear as they are further developing future-oriented thoughts (Markus and Nurius, 1986; Clinkinbeard and Murray, 2012; Zhu and Tse, 2015). High school is also a critical time as adolescents are making plans about their future and transitioning into their autonomous selves (National Research Council, 2013). In order to help adolescents develop effective strategies for changing their current behavior to achieve their possible selves, it is important to understand the contextual factors, such as support and interactions with teachers, which contribute to such processes. If students perceive support from supportive social contexts (e.g., teacher) during uncertain situations (e.g., starting a new internship or planning for their future after high school), they are more likely to explore new opportunities and feel less anxious (Gamboa et al., 2013). Research highlighting the predictors of effective planning can ultimately guide teachers in facilitating and designing curriculum and programs that enhance adolescents' effective future-oriented thinking and the production of strategies (Oyserman et al., 2004; Dunkel and Kerpelman, 2006; Zhu and Tse, 2015). Yet, thus far, there is limited insight into how perceived teacher support and communication may be related to the development of adolescents' strategies to achieve a hoped for and expected possible selves while avoiding their feared possible selves. This study explores the relationship between adolescents' perceptions of their teachers support and communication and their possible selves. We examine not only their types of expectations and fears, but also the strategies they develop to meet the desired outcomes.

Distinction Between Expected and Feared Possible Selves

Unlike general and ambiguous goals and fears, possible selves exist in any future domain (e.g., academic, social, and health),

allowing one to have many possible selves (Oyserman et al., 2015). Being able to distinguish between expectations and fears for the future is critical in the development of possible selves as there is a belief that the current self is malleable, facilitating a confidence that change is possible (Oyserman et al., 2004). For the purpose of this study, we will use the term possible selves to refer to any future orientation, but expected selves and feared selves to distinguish between positive and negative future possible selves.

According to research, adolescents with the most developed possible selves understand the necessary relationship between future expectations and fears, and have identified strategies in place to facilitate the achievement–avoidance of those selves (Oyserman and Markus, 1990; Oyserman et al., 2004). Strategies that are associated with expected and feared possible selves may be the most critical piece of future planning and the element that is most closely linked to actual behavior change (Oyserman et al., 2006; Clinkinbeard and Murray, 2012). Ajzen (1985) asserts that the type of goal chosen and the commitment to that goal are important determinants in whether an individual carries out the behaviors necessary for goal attainment. Gollwitzer (1993, 1999) discusses the value of understanding implementation intentions of goals, which they define as the intentions to form a plan to meet a goal. Research has found that the connections created by implementation intentions facilitate goal attainment (Gollwitzer et al., 2004; Duckworth et al., 2011; Gollwitzer and Oettingen, 2011). Thus, by including strategies to the possible selves concept, we can further understand why some individuals successfully achieve desired selves and avoid feared selves, whereas others with similar expectations and fears do not manage the same outcome (Clinkinbeard and Murray, 2012). However, empirical research has yet to fully explore the contexts that facilitate strategy development. As high school represents an essential time in transitioning into adulthood, it is an optimal environment to foster the development of these critical strategies.

Perceived Teacher Support and Communication

Possible selves research indicates that individuals often look to others as models for the development of their future selves (Oyserman and Fryberg, 2006; Anders and Olmstead, 2018). Communicating positive feedback from others fosters hope and has the potential to increase an individual's self-efficacy and self-esteem, whereas negative feedback is associated with negative affect and lowered expectations that may stifle attempts to change or further develop (Ruvolo and Markus, 1992; Cross and Markus, 1994). One of the primary sources of this type of communication during high school are teachers (Clinkinbeard and Murray, 2012). Given the connections between feedback and behavior, it is theoretically possible that how teachers support and communicate with students can serve as a potential social resource to the development of strategies that guide students to achieving their expected selves and/or avoiding their feared selves.

Teachers also create learning environments that provide students with resources and the space to explore how their current behaviors may impact their future goals that they

may not receive otherwise (Strati et al., 2017; Roshandel and Hudley, 2018). Studies show that when adolescents perceive their teachers as supportive, they report higher levels of interest and engagement in their school work (Watson et al., 2016), more positive academic attitudes and values (Fredricks et al., 2019), and more academic engagement (Wentzel et al., 2016). In addition, from an adolescent perspective, it is not only interacting with their teachers that is vital but rather what the teachers are communicating (Elhay and Hershkovitz, 2019). Thus, these studies together confirm the significant impact perceived teacher support and communication has on adolescents' academic engagement and motivation.

Given that teachers may influence students' academic achievement and school engagement (Wentzel et al., 2016), it is theoretically possible to expect a relationship between perceived teacher support and adolescents' strategies for achieving or avoiding their possible selves. The more we understand how teachers can influence students' development of strategies through communication and support, the better we can prepare teachers to create the optimal learning environment that focuses on academics as well as development of the whole adolescent.

Strategies

Findings show that having strategies represents an "action plan" to any possible selves (Oyserman et al., 2004). Clinkinbeard and Murray (2012) make a distinction between "concrete" and "abstract" strategies by defining a "concrete strategy" as one that could be repeated by another person. One example of a concrete strategy to deal with an adolescent's fear of dropping out of school would be to "take detailed notes in my math class," as compared to an abstract strategy of "change my habits." If this "action plan" is more concrete, adolescents have specific next steps in figuring out how to achieve their goal (Clinkinbeard and Zohra, 2012; Anders and Olmstead, 2018). These strategies thus represent the motivational resource most closely tied to changing behavior (Oyserman et al., 2004; Anders and Olmstead, 2018). Gollwitzer et al. (2004) discuss that the first step for implementation intention is to identify the goal and then plan actions that make the goal achievable. If we are more cognizant of adolescents' possible selves, then teachers can provide them with the support of developing these concrete strategies that will increase the likelihood of adapting current behaviors to achieve the desired future goals. Thus, it is imperative to explore the role of perceived teacher support and communication in providing opportunities to develop the skillset of forming specific strategies related to possible selves.

School Engagement

Researchers have also explored the relationship between perceived teacher support and educational outcomes such as academic engagement, effort, expectations, motivation, and achievement. Findings consistently indicate a positive relationship between teacher support and a myriad of advantageous outcomes, such as academic achievement, motivational outcomes, and educational aspirations (Wentzel, 1997, 1998; Wentzel et al., 2016; Roshandel and Hudley, 2018). For example, teachers can foster confidence in students by serving as role models by sharing their own academic

experiences. Martinez and Castellanos (2018) found that students who were more engaged in school activities had greater opportunity to develop relationships with teachers who shared their own academic experiences with students, helping the students to carve out their own college trajectories. This finding supports prior research which argues that aspirations to attend college are not solely based on motivation, but can also be driven by school context and relationships with teachers, which can give students the confidence they need to make their aspirations a reality (Gutman and Akerman, 2008; Martinez and Castellanos, 2018). In addition, such future aspirations, can play a significant role in impacting current academic behavior and achievement.

The Present Study

The present study explores how teachers may serve as a social resource to support the cognitive development of concrete strategies to help adolescents address their possible selves. First, we want to understand the types of possible selves and strategies high school students report. In terms of the strategies we also want to explore if these strategies are categorized as concrete or abstract. Secondly, we want to understand how perceptions of teacher support may be associated with the aforementioned strategies. We hypothesize when adolescents perceive more teacher support, they are more likely to have concrete strategies to deal with their possible selves. Specifically, we hypothesize that greater perceived teacher communication about the future will predict greater use of concrete over abstract strategies for both expected and feared possible selves.

In order to provide an innovative approach to understanding the complex research agendas, this study used a mixed-methods approach to explore adolescents' perceptions of support, by integrating both numerical data (e.g., survey) and text data (e.g., interviews) (Creswell, 2014). Specifically, an explanatory sequential design was chosen, where we initially collected and analyzed survey data, followed by qualitative data to help us better understand the quantitative findings (Mertens, 2007; Creswell, 2014; Creswell and Clark, 2017).

MATERIALS AND METHODS

Participants and Procedures

A total of 85 (41 males and 44 females) adolescents between the ages of 14 to 17 ($M = 15.5$, $SD = 0.885$) were recruited to participate in a study focusing on their thoughts about their future. Twenty-seven percent of the participants were in 9th grade, 42% were in the 10th grade, and 31% were in the 11th grade. For the purpose of this study, only results from participants who identified as White and Latin/o students were analyzed, as only a few participants identified as "other." This ethnic breakdown of the students matched the overall school site demographics (45% White and 55% Latin/o). The school site has a 40% population of free or reduced lunch.

Four general education, social studies classrooms representing the school demographics were identified and selected by the school administration to participate in the study. The overall teacher demographics of the school included 85% White, 12% Latin/o, 2% Asian, and 1% Black, with 56% female. For this study,

the demographics included three female teachers (two White, one Latina) and one male teacher (White). Students were given consent and assent forms, and those who returned the completed forms, received the survey the next class period. Two graduate student researchers and three undergraduate research assistants, who were trained and familiar with the study, administered the open-ended questionnaire during class time. All students were given instructions about the questionnaire and were reminded that their answers would remain confidential. Similar to previous studies in this field, students took approximately 30 min to complete the questionnaire (Elmore and Oyserman, 2012). The University's Institutional Review Board approved this study.

Survey Measures

Demographics

Participants completed a questionnaire that included their age, grade level, and race/ethnicity. Students wrote in their age, checked off their grade (9th–12th), gender (male or female) and were asked their race/ethnicity (Latin/o, White, Asian, Black, and Other). Each category had the option to specify. For example, many students that checked Latin/o, wrote in Mexican-American.

Academic Achievement

Weighted grade point averages (GPA) were collected from official school records.

School Engagement

Adolescents reported on an adapted version of a 3-item School Engagement Scale (Gonzales et al., 2014). Participants responded to the following items using a 4-point Likert scale ranging from “I strongly disagree” to “I strongly agree:” “I like to do well in school,” “It is very important to finish high school,” and “It is very important to go to college.” The ratings were summed to create a student engagement score. The scale had an alpha score of 0.87.

Types of Possible Selves

Instructions and questionnaire matrices were adopted from Oyserman and James (2011). Participants were asked to write in up to four expected (“What are your expectations for the future?”) and four feared possible selves (“What are your fears for the future?”).

Types of Strategies for Possible Selves

Instructions and questionnaire matrices were adopted from Oyserman and James (2011). Participants were asked to write in up to four strategies for each expected possible selves (“What are doing to be that way in the future?”) and four strategies for each feared possible selves (“What are you doing to avoid being that way in the future?”).

Concrete and Abstract Strategies

We used Clinkinbeard and Murray (2012) definition of concrete strategies to categorize how students would address their given expectation or fear. A concrete strategy was one that could be replicated by another person. For example, “taking detailed notes” is a concrete response that others could repeat. All other responses were coded as abstract (e.g., “do better in school”). These codes were dichotomously coded.

Perceived Teacher Support and Communication

We measured perceived informational support and perceived instrumental support (Malecki and Demaray, 2002; Roshandel and Hudley, 2018). A composite was created for the four-item measure of instrumental support (e.g., “My teachers explain things that I don't understand”) and the four-item measure of informational support (e.g., “My teacher helps me solve problems well by giving me information”). We added the single-item question, “My teacher talks to me about my future plans.” Each item was analyzed separately in order to capture the various types of support teachers may provide and communicate.

Interview Questions and Procedures

Students were asked the following questions: *Do your teachers talk about your future? What are the ways that teachers support you in the classroom to help you prepare for the future? Can you give concrete examples?* The researchers told students they could answer the questions based on any teacher. The authors developed semi-structured interviews in order to focus on themes that would emerge rather than elicit specific answers about perceived teacher support and communication.

After students took the survey, they were asked if they were willing to participate in a 30-min interview. Thirty students (approximately 50% female, 50% male, 50% White, and 50% Latina/o) were interviewed at a separate time and location for the second phase of the study. The interviews took place either afterschool or at lunch, in a quiet and uninterrupted location at the school site. Parent consent and adolescent assent was received. Two graduate student researchers, who were trained and familiar with the study, facilitated the interviews. Again, participants were reminded that their answers would remain confidential. Students did not receive incentives to participate in any stage of the research.

RESULTS

Analytical Procedures

Using categories identified from previous studies (e.g., Oyserman et al., 2004), the authors coded participants' responses to the possible selves questionnaire into six categories: achievement (school or work related activities), relationships (social interactions with others), individual (personality), health (physical wellness), lifestyle (material possessions), and risky behavior (antisocial activity). Since students were able to mark more than one response, the authors used counts (ranging from 0 to 4) to measure each category. The authors of the paper coded the first 20 participants' responses of possible selves and strategies together and then separately each coded the remainder 65 entries. They then compared coding and had an overall inter-rater agreement rate across the six categories of types of possible selves and strategies, ranging between 92 and 97% (Saldana, 2009). Any discrepancies were resolved through discussion.

All audiotaped interviews were transcribed and a content analysis was used to discover patterns in the text related to the frequency of occurrence of particular themes (Krippendorff, 2018). The authors who had previous experience

conducting content analysis, created a category scheme by coding five transcripts together. We used an inductive procedure, adapting the category scheme to the content of the data. About 5% of the coding was discrepant, meaning that we agreed on 95% of the thought units in the text overall. We resolved the discrepancies through discussion. All transcripts including the training interviews were included in the analysis.

Finally, in order to gain a better understanding of adolescents' possible selves, descriptive statistics were analyzed to identify the types of possible selves and the strategy types identified. Correlations and *t*-tests were run to distinguish any associations and group differences between variables. The means and standard deviations associated with academic motivation, perceived teacher support and communication, types of possible selves and strategies, and concrete and abstract strategies are presented in **Table 1**.

Types of Possible Selves Reported

All participants identified at least one expected and one feared possible selves. Participants produced a total of 165 expected possible selves and 243 feared possible selves. At least one of each of the expected and feared possible selves focused on the achievement category, comprising of 52% of the total expected possible selves and 35% of the total feared possible selves. For example, an achievement expected possible selves was "I will go to college." An achievement feared possible selves was "I am afraid I won't get into a good university." For the other categories of expected and feared possible selves and examples, see **Table 2**.

Types of Strategies for Possible Selves Reported

Similar to the types of possible selves, the strategies identified by participants were categorized. The majority of participants (95%) provided at least one strategy for each type of possible selves. Achievement strategies were identified for the majority of the possible selves, consisting of 54% of strategies for expected selves and 32% for feared selves. Many students used achievement strategies to address their various types of fears. For example, a student with a risk behavior fear (getting pregnant in high school or getting involved in a gang, ID #77) reported an achievement strategy (focus on school, ID #77). In addition, fears of being homeless, living with parents, and living in poverty were also addressed with strategies to stay in school, further their education, graduate and go to college. For the other categories and examples of strategies identified for expected and feared possible selves, see **Table 3**.

Concrete vs Abstract Strategies

We also examined whether the strategy produced was concrete or abstract. The majority (60%) of strategies identified by participants for expected selves were abstract, whereas for feared selves, the strategies identified were evenly distributed among concrete (49%) and concrete (51%). See **Table 3** for specific examples.

TABLE 1 | Means (SD) associated with measured variables.

| Measured variables | Overall M (SD) | Male M (SD) | Female M (SD) | White M (SD) | Latina/o M (SD) |
|---|----------------|-------------|---------------|--------------|-----------------|
| School engagement (scale 0–4) | 2.8 (0.9) | 2.8 (0.6) | 2.9 (0.6) | 3.0 (0.6) | 2.7 (0.5) |
| Teacher support: instrumental (scale 0–4) | 3.1 (0.6) | 3.1 (0.5) | 3.1 (0.6) | 3.1 (0.5) | 3.1 (0.5) |
| Teacher support: informational (scale 0–4) | 2.9 (0.8) | 2.8 (0.7) | 3.2 (0.6) | 3.1 (0.7) | 2.9 (0.7) |
| Teacher communication: future (scale 0–4) | 2.5 (0.8) | 2.6 (0.8) | 2.7 (0.7) | 2.6 (0.8) | 2.6 (0.7) |
| Expected PS types | | | | | |
| Achievement | 2.3 (0.8) | 2.4 (0.7) | 2.1 (0.8) | 2.1 (0.8) | 2.4 (0.8) |
| Relationship | 0.25 (0.5) | 0.20 (0.4) | 0.29 (0.5) | 0.36 (0.5) | 0.20 (0.2) |
| Individual | 0.29 (0.6) | 0.13 (0.4) | 0.41 (0.7) | 0.36 (0.7) | 0.20 (0.5) |
| Health | 0.18 (0.4) | 0.03 (0.2) | 0.02 (0.2) | 0.0 (0) | 0.04 (0.2) |
| Lifestyle | 0.51 (0.6) | 0.53 (0.7) | 0.48 (0.6) | 0.49 (0.6) | 0.54 (0.6) |
| Risky behavior | 0.02 (0.5) | 0.0 (0) | 0.05 (0.2) | 0.05 (0.2) | 0.0 (0) |
| Feared PS types | | | | | |
| Achievement | 0.89 (0.8) | 0.85 (0.8) | 0.82 (0.8) | 0.88 (0.9) | 0.84 (0.8) |
| Relationship | 0.03 (0.6) | 0.23 (0.5) | 0.36 (0.6) | 0.26 (0.5) | 0.33 (0.6) |
| Individual | 0.22 (0.6) | 0.21 (0.6) | 0.25 (0.5) | 0.13 (0.4) | 0.31 (0.7) |
| Health | 0.26 (0.5) | 0.23 (0.5) | 0.25 (0.5) | 0.31 (0.6) | 0.18 (0.4) |
| Lifestyle | 0.55 (0.6) | 0.59 (0.8) | 0.48 (0.5) | 0.46 (0.6) | 0.60 (0.7) |
| Risky behavior | 1.3 (0.9) | 1.2 (0.9) | 1.3 (0.9) | 1.3 (0.8) | 1.2 (0.9) |
| Frequency expected PS strategies | | | | | |
| Achievement | 2.0 (1) | 2.2 (0.9) | 1.9 (0.9) | 1.9 (0.8) | 2.1 (1) |
| Relationship | 0.29 (0.5) | 0.20 (0.5) | 0.34 (0.6) | 0.33 (0.5) | 0.22 (0.4) |
| Individual | 0.21 (0.5) | 0.18 (0.4) | 0.25 (0.6) | 0.23 (0.5) | 0.19 (0.5) |
| Health | 0.26 (0.5) | 0.28 (0.5) | 0.21 (0.5) | 0.26 (0.4) | 0.24 (0.5) |
| Lifestyle | 0.17 (0.4) | 0.20 (0.4) | 0.16 (0.4) | 0.28 (0.5) | 0.08 (0.3) |
| Risky behavior | 0.03 (0.2) | 0.03 (0.2) | 0.05 (0.2) | 0.05 (0.2) | 0.02 (0.1) |
| Frequency feared PS strategies | | | | | |
| Achievement | 1.0 (0.9) | 1.1 (0.8) | 0.91 (0.9) | 0.89 (0.9) | 1.1 (0.9) |
| Relationship | 0.20 (0.4) | 0.13 (0.3) | 0.27 (0.5) | 0.28 (0.5) | 0.13 (0.3) |
| Individual | 0.30 (0.4) | 0.20 (0.5) | 0.36 (0.6) | 0.28 (0.6) | 0.28 (0.5) |
| Health | 0.30 (0.5) | 0.38 (0.6) | 0.23 (0.5) | 0.38 (0.6) | 0.22 (0.4) |
| Lifestyle | 0.16 (0.4) | 0.15 (0.4) | 0.14 (0.3) | 0.05 (0.2) | 0.22 (0.5) |
| Risky behavior | 0.92 (0.8) | 1.0 (0.8) | 0.91 (1) | 0.85 (0.8) | 1.1 (0.9) |
| Frequency of expected concrete strategies | 0.9 (0.8) | 1.1 (0.8) | 0.7 (0.9) | 0.95 (0.9) | 0.87 (0.8) |
| Frequency of expected abstract strategies | 2.1 (0.1) | 1.9 (1) | 2.2 (1) | 2.1 (1) | 2.1 (1) |
| Frequency of feared concrete strategies | 1.3 (0.1) | 1.4 (1) | 1.2 (1) | 1.0 (0.8) | 1.5 (1) |
| Frequency of feared abstract strategies | 1.6 (0.1) | 1.6 (1) | 1.5 (1) | 1.7 (1) | 1.4 (1) |

TABLE 2 | Types of possible selves by categories.

| Category type | Expected selves | | Feared selves | |
|----------------|-----------------|--|---------------|---|
| | Percentage | Examples | Percentage | Examples |
| Achievement | 52 | "I expect to join the Marine Corp Reserves" (ID #63) | 35 | "I am afraid of dropping out of school" (ID# 73) |
| Relationships | 12 | "I expect to be maintaining a great relationship with my family and friends" (ID #6) | 9 | "I am afraid of becoming too serious/detached from those I love" (ID# 68) |
| Individual | 11 | "I expect to be happy and fulfilled" (ID #11) | 5 | "I am afraid of being cocky or arrogant" (ID# 32) |
| Health | 1.5 | "I expect to stay active and healthy, stay in shape and eat properly" (ID #37) | 7 | "I am afraid of being overweight" (ID# 9) |
| Lifestyle | 22 | "I want to be traveling the world" (ID #85) | 16 | "I am getting sucked into social media" (ID# 10) |
| Risky Behavior | 1.5 | "I expect to be drug-free" (ID #49) | 28 | "I am afraid of getting pregnant in high school" (ID# 39) |

TABLE 3 | Types and examples of strategies for possible selves by categories.

| Category type | Expected selves | | | Feared selves | | |
|----------------|------------------|---|---|------------------|---|--|
| | Total percentage | Concrete Examples | Abstract Examples | Total Percentage | Concrete Examples | Abstract examples |
| Achievement | 54 | "I'm enrolling in as many computer science electives as possible" (ID# 14) | "I'm keeping good grades" (ID# 67) | 32 | "I currently have a job so I can build my resume" (ID# 91) | "I am never going to give up" (ID# 81) |
| Relationships | 13 | "I'm going to college to and joining a business club to network with people" (ID# 19) | "I'm planning on keeping in touch with people" (ID# 50) | 9 | "By spending a lot of time with my family and keeping a strong bond" (ID# 68) | "I will try to not hang out with bad friends" (ID# 27) |
| Individual | 9 | N/A | "I'm working hard to stay happy and positive." (ID# 48) | 11 | "I do my best not to underestimate people or come to conclusions based on appearances" (ID# 32) | "I will stay true and pure to myself" (ID# 23) |
| Health | 13 | "I'm going to gym and exercise every day." (ID# 6) | "I'm going to be healthy and fit." (ID# 2) | 12 | "I work out every day" (ID# 9) | "I will stay aware" (ID# 64) |
| Lifestyle | 9 | "I'm going to open a bank and save \$10 a week." (ID# 55) | "I'm living life each moment at a time." (ID# 43) | 6 | "I read a lot of books" (ID# 10) | "Do everything in my power to not fail in life" (ID# 69) |
| Risky behavior | 2 | N/A | "I'm not going to do drugs." (ID# 78) | 30 | "I make sure to focus on school and not boys" (ID# 39) | "Don't do anything bad" (ID# 88) |

Correlations Among the Measured Variables

Correlations were analyzed among the demographic variables, concrete and abstract strategies, and perceived teacher support and communication variables (see **Table 4**). *T*-tests were also conducted to examine group differences among significant variables.

Demographic Variables

Results indicated a significant difference in GPA between White students ($M = 3.62, SD = 0.89$) and Latina/o students ($M = 2.96, SD = 0.8$), $t(83) = 3.61, p = 0.001, d = 0.79$. No other significant differences were found between demographic variables.

Concrete and Abstract Strategies

The frequency of feared concrete strategies were significantly different between White ($M = 1.0, SD = 0.79$) and Latina/o ($M = 1.52, SD = 1.13$) students, $t(83) = -2.42, p = 0.02, d = 0.54$. Males ($M = 1.41, SD = 0.98$) and females ($M = 1.23, SD = 0.97$)

also varied significantly with the number of concrete feared strategies produced, $t(82) = 2.23, p = 0.02, d = 0.19$. Results also indicated a significant difference between those who reported at least one concrete strategy and those who did not. Those who reported a concrete strategy reported more school engagement compared to individuals who did not report a concrete strategy ($M = 2.6, SD = 0.62$), $t(83) = -1.83, p = 0.05, d = 0.49$. Finally, results of whether teachers did discuss their future or did not significantly varied between those who reported at least one concrete strategy and those who did not ($M = 2.28, SD = 0.94$), $t(83) = -2.37, p = 0.05, d = 0.37$. In other words, the more teachers communicated about the future, the more students' reported concrete strategies. No other significant differences were found between groups and concrete and abstract strategies.

Perceived Teacher Support and Communication

Results indicated significant differences in those who perceived their teachers as providing more informational support between males ($M = 2.83, SD = 0.71$) and females ($M = 3.19, SD = 0.63$),

TABLE 4 | Correlations among measured variables ($n = 85$).

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--|---------|--------|---------|--------|---------|-------|---------|--------|-------|--------|--------|
| 1. Grade level | | | | | | | | | | | |
| 2. Gender | 0.05 | | | | | | | | | | |
| 3. Race | 0.07 | -0.12 | | | | | | | | | |
| 4. GPA | -0.03 | 0.07 | -0.37** | | | | | | | | |
| 5. Abstract strategies for expected selves | -0.05 | 0.15 | -0.04 | 0.01 | | | | | | | |
| 6. Concrete strategies for expected selves | -0.08 | -0.25* | -0.5 | -0.01 | -0.42** | | | | | | |
| 7. Abstract strategies for feared selves | -0.05 | -0.02 | -0.16 | -0.03 | -0.04 | 0.8 | | | | | |
| 8. Concrete strategies for feared selves | -0.02 | -0.07 | 0.26* | -0.07 | 0.29** | 0.06 | -0.38** | | | | |
| 9. Academic engagement | -0.37** | 0.05 | -0.11 | 0.28** | -0.06 | 0.20 | -0.05 | 0.03 | | | |
| 10. Teacher support: instrumental | -0.36** | -0.12 | 0.07 | 0.07 | 0.14 | 0.12 | -0.21 | 0.25** | 0.24* | | |
| 11. Teacher support: informational | -0.16 | 0.26* | 0.17 | 0.06 | 0.02 | 0.11 | -0.14 | 0.08 | 0.25* | 0.37** | |
| 12. Teacher support: future | -0.13 | -0.63 | 0.14 | -0.19 | 0.08 | 0.24* | -0.07 | 0.26* | 0.14 | 0.22* | 0.29** |

* $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$.

$t(81) = -2.46$, $p = 0.02$, $d = 0.54$. That is, female students were more likely than their male counterparts to perceive that their teachers provided them with informational support.

These quantitative results for this study give us a glimpse into adolescents' possible selves and the types of strategies they believe will help them achieve an expected selves and avoid a feared selves. We explicitly get to see students use of abstract and concrete strategies. Lastly, we see how specific types of perceived support from teachers is associated with the various components of students' possible selves.

Interview Results

The following themes emerged from the interviews.

Perceptions of Teachers' Communication About the Future

One of the most common themes that emerged was how teachers communicate about students' future in terms of going to college. Findings from the interviews indicated that most of their teachers did not discuss adolescents' future. One participant stated "We don't really talk about other things. Like the future doesn't come up. Sometimes she'll mention college, but then we never talk about it." Other participants also discussed the college going process, and most participants interviewed felt that one of the reasons their teachers did not discuss their future was that they did not necessarily know much about the process of getting into college. For example, one participant said, "I think they just focus on their class, what they're teaching. I don't think they really know the college steps, just know what they're going to teach and that's their subject." Similarly, another participant said, "I think she [the teacher] only knows science. We never talk about anything else."

Results also indicated that while across the board, students did not express detailed communication about the future, only the White students (9 out of 15) reported that their teachers encouraged them to go to college.

Various Forms of Support

Another common trend that emerged was the different types of support students perceived from teachers. For example,

They explain things well, um, they'll write things in the board, and they'll make sure you have your notes out and make sure you're taking down your notes, um, they'll be free to, like, e-mail with you if you have questions or be in at lunch to see if you need any help. I think there are some teachers like that here on campus. (Interview #12)

She always answers questions and provides examples for each lesson that she gives us and we write notes but she writes them down while we write them, too and what to study. And sometimes she gives us, um, booklets that we can write down little notes like equations and stuff for the test. Um, that helps a lot, and he answers questions very well and always gives, like, real life examples. (Interview#4)

In addition, other participants mentioned how important it was for them to have additional time with teachers. To many students, offering time beyond regular class time signals a form of caring. Through this time in the classroom, four students found this space to help with academics. Two students mentioned,

I think it's just that, like, like, he really does help me and I can come in at lunch and, like, he always says that we're welcomed in the classroom. Like he'll actually be there for us, I think it's just that reassurance that he will actually help us, and, like, he'll actually be there for us, is what helps. (Interview #7)

The teacher will say, "oh, you missed this quiz. You can take it, like, on this day or during lunch or after school," like, she gave me options. And then, like, if I miss an assignment or something, she'll, like, tell me what I missed or check my syllabus and kind of, like, explain it. (Interview #5)

Students also reported that it was during outside of class time that they would get more support and communication about ways to strategize and problem solve. For example, one student mentioned,

I, um, really struggled with coming to class sometimes, and when we sat down at lunch he asked me to really think about, um, why I have been slacking. Once I admitted that I didn't understand the work, we came up, um, we talked about some ways I could ask questions to help me do the, um, the work and stuff. (Interview #22)

Finally, having high expectations also emerged as an important way that students perceived their teachers as supportive. One student said,

Sometimes I used to think he was just out to get us like the other teachers. But then I realized, he really wanted us to do well. He would push us, um, to think, and um, do things we've never tried. (Interview#20)

Similarly, another student talked about the importance of providing the expectation of a safe space for students to learn. He stated,

When some kid tell them that they want to really learn and they don't kick out the students, or you know, actually talk to the students that aren't listening, you're not supporting your other students that actually want to learn. (Interview #6)

Based on these findings, it is apparent that students felt when they teachers gave them specific ways of doing something (take notes or ask questions) they felt they were not only supported but also that they teacher cared and knew what they were doing.

Relevancy and Relatability

The final theme that emerged was how students reported the importance of having teachers that can be relatable. For example,

She'll, um, just make sure everybody is doing their notes and she we'll make class fun, like, if kids are talking she'll just pretend to join in the conversation and be, like, "oh, that's cool, what happened next?" Like, she makes it really fun and enjoyable. (Interview #14)

She teaches real life, I would say. Everything has an application, like especially in the virtual enterprise or other classes I've taken from her, like business applications and computer business. It's just they all have real-life applications, like from writing checks, to making a balance sheet, to typing up a profit and loss statement. I feel like I can really use this information when I get out of here. (Interview #11)

Such findings provide a glimpse into how high school students perceive support from their teachers and the way they communicate can impact their future goals.

DISCUSSION

This study contributes to the possible selves research by exploring adolescents' possible selves and the role of perceived teacher support as it is related to helping adolescents build strategies for achieving their expected selves and/or avoiding their feared selves. Based on our hypotheses, we found that when adolescents perceived more teacher support, they were more likely to have concrete strategies to deal with their possible selves. Although we hypothesized that greater perceived teacher communication about the future will predict greater use of concrete over abstract strategies for both expected and feared possible selves, we found significant results for concrete strategies in relation to possible selves more broadly. That is, we found the use of concrete

strategies significant for possible selves irrespective of being expected or feared.

Further supporting past research, we found that adolescents have a variety of possible selves regarding their future selves. Similar to previous studies, the types of possible selves produced reaffirm the variety of goals and identities adolescents are focusing on during this time. Participants from our study identified more feared possible selves than expected possible selves. This speaks to the uncertainty of adolescence during a transitional period of becoming an autonomous self. In addition, findings indicated that the majority of expected selves were related to achievement goals, which support how possible selves are more proximal in nature (e.g., students are currently in school) (Oyserman et al., 2011).

We also found that regardless of the expectation or fear, the majority of types of strategies students reported were achievement focused. Although it may seem obvious to list achievement strategies given that data was collected in a school setting, it is important to note that even students, who were not as academically engaged as their peers, still identified education as a protective factor for achieving some non-academic possible selves. This is important in our understanding of how to best support students in the classroom, as adolescents recognize that school may play a significant role in guiding students toward creating plans to meet their future goals or avoid their fears. School may serve as the blueprint to action plans adolescents develop (Oyserman et al., 2004, 2006).

Findings also indicated the significance of concrete strategies versus abstract ones. Specifically, we found that adolescents who produced at least one concrete strategy were more engaged and perceived their teachers as more supportive. This supports previous studies that more specific action plans serve as a motivational resource that are closely associated with changing behaviors in the present that may impact adolescents' futures (Gollwitzer et al., 2004; Oyserman et al., 2004; Duckworth et al., 2011; Gollwitzer and Oettingen, 2011; Anders and Olmstead, 2018). Therefore, if adolescents have specific action plans (i.e., concrete strategies) to meet their expected possible selves or avoid their feared possible selves, they are more likely to have the next steps to achieve their goals (Clinkinbeard and Zohra, 2012; Anders and Olmstead, 2018).

Furthermore, one contributing finding of this study is that students who perceived their teachers as supportive by communicating about their futures, provided more concrete strategies to deal with their possible selves, indicating that teachers may play a role in adolescents' possible selves-strategy elaboration. That is, teachers have the potential to guide adolescents with the support of developing these concrete strategies that will increase the likelihood of adapting current behaviors to achieve the desired future goals. Our study found that when teachers talked to students about their future, the more concrete strategies they had to address their range of possible selves.

Interview data provided us with deeper insight on how these perceived teacher support variables were related to how adolescents think about their future as well as the strategies they develop. Specifically, results from the interviews showed

that when teachers themselves provided more concrete forms of support (e.g., accessible after class, teaching specific methods, providing relevant examples) versus abstract forms of support (e.g., available if needed, general comments), adolescents reported they felt more supported and trusted the expertise of their teachers. These results exemplify the types of support that are necessary for teachers to provide in order to support adolescents in the classroom and with their future goals. For example, having a teacher available during lunch to work with a student on specific methods to take notes to help them study for a test is more beneficial than a teacher saying they are available if a student needs it. These types of support model how teachers can show students the importance of creating concrete versus abstract strategies.

The association between perceptions of teacher communication about the future and concrete strategies opens up future research to recognize and explore this relationship. That is, when students know how to come up with achievement strategies that are concrete, they are likely to address not only their achievement expectations and fears but also their risk behavior, health, individual, relationship and lifestyle possible selves. This may be particularly useful given that all students reported at least one risk behavior fear which was associated with more abstract solutions. If teachers can help guide students into developing concrete plans of action, they can indirectly address these types of fears that may not emerge in the classroom setting. Given that concrete strategies associated with future-oriented expectations and fears may be the most important pieces of future planning and are likely linked to actual behavior change (Gollwitzer et al., 2004; Oyserman et al., 2006; Clinkinbeard and Murray, 2012), our findings that perceived teacher support was associated with students concrete and abstract strategies further upholds previous research that students' perceptions of teacher communication styles influences their motivation (Lin et al., 2016).

Even though previous research shows the importance and benefits of having concrete strategies, the majority of students identified abstract solutions for their expected selves. Given that there were significant group differences in GPA between White and Latina/o students, a possible solution for addressing this apparent achievement gap might be to focus on fostering teacher communication about the future and helping students to develop more concrete plans for their future. Interview data suggested that adolescents could benefit from their teachers sharing concrete examples from their own experiences as a way of providing more specific forms of support. Interestingly, when it came to feared possible selves, adolescents reported approximately 50% abstract and 50% concrete strategies to deal with their fears. Perhaps adolescents' motivation to avoid their fears facilitates the development of more concrete strategies.

Interview data also revealed that Latina/o students were less likely to discuss being encouraged by their teachers to attend college than their White counterparts. Compared to White students, Latina/o students had more concrete strategies to address their possible selves. Similarly, a recent study examining who encourages students to enroll in advanced classes, even when controlling for a GPA, Latina/o students were over 5

times less likely to be encouraged by their teachers than their White counterparts (Witenko et al., 2016). These findings may be attribute to the mismatch demographics between students and teachers, given that the majority of teachers were White (Sleeter, 2001; Picower, 2009). Additionally, compared to females, males had more concrete strategies. For example, females perceived more informational support from teachers, compared to males. Previous studies show that teachers spend more time providing girls with more academic and informational support or that girls value this type of support more than males (Roshandel and Hudley, 2018). Teachers may also have different approaches to different types of students, as previous studies have indicated that teachers may have their own biases for students' future paths (Boykin and Noguera, 2011). Together these findings indicate that based on individual differences, students may have different needs for the types of support they desire as well as different types of support they need in terms of reaching a desired outcome (Roshandel and Hudley, 2018). Horowitz et al. (2020) suggest that in some school contexts, teachers are able to provide the guidance needed for students while other teachers are not. This calls for further exploration around differences in race/ethnicity and gender in the development of possible selves and perceptions of teacher support.

Previous work on the achievement and opportunity gap have identified differences across gender and ethnicity in regards to student achievement (Boykin and Noguera, 2011; Carter and Welner, 2013). Our findings indicated that the only significant difference with GPA was between Whites and Latinas/os. While it was expected that school engagement would be linked to GPA, our findings indicated no differences between GPA and the other variables and regardless of academic performance, adolescents recognized that their current behavior in school plays a vital role in their future goals. Therefore, teachers could use the context of possible selves as a motivator to engage all students by making content relatable and relevant to adolescents' lives. Adolescents can then be motivated to engage with their teachers and in turn develop concrete strategies through communication and support.

These results also suggest that students in this study recognized that their current behavior in school plays a vital role in their future goals. Our research also indicates that youth are reporting that doing well in school as a form of resisting and coping with their fears, suggesting that they value education as a tool for creating a stable future. This is particularly significant because adolescents are able to move from concrete to abstract thinking and planning, making it possible to think about their futures (Piaget, 1964). In addition, as they are getting older they are developing critical thinking skills. It has been argued that critical thinking is a higher order mental function influenced by social factors and performed within social contexts which sometimes makes transferring what happens in a classroom setting to a real world setting challenging (Lee, 2018). By teaching students about concrete strategies, teachers could be providing relevant context for developing critical thinking skills that may help bridge this gap.

By communicating with adolescents to think about their future, teachers have the opportunity to help with the

development of concrete strategies to create tangible solutions to deal with their fears and help develop their future expectations. This is particularly telling, as much of the research on teacher support has focused on teachers working with younger students, often because high school teachers specialize in content and not necessarily the whole child (Noddings, 2012). Gehlbach et al. (2012) also discuss that early adolescence is a critical period for the teacher-student relationship; however, in comparison to elementary school, the interactions are less personal and frequent (Eccles et al., 1993). Pianta and Allen (2008) argue that as adolescents look to non-parental adults for social connections, these relationships are perhaps the most important factor for promoting positive youth development. Expanding the research around possible selves to the student-teacher relationship in secondary school may help students not only with their academic fears but in other arenas in their lives.

Hearing from the students provided insight into how they viewed their teachers' knowledge about the future and ways that teachers can help support students in their development of strategies applicable to their possible selves. Despite needing a college degree to be a teacher, many students did not think that teachers know the route to college. One suggestion would be for teachers to share their journey to the profession with their students so they can help understand the steps needed for different types of careers. This could help students develop their own future road maps. Additionally, students mentioned the significance of teachers making time at lunch and afterschool to help them with their work. This space lends itself for opportunities for teachers to connect with students. Strategies associated with future-oriented expectations and fears may be the most important pieces of future oriented visualization and planning that are linked to actual behavior change (Ajzen, 1985; Oyserman and Markus, 1990; Gollwitzer and Oettingen, 2011). This may be because of a personal connection and relevancy to adolescents' lives. Therefore, the findings from this study begin to shed light on the role teacher's play in supporting and shaping how all adolescents can construct an action plan that will lead to the desired outcomes.

Limitations and Suggestions for Future Research

It is important to note the limitations of this study. Given the small sample size, we were only able to explore how these variables are associated. The brevity of the survey did not allow us to get an in depth understanding the specific ways perceived teacher support can aid in the development of concrete strategy building for adolescents. Hearing from teachers about their experiences around awareness and action taken around addressing adolescents' fears and strategy building would advance ways to best support students and teachers. More research is necessary to comprehend the relationship between sources of support and the contexts in which strategies and behavior change develops in adolescence. This also leads to the need for future studies to explore how teacher communication may lead to not only the development of meta-cognitive skills of strategy

development but also the possible enhancing of student self-efficacy in their own ability to generate an action plan.

Implications for Teacher Communication With Adolescents

Many studies focusing on possible selves recommend the need to understand the relationship between support systems and the development of concrete strategies (Oyserman et al., 2004; Oyserman et al., 2006; Clinkinbeard and Murray, 2012; Clinkinbeard and Zohra, 2012; Zhu and Tse, 2015). This study examines the associations with teachers, offering a new lens in viewing teacher communication and the classroom context as a space for "intervening" in the development of strategies for adolescents to develop their future selves. For example, by making teachers aware that achievement strategies are an important coping mechanism for adolescents when dealing with their fears, teachers can be more mindful about teaching students how to set goals and create "action plans" even within content area instruction.

Given that preservice and in service teacher research focuses on the development of 21st century skills (Urbani et al., 2017; Roshandel and Hudley, 2018), our findings might suggest to teachers that the use of possible selves and development of strategies could be a way of teaching adolescents higher order cognitive skills, such as critical thinking and creativity. This would allow students to make a personal connection to learning a key skill set that may also lead to a potential personal behavior change that will allow an adolescent to avoid their feared possible selves and foster goal attainment of their expected possible selves.

CONCLUSION

Within possible selves literature, there is limited research exploring the changes of possible selves within one life stage. As high school is a time of dramatic developmental changes, in particular with the ability to plan and visualize their futures (Boyd and Bee, 2012), this may serve as an optimal time for adolescents' possible selves-strategy elaboration. This current study expands research on the significant role that teachers can play to aid adolescents in the development of concrete solutions. Through instructional practices that can span across all content areas to the development of personal "action plans" we can provide teachers with practical ways to help students. Findings provide insight into the way students perceive how their teachers communicate and provide academic and emotional support which is associated with their development of concrete strategies. Better understanding the relationship of teacher communication about the future to the provision of feedback for the future can have a significant effect on the development of their future identities and cognitive skills.

DATA AVAILABILITY STATEMENT

The datasets generated for this study will not be made publicly available. As per our human subjects' agreement, all data collected would remain locked on a secure computer in my research office.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by University of California, Santa Barbara Office of Research. Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

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AUTHOR CONTRIBUTIONS

RM-R took the lead on the manuscript preparation. SR collected the data. RM-R and SR conducted the literature review, the analysis, and the results and discussion. RM-R and SR contributed to the article and approved the submitted version.

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Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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